City of Arvada

Planning Commission Agenda

JANUARY 21, 2026

CITY COUNCIL CHAMBERS

Regular Business

Commission Members:
Tim Knapp
Brandon Figliolino
Tom Alijinovich
Eric Doner
Andrew Gay
Steve Hannan
Miriam McGilvray

Staff Members Usually Present:
Jessica Garner, Dir. of Community and Econ Development
Kelsy Sargent, Senior Assistant City Attorney
Rob Smetana, Planning Manager
Claudia Vaughan, Manager of Development Engineering
Josie Suk, Systems and Administrative Manager
Heidi Van Gieson, Administrative Specialist
Dixielee Rodriguez, Administrative Specialist

Info: 720-898-7435

ARVADA RESERVOIR CONFERENCE ROOM
EXECUTIVE SESSION
5:00 P.M. Legal Advice, Pursuant to CRS 24-6-402(4)(b) Relating to Conditional Use Criteria for Avalon Arvada

The meeting will include an open comment period where participants will have three minutes to provide comments to the Commission. Members of the public who wish to provide public comment on any agenda item or during general public comment should go to www.arvada.org/PLNCOMMISSION for information about how to participate. If any member of the public wishes to submit written comment regarding the item on the agenda, you may submit comments in writing via email to the Planning Department at cedboardsandcommission@arvada.org. Comments must be received no later than 5 p.m. the day before the meeting. All timely comments submitted will be presented to the Planning Commission. Please contact Josie Suk with any questions at 720-898-7627.

PLANNING COMMISSION MEETING
6:15 PM

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. NEW BUSINESS
   A. Swearing in of Miriam McGilvray

4. ROLL CALL OF MEMBERS

5. APPROVAL OF MINUTES

   A. Approval of November 5, 2025, Meeting Minutes

6. GENERAL BUSINESS

   A. Election of Officers

   B. CP2025-0005 a Resolution by the Planning Commission for the City of Arvada, Colorado Adopting the 2014 Arvada Comprehensive Plan as Arvada's Three Mile Plan Pursuant to Section 31-12-105(1)(E), C.R.S. as Amended.

7. REPORTS

8. PETITIONS & COMMUNICATIONS

9. PUBLIC HEARINGS

   A. A Conditional Use to allow 384 multifamily and 51 townhome units on site in the MX-S (Mixed Use Suburban) zoning district for Avalon Arvada, a 20.1 acre parcel of land approximately located at 17201 W 64th Ave.

10. OTHER ITEMS

11. ADJOURN

SUMMARY MINUTES OF PLANNING COMMISSION ACTION HELD
NOVEMBER 5, 2025

Planning Commission meeting minutes are not an exact transcript and represent key points and the basis of discussion.

1. CALLED MEETING TO ORDER– By Tim Knapp at 6:20 P.M.

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL OF MEMBERS

Those present: Michael P. Griffith, Andrew Gay, Tim Knapp, Brandon Figliolino, Steve Hannan, Eric Doner

THOSE ABSENT

Tom Aljinovich

It was moved by Mr. Figliolino to have an excused absence for Tom Aljinovich.

Those voting Yes: Hannan, Knapp, Gay, Figliolino, Doner, Griffith
Those voting No:
Those absent: Aljinovich
The motion carried 6-0

ALSO PRESENT: Rob Smetana, City Planning Manager; Kelsy Sargent, Sr. Ass't. City Attorney; Josie Suk, Development Systems and Administrative Manager; Julia Duncan, Sr. Planner, Dixielee Rodriguez, Development Engineer; Heidi Van Gieson, Recording Secretary.

4. APPROVAL OF MINUTES

August 6, 2025 The minutes stand approved as printed.

Mr. Griffith announced that he will be resigning from the Planning Commission as he was elected to the City Council.

Michael P. Griffith left the meeting and the remaining commissioners moved seats.

5. GENERAL BUSINESS

None

6. REPORTS

None

7. PUBLIC COMMENT

There being no one wishing to speak. Public Comment was closed.

8. PUBLIC HEARINGS

8.A. DA2025-0037 Major Comprehensive Plan Amendment and Rezoning for Candelas Point Block 3, a 4.86 acres parcel of land approximately located at the southwest corner of W 92nd Drive and Wilkerson Court

Mr. Knapp swore in all guests that will be speaking.

Mr. Knapp opened the public hearing.

Mr. Knapp asked if all of the required documents were in order.

Ms. Duncan stated the posting notice, mailing notice affidavit, posting log and publication are in order.

Mr. Knapp entered into the record the staff report, posting log and affidavit and mailing affidavit for DA2025-0037 dated November 5, 2025 have been received.

Mr. Knapp asked Ms. Duncan to introduce the project

Ms. Duncan introduced the project. The applicant is requesting a Major Comprehensive Plan Amendment from Mixed-Use to Medium Density Residential and a rezoning from PUD to R-13(Residential 13) for the future development of 52 townhomes. The plan includes essential park space. The site will have two access points, and a trail connection to Little Dry Creek Trail. Staff recommends approval of this project.

Eva Mather, Norris Design 1101 Bannock Street, Denver 80204; explained that the project is located with highway 93 and 72 on the west and Indiana on the West, primarily North of 72. There will be some commercial on the North and South of 72 at that location. As you move to the east, there will be the Candelas Innovation Park, the existing Jefferson County School Site Also in that area will be the recently approved Rangewater site.

Great mix of Public and Civic uses. Office building and commercial building. Candelas Point was originally to be used as Mixed Use Development with Commercial and Residential.

They have been working with staff to find a good mix.They want to be clear that they want R-13 to allow the Townhomes. Proposed zoning supports what the city is striving for. Lowering the density from 30 to 13 units per acre.

They are looking to produce a two story alley loaded townhome to help activate the neighborhood.

They fulfill their own open space on the site.

There will be two garage spaces per unit and they will fulfill the guest parking at the time of site plan completion.

There is currently a 35 ft landscape buffer in between the sub station and the site, they will be adding an additional 10 ft to that.

The property will be a part of the Jefferson County Metro District # 2 with front doors and front facade facing the street which will create a great way to activate the neighborhood.

During the neighborhood meeting, residents brought up the impact on existing infrastructure and the city's ability to serve new residents. This goes included in the Master Plan which is successfully completed. In addition new signals are underway on Highway 93 and 72 and are looking to be completed by year's end.

There is talk about getting lower speeds and traffic signals along Highway 72.

In response to school capacity, there is already a new K-8 that has been dedicated.

PUBLIC COMMENT

IN FAVOR

IN OPPOSITION

There was no one wishing to speak. Public Comment was closed.

Mr. Knapp closed public comment

APPLICANT REBUTTAL

None

QUESTIONS FROM THE COMMISSION

Mr. Hannan stated that it was a great presentation and the staff report is very informative.

Mr. Gay asked City Staff that this is the second time that we moved a parcel from Mixed Use to Residential. More of an observation than a question.

MOTION:

I was moved by Mr. Figliolino that CP2025-0004 A Resolution by the Planning Commission for the City of Arvada, Colorado to Amend the 2014 Arvada Comprehensive Plan Land Use Designation Pertaining to Candelas Point Block 3 From City of Arvada Mixed-Use to City of

Arvada Medium Density Residential, A 4.86 Parcel of Land Located at the Southwestern Corner of W 92nd Drive And Wilkerson Court, be approved and recommended to City Council for ratification

This motion is based on the findings of fact and approval criteria on Page(s) 9-12 of the Staff Report.

DISCUSSION OF MOTION

Those voting Yes: Hannan, Knapp, Gay, Figliolino, Doner
Those voting No:
Those absent: Griffith, Ajinovich
The motion carried 5-0

MOTION:

I was moved by Mr. Figliolino that the Ordinance rezoning certain land within the City of Arvada, Candelas Point Block 3 from City of Arvada PUD (Planned Unit Development) to City of Arvada R13 (Residential, 13) and Amending the Official Zoning Maps of the City of Arvada, Colorado, a 4.86 acre parcel of land Located at the Southwest corner of W 92nd Drive and Wilkerson Court, be recommended to City Council for approval.

This motion is based on the findings of fact and approval criteria on Page(s) 9-12 of the Staff Report.

DISCUSSION OF MOTION

Those voting Yes: Hannan, Knapp, Gay, Figliolino, Doner
Those voting No:
Those absent: Griffith, Ajinovich
The motion carried: 5-0

9. **OTHER ITEMS**

No meeting on November 19th or December 3rd.

Motion:

Those voting Yes: Hannan, Knapp, Gay, Figliolino, Doner
Those voting No:
Those absent: Griffith, Ajinovich
The motion carried 5-0

9. **ADJOURNED** at 6:54 P.M.

____
Tim Knapp, Vice Chair

____

Brandon Figliolino, Secretary

Heidi Van Gieson, Recording Secretary

REPORT TO PLANNING COMMISSION	AGENDA ITEM 6.B.

TO: PLANNING COMMISSION DATE: January 21, 2026

SUBJECT: CP2025-0005 a Resolution by the Planning Commission for the City of Arvada, Colorado Adopting the 2014 Arvada Comprehensive Plan as Arvada's Three Mile Plan Pursuant to Section 31-12-105(1)(E), C.R.S. as Amended.

Motion

That CP2025-0005 a Resolution by the Planning Commission for the City of Arvada, Colorado, Adopting the 2014 Arvada Comprehensive Plan as Arvada's Three Mile Plan Pursuant to Section 31-12-105(1)(E), C.R.S., as Amended, be approved and recommended to City Council for ratification (denied).

This motion is based on the findings of fact on Page(s) 1 of the Staff Report.

This motion is based on the following findings of fact for denial: (Recite approval criteria you believe the evidence fails to satisfy and your reasons).

Prepared by:
Dixielee Rodriguez, Administrative Specialist

Reviewed by:

Approved by:

Josie Suk, Development Systems and Administrative Manager
Kelsy Sargent, Assistant City Attorney
Jessica Garner, Director of Community and Economic Development

Enclosure, exhibits & attachments required to support the report

RESOLUTION NO. CP2025-0005

A RESOLUTION BY THE PLANNING COMMISSION FOR THE CITY OF ARVADA, COLORADO ADOPTING THE 2014 ARVADA COMPREHENSIVE PLAN AS ARVADA'S THREE MILE PLAN PURSUANT TO SECTION 31-12-105(1)(E), C.R.S., AS AMENDED

WHEREAS, Section 31-12-105(1)(e), C.R.S., as amended, of the Colorado Municipal Annexation Act provides that no annexation by a municipality shall have the effect of extending a municipal boundary more than three miles in any one year; and

WHEREAS, Section 31-12-105(1)(e), C.R.S., as amended, further provides that the municipality shall have in place a plan for the three mile area outside present municipal boundaries prior to any annexation and that such plan be updated at least annually; and

WHEREAS, the Planning Commission adopted, to the extent applicable, the 2014 Comprehensive Plan as the City's Three Mile Plan in accordance with the Municipal Annexation Act, which action was ratified by the Arvada City Council on October 6, 2014; and

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING COMMISSION OF THE CITY OF ARVADA, COLORADO:

That, to the extent applicable, the 2014 Comprehensive Plan is hereby adopted as the City's Three Mile Plan pursuant to Section 31-12-105(1)(e), C.R.S., as amended.

APPROVED AND ADOPTED this ______ day of __________, 2026.

CITY OF ARVADA PLANNING COMMISSION

____
Tim Knapp, Vice Chairman

ATTEST:

____
Brandon Figliolino, Secretary

RATIFIED AND APPROVED this ______ day of _______, 2026.

____
Lauren Simpson, Mayor

ATTEST:

____
City Clerk

APPROVED AS TO FORM:

Rachel A. Morris, City Attorney

____

City of Arvada Community and Economic Development Department

STAFF REPORT

Three Mile Plan

CP2025-0005

NATURE OF REQUEST

The purpose of this resolution is to comply with Section 31-12-105(1)(e), C.R.S. of the Colorado Municipal Annexation Act, which requires that the City's Three Mile Plan regarding future annexations be updated at least once annually.

The City has used the Arvada Comprehensive Plan as Arvada's Three Mile Plan for purposes of compliance with Section 31-12-105(1)(e). That section generally requires:

1. That no annexation have the effect of extending a municipal boundary more than three miles in any one year; and

2. That, as a precondition to final adoption of an annexation ordinance within the three mile area outside present city boundaries, the municipality has in place a plan for that area, in the nature of a comprehensive or master plan. The plan must be updated at least annually.

The Three Mile Plan is intended to provide guidance on land use decisions in the plan area; to promote well-ordered development compatible with the indigenous character of the area; and to encourage the simplification of governmental structure and efficient provision of services through discouragement of special district creation. To that end, the plan must generally describe items such as proposed streets, other public ways, open spaces, utilities and proposed land uses within the three mile area.

All plans require an annual update in order to comply with the statute. Accordingly, Arvada's Three Mile Plan must be reviewed (and updated where necessary) to ensure such conformance. The 2014 Comprehensive Plan, as amended in association the new Land Development Code adopted in May of 2020, addresses proposed land uses and other statutorily prescribed matters with respect to land within the three mile area; consequently, it should be adopted as the City's Three Mile Plan.

CITY OF ARVADA

# REPORT TO PLANNING COMMISSION	AGENDA ITEM 9.A.

TO: PLANNING COMMISSION DATE: January 21, 2026

SUBJECT: A Conditional Use to allow 384 multifamily and 51 townhome units on site in the MX-S (Mixed Use Suburban) zoning district for Avalon Arvada, a 20.1 acre parcel of land approximately located at 17201 W 64th Ave.

Motion

I move that a Conditional Use to allow 384 multifamily and 51 townhome units on site in the MX-S (Mixed Use Suburban) zoning district for Avalon Arvada, a 20.1 acre parcel of land approximately located at 17201 W 64th Ave. be recommended to City Council for approval subject to the conditions stated in the Staff Report, Page 15.

This motion is based on the findings of fact and approval criteria on Page(s) 11 to 15 of the Staff Report.

This motion is based on the following findings of fact for denial: (Recite approval criteria you believe the evidence fails to satisfy and your reasons).

Prepared by:
Dixielee Rodriguez, Administrative Specialist

Reviewed by:

Approved by:

Rozalynne Thompson, Principal Planner	01/12/2026
Josie Suk, Development Systems and Administrative Manager	01/14/2026
Kelsy Sargent, Assistant City Attorney	01/14/2026
Jessica Garner, Director of Community and Economic Development	01/14/2026

Enclosure, exhibits & attachments required to support the report

City of Arvada
Community and Economic Development Department
PUBLIC HEARING STAFF REPORT

Avalon Arvada/Welby Gardens
17201 West 64th Avenue
Conditional Use
DA2025-0035

NATURE OF REQUEST

The applicant, Leanne Vielehr of Norris Design, requests approval of a Conditional Use application to allow 384 multifamily and 51 townhome units on a site in the MX-S (Mixed- Use, Suburban) zoning district.

According to the conceptual Site Plan, the project proposes to construct eight townhome buildings ranging from four to eight units per building, housing 51 units. The townhomes are anticipated to be a mix of two- and three-bedroom units. The Site Plan also includes 12 breezeway and corridor multifamily buildings, providing 384 apartment units. The multifamily units will be a mix of studio, one-, two-, and three-bedroom apartments. Of the 12 buildings, 10 buildings are proposed to be three stories, and two buildings are proposed to be four stories. The approximately 20.1-acre parcel will also be developed with associated access drives, parking lots, and landscaped areas, including a two-acre small urban park.

LOCATION AND HISTORY

The project site is approximately 20.1 acres, irregularly-shaped, and developed with five to six greenhouses, an office building, hoop houses, warehouses, utility structures, including above ground storage tanks, minor structures, a parking lot, and an access drive to support a wholesale plant nursery operation at the site. The site is comprised of Lots 1 and 2 of the Veldkamp Subdivision. Vehicles access the site from a drive west of Easley Road, which leads to a parking area at the southeast of the site. Records indicate that development on the property began in 1971, with construction of a greenhouse and office building to the southeast of the site. Over time, a series of greenhouses were constructed on the site between 1971 and 2004 along with storage, warehouse, and other support structures. There are several areas that collect stormwater runoff as well as discharges from the greenhouses and hoop houses with water retention ponds generally located between the large greenhouse structures.

NEIGHBORHOOD MEETING

Division 8-2-2 of the Land Development Code (LDC) requires that at least one neighborhood meeting be held for projects that require public hearings before the Planning Commission and City Council.

The required neighborhood meeting for this project took place on April 10, 2025. The applicant, staff, and approximately 180 neighbors were in attendance. The applicant had held an additional three neighborhood meetings prior to the required meeting.

The applicant began the meeting by introducing the project team. During their presentation, the applicant described the existing site conditions, provided a timeline of the entitlement process for the project, and presented a revised project to address the neighbors' concerns regarding the initial design.

At the conclusion of the applicant's presentation, the applicant then held a Q&A session with the neighbors in attendance. Issues identified during the Q&A session include, but were not limited to, the following: increased traffic along Easley Road, the proximity of the townhome access drive to the MorningStar property, the location of guest parking, contamination on the site and associated mitigation, drainage of detention ponds into Ralston Creek, increased criminal activity in the area of the project, the density of the proposed project, and the possibility of rezoning the property.

The applicant prepared a summary of the meeting, which is attached.

PUBLIC NOTIFICATION

Division 8-2-4 of the Land Development Code requires public notification for all public hearings as follows:

Written Notice: At least 15 days prior to all public hearings, written notice must be mailed to all property owners within 1,500 feet of the subject property and to all homeowners associations and neighborhood associations with a known interest in the subject property. The applicant has provided an affidavit of mailing prior to the public hearing verifying this requirement has been met.

Posted Notice: At least 15 days prior to all public hearings, signs notifying the public of the hearing must be posted on the subject property. The applicant has provided a posting log prior to the public hearing verifying that this requirement has been met.

Published Notice: At least 15 days prior to all public hearings, notice of the hearing must be published in a newspaper of general circulation in the City. The required notice has been published.

SEVERED MINERAL RIGHTS

At least 30 days prior to the public hearing, written notice of the application must be mailed to any owner of mineral rights associated with the subject property. The applicant has provided notarized certification that the Jefferson County Clerk and Recorder records do not identify any owners of mineral rights.

DEVELOPMENT REVIEW TIMELINE

Given that the proposed project requires Conditional Use approval, it is subject to a public hearing decision track (Track 5) in accordance with Table 8-2-2-2A "Decision Making" in the

LDC. The project underwent four reviews to address staff comments. The first submittal was received on May 23, 2025 and the fourth submittal was received on December 16, 2025. Staff met the timeline in all four of the reviews.

ALIGNMENT WITH CITY COUNCIL STRATEGIC PLAN

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system. By complying with the applicable requirements, it is ensured that the project would construct safe buildings, protecting and maintaining the health, safety, and welfare of the public. Further, the project proposes to construct 51 townhome and 384 multifamily units, which would add to Arvada's housing stock and improve access to quality housing that is affordable to a broad range of income levels.

ZONING AND LAND USE

The subject property is currently zoned MX-S (Mixed-Use, Suburban) and is approximately 20.1 acres in size.

Surrounding properties are zoned and utilized as follows:

Direction	Zoning	Actual Use
North	Open Space (OS)	West Woods Golf Course
South	MX-S (Mixed Use Suburban)	MorningStar Senior Living of Arvada
East	PUD (Planned Unit Development)	Single-Unit Residential
West	PUD (Planned Unit Development)	Single-Unit Residential

PROJECT ANALYSIS

Compliance with the Comprehensive Plan

The Comprehensive Plan designates the site as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zoning districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. At a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre.

The Conditional Use request is consistent with the following goals and policies of the Comprehensive Plan:

GOAL L-2
Plan for a balanced mix of commercial and residential land uses in Arvada.

> POLICY L-2.1 Complete Community
> The City will provide for a balanced mix of land uses by promoting redevelopment and continuing to reserve lands for future commercial and industrial development as well as a variety of housing choices.

GOAL L-3-1

Encourage development of transit-supportive, higher-density, mixed-use, pedestrian-oriented areas.

POLICY L-3.1 Designated Mixed-Use Areas

The plan designates mixed-use areas in Arvada to provide a mix of land uses, services, retail and commercial development, employment, and in some cases, a diversity of higher density housing in close proximity to transit, bike, and pedestrian connections.

POLICY L-3.2 Criteria for New and Redeveloping Mixed-Use Areas

Mixed-use areas are envisioned as strategically located, high intensity, pedestrian-oriented activity areas providing a range of retail, business, civic, cultural, and residential opportunities for the surrounding trade area. Mixed-use areas should be located in urban centers or designated corridors and should create or demonstrate the following characteristics:

- Transit-supportive residential densities with a mix of housing types and affordability;
- Transit-supportive mix of retail and employment opportunities;
- Streets or other physical features that help define the center;
- Public plazas, gathering spaces or amenities designed as a focal point;
- Transit service
- Pedestrian-oriented site design; and
- Interconnected network of multi-modal streets linking to surrounding areas.

GOAL L-5

Designate and promote redevelopment and infill to generate economic revitalization, improve physical conditions, and provide an appropriate mix of quality housing choices.

GOAL CC-1

Plan Arvada as a City of different development character districts.

POLICY CC-1.1 Variety of Development Types

The City will include a variety of development types including rural areas, suburban residential neighborhoods, historic districts, redevelopment areas, and mixed-use communities that contain services, employment, and higher density housing.

POLICY CC-1.2 Promote Integration Within Districts Through Design

The City will promote integration and a sense of place within districts of the City through the context-sensitive design of new development.

POLICY CC-1.3 Compatible Infill

The City will encourage new infill development to consider and be sensitive to the character of existing neighborhoods. Considerations shall include building scale, placement, size, height transitions, landscape, streetscape, and other design measures.

POLICY CC-1.4 Work With Stakeholders

The City will work with stakeholders, developers, and the community to consider a project’s potential effects and strive for integration in a manner that helps enrich the district’s character.

GOAL CC-2
Establish and maintain Arvada's distinct qualities and small-town identity.

> POLICY CC-2.2 High Quality Private Development
> The City will promote high quality architecture, site planning, landscaping, signage, and lighting for new residential and commercial developments.

GOAL N-1
Plan for a range of neighborhoods and accessible housing of different tenure types to accommodate diverse incomes and all ages and abilities.

GOAL T-3
Identify and implement traffic solutions to reduce and manage traffic congestion on arterial streets.

> POLICY T-3.2: Traffic Solutions to Reduce Congestion
> The City will consider arterial street widenings and construction of missing segments, traffic signal timing and progression projects, intersection improvements, grade separations, and other measures to help reduce traffic congestion.

GOAL T-4
Develop the transportation system in a manner that maintains the quality of life for residents and visitors.

Compliance with Other Applicable Plans
There are no other applicable plans.

Setbacks
The minimum setbacks for the project are required and conceptually proposed as follows:

	Required	**Conceptually Proposed**
Frontage Zone (Min./Max.)	15 feet/35 feet (Suburban Townhomes) 20 feet/35 feet (General Multifamily)	15 feet/35 feet (Suburban Townhomes) N/A (General Multifamily)
Non-Street Frontage Perimeter Setback (Townhomes Only)	15 feet	15 feet
Minimum Street Side Setback	15 feet (Suburban Townhomes) 10 feet (General Multifamily)	N/A (Suburban Townhomes) N/A (General Multifamily)
Minimum Interior Side Setback (Multifamily Only)	6 feet (General Multifamily)	6 feet (General Multifamily)
Building Separation, Townhomes	10 feet (Side to Side) 30 feet (All Others)	10 feet (Side to Side)
Rear Setback (General Multifamily Only)	10 feet	10 feet

Minimum Parking Setback (Front)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)

Building Height
Pursuant to Table 2-1-4-2A of the LDC, the maximum height for residential buildings in the MX-S zoning district is 45 feet. According to the project narrative and the "Site Data Table" in the conceptual project set of plans, the maximum height of the buildings is proposed to be 45 feet. While the conceptual height of the building complies with the LDC, compliance with LDC will be reevaluated if a Site Plan application is submitted.

Open Space
Pursuant to Table 2-1-4-2A of the LDC, a small urban park is required. For lots more than one acre, the small urban park area must be a minimum of 10 percent of the net parcel area. Given that the net lot area of the site is 20.1 acres, the required small urban park area is 2.0 acres or 87,120 square feet. According to the "Site Data Table", the proposed conceptual small urban will be 87,555 square feet, which complies with Table 2-1-4-2A of the LDC. However, while the conceptual size of the small urban park complies with the LDC, compliance with LDC will be reevaluated during review of a Site Plan application, if submitted.

Landscaping, Buffering and Fencing
The project must comply with the applicable landscaping, buffering, and fencing requirements in Article 4-6 "Landscaping and Buffering" of the LDC and any other applicable standards and regulations. According to the "Site Data Table", the conceptual proposed landscape area is 61,511 square feet for the townhomes and 176,863 square feet for the multifamily development. The Site Plan application, if submitted, must include a landscape plan pursuant to Subsection 4-6-3-2(A) of the LDC. The landscape plan's compliance with Article 4-6 "Landscaping and Buffering" of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.

Parks
As the project is a residential development, Park Land Dedication or a Fee-In-Lieu will be required pursuant to Subsection 8-4-3-6(B) of the LDC if a Site Plan application is submitted and approved. The Park Land Dedication or payment of Fee-In-Lieu must be satisfied prior to, or as part of, the approval of the Site Plan, if submitted, pursuant to Subsection 8-4-3-6(I)(1) of the LDC. If park land will be dedicated, the owner/developer of land is required to convey to the City in fee simple not less than 10 acres per 1000 population projected for the development of such land pursuant to Subsection 8-4-3-6(C)(3) of the LDC. If payment of a Fee-In-Lieu is elected, the owner/developer must pay the City the cash equivalent of the fair market value of the land otherwise required to be dedicated pursuant to Subsection 8-4-3-6.

Additionally, Subsection 8-4-3-7(A) of the LDC requires a separate Park Development Fee. The owner/developer must pay the Park Development Fee at the time of approval of the Site Plan, if submitted.

Building Design
Division 5-1-2 "Building and Structure Design Standards" of the LDC establishes design parameters for the architectural design of the project. As the design of the buildings will be

finalized in the Site Plan, if submitted, evaluation of the project's consistency with the design standards will occur at that time.

Circulation and Connectivity
Two access drives located at the southeast corner of the site will provide vehicular access to Easley Road. Both access drives will be constructed to the west of Easley Road and will replace the existing Welby Gardens parking lot access and delivery site access. The drives will provide direct access to the site from Easley Road. The drives are connected to the internal private drives that provide internal circulation within the site. An emergency vehicle only access is proposed at the southwest corner of the project site through an existing emergency access easement on the MorningStar Senior Living site.

Harris Kocher Smith (HKS) prepared a Traffic Impact Study (TIS) on May 14, 2025. The TIS was revised on June 26, 2025 and November 24, 2025. The TIS evaluated the transportation impacts that could result from the proposed project, including the impact of vehicular trips projected to be generated by the project on the study area intersections and roadway system. The study includes 2025 (existing), 2027 (year of anticipated project build-out), and 2047 (long-term) analysis horizons. The scope of the analysis included the following roadways:

- West 64th Avenue
- Virgil Way
- Easley Road
- Terry Street
- Quaker Street

The scope of the analysis included the following intersections:

- West 64th Avenue/Virgil Way
- West 64th Avenue/Easley Road
- West 64th Avenue/Terry Street
- West 64th Avenue/Quaker Street

Using the publication *Trip Generation*, *11th Edition* by the Institute of Traffic Engineers (ITE), the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour.

The level of impact of the vehicular trips generated by the project is measured by levels of service (LOS). LOS is a qualitative ranking of the traffic operational conditions experienced by users under specified roadway, traffic, and traffic control conditions. There are six levels of service ranging from “A” to “F”, with LOS “A” representing the best operating conditions and LOS “F” the worst.

To evaluate the project's impact on levels of service (LOS), the TIS performed peak hour intersection capacity analyses for the total traffic conditions for the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic scenarios on the intersections listed above. The TIS projected significant changes to the LOS for the West 64th Avenue/Easley Road intersection. Specifically, the TIS projected that with the addition of the vehicular trips generated by the project, the intersection overall will deteriorate from a LOS “D” to a LOS “F” in the p.m. peak hour by the 2027 (build-out) analysis horizon. By the 2047 (long-term) analysis horizon, it is projected that the northbound shared through/right turn lane will deteriorate from a LOS “C” to a LOS “E” in the p.m. peak hour, and the southbound shared left/through/right turn lane will deteriorate from a LOS “D” to a LOS “F” in the a.m. peak hour. Based on a warrant analysis, the TIS recommends that a traffic signal be installed at the West 64th Avenue/Easley Road intersection to mitigate deterioration in LOS. The City team recommends a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection. The signal shall be funded by the developer and maintained by the City of Arvada.

As for the queuing analysis, the TIS projected that the southbound shared left/through/right turn lane queue is projected to exceed its lane group capacity and spill back into the upstream intersection by the 2027 (build-out) analysis horizon. The TIS also projected that this scenario is expected to continue in both the a.m. and p.m. peak hour by the 2047 (long-term) analysis horizon. It is recommended that a signal be installed at the intersection to mitigate the queuing issue at the southbound shared left/through/right turn lane queue. However, even with a signal installed, the TIS concluded that that the northbound left turn lane queue would exceed its capacity and spill back into the northbound through lane in the p.m. peak hour by the 2047 (long-term) analysis horizon. To mitigate this queuing issue, the TIS recommends extending the northbound left turn lane queue by 50 feet. In addition to the installation of a signal at the West 64th Avenue/Easley Road intersection, the City team recommends a condition of approval requiring that the northbound left turn lane queue be extended by 50 feet to provide adequate storage.

As for the remaining intersections, the TIS does not recommend geometric or operational modifications as a result of the proposed project and determined that there are no queuing related issues. However, it is projected that the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will continue to experience a poor to failing LOS (LOS “E” or “F”) during the p.m. peak hour in both the background and total traffic scenarios. The TIS recommends monitoring each intersection to determine when actual traffic volumes will warrant the need for modifications to improve the intersections’ operational conditions.

The TIS also analyzed the project’s impacts on the roadways listed above and concluded that there are no geometric or operational modifications being recommended for the listed roadways.

Grading and Drainage

A detailed grading and drainage plan will be required to be submitted with a Site Plan application.

Parking and Loading

According to the “Site Data Table” in the conceptual plan set, 117 parking spaces are proposed for the townhome development with 102 covered and 15 uncovered. For the multifamily development, 796 parking spaces are proposed, with 440 uncovered and 356 covered. Additionally, the project proposed 96 bike parking spaces to serve the multifamily development. The project must comply with the applicable parking requirements in Article 4-5 “Parking and Loading” of the LDC and any other applicable standards and regulations. The project’s compliance with Article 4-5 “Parking and Loading” of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.

Environmental

Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. The purpose of the Phase I ESA is to identify any recognized environmental conditions (RECs) and the purpose of the Phase II ESA is to further investigate the RECs identified in the Phase I ESA. The Phase II ESA investigates the RECs by collecting soil and groundwater samples and analyzing these samples for compounds associated with the current plant nursery operations at the site.

Phase I ESA

The Phase I ESA identified the following eight RECs associated with the plant nursery operations:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline above ground storage tanks (ASTs).
- The use of waste oil and grease containers and ASTs.
- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST. • Surface drainages from the fertilizer, herbicide, and pesticide mixing areas.
- Areas of historical use of septic systems

Phase II ESA and Recommendations

Soil borings were drilled in outdoor and indoor locations. There were 22 soil borings completed from those locations with a total of 28 samples collected. Nine soil samples collected from the outdoor soil boring locations were analyzed for pesticides and chlorinated acid herbicides by United States Environmental Protection Agency (EPA) Methods 8081 and 8151A, respectively; Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Methods 6010D/7471B; nitrate as N and sulfate by EPA Method 9056A; and pH by EPA Method 9045D. Nine hand augered soil samples for laboratory analysis collected from inside the buildings were analyzed for pesticides, chlorinated acid herbicides, RCRA metals, and nitrate as N and sulfate. The remaining 10 soil samples collected using the post-hole power auger were analyzed only for pesticides and chlorinated acid herbicides by EPA Methods 8081 and 8151A, respectively. Additionally, five groundwater monitoring wells were installed to collect groundwater samples.

The soil samples were compared to EPA Regional Screening Levels (RSLs) for residential and industrial land uses. An insecticide, Dieldrin, and Total Petroleum Hydrocarbons (TPH) were found to exceed EPA Residential RSLs. Dieldrin, an insecticide used in the 1950s to 1970s, was detected in 17 out of the 28 soil samples. The concentration of Dieldrin exceeded the Residential RSL in several locations. TPH compounds were found in all four samples taken. TPH concentrations were even found to exceed Industrial RSLs at two locations.

As for groundwater samples, all detections of RCRA 8 metals as well as pesticides, herbicides, VOCs, and 1,4-dioxanewere below the Colorado Groundwater Standards (CGS). However, both of the concentrations of nitrate and sulfate exceeded the CGSs of 10 mg/L and 250 mg/L, respectively.

The Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease.

The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process.

Once the nature and extent of the contamination is determined, then the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that the applicant/developer submit a VCUP application prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

Utility Services
Water and sanitary sewer service is provided by the City of Arvada and capacity is adequate to service the site.

Dry utility providers (i.e. gas, electric, phone and cable services) will design and provide service to the area including telephone, cable television, and internet services.

Police and Fire Protection
The property will be serviced by the Arvada Police Department (APD) and the Arvada Fire and Protection District (AFPD). The project's compliance with (IFC) section D106.3 will be evaluated during review of the Site Plan application, if submitted.

LAND DEVELOPMENT CODE APPROVAL CRITERIA

It is the responsibility of the applicant to justify the requested land use application. The Planning Commission should make a recommendation to the City Council based on its findings regarding the approval criteria shown in the table(s) below and upon testimony heard during the public hearing as it applied to the criteria.

Staff performed an analysis of the proposal, based on the approval criteria listed in Chapter 8 of the Land Development Code, and presents the following findings:

Div. 8-3-5 Conditional Use Approval Criteria	Finding	Rationale

1. The application complies with the applicable standards of this LDC, other adopted City ordinances, resolutions and regulations including but not limited to any use-specific standards for the proposed conditional use in Division 3-1-3, any approved Master Development Plan that includes the property, and any conditions specifically applied to development of the property by the Planning Commission or City Council in a prior decision affecting the property;	Complies	Although the project is conceptual at this stage, as discussed above, the project conceptually complies with the applicable standards and regulations of the LDC. Once the design of the project is finalized and a Site Plan application is submitted, the City team will reevaluate the project's compliance with the applicable standards and regulations.
2. The application is consistent with the Arvada Comprehensive Plan;	Complies	The site is designated as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zone districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. As a residential development at a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre. Further, the project achieves several goals and policies in the Comprehensive Plan as listed above such as providing for accessible housing of different tenure types (rentals) to accommodate diverse incomes and all ages and abilities.
3. The use is consistent with the purpose and intent of the zoning district in which it is located;	Complies	The site is zoned Mixed-Use Suburban (MX-S). The intent of the MX-S zoning district is to provide for a variety of residential and nonresidential uses, in vertically mixed-use, horizontally mixed-use, or single-use configurations. The project proposes 384 multifamily units and 51 townhome units, which is a residential single-use configuration.

4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned uses in the surrounding area and the zoning district regulations;	Complies	Conceptually, the maximum height of the proposed multifamily buildings will be 45 feet or four stories. The proposed four-story multifamily buildings would be larger than other buildings in the surrounding area, which are predominantly one and two-stories in height; however, the conceptual scale and mass of the buildings would be substantially consistent with applicable development standards of the MX-S zoning district in the LDC, which allow for larger buildings, and the goal of higher density in the Comprehensive Plan. Moreover, to account for the larger scale of buildings allowed on MX-S zoned sites that abut lower-density residential districts, the LDC imposes a height transition zone on MX-S zoned properties pursuant to Subsection 2-1-10-3(B)(2) of the LDC. As discussed above, to mitigate traffic impacts, the City team recommends imposing a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage. As residential uses, the hours of operation of the proposed multifamily and townhomes units of the proposed use residential uses in the surrounding neighborhood.
5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development, be available to serve the subject property while maintaining adequate levels of service for existing development; and	Complies	As discussed above, facilities and services including sewer, water, storm water, gas, electricity, and police and fire protection will be available to serve the property while maintaining adequate levels for the existing development. As discussed above, a condition of approval requiring the installation of

		a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored monitoring to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.
6. The application mitigates any adverse impacts on the surrounding area to the degree practicable.	Complies	As identified in the TIS and Phase I and Phase II Environmental Assessments, the project will have adverse traffic and environmental impacts. The measures to mitigate traffic and environmental impacts are discussed below. Traffic As discussed above, the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour. A condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

		Environmental Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. As discussed above, the Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease. The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process. Once the nature and extent of the contamination is determined, then the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that the

		applicant/developer submit a VCUP application prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

STAFF RECOMMENDATION

Based upon project analysis and review of the Land Development Code approval criteria, staff recommends approval of the project.

If the Planning Commission finds that a recommendation to approve the Conditional Use application is supported by the approval criteria, then staff recommends that the following conditions be made part of the approval:

1. A traffic signal shall be installed at the West 64th Avenue/Easley Road intersection. The signal shall be funded by the developer and maintained by the City of Arvada.

2. The northbound left turn lane queue at the West 64th Avenue/Easley Road intersection shall be extended by 50 feet to provide adequate storage.

3. The southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

4. The applicant/developer shall submit a Voluntary Cleanup and Redevelopment Program (VCUP) application to the Colorado Department of Public Health & Environment (CDPHE) prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

5. Language or plat notes related to the dedication of dry utility easements to the City of Arvada benefitting applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities shall be placed on preliminary and final plats.

6. All utility easements be depicted graphically on the preliminary and final plats.

The Planning Commission may recommend denial of the request(s) if it cannot make affirmative findings of the approval criteria stated above.

Avalon Arvada Conditional Use Permit

Planning Commission

January 21, 2026

AvalonBay
COMMUNITIES

Community Developer

AvalonBay
COMMUNITIES

Consultants

TPC
THE PACHNER COMPANY

HKS
HARRIS
KOCHER
SMITH

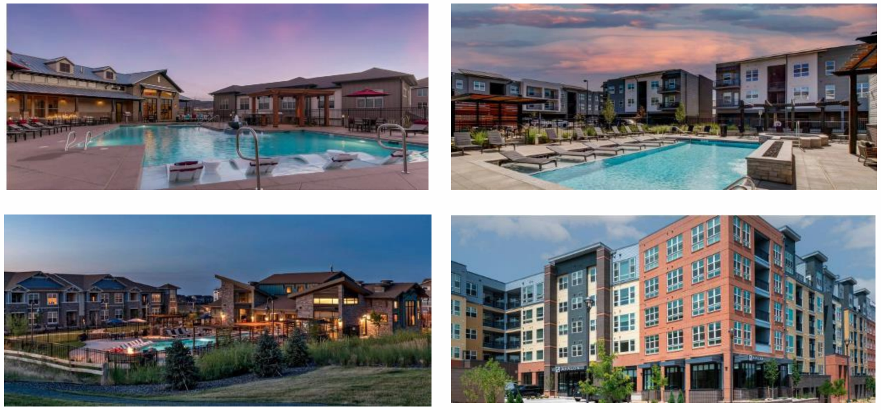
NORRIS
DESIGN
PEOPLE + PLACEMAKING

studio
PBA

OTTENJOHNSON
ROBINSON NEFF + RAGONETTI PC

About AvalonBay

AvalonBay Communities is a leading multifamily company. We develop, build, own, and operate class-A multifamily communities in 10 US regions, including Colorado. Given our long-term ownership structure, we are incentivized by the performance of both the apartment community and the greater communities in which we develop.



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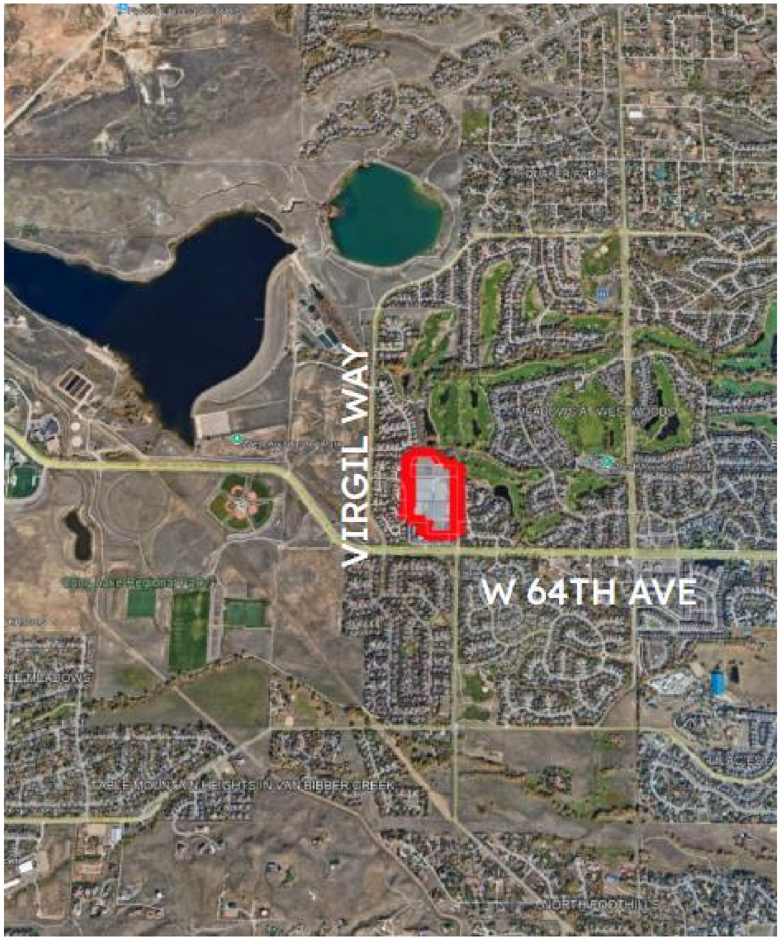
CREATING A BETTER WAY TO LIVE — COMMITMENT TO INTEGRITY · SPIRIT OF CARING · FOCUS ON CONTINUOUS IMPROVEMENT

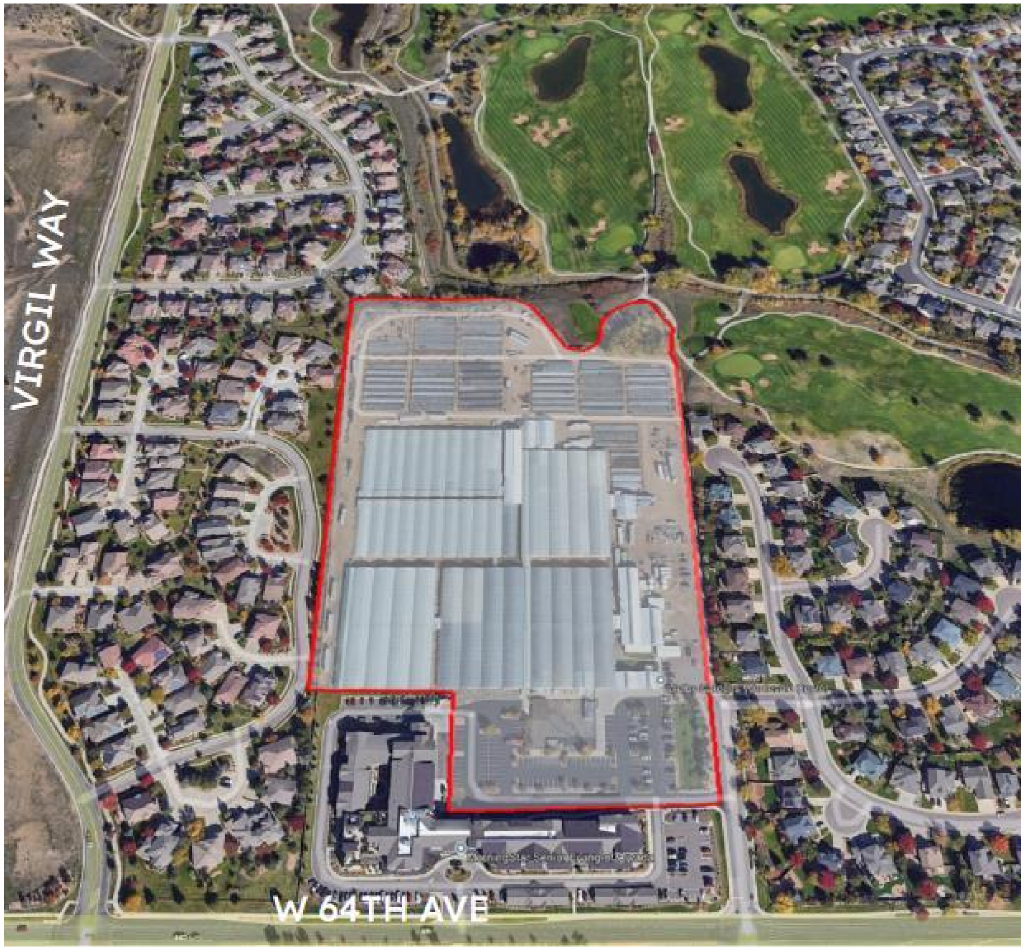
Environmental and Social Awards and Recognitions

Awards and Recognition

- Newsweek America's Most Responsible Companies 2023 5th YEAR IN A ROW
- Newsweek America's Greenest Companies 2024
- Forbes Top 100 List of Net Zero Leaders Ranked #48 2nd YEAR ON LIST
- Washington Post Best Places to Work
- Human Rights Campaign – Best Place to Work for LGBTQ+ Equality 2nd YEAR ON LIST
- Associated General Contractors – Diversity & Inclusion Excellence Award 2024
- 3BL Media global list of 100 Best Corporate Citizens 6th YEAR ON LIST

Project Site & Existing Context


VIRGIL WAY
W 64TH AVE
TABLE MOUNTAIN HEIGHTS IN VAN BIBBER CREEK
NORTH FOOTHILLS


VIRGIL WAY
W 64TH AVE

Project Site & Existing Context

Our Request

✗

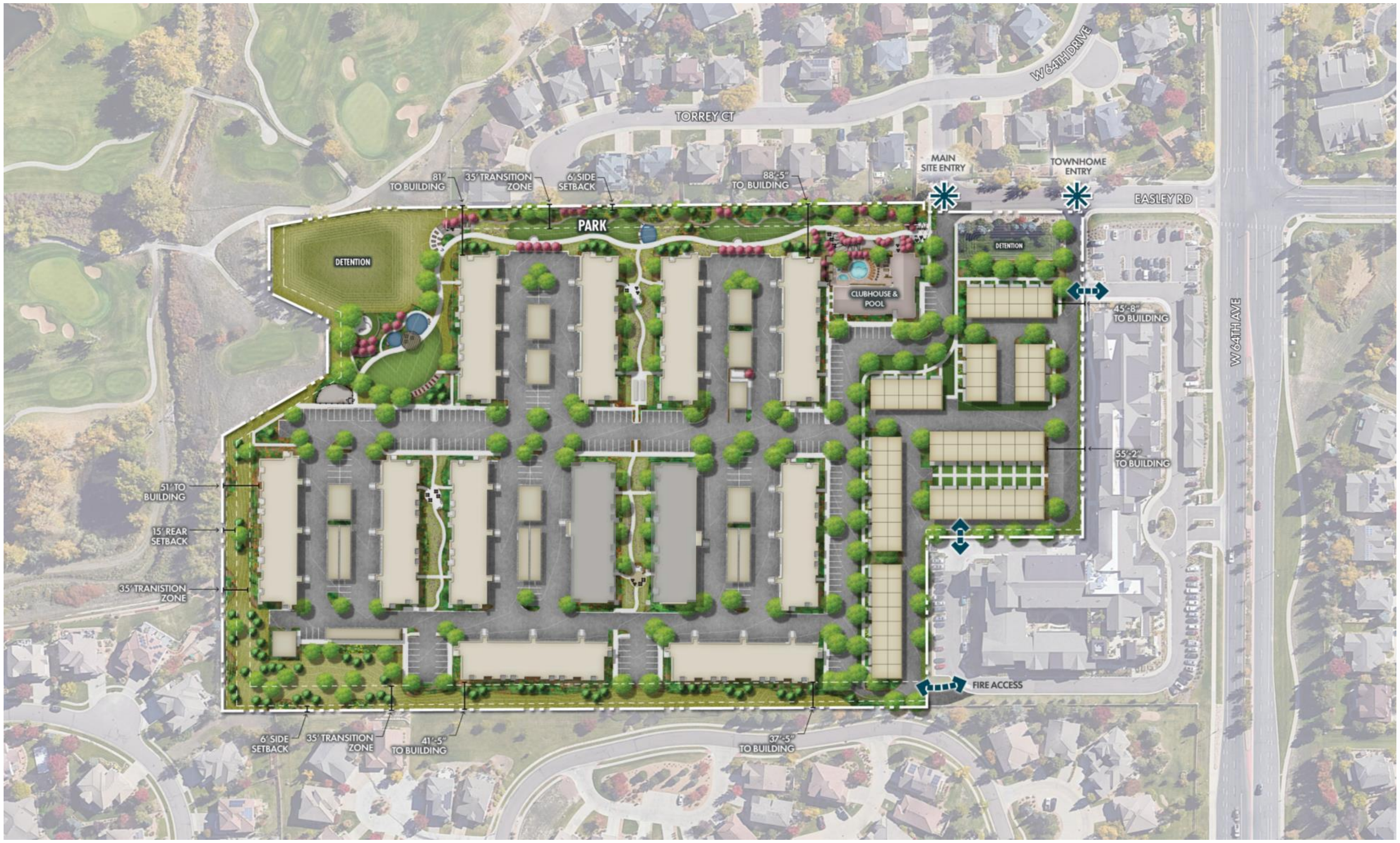
No Rezoning

✓

Conditional Use Permit

Request for a **Conditional Use Permit** in the MX-S zone to allow **Multifamily and Single-family** attached

Current Conceptual Site Plan


W 64TH DRIVE
TORREY CT
MAIN SITE ENTRY
TOWNHOME ENTRY
EASLEY RD
81' TO BUILDING
35' TRANSITION ZONE
6' SIDE SETBACK
88'-5" TO BUILDING
PARK
DETENTION
CLUBHOUSE & POOL
DETENTION
45'-8" TO BUILDING
W 64TH AVE
55'-2" TO BUILDING
51' TO BUILDING
15' REAR SETBACK
35' TRANISTION ZONE
FIRE ACCESS
6' SIDE SETBACK
35' TRANSITION ZONE
41'-5" TO BUILDING
37'-5" TO BUILDING

Approval Criteria

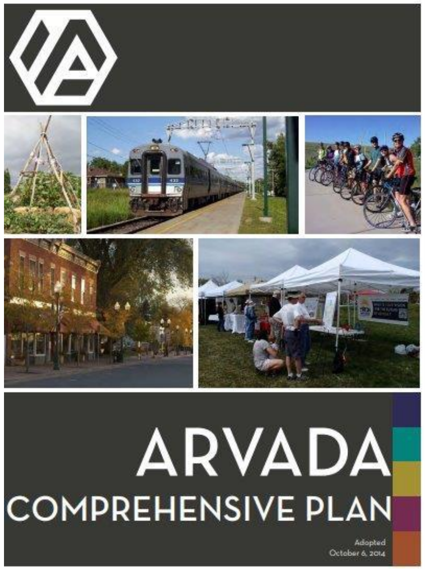
APPROVAL CRITERIA

Follow Along Here

1. The application complies with the applicable standards of this LDC …
2. The application is consistent with the Arvada Comprehensive Plan
3. The use is consistent with the purpose and intent of the zoning district in which it is located
4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned use in the surrounding area and the zoning district regulations
5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development be available to serve the subject property while maintaining adequate levels of services for existing development
6. The application mitigates any adverse impacts on the surrounding area to the degree practicable

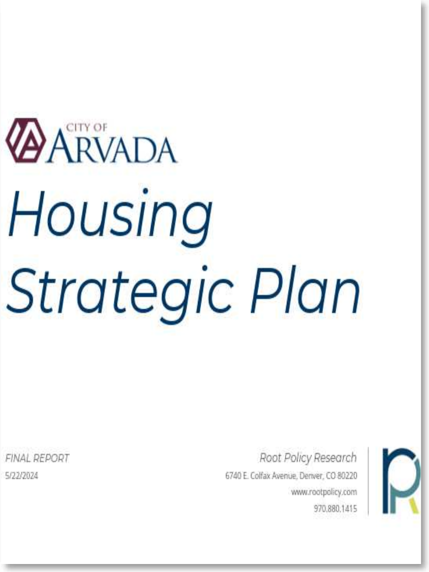
Our Guiding Documents

2014 Arvada Comprehensive Plan



ARVADA
COMPREHENSIVE PLAN
Adopted
October 6, 2014

2024 Arvada Housing Strategic Plan



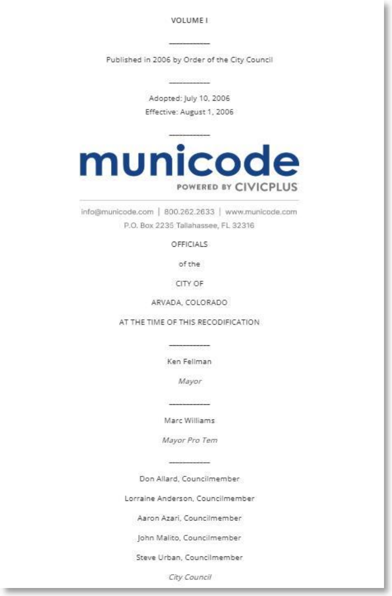
CITY OF ARVADA

Housing Strategic Plan

FINAL REPORT
5/22/2024

Root Policy Research
6740 E. Colfax Avenue, Denver, CO 80220
www.rootpolicy.com
970.880.1415

Current Arvada Zoning Code



VOLUME I

Published in 2006 by Order of the City Council

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Effective: August 1, 2006

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OFFICIALS

of the

CITY OF

ARVADA, COLORADO

AT THE TIME OF THIS RECODIFICATION

Ken Fellman

Mayor

Marc Williams

Mayor Pro Tem

Don Allard, Councilmember

Lorraine Anderson, Councilmember

Aaron Azari, Councilmember

John Malito, Councilmember

Steve Urban, Councilmember

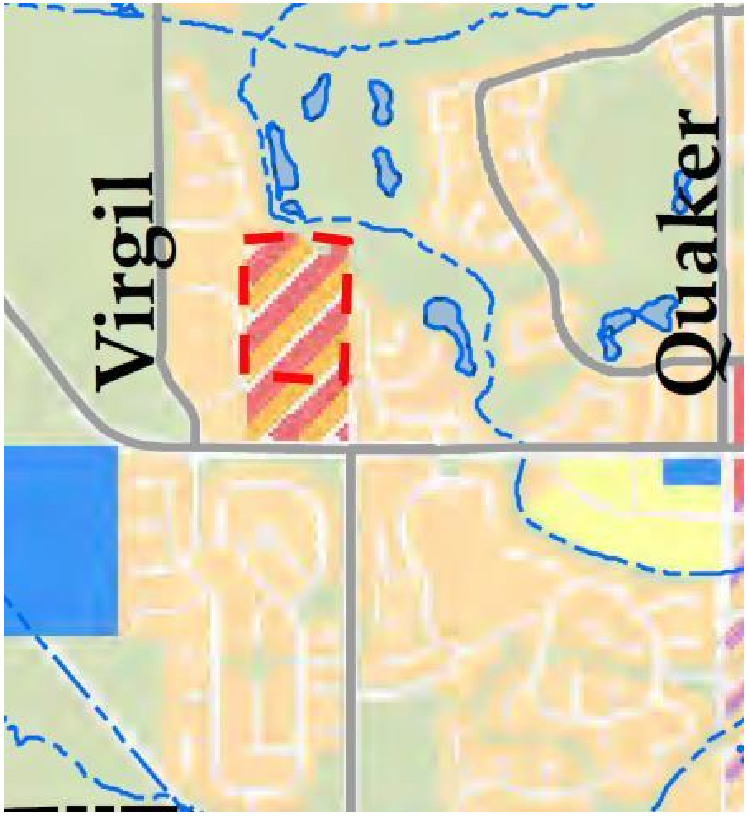
City Council

Our Guiding Documents

2014 Arvada Comprehensive Plan

APPROVAL CRITERIA

② **Comprehensive Plan Compliance**



Legend

- ▨ Mixed-Use
- 🟧 Suburban Residential
- 🟩 Open Space Parks
- 🟦 Public/Quasi-Public Facilities
- 🟨 Low Density Residential

2014 Arvada Comprehensive Plan

APPROVAL CRITERIA

2 **Comprehensive Plan Compliance**

POLICY L-3.1: Designated Mixed-Use Areas
"The plan designates mixed-use areas in Arvada to provide a mix of land uses, services, retail and commercial development, employment, and in some cases, a **diversity of higher density housing** . . ." (Arvada Comp Plan)

GOAL L-5: Redevelopment and Infill
"Designate and **promote redevelopment and infill** to generate economic revitalization, improve physical conditions, and provide an appropriate **mix of quality housing choices**. " (Arvada Comp Plan)

POLICY L-3.2: Criteria for New and Redeveloping Mixed-Use Areas
"Mixed-use areas are envisioned as strategically located, **high intensity**, pedestrian-oriented activity areas providing a range of retail, business, civic, cultural, and **residential opportunities** for the surrounding trade area." (Arvada Comp Plan)

Primary Uses:

The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential.

"the Comprehensive Plan recommends a density greater than residential zoning districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity..." (Staff Report)

Arvada Housing Strategic Plan

APPROVAL CRITERIA

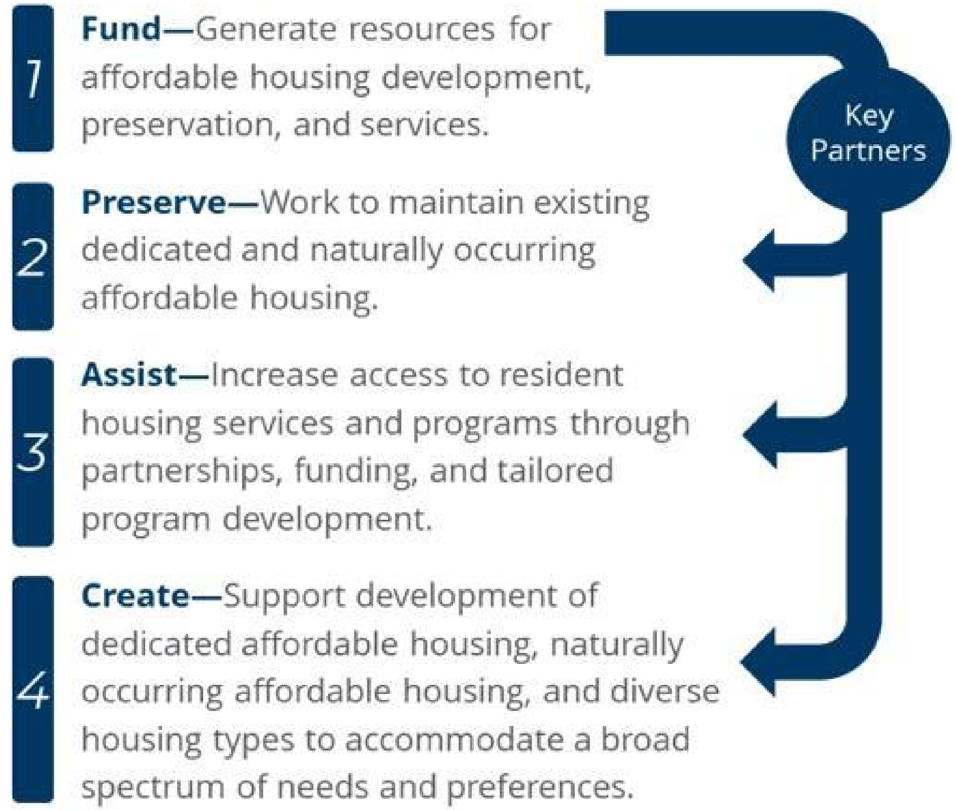
② **Comprehensive Plan Compliance**

Housing Goals

"Increase production of housing that expands price-point and product diversity in Arvada, including **Multifamily** and "**missing middle**" products that tend to have more attainable price-points."

Arvada West's Reality

Today, west Arvada offers exceptional access to mountains and trails, but virtually no apartment housing west of Ward road to support diverse living needs.



1 **Fund**—Generate resources for affordable housing development, preservation, and services.

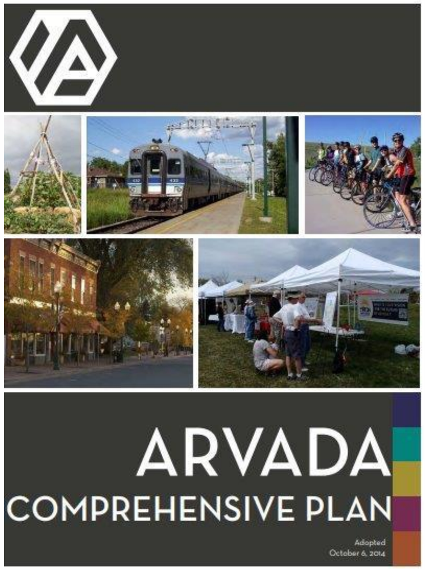
2 **Preserve**—Work to maintain existing dedicated and naturally occurring affordable housing.

3 **Assist**—Increase access to resident housing services and programs through partnerships, funding, and tailored program development.

4 **Create**—Support development of dedicated affordable housing, naturally occurring affordable housing, and diverse housing types to accommodate a broad spectrum of needs and preferences.

Our Guiding Documents

2014 Arvada Comprehensive Plan



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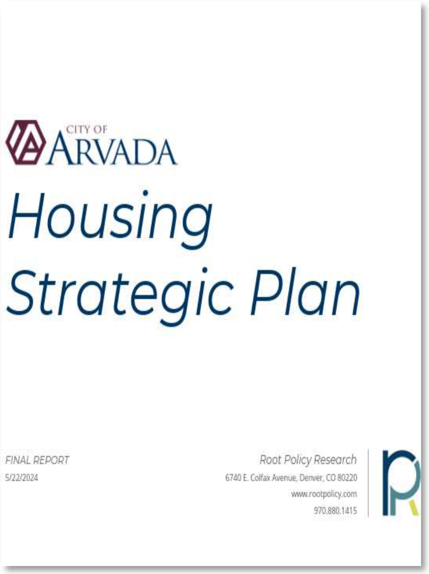
2024 Arvada Housing Strategic Plan



CITY OF ARVADA

Housing Strategic Plan

FINAL REPORT
5/22/2024

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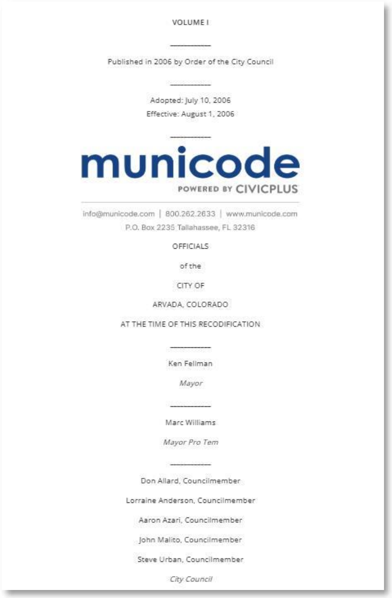
Current Arvada Zoning Code



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City Council

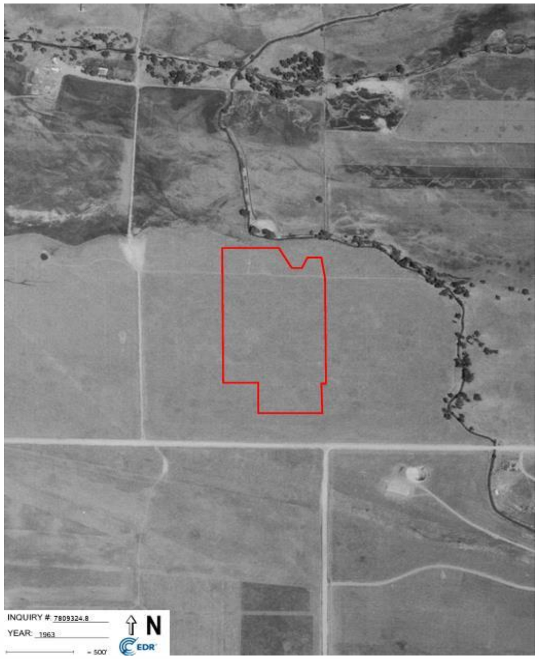
Zoning

Historical Buildout of Site

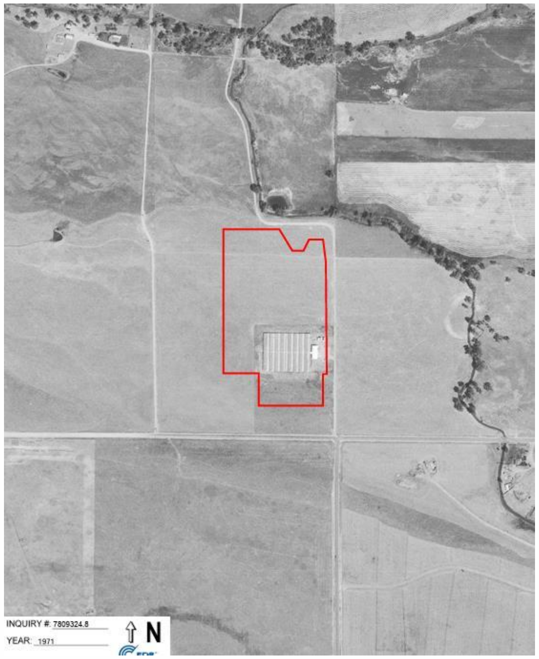
APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

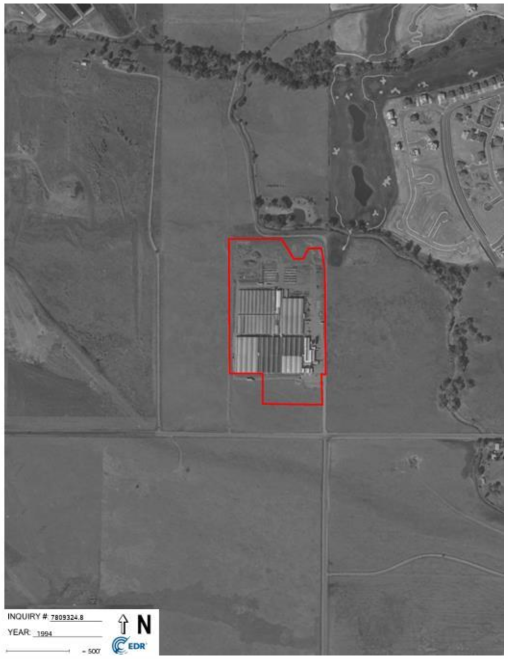
Year: 1963


INQUIRY #: 7809324.8
YEAR: 1963
= 500'
N
EDR

Year: 1971


INQUIRY #: 7809324.8
YEAR: 1971
N

Year: 1994


INQUIRY #: 7809324.8
YEAR: 1994
= 500'
N
EDR

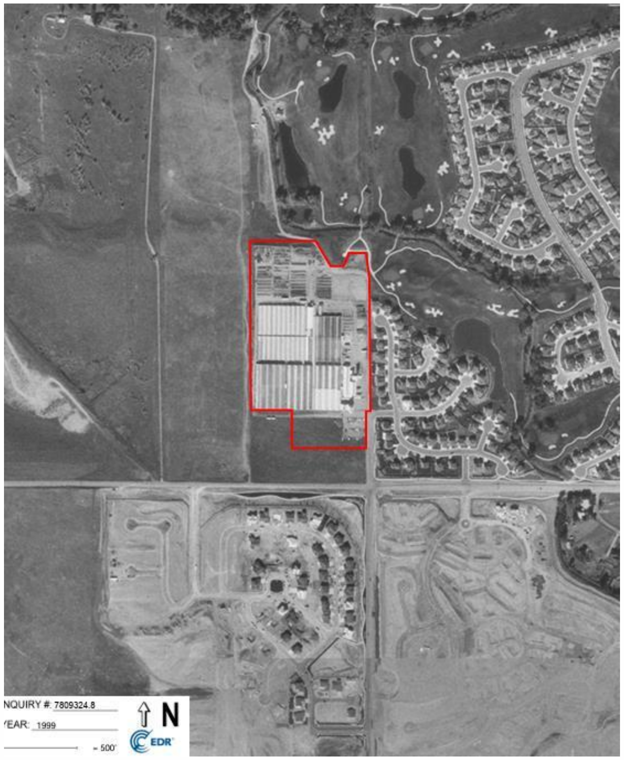
Zoning

Historical Buildout of Site

APPROVAL CRITERIA

3 Zoning Intent and Consistency

Year: 1999



Zoning in 1997 - Permitted Uses

- Drive Thru Restaurant
- Food, Liquor, Store
- Bar, Tavern, Nightclub
- Ambulance Service
- Grocery Store
- Carwash
- Gas Station
- Passenger Terminal
- Auto Accessory Store
- Hospital
- Parking Structure
- Vocational Business School
- Drive Thru Bank
- Motor Vehicle Showroom
- Hotel, Motel
- Assembly Hall
- Hardware and Minor Appliance Store

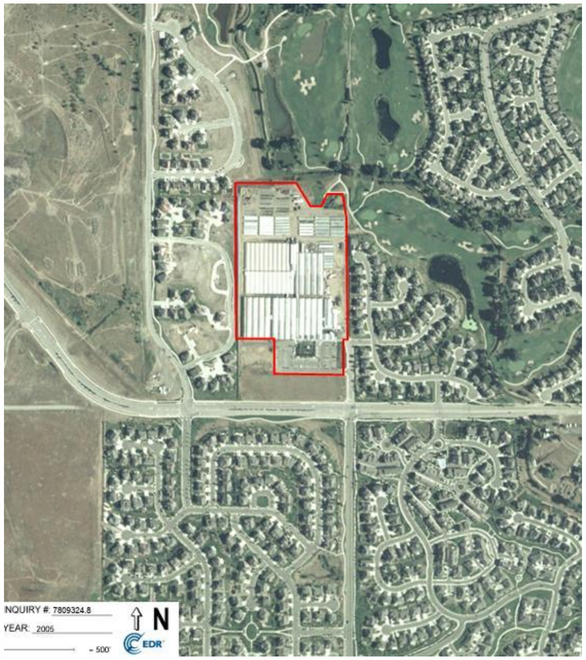
Zoning

Historical Buildout of Site

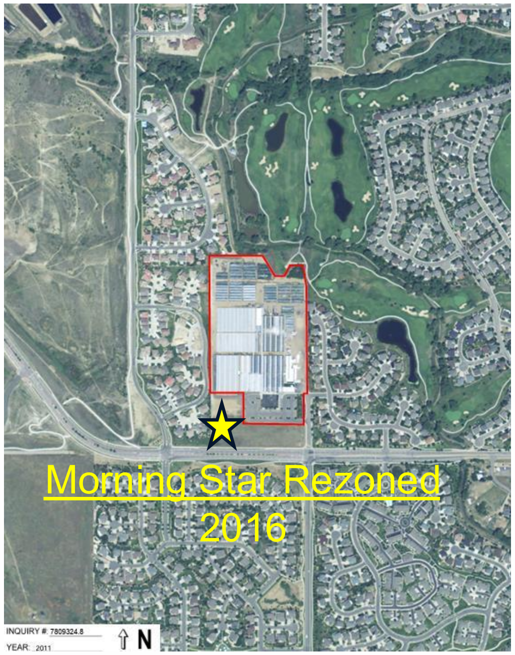
APPROVAL CRITERIA

3 Zoning Intent and Consistency

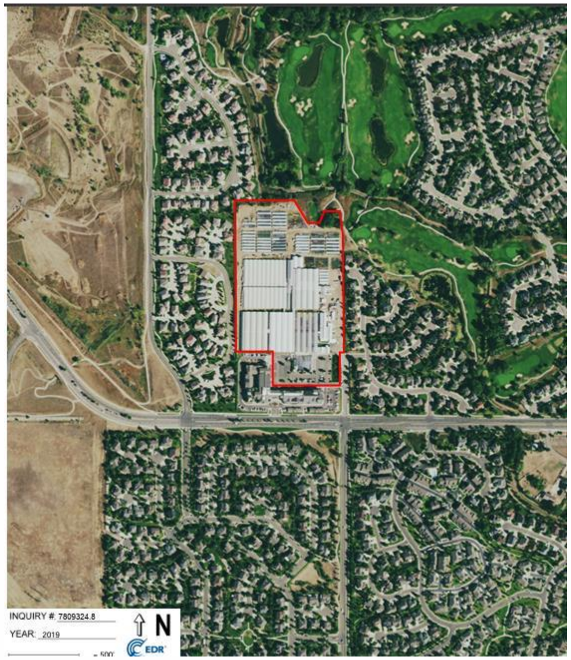
Year: 2005


INQUIRY #: 7809324.8
YEAR: 2005
= 500'
N
EDR

Year: 2011


Morning Star Rezoned 2016
INQUIRY #: 7809324.8
YEAR: 2011
N

Year: 2019


INQUIRY #: 7809324.8
YEAR: 2019
= 500'
N
EDR

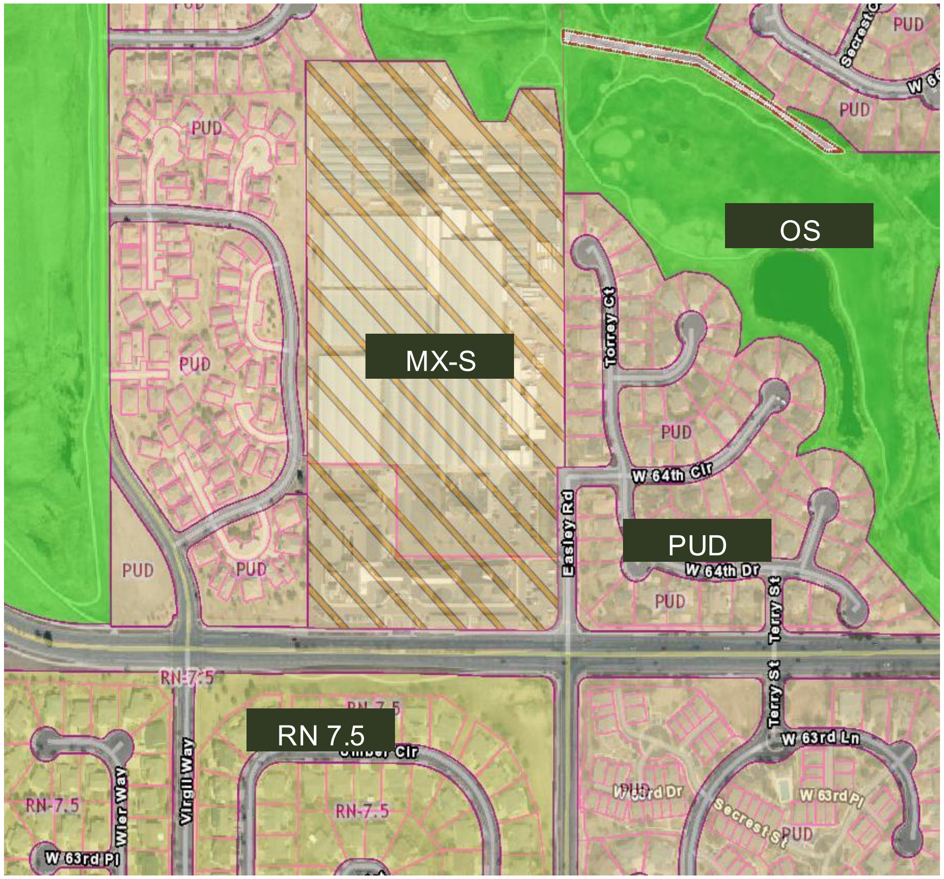
Current Zoning

APPROVAL CRITERIA

③ Zoning Intent and Consistency

LEGEND

- MX-S - Mixed Use – Suburban
- PUD - Planned Unit Development
- RN 7.5 - Residential Neighborhood 7.5 du/ac
- OS - Open Space



OS
MX-S
PUD
RN 7.5
Torrey Ct
W 64th Cir
Easley Rd
W 64th Dr
Terry St
W 63rd Ln
W 63rd Pl
Secrest St
Virgil Way
Wier Way
RN-7.5

Current Zoning

APPROVAL CRITERIA

③ Zoning Intent and Consistency

Allowed Uses W/O Conditional Approval:

- Workshop
- Hospital
- Medical Office
- Office
- Assembly Hall
- Private College
- Private School
- Private Vocational or Trade School
- Indoor Amusement and Recreation
- Restaurant

Allowed Uses with Conditional Approval:

- Greenhouses or Nurseries
- Radio Tower
- Data Center
- Ambulance Services
- Light Industrial
- Resource Extraction (Minerals)
- Self-Storage
- Data Center
- Single Family Detached
- Duplex
- Multiplex

MX-S ZONING STANDARDS	Residential	Non-Residential
Max Height	45ft	45ft
Max Height (ADU)	30ft	-
Max Height (Accessory bldg.)	18ft	-
Min Landscape Area	25%	25%
Max Density	None	-

Limited Uses:

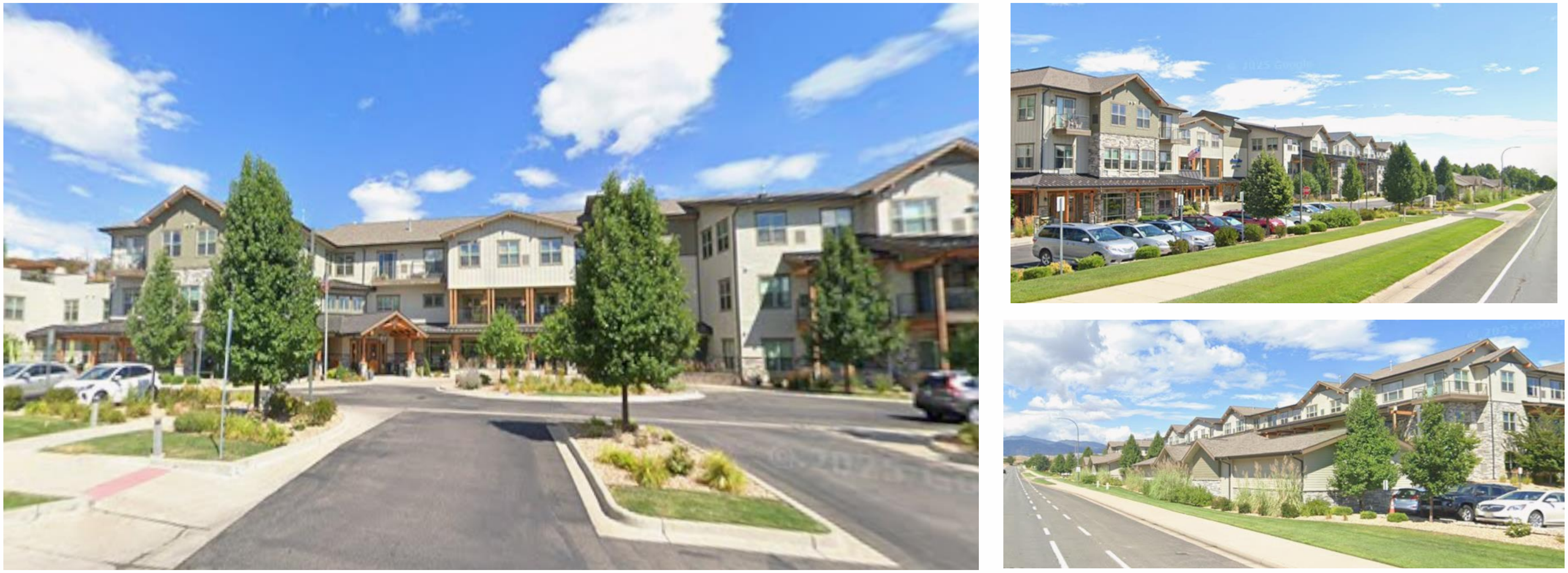
- Group Home
- Live Work Unit
- Self-Storage
- Data Center
- Bar/Nightclub
- Fast Food
- Animal Training
- Fueling Station
- Motor Vehicle Services
- Vehicle Equipment

Zoning –Existing Context

What MX-S looks like in this area today

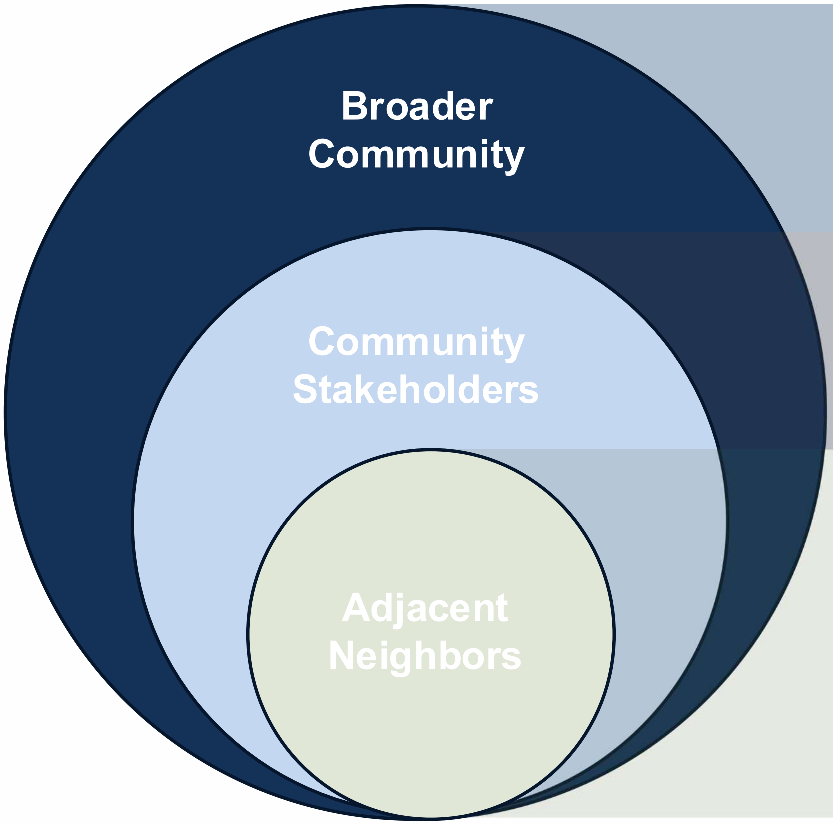
APPROVAL CRITERIA

③ Zoning Intent and Consistency



Precedent imagery from Morningstar

Neighborhood Outreach


Broader Community
Community Stakeholders
Adjacent Neighbors

- Civic Organizations
- Jefferson County Regional Organizations

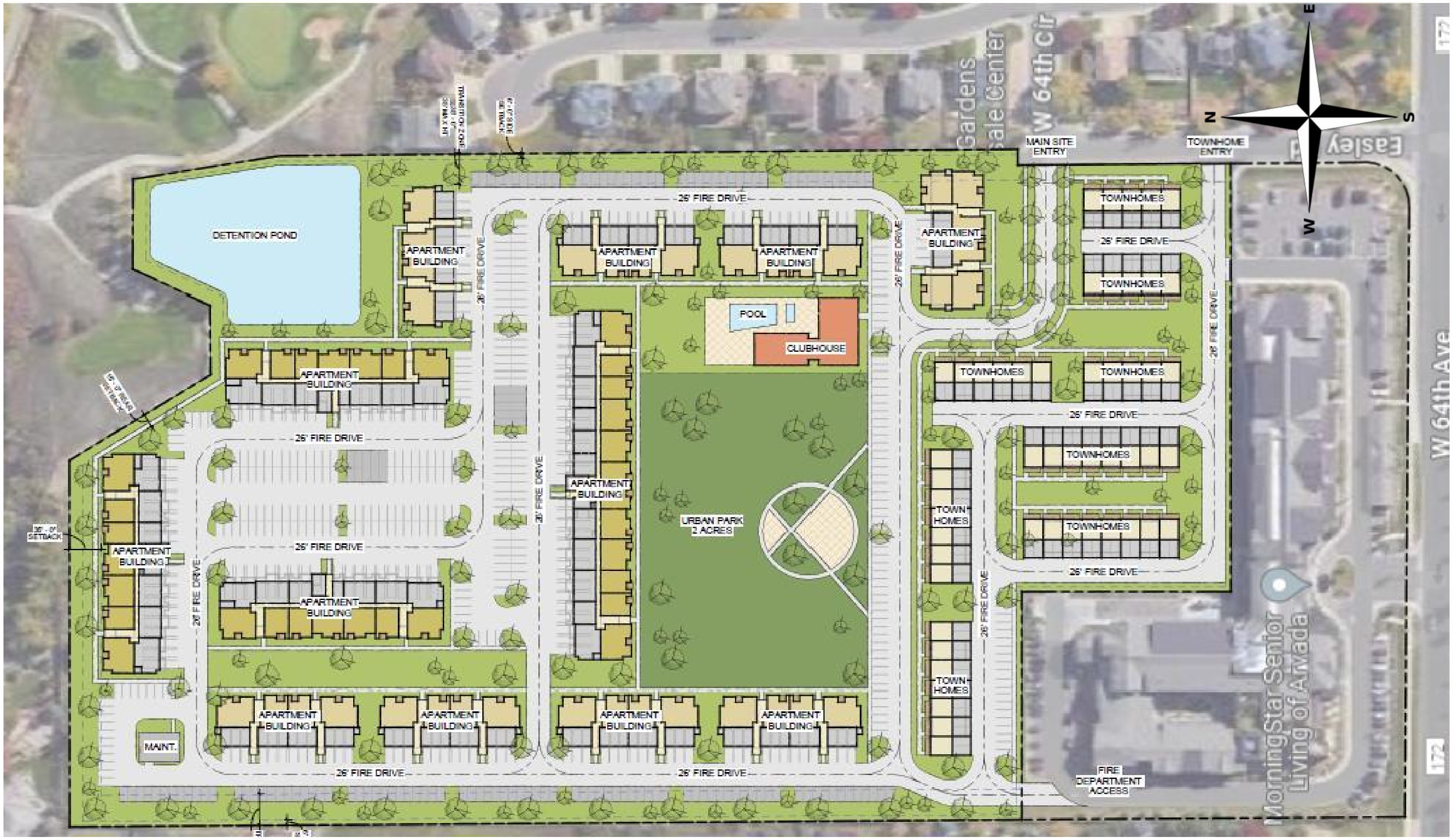
- Nearby Neighborhoods
- Area Businesses

- Westwood Links
- Westwood Ranch
- Trail Village
- Fieldstone
- Sunrise Ridge
- Adjacent

Date of Meeting	Method	Notice
January 13th, 2025	Meeting focused on the abutting eastern neighbors to address buffering	42 Homes • Walked and distributed flyer
February 5th, 2025	Small open house meeting with the Western neighbors and HOA representatives	46 Homes • Walked neighborhood and distributed flyer, notice to HOA & email to previous participants
February 26th, 2025	Neighborhood meeting with Eastern neighbors	76 Homes • Walked neighborhood distributed flyer, email notice to previous participants
April 10th, 2025	Formal and required neighborhood meeting	Within 500' per City's Neighborhood Meeting Guide
April – Present	Multiple meetings with neighbors, organizations and other interested parties	Continued Community Engagement

Evolution of our Conceptual Site Plan

Initial Conceptual Site Plan

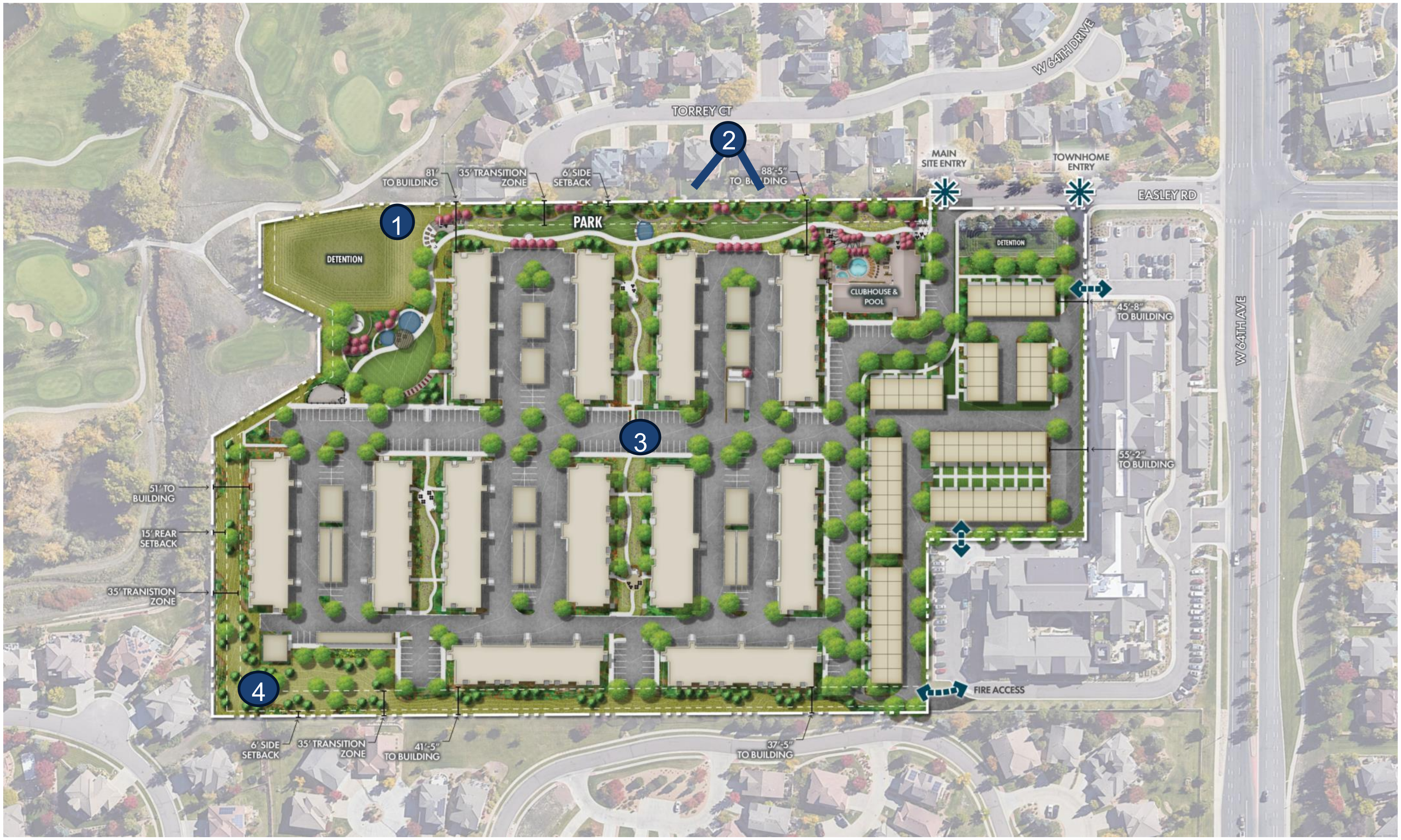


DETENTION POND
APARTMENT BUILDING
26' FIRE DRIVE
POOL
CLUBHOUSE
URBAN PARK 2 ACRES
TOWNHOMES
TOWN HOMES
MAINT.
36' - 0" SETBACK
MAIN SITE ENTRY
TOWNHOME ENTRY
FIRE DEPARTMENT ACCESS
Gardens
ale Center
W 64th Cir
Easley
W 64th Ave
MorningStar Senior Living of Arvada
172
N
S
E
W

Current Conceptual Site Plan

APPROVAL CRITERIA

④ + ⑥ Compatibility & Mitigation


W 64TH DRIVE
TORREY CT
2
MAIN SITE ENTRY
TOWNHOME ENTRY
EASLEY RD
81' TO BUILDING
35' TRANSITION ZONE
6' SIDE SETBACK
88'-5" TO BUILDING
1
PARK
DETENTION
DETENTION
CLUBHOUSE & POOL
45'-8" TO BUILDING
W 64TH AVE
3
51' TO BUILDING
15' REAR SETBACK
35' TRANISTION ZONE
55'-2" TO BUILDING
4
FIRE ACCESS
6' SIDE SETBACK
35' TRANSITION ZONE
41'-5" TO BUILDING
37'-5" TO BUILDING

Additional Community Opportunities

Traffic Improvements

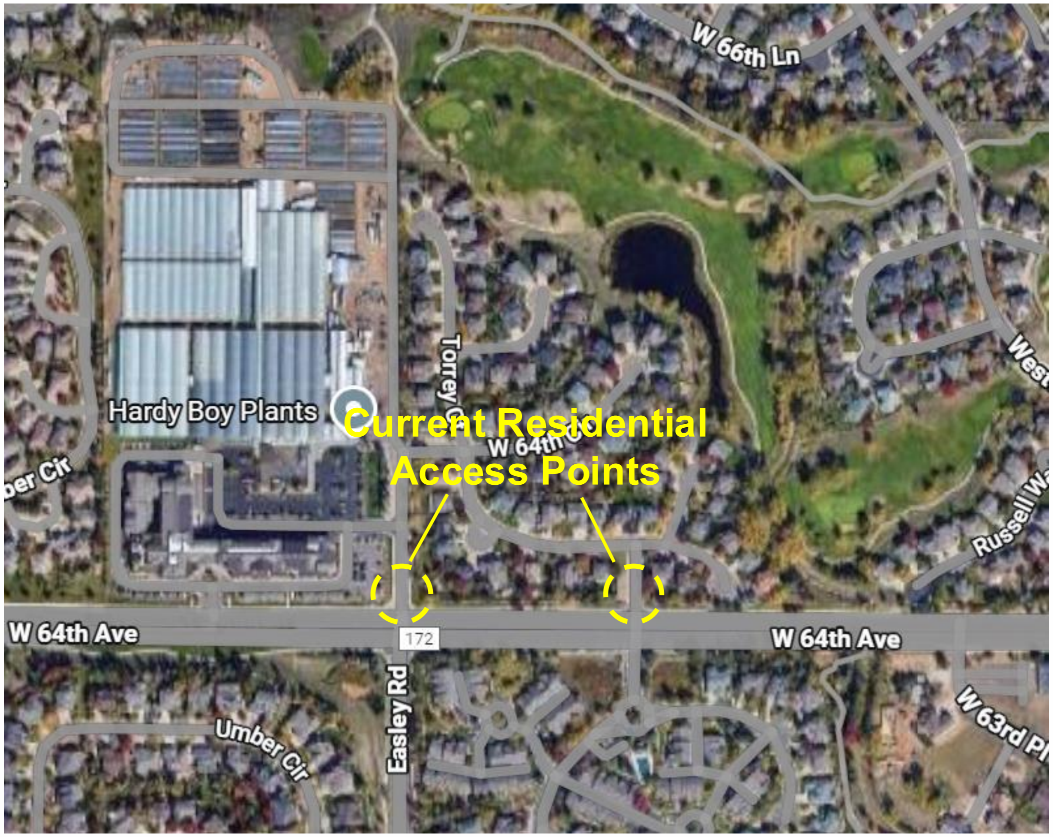
Environmental Remediation

Views and Compatibility

Infrastructure and Utility Coordination

These were additional community opportunities raised during outreach, and the following slides outline how the project has responded to each

Traffic Improvements


W 66th Ln
Hardy Boy Plants
Current Residential Access Points
Torrey Ct
W 64th Ct
ber Cir
West
Russell Wa
W 64th Ave
172
W 64th Ave
Easley Rd
Umber Cir
W 63rd Pl

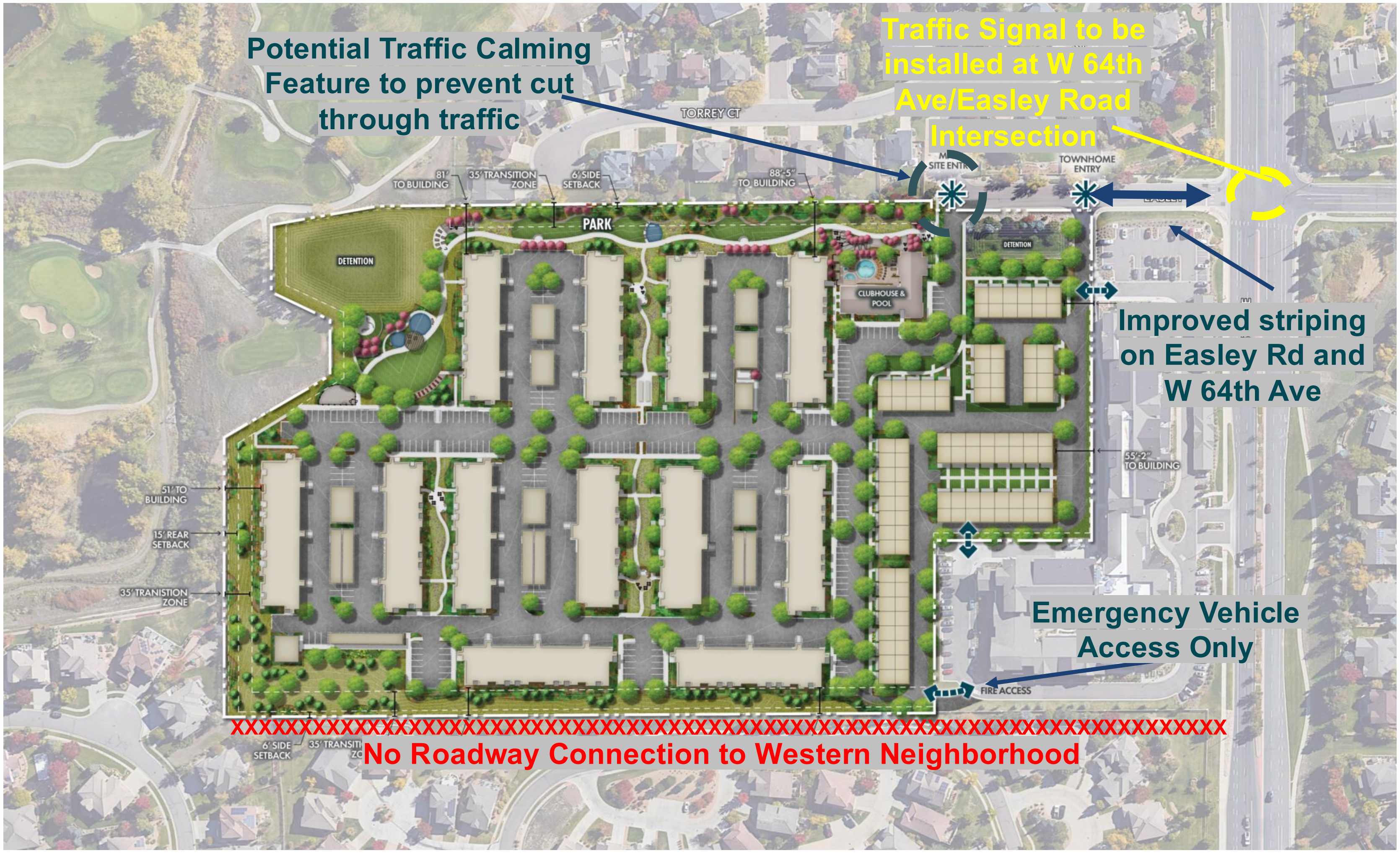
What We've Heard About Traffic

- Will this project increase congestion at W 64th Ave and Easley Rd?
- Could Cut-through traffic impact nearby residential streets?
- Will traffic movements be clearly marked and predictable?
- How will additional trips affect safety during peak hours?

Traffic Improvements

APPROVAL CRITERIA

④ + ⑥ Compatibility & Mitigation



Potential Traffic Calming Feature to prevent cut through traffic

Traffic Signal to be installed at W 64th Ave/Easley Road Intersection

Improved striping on Easley Rd and W 64th Ave

Emergency Vehicle Access Only

No Roadway Connection to Western Neighborhood

TORREY CT
81' TO BUILDING
35' TRANSITION ZONE
6' SIDE SETBACK
88'-5" TO BUILDING
SITE ENTR
TOWNHOME ENTRY
PARK
DETENTION
DETENTION
CLUBHOUSE & POOL
51' TO BUILDING
15' REAR SETBACK
35' TRANISTION ZONE
55'-2" TO BUILDING
FIRE ACCESS
6' SIDE SETBACK
35' TRANSITI ZO

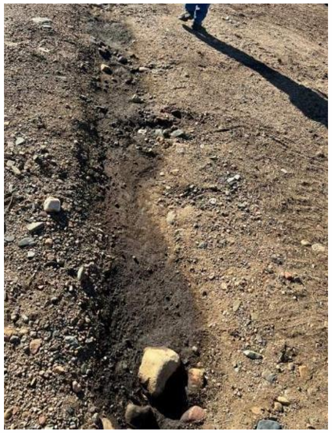
Environmental Remediation

APPROVAL CRITERIA

6 **Mitigation**

Existing Conditions

CAUTION
CUIDADO
Miller



Environmental Remediation

APPROVAL CRITERIA

6 **Mitigation**

Colorado Department of Public Health and Environment (CDPHE) - Cleanup Process

Environmental site cleanup is facilitated by CDPHE, a State agency, to ensure proper cleanup procedures throughout Colorado

- We have coordinated with CDPHE and expect to conduct the required clean up under the Voluntary Cleanup Program.
- AVB will conduct all necessary remediation activities subject to review and approval by CDPHE
- All environmental remediation will be protective of public health and the environment.

Where we are today:

- Completed an Environmental Site Assessment Phase 1
- Completed an Environmental Site Assessment Phase 2
- In discussions with CDPHE for Voluntary Cleanup Program

Environmental Remediation

APPROVAL CRITERIA

6 Mitigation

AvalonBay Cleanup Experience

AvalonBay Communities has a proven track record of successfully executing environmental cleanup projects across Colorado and in other states where we develop residential communities. Our team is well-versed in navigating both relatively simple to more complex remediation efforts and restoring each site to a condition that is safe for residential use, and in full compliance with applicable regulations and guidance. Below are a few recent examples.

AVA RiNo (2021)

Lawrence Street
2500 Lawrence Street
Arapahoe Street

Avalon Gov. Park (2021)

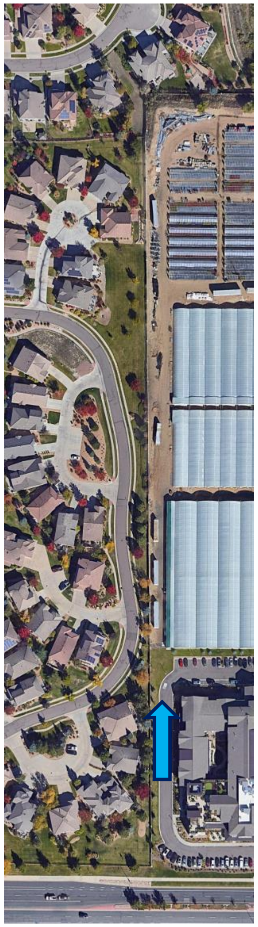
Avalon Montville (2021)

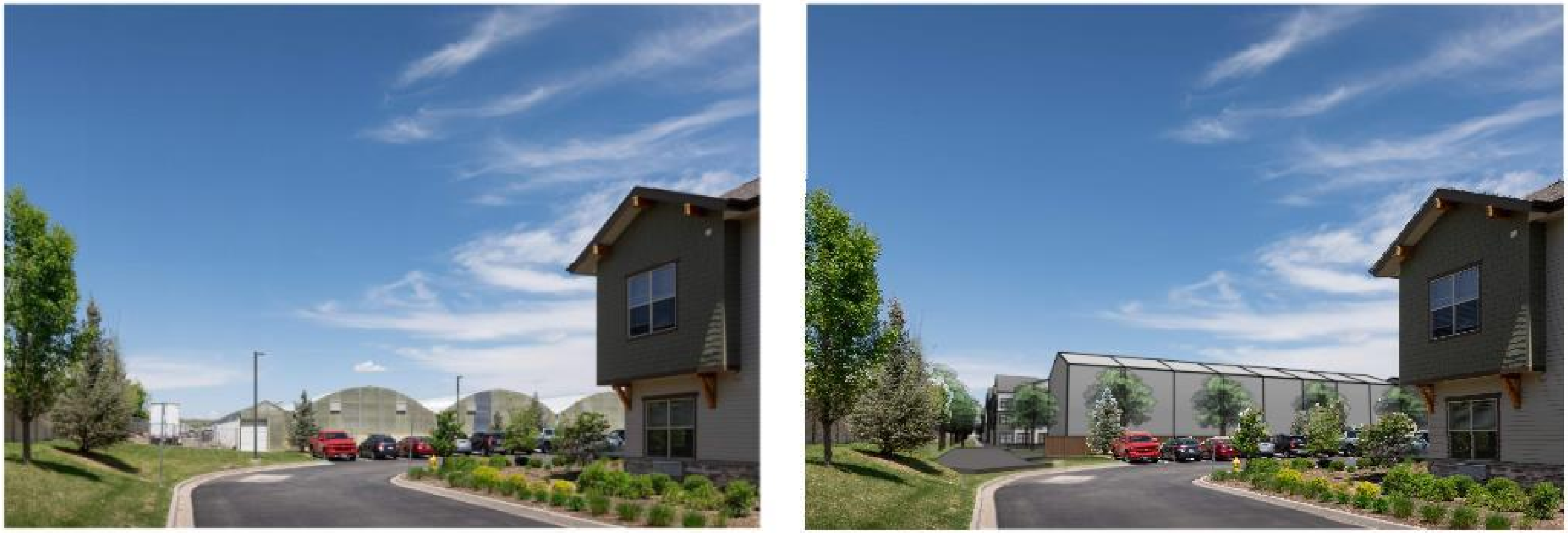
Views and Compatibility

APPROVAL CRITERIA

4 Compatibility

Proposed Perspectives – From Southwest



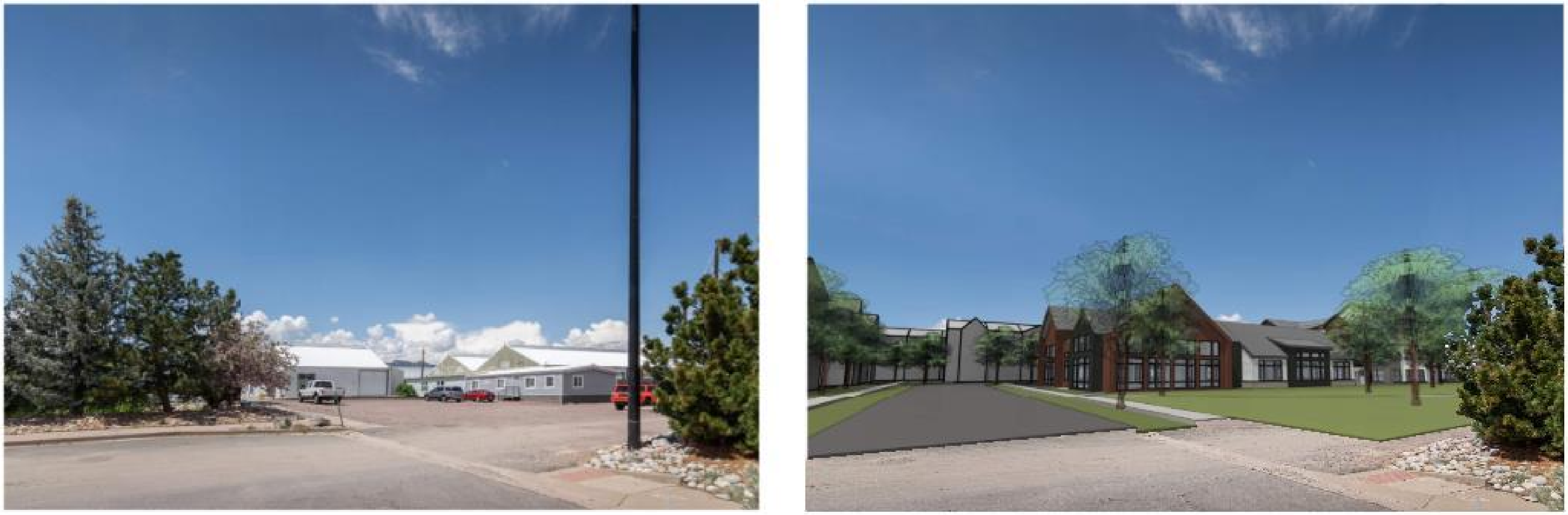


Views and Compatibility

APPROVAL CRITERIA

④ **Compatibility**

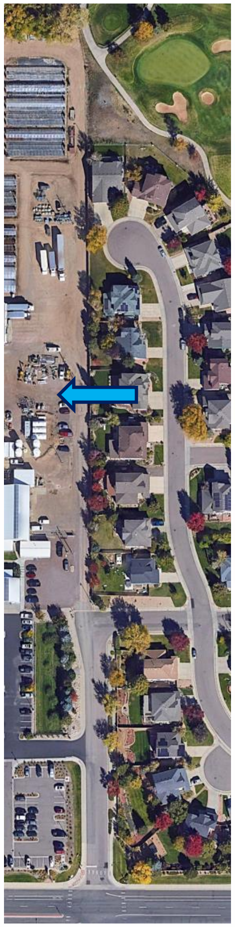
Proposed Perspectives – From Southeast



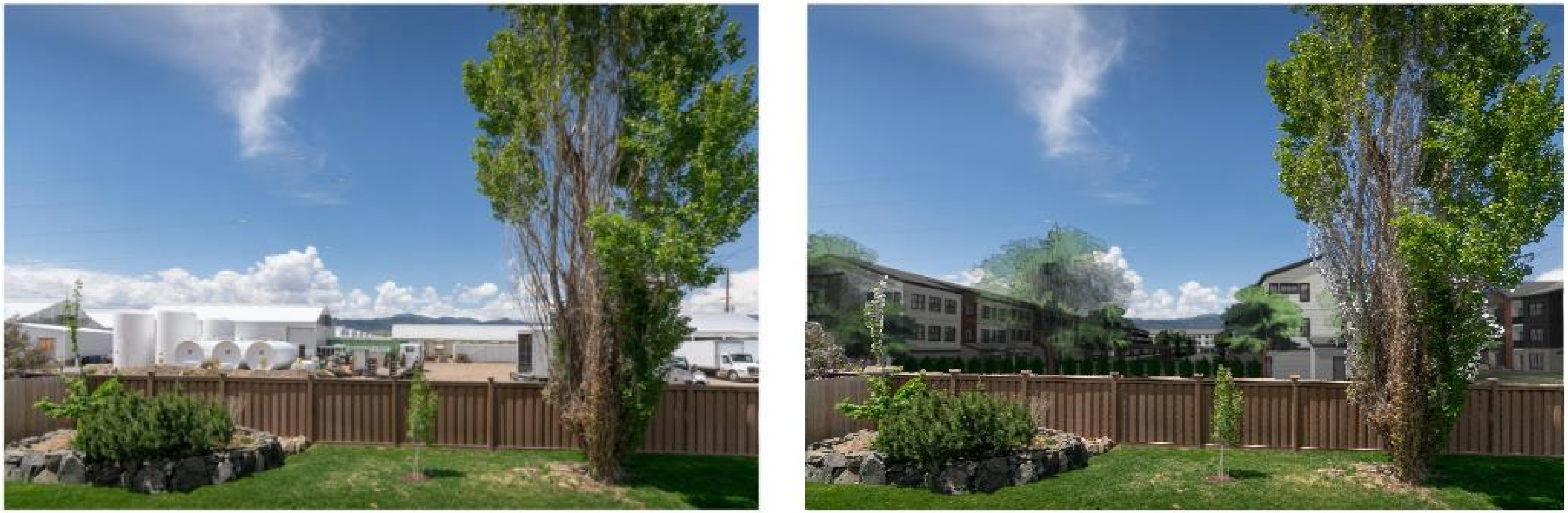
Views and Compatibility

APPROVAL CRITERIA

④ **Compatibility**

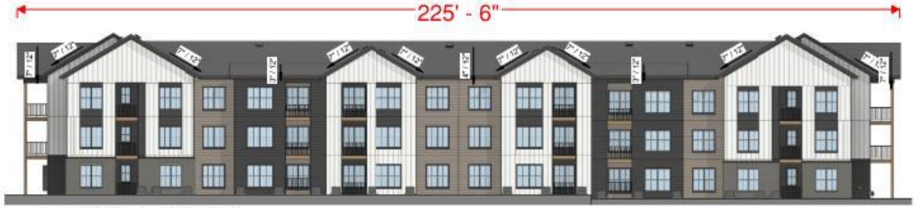


Proposed Perspectives – From East



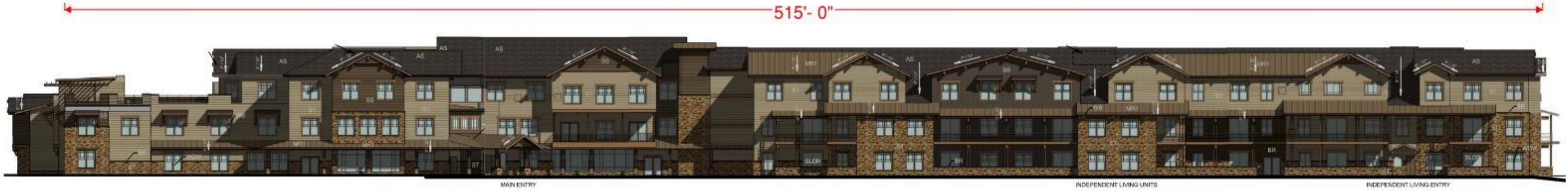
Scale Analysis – Morningstar Senior Living

AvalonBay's Building C



1 BUILDING C - ELEVATION 1
1/16" = 1'-0"

Existing Morningstar Building


515'- 0"
MAIN ENTRY
INDEPENDENT LIVING UNITS
INDEPENDENT LIVING ENTRY

1 South Elevation - East Wing
1/16" = 1'-0"

Additional Community Opportunities

APPROVAL CRITERIA

5 **Infrastructure**

Infrastructure and Utility Coordination

Infrastructure Coordination Through Referral

- All required public facilities and services are reviewed through Arvada's referral process
- Agencies involved with Arvada's referral process:
  - Public Works
  - Engineering
  - Utility
  - Fire Protection Districts
  - Police and Law Enforcement
  - Transportation Agencies

The City's referral process ensures infrastructure and services are available while maintaining adequate service levels

Our Commitment to Sustainability

- Energy-efficient appliances and lighting
- Low-water landscaping and smart irrigation systems
- EV charging infrastructure
- Solar-ready buildings national, recognition for environmental leadership, and responsible development practices
- Numerous green building certification, including multiple LEED Gold Certifications at all new developments within Colorado.

Approval Criteria

☑ 1. The application complies with the applicable standards of this LDC …

☑ 2. The application is consistent with the Arvada Comprehensive Plan

☑ 3. The use is consistent with the purpose and intent of the zoning district in which it is located

☑ 4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned use in the surrounding area and the zoning district regulations

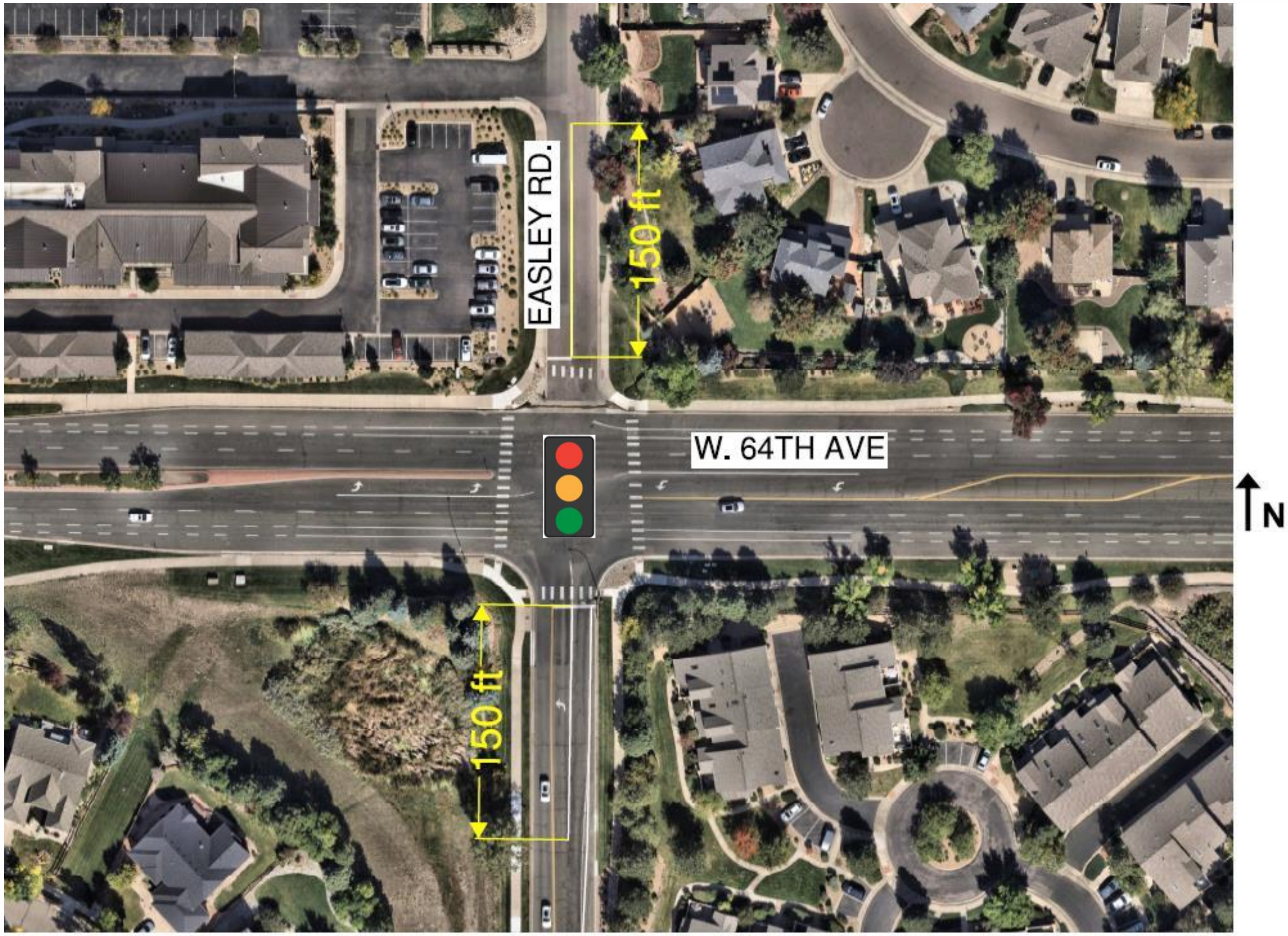
☑ 5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development be available to serve the subject property while maintaining adequate levels of services for existing development

☑ 6. The application mitigates any adverse impacts on the surrounding area to the degree practicable.

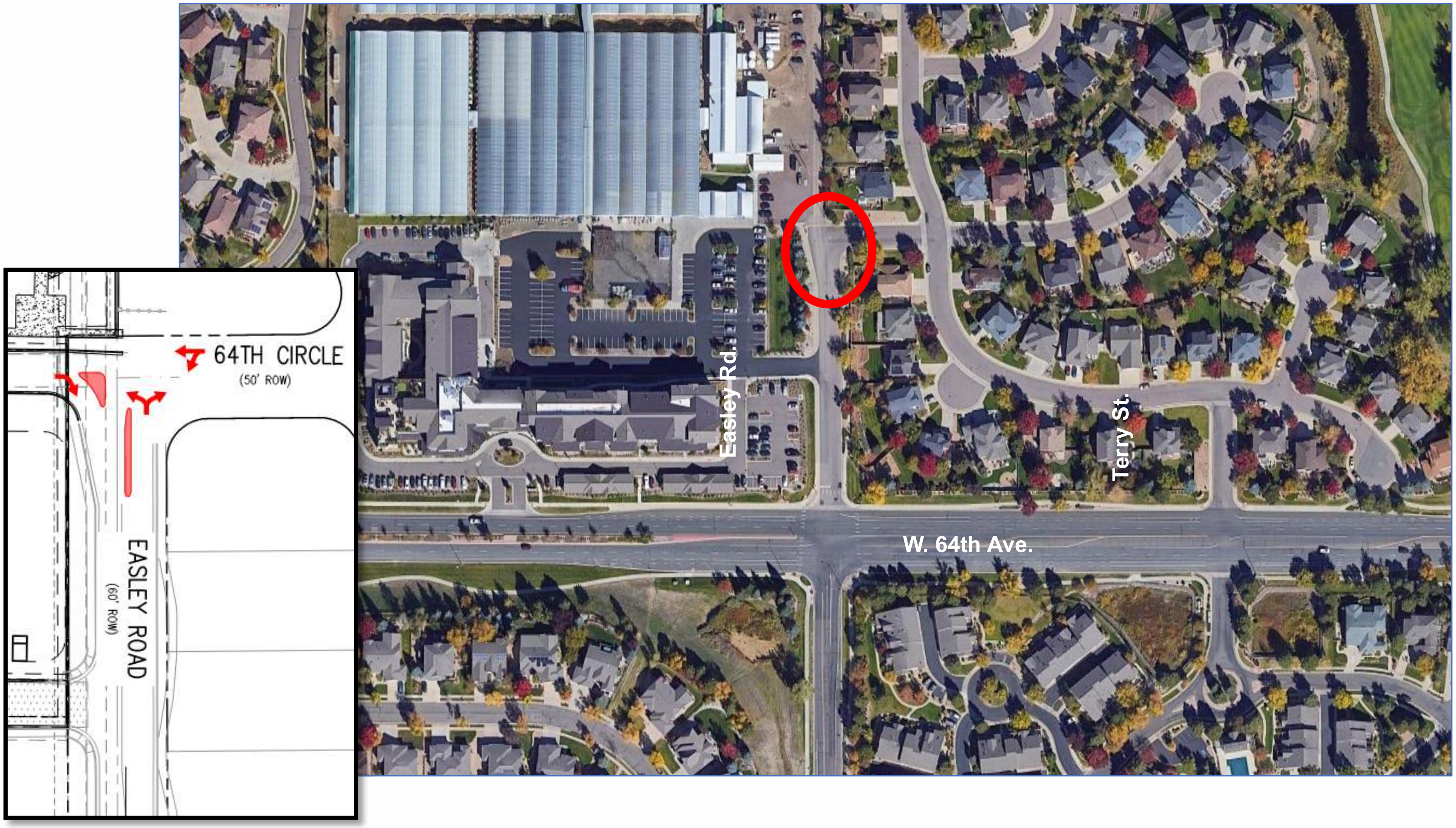
Thank you!

AvalonBay
COMMUNITIES

Easley Road Restriping with Signage

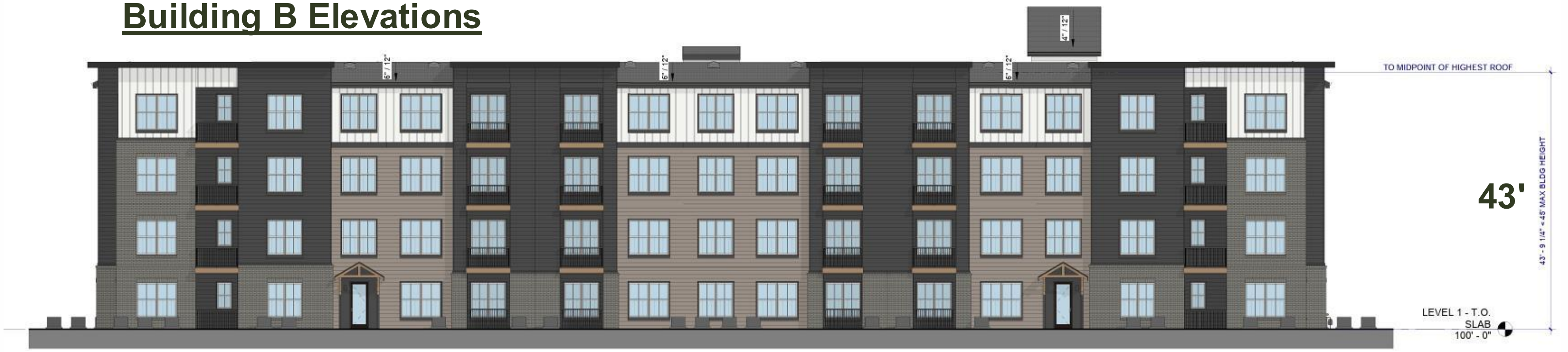

EASLEY RD.
150 ft
W. 64TH AVE
N
150 ft

Easley Road and W 64th Circle

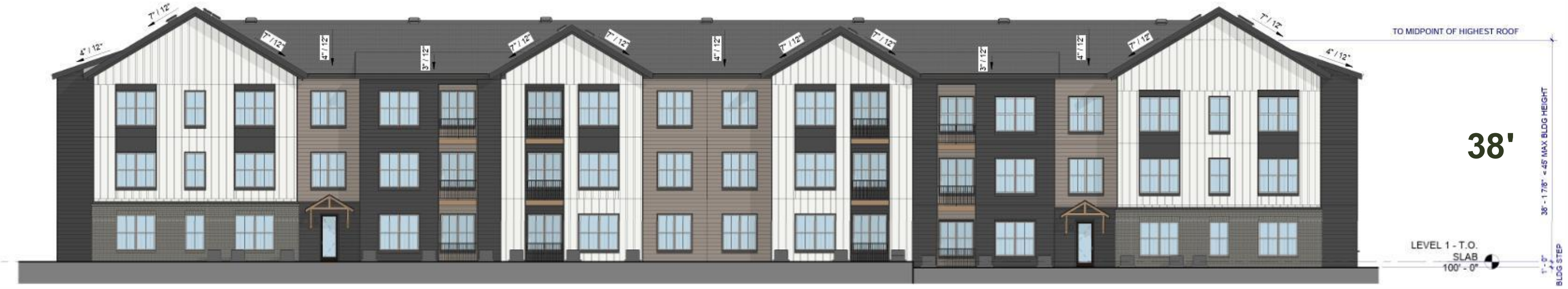

64TH CIRCLE
(50' ROW)
EASLEY ROAD
(60' ROW)
Easley Rd.
Terry St.
W. 64th Ave.

Height Analysis – Arvada Avalon

Building B Elevations


6" / 12"
6" / 12"
6" / 12"
4" / 12"
TO MIDPOINT OF HIGHEST ROOF
43'
43' - 9 1/4" < 45' MAX BLDG HEIGHT
LEVEL 1 - T.O. SLAB
100' - 0"

Building A Elevations

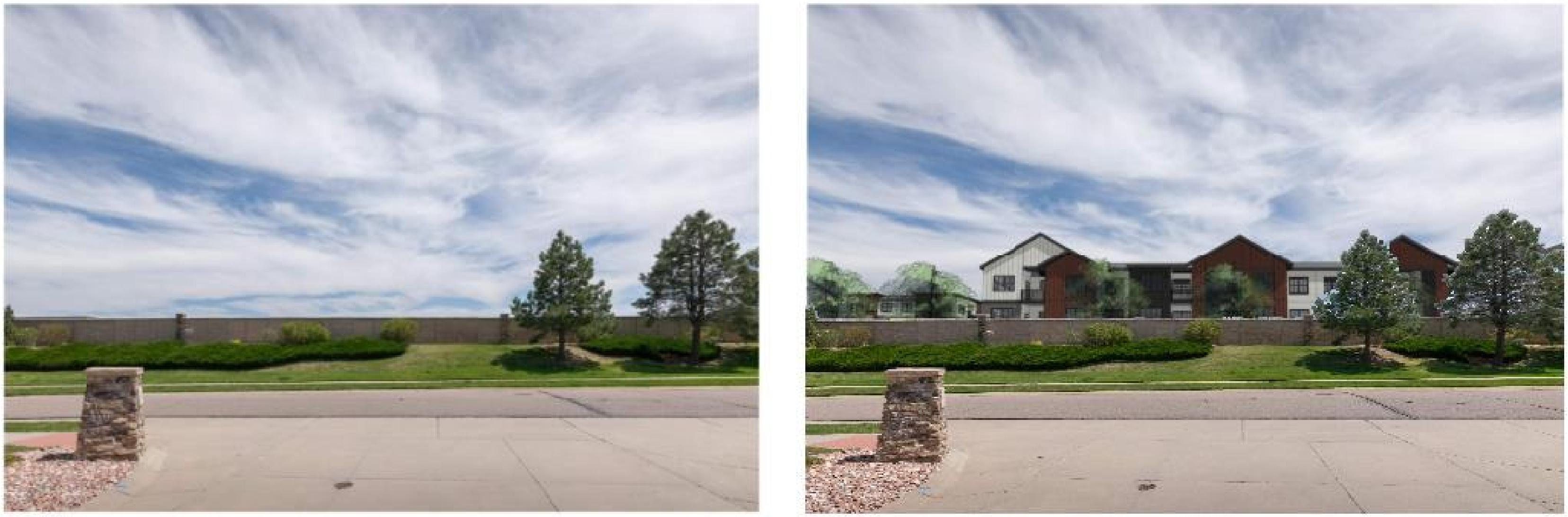

4" / 12"
7" / 12"
7" / 12"
4" / 12"
3" / 12"
7" / 12"
7" / 12"
4" / 12"
7" / 12"
7" / 12"
3" / 12"
4" / 12"
7" / 12"
7" / 12"
4" / 12"
TO MIDPOINT OF HIGHEST ROOF
38'
38' - 1 7/8" < 45' MAX BLDG HEIGHT
LEVEL 1 - T.O. SLAB
100' - 0"
1' - 0"
BLDG STEP

Views and Compatibility

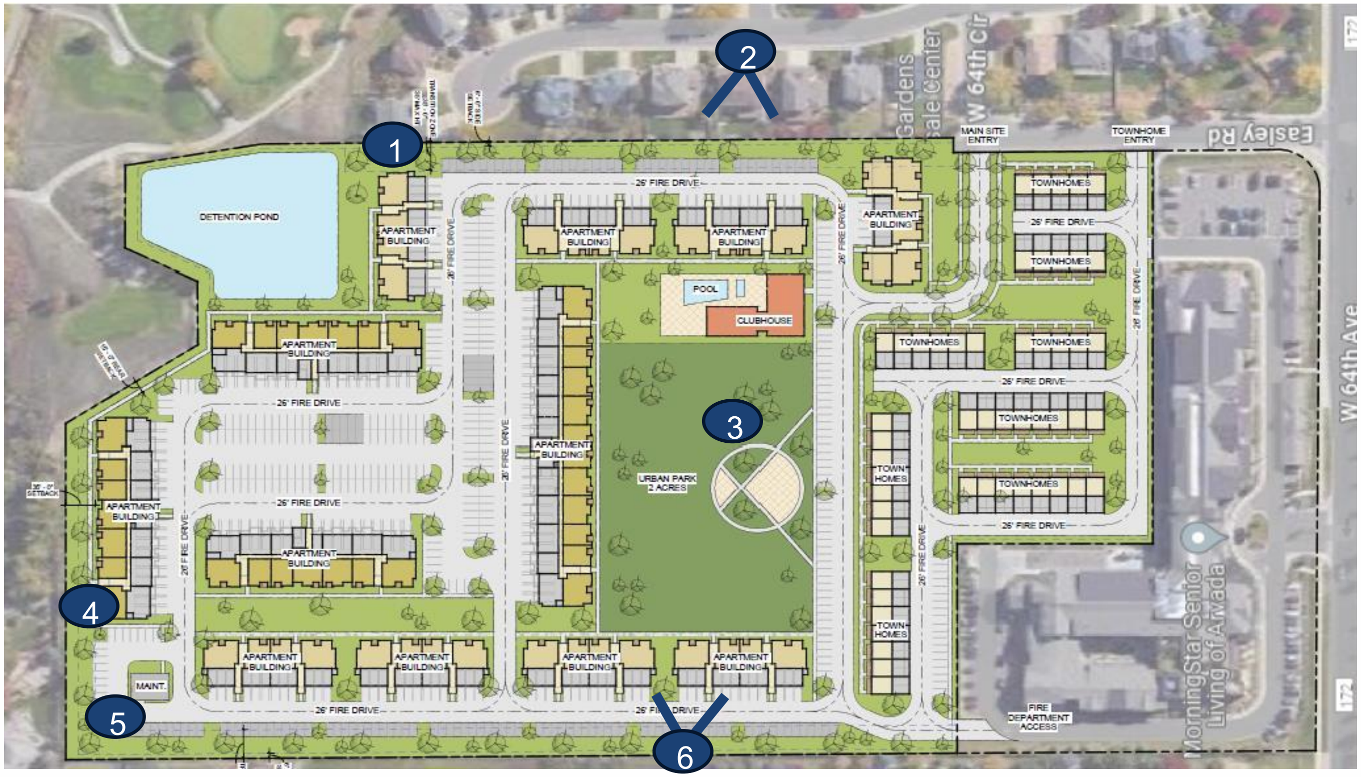
APPROVAL CRITERIA

④ Compatibility

Proposed Perspectives – From West



What We've Heard - Initial Concept Plan


2
1
3
4
5
6
DETENTION POND
APARTMENT BUILDING
POOL
CLUBHOUSE
URBAN PARK 2 ACRES
TOWNHOMES
TOWN HOMES
26' FIRE DRIVE
MAINT.
MAIN SITE ENTRY
TOWNHOME ENTRY
FIRE DEPARTMENT ACCESS
Easley Rd
W 64th Cir
W 64th Ave
Gardens Sale Center
MorningStar Senior Living of Arvada
36' - 0" SETBACK

1 Buffer and screening from existing neighbors

2 View corridors from neighborhood perspectives

3 Reposition park space to enhance buffering and facilitate public access

4 Find appropriate scale of height for adjacent properties

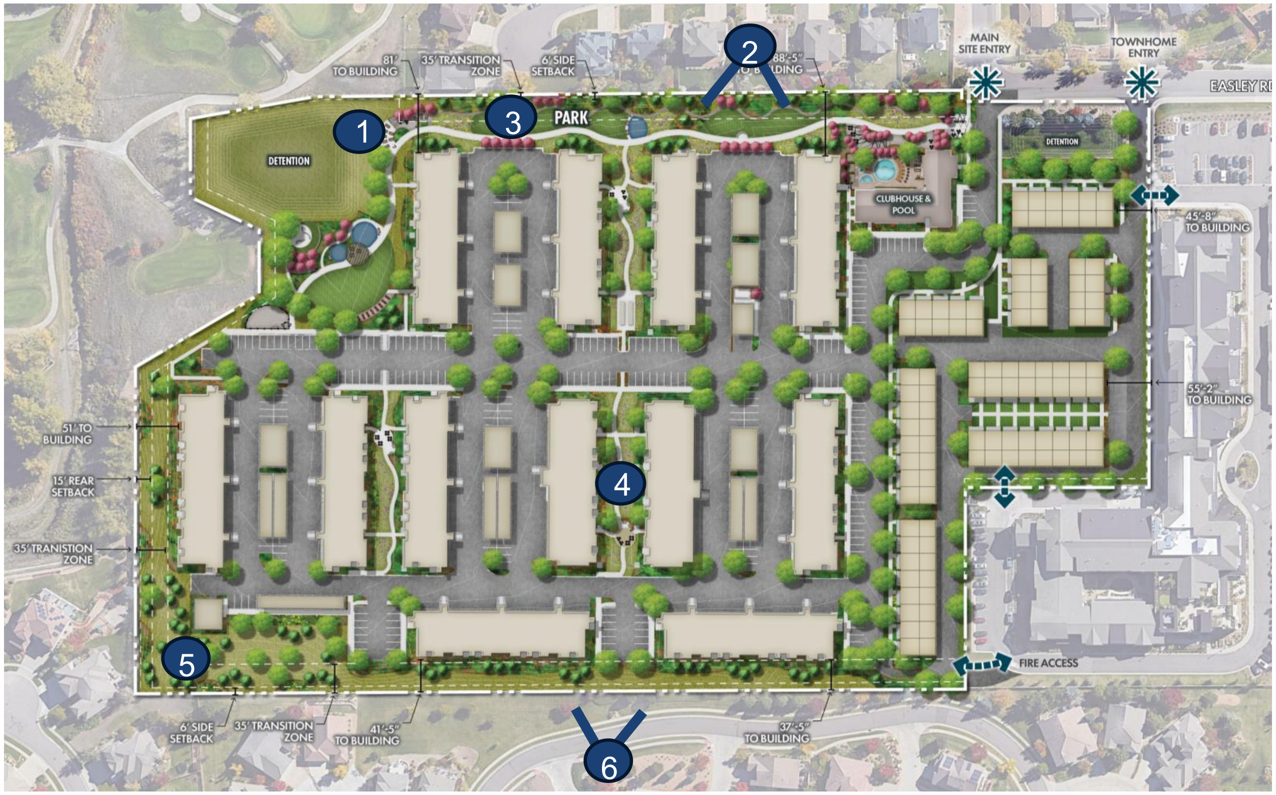
5 Encourage additional buffer space on NW corner of property site.

6 Promote View corridors for adjacent neighborhood

Current Conceptual Site Plan

APPROVAL CRITERIA

4 + 6 Compatibility & Mitigation


81' TO BUILDING
35' TRANSITION ZONE
6' SIDE SETBACK
2
88'-5"
O B LDING
MAIN SITE ENTRY
TOWNHOME ENTRY
EASLEY RD
1
3
PARK
DETENTION
DETENTION
CLUBHOUSE & POOL
45'-8" TO BUILDING
55'-2" TO BUILDING
51' TO BUILDING
15' REAR SETBACK
35' TRANISTION ZONE
4
5
FIRE ACCESS
6' SIDE SETBACK
35' TRANSITION ZONE
41'-5" TO BUILDING
37'-5" TO BUILDING
6

1. Significant increase to buffers and screening from existing neighbors. Implementation of park along the east
2. Increase buffer, screening, and reconfigure buildings to maintain view corridors
3. Repurpose park to enhance buffering space between existing neighbors and project buildings
4. Position 4 story structures internal to site to ensure height transition compatibility
5. Provide additional landscape and buffer on NW corner. Reduced building frontage
6. Limit traffic, noise, and impacts on western boundary. Move active uses internal

NORRIS DESIGN
PEOPLE + PLACEMAKING

1101 Bannock Street
Denver, Colorado 80204
303.892.1166

Avalon Arvada - Welby Gardens :: Neighborhood Meeting

Summary of applicant's presentation, Attendee questions and comments and Applicant's response

Took place: April 10, 2024 @ 6pm, West Woods Elementary School Gym
Approx. 180 attendees (159 names on sign-in sheet)

Summary of Applicant Presentation:

- Team introductions
- Introduction to AvalonBay:
  - Who is AvalonBay as a developer and long-term operator
  - Typical renter demographics for AvalonBay Colorado properties
  - AvalonBay current resident rules and regulations
- Project location
  - Existing Conditions
- Arvada City Process and where our project is on the timeline
- Team outreach philosophy
  - Previous neighborhood meetings (not required by City process)
    - When they took place
    - Number of homes flyered
    - General feedback
- Existing Zoning
  - MX-S Zoning Standards and other allowed uses
- Arvada Guiding Documents
- Welby Garden development history (1971-now)
- Previous Site Plan shared during 1st three neighbor meetings
  - Primary concerns with the initial plan and how the team has addressed those concerns in the revised site plan:
    - Buffers and screening for existing neighbors
    - View corridors for adjacent neighbors
    - Repositioning Park space
    - # of 4-story buildings
    - MF circulation on outside of site plan near perimeters
- Revised Site Plan
  - Changes made to address concerns from neighbors:
    - Significant increase to landscape buffers on east, north and west sides
    - Move Park space from center of site plan to eastern edge to make more accessible to neighbors, have frontage on public ROW and serve as buffer to neighbors
    - Reduced number of 4-story buildings from 4 to 2 and relocated them to center of site plan to reduce visual impacts.
    - Reoriented most buildings east/west to create view corridors
    - Moved MF circulation more internal to site plan. To limit impacts to surrounding neighbors.

- Continued refinement of site plan through City review/referral process
    - Example of Traffic Impact report process

Summary of Attendee Questions/Concerns and Applicant Responses:

Traffic:

Attendees expressed concerns over increased traffic and safety. Questions and concerns included:

- Increased traffic and safety on Easley Rd. and at the intersection of Easley Rd. and W. 64th Ave.
  Response: A traffic impact study is currently underway and will be submitted and reviewed as part of the development process. This study informs the developer's engineers and the city planning department about the current and future demands on nearby roadways and recommends traffic improvements to support the additional demand. The developer is prepared to fund proportional improvements identified as necessary to support the increase in density from the proposed project.

- Spillover traffic into the neighborhood to the east on W. 64th Dr. and Terry St.
  Response: A traffic impact study is currently underway and will be submitted and reviewed as part of the development process. This study informs the developer's engineers and the city planning department about the current and future demands on nearby roadways and recommends traffic improvements to support the additional demand. The developer is prepared to fund proportional improvements identified as necessary to support the increase in density from the proposed project.

- Increased traffic from new distribution project to west in combination with this project.
  Response: Traffic impacts on all nearby roads will be studied as part of the required traffic impact study. Improvements to those roadways will be proposed if necessary.

- Number of cars per apartment
  Response: While there is no way to predict with certainty the exact number of cars per apartment, we can point to similar suburban communities and reasonably infer the parking demand for the proposed community. On average across AvalonBay's other communities in the Denver area, there are 1.3 vehicles per apartment. The current proposal provides 2.1 parking spaces per apartment, or 84 more spaces than is required per code.

- Townhome roadway is too close to MorningStar
  Response: The site plan will continue to be developed to reduce impacts to all neighbors, including the Morningstar Community.

- How will we mitigate for the traffic impacts?
  Response: A traffic impact study is currently underway and will be submitted and reviewed as part of the development process. This study informs the developer's engineers and the city planning department about the current and future demands on nearby roadways and recommends traffic improvements to support the additional demand. The developer is prepared to fund proportional improvements identified as necessary to support the increase in density from the proposed project.

- Where will guest park?
  Response: Guest parking will be provided on site.

- How do we know there will not be overflow parking?
  Response: Per Arvada code, the parking required to provide adequate parking for the proposed development is 712 spaces. The current proposal provides 796 parking spaces, or 84 spaces more than is required per city code.

Environmental:

Attendees expressed concerns over potential environmental contamination from Welby Garden operations. Questions and concerns included:

- If this site has contamination, what assurance do we have that it will be cleaned up?
  Response: If a property contains contamination, which is determined through an environmental site assessment, any redevelopment of the property will be monitored by appropriate public agencies to ensure cleanup efforts are sufficient and complete.

- Can you assure us that our detention ponds won't drain into Ralston Creek?
  Response: Drainage from the site will be engineered in a way that does not change historical (current) rates of flow off the site and into the city's storm drainage system. The city manages the public storm drainage system.

- Want to see an Environmental Impact study done with extensive testing
  Response: Phase I and Phase II Environmental Site Assessments have been completed on the site, which include studies of any potential environmental contaminants.

- Have we done any ground core sampling on site?
  Response: Yes, multiple soil samples were taken on site to understand subsurface conditions, including any potential environmental contamination or concerns.

- Light pollution impacts, will you use night/dark sky lights?
  Response: The proposed community will feature lighting designed in compliance with the City of Arvada's "Exterior Lighting" standards. These standards are designed in a way to reduce and mitigate impacts to neighboring properties while still providing adequate lighting on site for safety and security.

Safety:

Attendees expressed concerns about safety. Questions and concerns included:

- The intersection of Easley Rd and W. 64th Ave. is currently not safe for pedestrians or bicyclists
  Response: A traffic impact study is currently underway and will be submitted and reviewed as part of the development process. This study considers not only vehicular traffic, but bicycle and pedestrian traffic where applicable. It informs the developer's engineers and the city planning department about the current and future demands on nearby roadways and recommends traffic improvements to support the additional demand. The developer is prepared to fund proportional improvements identified as necessary to support the increase in density from the proposed project.

- Crime or criminal activity with new project
  Response: The developer is not expecting an increase in crime or criminal activity as a result of the development of this community. This is based on experience in operating and managing over 90,000 apartment homes across the country.

- Safety for school bus stop on Easley
  Response: The developer, or any other private property owner, does not dictate the nature or location of school bus stops. The school district is a referral agency to the site development permit and will be informed of the development and its impact on the schools. Additionally, the developer will likely have to pay fees to the school district to offset the impact of additional children in the school district.

- Urban wildfire environmental impacts? Our neighborhood is the same as Marshall Fire.
  Concerned about Emergency Vehicular Access locations (they believe it does not meet code) and no variances should be granted on this subject for safety.
  Response: The developer understands that the currently proposed site plan complies with vehicular access requirements set forth by the Arvada Fire Department, as informed by several conversations directly with the Arvada Fire Department. As part of the site development permit process, the Arvada Fire Department will review the drawings and confirm compliance or require changes to ensure compliance with vehicular access requirements.

Site Plan/Zoning:

- Our site plan exceeds the maximum density allowed in the Comprehensive Plan
  Response: Per the 2014 Arvada Comprehensive Plan, this property is identified as "Mixed-Use" on the Future Land Use Map. Mixed-use identifies medium and high density residential as use categories and states that density should be greater than residential zone districts but does not specify a maximum density.

- Will all the buildings, 3-story, 4-story and TH all be 45' height?
  Response: At this stage, the buildings have not been designed, so exact heights cannot by stated. However, the 3-story buildings and townhomes will be less than 45ft in height. The 4-story buildings will likely be at or near the 45ft height maximum. All buildings will comply with the maximum allowable building height of 45ft.

- How tall is Morning Star?
  Response: Per the approved Final Development Plan for the Morningstar community, the maximum ridge height of the building is 45ft.

- Density is too high. Comprehensive Plan states the density should decrease on the west side of City to maintain community
  Response: Per the 2014 Arvada Comprehensive Plan, this property is identified as "Mixed-Use" on the Future Land Use Map. Mixed-use identifies medium and high density residential as use categories and states that density should be greater than residential zone districts but does not specify a maximum density.

- Can the site be rezoned to ensure a lower density of development?
  Response: Zoning on the site can be changed, but the process must be applied for by the site owner or an authorized representative of the site owner.

- The proposal falls short with compatibility with neighborhood. Mixed use zoning should invite the public and benefit community. Mixed use zoning should be located adjacent to the Arterial roadway.
  Response: In the Arvada Comprehensive Plan this property is designated as a "Mixed-Use", which states that high density residential is appropriate. Additionally, the Mixed-Use, Suburban District zoning allows for multifamily as a use with a conditional use approval.

- Can single-family homes be incorporated into the plan around the perimeter as a density transition?
  Response: In order to maintain the financial feasibility of the proposed community, a number of factors, including density and construction type, have to be considered. The proposed site plan offers a variation in housing typology that serves to reduce the overall density and creates multiple options for housing at different rent levels.

General Development:

- Viability of multi-family communities in the market today (higher vacancy, reduced rents)
  Response: Apartment rental rates and vacancy levels in Arvada are currently at and are projected to remain at a level at which new development is financially feasible.

- Impact on all infrastructure, fire, police, schools, utilities – Is the City of Arvada prepared to deal with those?
  Response: A large part of the development process involves extensive reviews of the development plan by utility providers, schools, and emergency services. Impacts to these providers are determined and, in most cases, appropriate fees are generated that must be paid by the developer to offset the impact of the proposed community.

- Request that developers facilitate a meeting with the city staff and neighbors to discuss their concerns.
  Response: The developer has held three informal neighborhood meetings, one formal neighborhood meeting, and has fielded numerous emails and phone calls regarding the proposed community. Conversations with the city staff and the neighborhood will continue through the Conditional Use Application and the required public hearings. Additionally, the developer and developer's representatives have provided their contact information and remain open to hearing community feedback, discussing the proposed community, and answering questions.

- Will the neighbors be notified of the Planning Commission and City Council meetings?
  Response: Yes, neighbors with lots within 400 feet of the Welby Gardens property line will be directly notified of all public hearings. Additionally, all neighboring HOAs will be notified, and informational signs will be posted on the property.

- Have the Developer closed on the property?
  Response: The developer is currently under contract on the land and plans to close in early 2026.

- Morning Star is the most impacted. Developer needs to do a better job reaching out to Morning Star and their concerns.
  Response: The developer has discussed the proposed community with Morningstar's ownership and will continue to discuss the impacts with the Morningstar Community as the development progresses.

- When would construction begin?
  Response: Currently, construction is planned to start in the fourth quarter of 2026.

Comments in Favor of Project:

- West Arvada is lacking rental opportunities with this type of housing.
- Our small businesses employees and essential service workers need a place to live in West Arvada
- If this community had existed when I was working in West Arvada, I would have wanted to live here.
  Great location for people who can't afford to buy in West Arvada
  Response: As a long-term owner and operator, the developer looks forward to providing a new community to Arvada that provides rental housing options for current and future residents.

NORRIS
DESIGN
PEOPLE + PLACEMAKING

1101 Bannock Street
Denver, Colorado 80204
303.892.1166

November 21, 2025

City of Arvada
8101 Ralston Road,
Arvada, CO 80002

Re: Avalon Arvada :: Conditional Use Permit

Dear Ms. Thompson

We are pleased to submit this letter and associated documents on behalf of our client, AvalonBay, Communities, Inc. for a Conditional Use Permit application for the site located at 17201 W 64th Ave, Arvada, CO 80007 (the “Site”). This project overview letter provides a summary of the proposed project, the documents included with the submittal and the consultant team.

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Project Narrative

Site Location & Context

The proposed residential community is located on a property of approximately 20.1 acres on the north side of W 64th Avenue, between Easley Road and Virgil Way within the City of Arvada. The parcel (Parcel ID: 30-023-01-083) is made up of Lots 1 and 2 of the Veldkamp Minor Subdivision and is currently zoned as Mixed-Use Suburban (MX-S) with a Comprehensive Plan land use designation of Mixed-Use. This proposal includes a mix of multi-family and townhome residential products. Both multi-family and townhome residential uses are allowed as a conditional use in the Mixed-Use Suburban (MX-S). The site is currently occupied for commercial use and is actively used by the Welby Gardens Wholesale Center. To the north of the property is the West Woods golf course, with senior living to the south of the subject property along W 64th Avenue, and single-family residential uses to both the east and west of the property. The proposed community is bordered by both single-family detached and senior living residential uses.

Project Description

The proposed mixed-density residential community includes a mix of housing types and designs to create an aesthetically attractive development which provides housing for a diverse range of future residents. The configuration of residential structures will create a cohesive residential community with a suburban character, consistent with the purpose of the Mixed-Use, Suburban (MX-S) zone district, while enabling higher density development and accommodating attainably priced housing for Arvada's growing population.

The site plan proposes eight (8) townhome buildings ranging from 4-8 units per building, totaling fifty-one (51) units. The townhomes are anticipated to be a mix of two- and three-bedroom units. The site plan also includes twelve (12) breezeway and corridor multi-family buildings, providing 384 apartment units through a mix of studio, one-, two- and three-bedroom apartments. Ten buildings are proposed to be 3-stories, and 2 buildings are proposed to be 4-stories. All residential buildings are proposed not to exceed the maximum height of 45'. In total, this residential community proposes 435 units at a density of 20.5 DU/Acre. There is no density maximum for Mixed-Use Suburban zone district or Mixed-Use comprehensive plan land use designation. The proposed community is consistent with the height of the existing MorningStar community and is less dense.

The community design is internally oriented, with a clubhouse and amenity center in the southeast corner, open space which includes an urban park surrounding the property. Circulation, in the form of private drives and parking, is primarily oriented toward the interior of the site to create a unified community feel and mitigate negative visual and auditory impacts toward neighbors. Primary access for the community will be taken from Easley Road to the east, near the southeast corner of the site; emergency vehicular access (EVA) is proposed through the MorningStar Senior Living community to the south, at the southwestern corner of the property through an existing emergency access easement. The proposed site plan exceeds the minimum parking spaces required with an average of 2.07 spaces per home and at least 50% of the required spaces are proposed to be covered either in garages or carports.

The proposed site plan includes a rich, cohesive network of green space, benefiting residents and neighbors alike. Attractive landscaping is used to buffer the site along the property boundaries, with a patchwork of landscape islands, green courts, and open space throughout the site. The hallmark of the proposed green space is a Small Urban Park (approximately 2 acres in size) proposed along the east and northeast edges of the site. The design of the park is anticipated to incorporate the history of the site and will likely include a community garden and features or naming paying homage to Welby Gardens. The park may also include other amenities like play structure, open turf and gathering spaces. Beyond the on-site provision of open space, public land dedication is also required per Code; the 2-acre Urban Park on-site is proposed to fulfill part of the public land dedication requirement. Remaining public land dedication requirements for park land and public schools are anticipated to be satisfied through cash-in-lieu. Additional amenities like a dog park, game lawns and plaza areas will likely round out the outdoor spaces for residents.

Sustainability is an important aspect of AvalonBay Communities. AvalonBay Communities pursues integrity in design and operational excellence through a number of ESG-related standards which are met for all new communities. The use of low-flow water fixtures, 100% EnergyStar appliances, efficient LED lighting systems, weather-based irrigation systems, and low water demand landscape plantings are all strategies that AvalonBay Communities utilizes in new communities. Cost-benefit analysis for solar energy is conducted for all new construction, and all communities are built with infrastructure to support rooftop photovoltaic systems. In addition to solar energy analysis, embodied carbon emissions are tracked through the use of Life Cycle Assessments (LCA) on all new developments, as well as biodiversity and climate risk assessments. Electric vehicle charging is installed at all communities to support the transition away from fossil fuel dependency. AvalonBay's serious commitment to sustainability and achievements in ESG have been well documented with inclusion on Forbes Top 100 List of Net Zero Leaders, Newsweek America's Greenest Companies, Newsweek America's Most Responsible Companies, and excellent ratings such as a "Prime" Corporate ESG Ranking Status from ISS, an A- Climate Change Score from CDP, and scoring above all other REITs in the Global Real Estate Sustainability Benchmark (GRESB).

Architectural Concept

The architectural design of this multifamily development will be thoughtfully crafted to complement the character of the surrounding neighborhood while incorporating high-quality materials that ensure durability and aesthetic appeal. The project embraces a harmonious blend of timeless and contemporary elements, creating a welcoming residential environment. Through careful planning and attention to detail, the design will meet Chapter 5 of the Arvada Land Development Code and prioritizes functionality, sustainability, and a strong sense of community, creating a living space that seamlessly integrates with its surroundings.

Public Outreach
Given the location and unique circumstances of this site, AvalonBay chose to engage neighbor feedback early in the design process and in advance of the required neighborhood meeting. AvalonBay reached out to adjacent and surrounding neighbors who would be most impacted by the development of this community to gather their feedback on the initial site plan. Three (3) neighbor feedback meetings took place in January and February of 2025. Based on their feedback, the site plan was revised prior to the formal neighborhood meeting that took place on April 10th, 2025. The following changes were made to the site plan to address the concerns heard from the neighbors during these first three meetings. Those changes included:

- A significant increase to landscape buffers on east, north, and west sides
- Relocation of the park space from the center of the site plan to the eastern edge to provide more accessibility to neighbors, create connection to and frontage on public ROW, and serve as buffer to neighbors
- Reduction in the number of 4-story buildings from 4 to 2 and relocation of them to the center of site plan to reduce visual impacts
- Reorientation of most buildings east/west to create view corridors for the single-family neighbors
- Consolidation of MF circulation internal to the site plan to limit impacts to the surrounding single-family neighbors.

Approval Criteria (Conditional Use 8-3-5-1.-B)

1. *Whether the application complies with the applicable standards of this LDC, other adopted City ordinances, resolutions and regulations including but not limited to any use-specific standards for the proposed Conditional Use in Division 3-1-3, any approved Master Development Plan that includes the property, and any conditions specifically applied to development of the property by the Planning Commission or City Council in a prior decision affecting the property.*
   The proposed mixed-density residential community complies with all applicable standards of the Land Development Code (LDC), as well as all other adopted City ordinances, resolutions, and regulations. This includes alignment with the use-specific standards outlined in Division 3-1-3 of the LDC for the proposed Conditional Use.

2. *Whether the application is consistent with the Arvada Comprehensive Plan.*
   This site is designated Mixed-Use in the Comprehensive Plan. The proposed site plan meets the intent of this designation by including high-density residential as a primary use while incorporating an additional housing type, the horizontal mix of medium residential townhomes. These land uses provide a transition between the existing single-family residential and senior living residential. The density meets the intent of the Mixed-use designation and building height transitions are incorporated into the site plan. The site plan promotes walkability and pedestrian, bike connections and Urban Park.

3. *Whether the use is consistent with the purpose and intent of the zoning district in which it is located.*
   The proposed development incorporates a carefully considered mix of housing types, including multi-family and townhome residential products, designed to create an aesthetically cohesive and visually appealing community. The site layout and building configuration are intended to foster a strong sense of neighborhood identity and connectivity, while maintaining a distinctly suburban character. This approach is fully aligned with the purpose and intent of the Mixed-Use, Suburban (MX-S) zone district, which encourages a range of residential options in a form that supports both community cohesion and design quality.

4. *Whether the size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned uses in the surrounding area and the zoning district regulations.*

   The proposed residential community consists of 411 dwelling units at an overall density of 20.5 dwelling units per acre. All residential buildings are designed not to exceed the maximum building height of 45 feet, consistent with the standards permitted in the Mixed-Use Suburban (MX-S) zone district. Notably, there is no prescribed maximum density in either the MX-S zoning district or the Mixed-Use land use designation in the Comprehensive Plan. The proposed development will be significantly smaller in scale and less dense than the adjacent Morningstar community that is also zoned MX-S. The proposed density of 20.5 dwelling units per acre is less than that of the adjacent MorningStar Senior Living community at 30.2 dwelling units per acre. Additionally, only the tallest buildings in the proposed development will achieve 45 ft in height, whereas all buildings in the adjacent Morningstar community achieve the maximum allowable 45 ft in height.

   Open space is a central component of the design and includes an urban park that provides both visual relief and accessible recreational amenities for residents. Primary vehicular access will be provided from Easley Road, near the southeast corner of the site. Emergency vehicle access (EVA) is proposed at the southwest corner of the site, through the MorningStar Senior Living property via an existing emergency access easement.

   The proposed site plan exceeds the City's minimum parking requirements, providing an average of 2.07 spaces per unit. Additionally, at least 50% of the required parking will be covered, either through private garages or carports, contributing to both the visual quality and functionality of the site.

5. *Whether the Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development, be available to serve the subject property while maintaining adequate levels of service for existing development.*

   The Avalon Bay Arvada project is committed to ensuring that all necessary public facilities and services, including sewer, water, stormwater, gas, electricity, police, fire protection, roads, and transportation—are available prior to or in conjunction with the development, while maintaining adequate levels of service for existing development in the area. To demonstrate compliance, the project is preparing a comprehensive utility report that will estimate the anticipated demand generated by the development and evaluate its impact on existing water and sewer infrastructure. As part of this effort, sewer flow monitoring has been conducted to verify available capacity within the current system. The project will also prepare a comprehensive drainage report that will detail on-site water quality treatment and detention facilities designed to manage stormwater runoff, ensuring post-development discharge rates do not exceed pre-development conditions. Coordination is underway with Xcel Energy for the provision of gas and electricity, and the project team is working directly with the Arvada Fire Department to confirm that the development meets all applicable fire code requirements and provides adequate access for fire protection. Additionally, a traffic impact study has been completed to evaluate the project's effects on the surrounding transportation network. This study concludes that, with the recommended installation of a traffic signal at the intersection of 64th Avenue and Easley Road, the surrounding intersections will maintain acceptable levels of service through the long-term planning horizon of 2047.

6. *Whether the application mitigates any adverse impacts on the surrounding area to the degree practicable.*

   Traffic impacts will be mitigated through primarily internal circulation within the community site, with private drives and parking areas oriented toward the center of the site to promote a cohesive community character and to reduce potential visual and auditory impacts to surrounding properties.

   Noise and light impact will be mitigated through the careful and intentional use of landscaping and certain design features. For example, trees and shrubs will be used in many areas where vehicle headlamp pollution may impact neighboring homes and the surrounding areas. Exterior building lighting will comply with all specifications in Arvada's building code to mitigate direct impact to neighboring homes.

   Visual impacts will be mitigated through the intentional and thoughtful positioning of multi-story buildings throughout the site. For example, by positioning most buildings in an east-west orientation, impacts on views from neighboring homes will be mitigated. Additionally, setbacks in excess of those required by code are applied in many areas to further lessen the visual impacts to neighbors and the surrounding area.

Please let us know if you have any questions or need any additional information. I can be reached at 303-892-1166 or lvielehr@norris-design.com. We look forward to working with staff to further refine the Conceptual Site Plan during the Conditional Use Permit review process.

Sincerely,
Norris Design

Leanne Vielehr

Leanne Vielehr
Principal

TRAFFIC IMPACT STUDY

AVALON ARVADA
ARVADA, COLORADO

May 14, 2025
Revised: June 26, 2025
Revised: November 24, 2025

Prepared for:
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APPENDIX “A” CITY OF ARVADA APPROVED TIS BASE ASSUMPTIONS FORM

APPENDIX “B” 2025 (EXISTING) TRAFFIC VOLUME COUNTS

APPENDIX “C” INTERSECTION CAPACITY ANALYSIS WORKSHEETS

APPENDIX “D” TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

I. INTRODUCTION

A. Project Overview

AvalonBay Communities is proposing to redevelop the Welby Gardens Wholesale Center located at 17201 W 64th Ave. in Arvada, Colorado. The property is situated on approximately 20.1 acres. The subject property is bound by Ralston Creek and West Woods Golf Course to the north, single-family homes adjacent to Torrey Ct. to the east, MorningStar Senior Living of Arvada to the south, and single-family homes adjacent to Umber Cir. to the west. For the purpose of this study, the proposed development will be referred to as the Avalon Arvada development. At buildout, the proposed development will consist of 384 multi-family (low-rise) residential dwelling units, 51 single-family attached (townhome) units, and associated amenities.

Vehicular access for the proposed Avalon Arvada development will be provided by two access driveways that will intersect Easley Rd. north of W 64th Ave. Both access driveways will be constructed on the west side of Easley Ave. replacing the existing Welby Gardens parking lot access and delivery site access. Both driveways will be full movement accesses and provide direct connections into the proposed Avalon Arvada development. An emergency vehicle only access (EVA) will also be constructed at the southwest corner of the project site, connecting to the MorningStar Senior Living property.

Figure 1 provides a site location map of the proposed project and surrounding transportation system. Figure 2 graphically illustrates the conceptual site plan and proposed access for the proposed Avalon Arvada development. The approved City of Arvada TIS Base Assumption Form is provided in Appendix “A”.

B. Purpose of Study

The purpose of this study is to evaluate the impact of the vehicular trips projected to be generated by the proposed Avalon Arvada development on the study area intersections and roadway system. The study includes 2025 (existing), 2027 (year of anticipated project build-out), and 2047 (long-term) analysis horizons.

C. Study Area

The study area encompasses the existing roadway system in the vicinity of the project site. Specifically, the following roadways and intersections are included in the study:

- Study Area Roadways
    1. W 64th Ave.
    2. Virgil Way
    3. Easley Rd.
    4. Terry St.
    5. Quaker St.

- Study Area Intersections
    1. W 64th Ave./Virgil Way (TWSC)
    2. W 64th Ave./Easley Rd. (TWSC)
    3. W 64th Ave./Terry St. (TWSC)
    4. W 64th Ave./Quaker St. (Signalized)

II. EXISTING CONDITIONS

A. Existing Traffic Volumes

Existing peak hour intersection turning movement traffic volume counts were collected for this study at the following intersections on Tuesday, April 22, 2025:

1. W 64th Ave./Virgil Way (TWSC)
2. W 64th Ave./Easley Rd. (TWSC)
3. W 64th Ave./Terry St. (TWSC)
4. W 64th Ave./Quaker St. (Signalized)

24-hour directional traffic volume counts were collected for this study at the following locations on Tuesday, April 22, 2025:

- W 64th Ave. west of Easley Rd.
- W 64th Ave. east of Easley Rd.
- Easley Rd. north of W 64th Ave.
- Easley Rd. south of W 64th Ave.

A summary of the 2025 (existing) peak hour intersection turning movement and daily directional counts are illustrated in Figure 3. Detailed traffic volume count data collected for this study is provided in Appendix “B”.

B. Existing Roadway System

The existing transportation network in the vicinity of the proposed Avalon Arvada development is graphically illustrated in Figure 1. The following narrative provides a description of the study area roadways and associated intersections:

Existing Study Area Roadways:

1. **W 64th Ave. –** Within the study area, W 64th Ave. is classified as a Principal Arterial under the jurisdiction of the city of Arvada. The roadway section consists of two travel lanes and a bike lane in each direction. West of Easley Rd. there is a raised center median, and east of Easley Rd. there is a striped center median. There is curb and gutter, and sidewalk along both sides of the roadway. The posted speed limit is 45 mph.
2. **Virgil Way –** Within the study area, Virgil Way is classified as a Collector roadway under the jurisdiction of the city of Arvada. The roadway section consists of one travel lane and one bike lane in each direction. There is curb and gutter and detached sidewalk along both sides of the roadway. The posted speed limit is 35 mph.
3. **Easley Rd. –** Within the study area, Easley Rd. is classified as a Minor Arterial roadway south of W 64th Ave. and a local roadway north of W 64th Ave., under the jurisdiction of the city of Arvada. North of W 64th Ave. the roadway section consists of one travel lane in each direction, terminating at the Welby Gardens site entrance. There is curb and gutter and sidewalk along both sides of the roadway. South of W 64th Ave. the roadway section consists of one travel lane and one bike lane in each direction. There is curb and gutter and detached sidewalk along both sides of the roadway. The posted speed limit is 35 mph.
4. **Terry St. –** Within the study area, Terry St. is classified as a local roadway under the jurisdiction of the city of Arvada. The roadway section consists of one travel lane in each

direction. There is curb and gutter and sidewalk along both sides of the roadway. There is no posted speed limit, so the speed limit is assumed to be 25 mph.

5. **Quaker St.** – Within the study area, Quaker St. is classified as a Minor Arterial roadway north of W 64th Ave. and a local roadway south of W 64th Ave. under the jurisdiction of the city of Arvada. North of W 64th Ave. the roadway section consists of two travel lanes and a bike lane in each direction with a raised center median. There is curb and gutter and sidewalk along both sides of the roadway. The posted speed limit is 40 mph. South of W 64th Ave., the roadway section consists of one travel lane in each direction with a painted center median. There is curb and gutter and sidewalk along both sides of the roadway. The posted speed limit is 30 mph.

Existing Study Area Intersections:

1. **W 64th Ave./Virgil Way** – The W 64th Ave./Virgil Way intersection is a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 200 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one left turn lane with approximately 75 feet of storage and one shared through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left/through/right turn lane on the northbound approach, and one southbound departure lane.
2. **W 64th Ave./Easley Rd. –** The W 64th Ave./Easley Rd. intersection is a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 175 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 100 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes plus a southbound to westbound auxiliary lane. The north leg of the intersection has one shared left/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one left turn lane with approximately 100 feet of storage and one shared through/right turn lane on the northbound approach, and one southbound departure lane.
3. **W 64th Ave./Terry St.** – The W 64th Ave./Terry St. intersection is a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one shared left/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left/through/right turn lane on the northbound approach, and one southbound departure lane.

4. **W 64th Ave./Quaker St.** – The W 64th Ave./Quaker St. intersection is a four-legged intersection operating under actuated/coordinated traffic signal control with protected/permitted left turn phasing on all four approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes. The west leg of the intersection has one left turn lane with approximately 125 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one left turn lane with approximately 200 feet of storage, one through lane, and one right turn lane on the southbound approach, and two northbound departure lanes. The south leg of the intersection has one left turn lane with approximately 100 feet of storage, one through lane, and one right turn lane on the northbound approach, and one southbound departure lane.

C. 2025 (Existing) Conditions Operational Analysis

In order to establish a base condition in which to evaluate and compare the impacts of the traffic generated by the proposed Avalon Arvada development on the study area intersections, peak hour capacity analyses were performed for the 2025 (existing) conditions scenario. These analyses utilized the methodologies contained in the *Highway Capacity Manual 7th Edition* (HCM 7) employing *Synchro 12* software and resulted in a qualitative measure of the operational characteristics of the intersection, described by a letter designation ranging from “A” to “F” known as “Level of Service” (LOS). LOS “A” represents free-flow operating conditions, whereas LOS “F” represents excessive congestion and delay. Unsignalized intersection capacity analysis reports a LOS designation for each impeded intersection movement. Signalized intersection capacity analysis reports the overall LOS designation for the intersection as well as for each lane group and approach. LOS “D” is considered the minimum acceptable standard of operation.

The study area intersections included in the 2025 (existing) conditions analysis are as follows:

1. W 64th Ave./Virgil Way (TWSC)
2. W 64th Ave./Easley Rd. (TWSC)
3. W 64th Ave./Terry St. (TWSC)
4. W 64th Ave./Quaker St. (Signalized)

The results of the 2025 (existing) conditions operational analysis are summarized in Table 1, below. Figure 4 graphically illustrates the results of the existing conditions analysis and detailed *Synchro 12* software intersection capacity analysis reports are provided in Appendix “C”.

As shown in Table 1, all of the existing study area intersections are projected to operate at acceptable levels of service (LOS “D” or better), overall, under existing conditions.

The following intersections are projected to be operating at acceptable levels of service (LOS “D” or better) overall, however, one or more lane groups are shown to be experiencing poor to failing levels of service (LOS “E” or “F”):

- W 64th Ave./Easley Rd.
    - The northbound left turn lane and southbound shared left/through/right turn lane are projected to have a failing level of service (LOS “F”) during the p.m. peak hour.

D. 2025 (Existing) Conditions Queuing Analysis

Queue lengths and associated storage requirements for auxiliary lanes (turn bays) at the existing study area intersections were computed utilizing the *Synchro 12* 95%tile reported queues. Queue length calculations are based on a 25-foot vehicle length and reported as the total cumulative computed queue length for all traffic lanes in the lane group.

Existing storage capacity for auxiliary lane groups (left turn and right turn lanes) is reported as the cumulative capacity of all lanes in the group. Table 2 provides a summary of this analysis and comparison to the actual vehicle storage lengths provided for each of the existing study area intersections.

As shown in Table 2, the following queue related issues are being experienced at the existing study area intersections based on the reported queues in the 2025 (existing) conditions analysis scenario:

- W 64th Ave./Easley Rd.
    - The northbound left turn lane queue is shown to exceed its capacity and spill back into the northbound through lane during the p.m. peak hour.
- W 64th Ave./Quaker St.
    - The southbound left turn lane queue is shown to exceed its capacity and spill back into the southbound through lane during both the a.m. and p.m. peak hour.

TABLE 1
2025 (EXISTING) CONDITIONS
SUMMARY OF OPERATIONAL ANALYSIS

INTERSECTION	CONTROL	2025 EXISTING TRAFFIC			
		AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY
1. W 64th Ave. & Virgil Way	**TWSC**				
a. EB L		A	7.9	A	8.3
b. WB L		A	7.7	A	8.8
c. NB LTR	Stop	B	10.5	B	13.9
d. SB L	Stop	B	13.3	C	22.3
e. SB TR	Stop	B	10.2	B	10.9
f. INTERSECTION		**A**	**2.4**	**A**	**1.9**
2. W 64th Ave. & Easley Rd.	**TWSC**				
a. EB L		A	7.8	A	8.0
b. WB L		A	8.2	A	9.9
c. NB L	Stop	C	20.1	F	212.4
d. NB TR	Stop	B	10.0	B	12.6
e. SB LTR	Stop	C	17.0	F	61.4
f. INTERSECTION		**A**	**5.0**	**C**	**20.1**
3. W 64th Ave. & Terry St.	**TWSC**				
a. EB L		A	8.2	A	8.6
b. WB L		A	8.0	A	9.1
c. NB LTR	Stop	B	10.0	B	14.7
d. SB LTR	Stop	B	13.0	C	21.8
e. INTERSECTION		**A**	**1.1**	**A**	**0.9**
4. W 64th Ave. & Quaker St.	**Signal**				
a. EB L (Prot+Perm)		B	10.3	A	8.9
b. EB T		B	11.9	B	11.1
c. EB R		B	11.0	A	9.2
d. WB L (Prot+Perm)		B	10.4	A	9.3
e. WB T		B	12.8	B	12.1
f. WB R		B	13.7	B	15.5
g. NB L (Prot+Perm)		D	44.5	D	44.7
h. NB T		D	45.5	D	46.5
i. NB R		D	53.2	D	53.2
j. SB L (Prot+Perm)		D	50.5	D	38.5
k. SB T		C	29.2	C	32.8
l. SB R		C	32.5	D	37.0
m. INTERSECTION		**C**	**26.5**	**B**	**18.5**

TABLE 2
2025 (EXISTING) CONDITIONS
SUMMARY OF QUEUING ANALYSIS

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2025 EXISTING TRAFFIC	
		QUEUE LENGTH (FT) 95TH%	
		AM PEAK	PM PEAK
1. W 64th Ave. & Virgil Way			
a. EB L (1)	200	0	3
b. WB L (1)	150	0	3
c. NB LTR (1)	625	5	5
d. SB L (1)	75	10	13
e. SB TR (1)	200	3	5
2. W 64th Ave. & Easley Rd.			
a. EB L (1)	100	0	0
b. WB L (1)	175	10	20
c. NB L (1)	100	20	183
d. NB TR (1)	150	18	33
e. SB LTR (1)	150	8	60
3. W 64th Ave. & Terry St.			
a. EB L (1)	150	0	0
b. WB L (1)	150	0	3
c. NB LTR (1)	125	5	8
d. SB LTR (1)	150	5	5
4. W 64th Ave. & Quaker St.			
a. EB L (1)	125	48	78
b. EB T (2)	350	127	266
c. EB R (1)	175	8	8
d. WB L (1)	150	23	24
e. WB T (2)	500	158	219
f. WB R (1)	250	100	52
g. NB L (1)	100	8	8
h. NB T (1)	150	25	36
i. NB R (1)	150	65	60
j. SB L (1)	200	351	201
k. SB T (1)	530	19	26
l. SB R (1)	175	50	52

III. BACKGROUND TRAFFIC

A. Background Traffic Volumes

Background traffic volume forecasts for the 2027 (buildout) and 2047 (long-term) analysis horizons were developed for this study utilizing the following methodology:

- For the purposes of this study, it is assumed that peak-hour distribution of background intersection approach traffic (left turn, through, right turn) will remain constant through the 2027 (buildout) and 2047 (long-term) analysis horizons.
- The Denver Regional Council of Governments (DRCOG) travel models for 2020 and 2050 daily traffic volumes were utilized to forecast the average annual traffic volume growth rate (AGR) for the study area roadways. Based on the current DRCOG 2020 and 2050 travel models for the roadways within the study area, it was determined that an average annual traffic volume growth rate (AGR) of 1.42% would be used for this study. An AGR of 1.42% results in a 2-year (2025 to 2027) growth factor of 1.029 and a 22-year (2025 to 2047) growth factor of 1.364.
- The appropriate AGR factors were applied to the 2025 (existing) traffic volumes in order to develop the forecast 2027 (build-out) and 2047 (long-term) background traffic volumes.
- It was assumed that no additional developments within the study area will be in place prior to the 2047 (long-term) analysis horizon that would contribute additional background traffic to the study area roadway system.

Figures 5 and 6 graphically illustrate the forecast background traffic volumes for the 2027 (buildout) and 2047 (long-term) analysis horizons for this study, respectively.

B. Background Traffic Roadway System

The existing roadway network within the proposed Avalon Arvada development study area is not assumed to be modified as all study area roadways are assumed to be fully built out. No major roadway or intersection improvements or modifications are anticipated by the 2047 (long-term) analysis horizon.

C. Background Traffic Operational Analysis

The following study area intersections were analyzed for the 2027 (build-out) and 2047 (long-term) total background traffic analysis horizons in order to provide a basis for comparison of their operational characteristics with and without the proposed Avalon Arvada development:

1. W 64th Ave./Virgil Way (TWSC)
2. W 64th Ave./Easley Rd. (TWSC)
3. W 64th Ave./Terry St. (TWSC)
4. W 64th Ave./Quaker St. (Signalized)

The results of the background traffic operational analyses are summarized graphically for the 2027 (build-out) and 2047 (long-term) background traffic analysis horizons in Figures 7 and 8, respectively. A summary of the results of the intersection capacity analyses are provided in Table 3 and detailed *Synchro 12* software intersection capacity analysis reports in Appendix “C”.

As shown in Table 3, all of the existing study area intersections as well as all of their individual lane groups are projected to operate at acceptable levels of service (LOS “D” or better), overall, during the 2027 (build-out) and 2047 (long-term) analysis horizon background traffic scenarios with the exception of the following:

- W 64th Ave./Virgil Way
    - By the 2047 (long-term) analysis horizon the southbound left turn lane is projected to have a poor level of service (LOS “E”) during the p.m. peak hour.

- W 64th Ave./Easley Rd.
    - By the 2027 (build-out) analysis horizon the northbound left turn lane and southbound shared left/through/right turn lane are both projected to have a failing level of service (LOS "F") during the p.m. peak hour.
    - By the 2047 (long-term) analysis horizon it is projected the northbound left turn lane will have a poor level of service (LOS "E") during the a.m. peak hour, and the intersection overall will have a failing level of service (LOS "F") in the p.m. peak hour.
- W 64th Ave./Terry St.
    - By the 2047 (long-term) analysis horizon the southbound shared left/through/right turn lane is projected to have a poor level of service (LOS "E") during the p.m. peak hour.

D. Background Traffic Queuing Analysis

Queue lengths and associated storage requirements for auxiliary lanes (turn bays) at the existing study area intersections were computed for the 2027 (build-out) and 2047 (long-term) analysis horizon background traffic scenarios. Table 4 provides a summary of this analysis and comparison to the actual vehicle storage lengths provided for each of the existing study area intersections.

As shown in Table 4, the following queue related issues are projected to be experienced at the study area intersections based on the reported queues in the 2027 (build-out) and 2047 (long-term) analysis horizon background traffic analysis scenarios that weren't already present under existing conditions:

- W 64th Ave./Easley Rd.
    - 2047 (Long-Term) Analysis Horizon – During the p.m. peak hour, the southbound shared left/through/right turn lane queue is projected to exceed its lane group capacity and spill back into the upstream intersection. The installation of a traffic signal at this intersection would mitigate this queueing issue. With a signal installed, it is projected however that the northbound left turn lane queue would exceed its capacity and spill back into the northbound shared through/right turn lane in the p.m. peak hour. This could be mitigated by extending the turn lane striping by 50 feet.
- W 64th Ave./Quaker St.
    - 2027 (Build-Out) Analysis Horizon – During both the a.m. and p.m. peak hour, the southbound left turn lane queue is projected to exceed its lane group capacity and spill back into the southbound through lanes. Lengthening the turn bay is constrained due to the reverse taper raised median on Quaker St. so optimizing the signal timing for actual traffic conditions at this intersection would be the best means to mitigate this potential queuing issue.

TABLE 3
2027 (BUILD-OUT) & 2047 (LONG-TERM) BACKGROUND TRAFFIC
SUMMARY OF OPERATIONAL ANALYSIS

INTERSECTION	CONTROL	2027 BACKGROUND TRAFFIC				2047 BACKGROUND TRAFFIC			
		AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY	AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY
1. W 64th Ave. & Virgil Way	**TWSC**								
a. EB L		A	7.9	A	8.3	A	8.2	A	8.8
b. WB L		A	7.7	A	8.9	A	7.8	A	9.7
c. NB LTR	Stop	B	10.6	B	14.2	B	11.9	C	19.6
d. SB L	Stop	B	13.5	C	23.3	C	17.3	E	45.2
e. SB TR	Stop	B	10.3	B	11.0	B	11.2	B	13.1
f. INTERSECTION		**A**	**2.4**	**A**	**1.9**	**A**	**2.8**	**A**	**2.8**
2. W 64th Ave. & Easley Rd.	**TWSC**								
a. EB L		A	7.8	A	8.0	A	8.0	A	8.4
b. WB L		A	8.2	B	10.0	A	8.7	B	12.4
c. NB L	Stop	C	21.0	F	279.4	E	43.3	F	940.1
d. NB TR	Stop	B	10.1	B	12.9	B	11.3	C	19.9
e. SB LTR	Stop	C	17.5	F	71.5	D	26.5	F	612.5
f. INTERSECTION		**A**	**5.1**	**D**	**25.2**	**A**	**7.3**	**F**	**93.8**
2.A. W 64th Ave. & Easley Rd.	**Signal**								
a. EB L (Prot+Perm)		A	5.1	A	6.5	A	6.1	A	8.7
b. EB T		A	5.7	A	8.1	A	7.0	B	11.6
c. EB R		A	5.9	A	8.0	A	7.2	B	11.3
d. WB L (Prot+Perm)		A	4.0	A	5.4	A	4.7	A	8.3
e. WB T		A	4.5	A	5.7	A	5.5	A	7.5
f. WB R		A	4.2	A	5.1	A	4.9	A	6.4
g. NB L (Prot+Perm)		D	41.0	D	39.6	D	39.6	D	38.3
h. NB TR		D	45.0	D	44.2	D	46.9	D	44.3
i. SB LTR		D	46.7	D	47.6	D	46.6	D	44.6
j. INTERSECTION		**B**	**15.5**	**B**	**15.8**	**B**	**16.5**	**B**	**17.7**
3. W 64th Ave. & Terry St.	**TWSC**								
a. EB L		A	8.2	A	8.7	A	8.6	A	9.3
b. WB L		A	8.0	A	9.2	A	8.3	B	10.2
c. NB LTR	Stop	B	10.1	B	14.9	B	10.9	C	22.4
d. SB LTR	Stop	B	13.2	C	22.7	C	16.5	E	40.1
e. INTERSECTION		**A**	**1.1**	**A**	**0.9**	**A**	**1.2**	**A**	**1.4**
4. W 64th Ave. & Quaker St.	**Signal**								
a. EB L (Prot+Perm)		B	10.3	A	7.6	B	14.6	B	15.7
b. EB T		B	12.0	A	9.3	B	16.7	B	13.1
c. EB R		B	11.1	A	7.7	B	15.0	B	10.1
d. WB L (Prot+Perm)		B	10.4	A	7.2	B	14.1	A	9.7
e. WB T		B	12.9	A	9.5	B	18.0	B	12.7
f. WB R		B	13.8	B	12.3	B	19.8	B	18.7
g. NB L (Prot+Perm)		D	44.5	D	44.6	D	43.3	D	43.5
h. NB T		D	45.4	D	46.4	D	44.4	D	45.4
i. NB R		D	53.2	D	52.8	D	53.0	D	52.6
j. SB L (Prot+Perm)		D	53.7	D	52.8	D	54.6	D	50.9
k. SB T		C	29.2	D	36.0	C	24.1	C	31.9
l. SB R		C	32.6	D	41.8	C	27.7	D	37.9
m. INTERSECTION		**C**	**27.4**	**B**	**18.8**	**C**	**30.0**	**C**	**21.9**

TABLE 4
2027 (BUILD-OUT) & 2047 (LONG-TERM) BACKGROUND TRAFFIC SUMMARY OF QUEUING ANALYSIS

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2027 BACKGROUND TRAFFIC		2047 BACKGROUND TRAFFIC	
		QUEUE LENGTH (FT) 95TH%		QUEUE LENGTH (FT) 95TH%	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
1. W 64th Ave. & Virgil Way					
a. EB L (1)	200	0	3	0	5
b. WB L (1)	150	0	3	3	3
c. NB LTR (1)	625	5	8	8	13
d. SB L (1)	75	10	13	18	35
e. SB TR (1)	200	3	5	5	8
2. W 64th Ave. & Easley Rd. (TWSC)					
a. EB L (1)	100	0	0	0	0
b. WB L (1)	175	10	23	15	40
c. NB L (1)	100	23	208	63	388
d. NB TR (1)	150	18	35	28	83
e. SB LTR (1)	150	8	68	18	220
2.A. W 64th Ave. & Easley Rd. (Signalized)					
a. EB L (1)	100	5	6	6	7
b. EB T (2)	2000	87	234	110	348
c. EB R (1)	200	17	32	26	40
d. WB L (1)	175	52	69	63	97
e. WB T (2)	1000	105	143	127	196
f. WB R (1)	175	10	5	10	8
g. NB L (1)	100	75	108	95	136
h. NB TR (1)	150	55	60	65	78
i. SB LTR (1)	150	38	76	49	96
3. W 64th Ave. & Terry St.					
a. EB L (1)	150	0	0	0	3
b. WB L (1)	150	0	3	3	3
c. NB LTR (1)	125	5	8	8	18
d. SB LTR (1)	150	5	5	8	15
4. W 64th Ave. & Quaker St.					
a. EB L (1)	125	50	68	75	106
b. EB T (2)	350	131	241	200	376
c. EB R (1)	175	10	10	12	12
d. WB L (1)	150	23	21	34	31
e. WB T (2)	500	163	200	253	317
f. WB R (1)	250	37	46	50	61
g. NB L (1)	100	8	9	9	10
h. NB T (1)	150	25	36	30	43
i. NB R (1)	150	62	60	12	80
j. SB L (1)	200	370	270	488	268
k. SB T (1)	530	19	28	21	32
l. SB R (1)	175	51	56	53	61

IV. PROJECT DEVELOPMENT

A. Trip Generation

The trip generation projections for the proposed Avalon Arvada development were forecast utilizing the publication *Trip Generation, 11th Edition*, by the Institute of Transportation Engineers (ITE). Estimates of total daily traffic volumes and a.m. and p.m. peak hour traffic volumes were calculated. Trip generation reductions as a result of internal trip capture, transportation demand management or transit use were not considered.

For the purposes of this study, it was assumed that the proposed Avalon Arvada development will be fully built out by 2027 and will consist of 384 multi-family (low-rise) residential dwelling units, 51 single-family attached (townhome) units, and associated amenities. Based on these parameters, at buildout, the proposed Avalon Arvada development is projected to generate 2,875 daily vehicle trips of which 163 are projected to be generated during the a.m. peak hour and 213 are projected to be generated during the p.m. peak hour.

TABLE 5
AVALON ARVADA DEVELOPMENT – TRIP GENERATION SUMMARY

Land Use	Intensity		ITE Code	Daily (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					Total	**In**	**Out**	**Total**	**In**	**Out**
Multifamily Housing (Low-Rise)	384	DU	220	2537	142	34	108	186	117	69
Single-Family Attached Housing (Townhomes)	51	DU	215	338	21	5	16	27	16	11
Combined Total				**2,875**	**163**	**39**	**124**	**213**	**133**	**80**

B. Trip Distribution

The distribution of the projected vehicle trips generated by the proposed Avalon Arvada development was established based on the current and projected future traffic patterns on the surrounding transportation system, efficiency of access to the principal transportation corridors serving the area, and potential trip origins/destinations for the proposed land uses. Figure 9 graphically illustrates the projected site generated trip distribution patterns for the proposed Avalon Arvada development.

C. Trip Assignment

The vehicular traffic volumes projected to be generated by the proposed Avalon Arvada development, shown in Table 5, were assigned to the study area roadways and intersections utilizing the trip distribution methodology described above. Figure 10 graphically illustrates the site generated trip assignment for the proposed Avalon Arvada development.

V. TOTAL TRAFFIC

Total traffic forecasts for the 2027 (build-out) and 2047 (long-term) analysis horizons were computed by combining the associated 2027 (build-out) and 2047 (long-term) background traffic volumes with the projected site generated traffic volumes. Figures 11 & 12 graphically illustrate the total traffic projections for the study area intersections for the 2027 (build-out) and 2047 (long-term) analysis horizons, respectively.

VI. PROJECT ANALYSIS

A. Operational Analysis

In order to evaluate the impact of the proposed Avalon Arvada development on the study area roadway system, peak hour intersection capacity analyses for the total traffic conditions were performed for the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic scenarios at each of the study area intersections listed below:

1. W 64th Ave./Virgil Way (TWSC)
2. W 64th Ave./Easley Rd. (TWSC)
3. W 64th Ave./Terry St. (TWSC)
4. W 64th Ave./Quaker St. (Signalized)

The results of the total traffic operational analyses are summarized in Table 6, below. Figures 13 and 14 graphically illustrate the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic scenarios operational analyses, respectively. Detailed *Synchro 12* software intersection capacity analysis reports are provided in Appendix “C”.

A comparative analysis of the 2027 (build-out) and 2047 (long-term) analysis horizons background and total traffic scenarios operational analyses was performed to evaluate the level of impact, as measured by level of service, the proposed Avalon Arvada development will have on the study area intersections. Based on the comparative analyses, the following changes in level of service are projected for the study area intersections with the addition of the proposed Avalon Arvada development site generated trips:

- W 64th Ave./Easley Rd.
    - By the 2027 (build-out) analysis horizon, it is projected that with the addition of the Avalon Arvada projected site generated trips, the intersection overall, will deteriorate from a LOS “D” to a LOS “F” in the p.m. peak hour. This deterioration of level of service would be mitigated with the installation of a traffic signal at this intersection.
    - By the 2047 (long-term) analysis horizon, it is projected that with the addition of the Avalon Arvada projected site generated trips, the northbound shared through/right turn lane will deteriorate from a LOS “C” to a LOS “E” in the p.m. peak hour, and the southbound shared left/through/right turn lane will deteriorate from a LOS “D” to a LOS “F” in the a.m. peak hour. This deterioration of level of service would be mitigated with the installation of a traffic signal at this intersection.

There are no other study area intersections, overall, or individual lane groups that are projected to deteriorate from an acceptable level of service (LOS “D” or better) to a poor or failing level of service (LOS “E” or “F”) with the addition of the traffic projected to be generated by the proposed Avalon Arvada development in either the 2027 (build-out) or 2047 (long-term) analysis horizons total traffic conditions scenarios. Those intersections with poor or failing overall or individual lane group levels of service in the background traffic scenarios are projected to remain with poor to failing levels of service in the total traffic scenarios.

Table 7 provides a side-by-side comparative summary of the 2027 (build-out) and 2047 (long-term) analysis horizons background and total traffic scenarios operational analyses.

TABLE 6
2027 (BUILD-OUT) & 2047 (LONG-TERM) TOTAL TRAFFIC
SUMMARY OF OPERATIONAL ANALYSIS

INTERSECTION	CONTROL	2027 TOTAL TRAFFIC				2047 TOTAL TRAFFIC			
		AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY	AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY
1. W 64th Ave. & Virgil Way	**TWSC**								
a. EB L		A	8.0	A	8.4	A	8.3	A	8.9
b. WB L		A	7.7	A	9.0	A	7.9	A	9.9
c. NB LTR	Stop	B	10.8	B	14.9	B	12.3	C	21.1
d. SB L	Stop	B	14.4	D	26.2	C	18.7	F	55.7
e. SB TR	Stop	B	10.5	B	11.3	B	11.5	B	13.6
f. INTERSECTION		**A**	**2.4**	**A**	**2.1**	**A**	**2.8**	**A**	**3.3**
2. W 64th Ave. & Easley Rd.	**TWSC**								
a. EB L		A	7.9	A	8.4	A	8.1	A	8.8
b. WB L		A	8.2	B	10.0	A	8.7	B	12.4
c. NB L	Stop	C	24.5	F	614.2	F	58.8	F	1364.0
d. NB TR	Stop	B	10.4	C	16.5	B	11.8	E	40.2
e. SB LTR	Stop	D	27.5	F	320.6	F	81.3	F	1914.0
f. INTERSECTION		**A**	**8.1**	**F**	**66.4**	**C**	**16.2**	**F**	**228.2**
2.A. W 64th Ave. & Easley Rd.	**Signal**								
a. EB L (Prot+Perm)		A	7.7	A	8.2	A	9.2	B	11.2
b. EB T		A	9.0	B	11.3	B	11.0	B	16.2
c. EB R		A	9.2	B	11.2	B	11.4	B	15.8
d. WB L (Prot+Perm)		A	6.9	A	8.2	A	7.8	B	11.9
e. WB T		A	7.9	A	9.4	A	9.3	B	12.1
f. WB R		A	7.5	A	9.0	A	8.5	B	11.0
g. NB L (Prot+Perm)		D	43.9	D	44.2	D	42.3	D	41.6
h. NB TR		D	43.7	D	35.8	D	44.1	D	43.8
i. SB LTR		D	44.8	D	45.1	D	44.4	D	43.6
j. INTERSECTION		**B**	**18.6**	**B**	**17.4**	**B**	**18.8**	**B**	**19.6**
3. W 64th Ave. & Terry St.	**TWSC**								
a. EB L		A	8.3	A	9.0	A	8.7	A	9.7
b. WB L		A	8.2	A	9.4	A	8.5	B	10.5
c. NB LTR	Stop	B	10.5	C	16.1	B	11.5	D	25.1
d. SB LTR	Stop	B	14.8	D	27.8	C	19.1	F	53.0
e. INTERSECTION		**A**	**1.1**	**A**	**1.0**	**A**	**1.3**	**A**	**1.6**
4. W 64th Ave. & Quaker St.	**Signal**								
a. EB L (Prot+Perm)		B	10.5	A	7.9	B	14.9	B	19.3
b. EB T		B	12.3	A	9.4	B	17.2	B	13.3
c. EB R		B	11.1	A	7.7	B	15.0	B	10.1
d. WB L (Prot+Perm)		B	10.5	A	7.2	B	14.2	A	9.8
e. WB T		B	13.2	A	9.7	B	18.1	B	13.1
f. WB R		B	14.0	B	12.3	B	19.8	B	18.7
g. NB L (Prot+Perm)		D	44.5	D	44.6	D	43.3	D	43.5
h. NB T		D	45.4	D	46.4	D	44.4	D	45.4
i. NB R		D	53.2	D	52.8	D	53.0	D	52.6
j. SB L (Prot+Perm)		D	53.7	D	52.8	D	54.6	D	50.9
k. SB T		C	29.2	D	36.0	C	24.1	C	31.9
l. SB R		C	32.7	D	42.8	C	27.8	D	38.6
m. INTERSECTION		**C**	**26.6**	**B**	**18.6**	**C**	**29.5**	**C**	**22.2**

TABLE 7
2027 (BUILD-OUT) & 2047 (LONG-TERM) BACKGROUND & TOTAL TRAFFIC OPERATIONAL ANALYSIS COMPARISON

INTERSECTION	CONTROL	2027 (BUILD-OUT)				2047 (LONG-TERM)			
		BACKGROUND		TOTAL		BACKGROUND		TOTAL	
		AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS
1. W 64th Ave. & Virgil Way	**TWSC**								
a. EB L		A	A	A	A	A	A	A	A
b. WB L		A	A	A	A	A	A	A	A
c. NB LTR	Stop	B	B	B	B	B	C	B	C
d. SB L	Stop	B	C	B	D	C	E	C	F
e. SB TR	Stop	B	B	B	B	B	B	B	B
f. INTERSECTION		**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**
2. W 64th Ave. & Easley Rd.	**TWSC**								
a. EB L		A	A	A	A	A	A	A	A
b. WB L		A	B	A	B	A	B	A	B
c. NB L	Stop	C	F	C	F	E	F	F	F
d. NB TR	Stop	B	B	B	C	B	C	B	E
e. SB LTR	Stop	C	F	D	F	D	F	F	F
f. INTERSECTION		**A**	**D**	**A**	**F**	**A**	**F**	**C**	**F**
2.A. W 64th Ave. & Easley Rd.	**Signal**								
a. EB L (Prot+Perm)		A	A	A	A	A	A	A	B
b. EB T		A	A	A	B	A	B	B	B
c. EB R		A	A	A	B	A	B	B	B
d. WB L (Prot+Perm)		A	A	A	A	A	A	A	B
e. WB T		A	A	A	A	A	A	A	B
f. WB R		A	A	A	A	A	A	A	B
g. NB L (Prot+Perm)		D	D	D	D	D	D	D	D
h. NB TR		D	D	D	D	D	D	D	D
i. SB LTR		D	D	D	D	D	D	D	D
j. INTERSECTION		**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**
3. W 64th Ave. & Terry St.	**TWSC**								
a. EB L		A	A	A	A	A	A	A	A
b. WB L		A	A	A	A	A	B	A	B
c. NB LTR	Stop	B	B	B	C	B	C	B	D
d. SB LTR	Stop	B	C	B	D	C	E	C	F
e. INTERSECTION		**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**
4. W 64th Ave. & Quaker St.	**Signal**								
a. EB L (Prot+Perm)		B	A	B	A	B	B	B	B
b. EB T		B	A	B	A	B	B	B	B
c. EB R		B	A	B	A	B	B	B	B
d. WB L (Prot+Perm)		B	A	B	A	B	A	B	A
e. WB T		B	A	B	A	B	B	B	B
f. WB R		B	B	B	B	B	B	B	B
g. NB L (Prot+Perm)		D	D	D	D	D	D	D	D
h. NB T		D	D	D	D	D	D	D	D
i. NB R		D	D	D	D	D	D	D	D
j. SB L (Prot+Perm)		D	D	D	D	D	D	D	D
k. SB T		C	D	C	D	C	C	C	C
l. SB R		C	D	C	D	C	D	C	D
m. INTERSECTION		**C**	**B**	**C**	**B**	**C**	**C**	**C**	**C**

B. Queuing Analysis

Queue lengths and associated storage requirements for through and auxiliary lanes (turn bays) at the study area intersections were computed utilizing the *Synchro 12* 95%tile reported queues for the 2027 (build-out) and 2047 (long-term) analysis horizons total traffic scenarios. Queue length calculations are based on a 25-foot vehicle length and reported as the total cumulative computed queue length for all traffic lanes in the lane group. Table 8 provides a summary of this analysis and comparison to the actual vehicle storage lengths provided for each of the existing study area intersections.

As shown in Table 8, the following queue related issues are projected to be experienced at the study area intersections based on the reported queues in the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic analysis scenarios that weren't already present under background conditions:

- W 64th Ave./Easley Rd.
    - 2027 (Build-Out) Analysis Horizon – During the p.m. peak hour, the southbound shared left/through/right turn lane queue is projected to exceed its lane group capacity and spill back into the upstream intersection. This is expected to continue in both the a.m. and p.m. peak hour by the 2047 (long-term) analysis horizon. The installation of a traffic signal at this intersection would mitigate this queueing issue. With a signal installed, it is projected however that the northbound left turn lane queue would exceed its capacity and spill back into the northbound through lane in the p.m. peak hour by the 2047 (long-term) analysis horizon. This queuing issue could be mitigated by extending the turn lane striping by 50 feet.

TABLE 8
2027 (BUILD-OUT) & 2047 (LONG-TERM) TOTAL TRAFFIC SUMMARY OF QUEUING ANALYSIS

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2027 TOTAL TRAFFIC QUEUE LENGTH (FT) 95TH%		2047 TOTAL TRAFFIC QUEUE LENGTH (FT) 95TH%	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
1. W 64th Ave. & Virgil Way					
a. EB L (1)	200	0	3	0	5
b. WB L (1)	150	0	3	3	5
c. NB LTR (1)	625	5	8	10	15
d. SB L (1)	75	10	18	20	50
e. SB TR (1)	200	3	5	5	10
2. W 64th Ave. & Easley Rd. (TWSC)					
a. EB L (1)	100	3	5	3	5
b. WB L (1)	175	10	23	15	40
c. NB L (1)	100	28	273	80	423
d. NB TR (1)	150	18	50	30	160
e. SB LTR (1)	150	65	270	158	498
2.A. W 64th Ave. & Easley Rd. (Signalized)					
a. EB L (1)	100	17	31	18	33
b. EB T (2)	2000	120	289	150	409
c. EB R (1)	200	23	39	35	47
d. WB L (1)	175	78	90	99	128
e. WB T (2)	1000	144	182	181	253
f. WB R (1)	175	32	15	32	17
g. NB L (1)	100	61	96	78	119
h. NB TR (1)	150	46	58	54	71
i. SB LTR (1)	150	135	135	145	143
3. W 64th Ave. & Terry St.					
a. EB L (1)	150	0	0	0	3
b. WB L (1)	150	0	3	3	5
c. NB LTR (1)	125	5	10	8	20
d. SB LTR (1)	150	8	10	13	25
4. W 64th Ave. & Quaker St.					
a. EB L (1)	125	55	71	81	109
b. EB T (2)	350	163	260	238	403
c. EB R (1)	175	10	10	12	12
d. WB L (1)	150	23	21	34	31
e. WB T (2)	500	177	238	268	365
f. WB R (1)	250	38	47	50	62
g. NB L (1)	100	8	9	9	10
h. NB T (1)	150	25	36	30	43
i. NB R (1)	150	62	60	62	67
j. SB L (1)	200	370	270	488	268
k. SB T (1)	530	19	28	21	32
l. SB R (1)	175	52	59	53	62

C. Traffic Signal Warrant Analysis

Existing and forecast traffic volumes were evaluated for satisfying the criteria for the installation of a traffic signal based on the methodology presented in the *Manual on Uniform Traffic Control Devices for Streets and Highways, 11th Edition* at the intersection of W 64th Ave. & Easley Rd.

Warrant 1 – Eight Hour Vehicular Volume, Warrant 2 – Four Hour Vehicular Volume, and Warrant 3 – Peak Hour were evaluated based on existing and projected background and total traffic volumes.

The forecast hourly background traffic volumes for the 2027 (build-out) and 2047 (long-term) analysis horizons were forecast using the methodology described in Section III of this study. The distribution of the intersection approach movement (left turn, right turn) volumes were based on the turn movement distribution (left turn, right turn) of the peak hour volumes that were collected for this study. Hourly approach volumes were derived assuming the same hourly distribution of the approach volumes on W 64th Ave. from the 24-hour directional counts collected on Tuesday, April 22, 2025. In order to develop a 24-hour traffic volume profile for the site generated trips projected, the same hourly distribution was used. It was determined from the volume data collected that the south leg of the intersection is the minor road with the higher approach volume, therefore used for this analysis.

Based on these parameters and the analysis performed herein, it was determined that the W 64th Ave. & Easley Rd. intersection is projected to meet Warrants 1, 2, and 3 all under existing conditions. The intersection is projected to continue meeting all 3 warrants through the 2047 (long-term) analysis horizon. Therefore, it is recommended that a traffic signal be installed at this intersection. The operational analysis completed for the W 64th Ave. & Easley Rd. intersection analyzed the intersection as it currently operates with stop-sign control, and as a traffic signal for comparison. Detailed recommendations for this intersection are included in section VI.E.of this report.

A summary of the results of the traffic signal warrant analyses is presented in Table 9, below. Detailed traffic signal warrant analysis worksheets and the volume data used for this analysis are provided in Appendix "D".

TABLE 9
TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY

	Analysis Horizon	Eight Hour - Warrant 1 Met?	Four Hour - Warrant 2 Met?	Peak Hour - Warrant 3 Met?
W 64th Ave. & Easley Rd.	2025 Existing Traffic	YES	YES	YES
	2027 Background Traffic	YES	YES	YES
	2027 Total Traffic	YES	YES	YES
	2047 Background Traffic	YES	YES	YES
	2047 Total Traffic	YES	YES	YES

D. Multimodal Assessment

The proposed Avalon Arvada development has the potential to incorporate various multimodal and travel demand management (TDM) strategies and amenities that encourage and promote multimodal travel options. Incorporating multimodal and TDM strategies and amenities can help offset the impacts of the traffic generated by the development, as well as enhance the overall safety, mobility, and environment of the surrounding transportation system. Some of the options may include:

- Enhanced Wayfinding – Enhanced route/guide signing to existing/proposed pedestrian, bicycle, transit, commercial/retail and recreational facilities.
- Resident Communications System – On-site resident communication system that provide residents a conduit to share information on a variety of topics including ridesharing, car sharing, and bike sharing. The format of the system may incorporate on-site kiosks, newsletters, web site, etc.
- Electric Vehicle Charging Stations – On-site electric vehicle charging stations.
- Bicycle Amenities – On-site bicycle amenities such as long-term storage, bike racks, repair/maintenance shop, and wash areas.
- Bike, Scooter, Car Share Station(s) – Bike, scooter, and/or car sharing station(s) adjacent to or near the proposed development to encourage multimodal travel among residents.
- Improving existing and/or adding ADA compliant sidewalks and accessible routes.
- Adding crosswalk markings at strategic locations.
- Adding pavement markings and signage for on-street bicycle lanes.

As the development process moves forward, the development team looks forward to working collaboratively with City staff to develop a plan that provides appropriate and beneficial on-site amenities, as well as off-site enhancements to encourage and promote multimodal options in the travel decisions made by the residents of the proposed development.

E. Summary of Operational Analysis & Recommended Improvements

The following is a summary of analysis and recommendations for improvements to the existing and proposed study area intersections and roadways based on the proposed Avalon Arvada development:

Study Area Roadways:

- **W 64th Ave.** – There are no geometric or operational modifications being recommended for W 64th Ave. within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.

- **Virgil Way –** There are no geometric or operational modifications being recommended for Virgil Way within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.

- **Easley Rd.** – There are no geometric or operational modifications being recommended for Easley Rd. within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.
- **Terry St.** – There are no geometric or operational modifications being recommended for Terry St. within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.

- **Quaker St. –** There are no geometric or operational modifications being recommended for Quaker St. within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.

Study Area Intersections:

- **W 64th Ave./Virgil Way –** The W 64th Ave./Virgil Way intersection is not anticipated to undergo any significant geometric or operational modifications through the 2047 (long-term) analysis horizon. It is anticipated that the intersection will remain a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 200 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one left turn lane with approximately 75 feet of storage and one shared through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left/through/right turn lane on the northbound approach, and one southbound departure lane.

  Based on these parameters and the forecast total traffic volumes, it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS “D” or better) to a poor or failing level of service (LOS “E” or “F”) with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. Based on the queuing analysis, there are no projected queue related issues associated with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios.

  By the 2050 (long-term) analysis horizon it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS “D” or better) to a poor or failing level of service (LOS “E” or “F”) with the addition of the site generated traffic. However, it is projected that the southbound left turn lane will continue to experience a poor to failing level of service (LOS “E” or “F”) during the p.m. peak hour in both the background and total traffic scenarios. This failing movement is fairly typical as a stop-controlled minor street approach to an arterial and is due to the projected high volume of background traffic on W 64th Ave. causing significant delay for the stop-controlled minor street approach. This intersection should be monitored, however, to determine when actual traffic volumes will warrant the need for modifications to improve the intersection’s operational conditions. There are no projected queue related issues associated with the addition of the site generated traffic by the 2047 (long-term) analysis horizon total traffic scenarios. There are no additional geometric or operational modifications being recommended for the W 64th Ave./Virgil Way intersection as a result of the proposed Avalon Arvada development.

- **W 64th Ave./Easley Rd. –** The W 64th Ave./Easley Rd. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2050 (long-term) analysis horizon. However, it is recommended based on the analysis completed in this study that the intersection be converted into a four-legged intersection operating under actuated/coordinated traffic signal control with protected/permitted left turn phasing on the eastbound, westbound, and northbound approaches. The intersection geometry is recommended to remain the same. The east leg of the intersection has one left turn lane with approximately 175 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 100 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes plus a southbound to westbound auxiliary lane. The north leg of the intersection has one shared left/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one left turn lane with approximately 100 feet of storage and one shared through/right turn lane on the northbound approach, and one southbound departure lane.

Based on these parameters of the intersection operating under traffic signal control, and the forecast total traffic volumes, it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. All lane groups would operate with acceptable operational conditions. Based on the queuing analysis, there are no projected queue related issues associated with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. If the intersection remains as a stop-controlled intersection, the operational deficiencies seen in the background traffic scenario would continue in the total traffic scenario.

By the 2047 (long-term) analysis horizon it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic if the intersection operates under traffic signal control. All lane groups would operate with acceptable operational conditions. With a signal installed, it is projected that the northbound left turn lane queue would exceed its capacity and spill back into the northbound through lanes in the p.m. peak hour by the 2047 (long-term) analysis horizon. This queuing issue could be mitigated by extending the turn lane striping by 50 feet. There are no other queue related issues associated with the addition of the site generated traffic by the 2050 (long-term) analysis horizon total traffic scenarios. If the intersection remains as a stop-controlled intersection, the operational deficiencies seen in the background traffic scenario would continue in the total traffic scenario.

Since the intersection meets signal warrants under existing conditions, it is recommended that the city of Arvada install a traffic signal at this intersection by the 2027 (build-out) analysis horizon. There are no additional geometric or operational modifications being recommended for the W 64th Ave./Easley Rd. intersection as a result of the proposed Avalon Arvada development.

- **W 64th Ave./Terry St.** – The W 64th Ave./Terry St. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2047 (long-term) analysis horizon. It is anticipated that the intersection will remain a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one shared left/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left/through/right turn lane on the northbound approach, and one southbound departure lane.

Based on these parameters and the forecast total traffic volumes, it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. Based on the queuing analysis, there are no projected queue related issues associated with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios.

By the 2050 (long-term) analysis horizon it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic. However, it is projected that the southbound shared left/through/right turn lane will continue to experience a poor to failing level of service (LOS "E" or "F") during the p.m. peak hour in both the background and total traffic scenarios. This failing movement is fairly typical as a stop-controlled minor street approach to an arterial and is due to the projected high volume of background traffic on W 64th Ave. causing significant delay for the stop-controlled minor street approach. This intersection should be monitored, however, to determine when actual traffic volumes will warrant the need for modifications to improve the intersection's operational conditions. There are no projected queue related issues associated with the addition of the site generated traffic by the 2047 (long-term) analysis horizon total traffic scenarios. There are no additional geometric or operational modifications being recommended for the W 64th Ave./Terry St. intersection as a result of the proposed Avalon Arvada development.

- **W 64th Ave./Quaker St.** – The W 64th Ave./Quaker St. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2047 (long-term) analysis horizon. It is anticipated that the intersection will remain a four-legged intersection operating under actuated/coordinated traffic signal control with protected/permitted left turn phasing on all four approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes. The west leg of the intersection has one left turn lane with approximately 125 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one left turn lane with approximately 200 feet of storage, one through lane, and one right turn lane on the southbound approach, and two northbound departure lanes. The south leg of the intersection has one left turn lane with approximately 100 feet of storage, one through lane, and one right turn lane on the northbound approach, and one southbound departure lane.

  Based on these parameters and the forecast total traffic volumes, it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. Based on the queuing analysis, there are no projected queue related issues associated with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios.

  By the 2050 (long-term) analysis horizon it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic. There are no projected queue related issues associated with the addition of the site generated traffic by the 2047 (long-term) analysis horizon total traffic scenarios. There are no geometric or operational modifications being recommended for the W 64th Ave./Quaker St. intersection as a result of the proposed Avalon Arvada development.

VII. CONCLUSIONS

AvalonBay Communities is proposing to redevelop the Welby Gardens Wholesale Center located at 17201 W 64th Ave. in Arvada, Colorado. The property is situated on approximately 20.1 acres. The subject property is bound by Ralston Creek and West Woods Golf Course to the north, single-family homes adjacent to Torrey Ct. to the east, MorningStar Senior Living of Arvada to the south, and single-family homes adjacent to Umber Cir. to the west. At buildout, the proposed development will consist of 384 multi-family (low-rise) residential dwelling units, 51 single-family attached (townhome) units, and associated amenities.

Vehicular access for the proposed Avalon Arvada development will be provided by two access driveways that will intersect Easley Rd. north of W 64th Ave. Both access driveways will be constructed on the west side of Easley Ave. replacing the existing Welby Gardens parking lot access and delivery site access. Both driveways will be full movement accesses and provide direct connections into the proposed Avalon Arvada development. An emergency vehicle only access (EVA) will also be constructed at the southwest corner of the project site, connecting to the MorningStar Senior Living property.

Based on these parameters, at buildout, the proposed Avalon Arvada development is projected to generate 2,875 daily vehicle trips of which 163 are projected to be generated during the a.m. peak hour and 213 are projected to be generated during the p.m. peak hour.

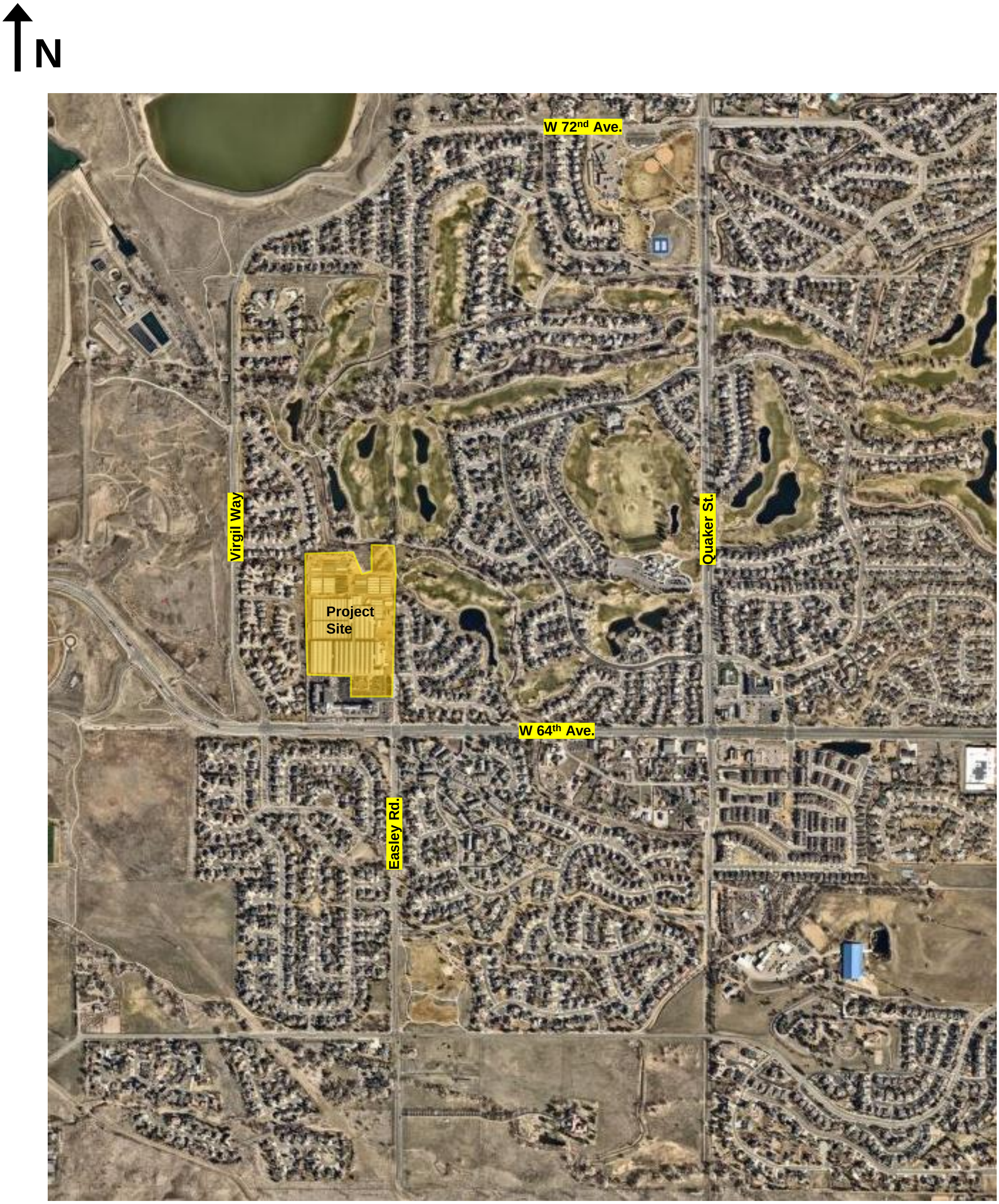
The purpose of this study is to evaluate the impact of the vehicular trips projected to be generated by the proposed Avalon Arvada development on the study area intersections and roadway system. The study includes 2025 (existing), 2027 (expected project build-out), and 2047 (long-term) analysis horizons. Based on the analyses contained herein, recommendations for intersection improvements to accommodate the addition of the proposed development traffic were developed. A summary of the recommended improvements/modifications for the study area roadways and intersections are provided in Table 10, below.

TABLE 10
SUMMARY OF RECOMMENDATIONS

Roadway	Recommendations	Responsibility	Timing
W 64th Ave.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
Virgil Way	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
Easley Rd.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
Terry St.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
Quaker St.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A

TABLE 10 (CONTINUED)
SUMMARY OF RECOMMENDATIONS

Intersection	Recommendations	Responsibility	Timing
W 64th Ave./ Virgil Way	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
W 64th Ave./Easley Rd.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
	It is recommended based on the analysis completed in this study that the intersection be converted into a four-legged intersection operating under actuated/ coordinated traffic signal control with protected/ permitted left turn phasing on the eastbound, westbound, and northbound approaches. The intersection geometry is recommended to remain the same, with the exception of the northbound left turn lane which is recommended to be lengthened to 150 feet in order to provide adequate storage. The rest of the intersection would remain the same.	City of Arvada	By 2027
W 64th Ave./Terry St.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
W 64th Ave./Quaker St.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A


N
W 72nd Ave.
Virgil Way
Quaker St.
Project Site
W 64th Ave.
Easley Rd.

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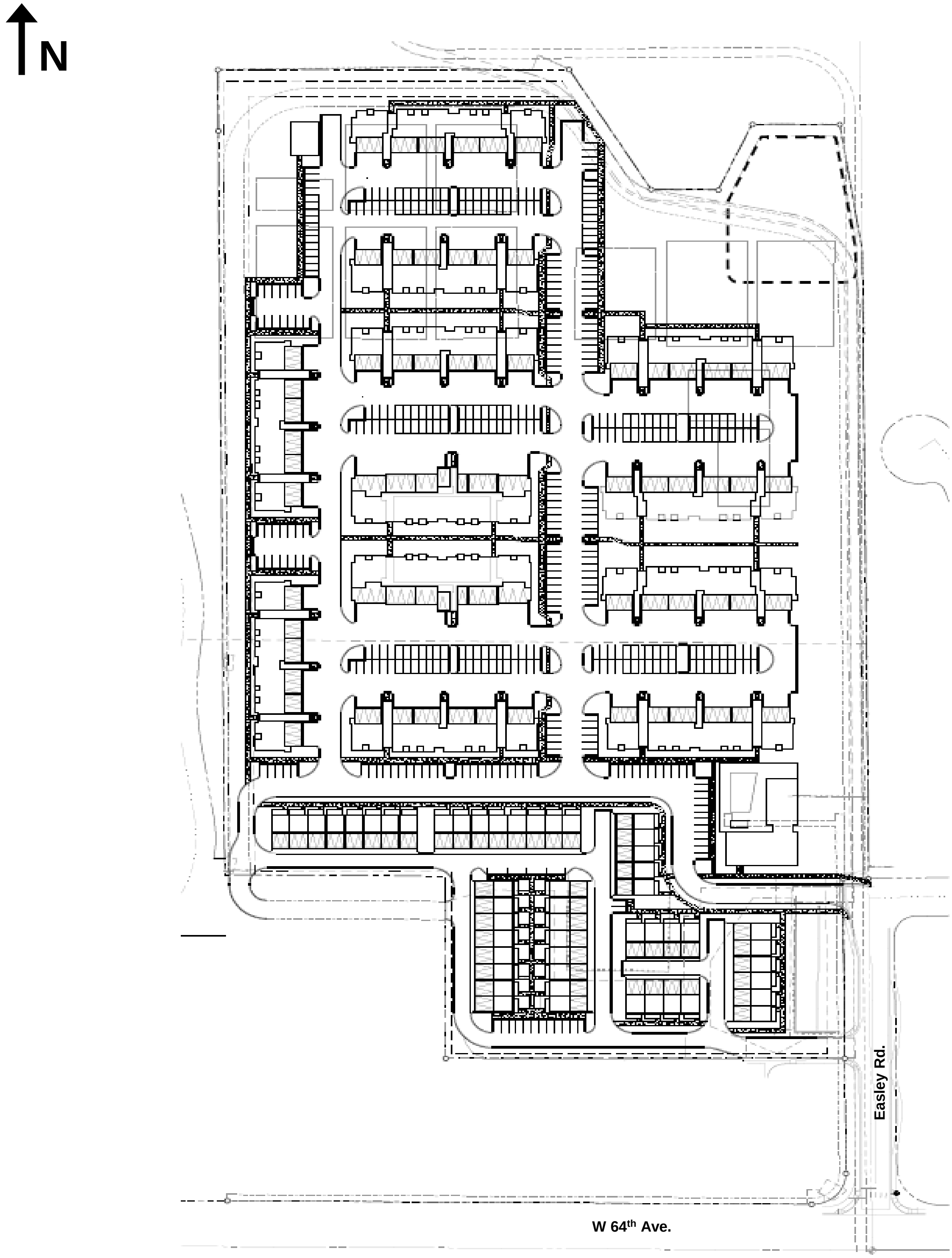
Site Location Map

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 1


N
Easley Rd.
W 64th Ave.

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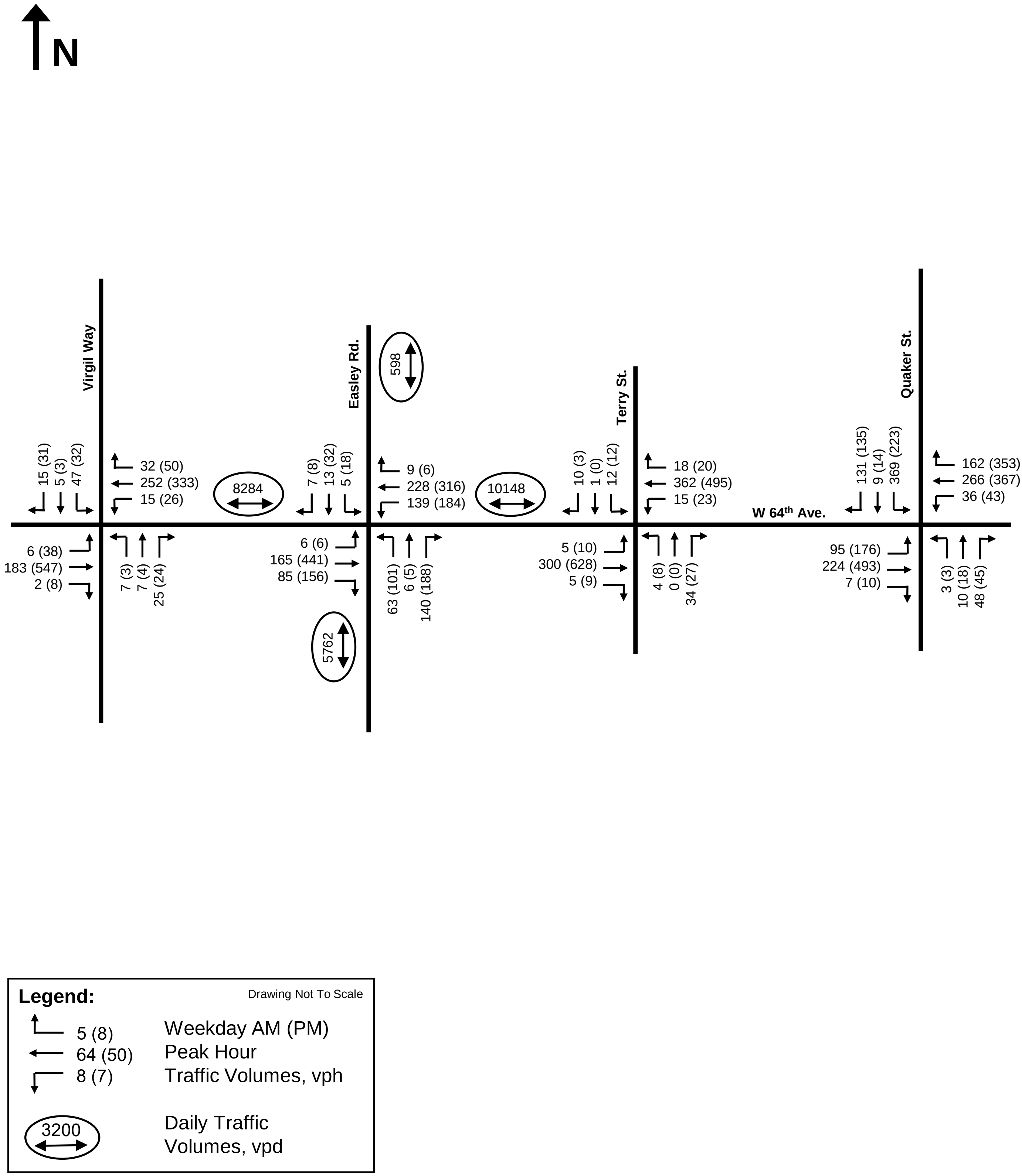
Conceptual Site Plan

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 2


N
Virgil Way
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
598
8284
10148
5762
15 (31)
5 (3)
47 (32)
32 (50)
252 (333)
15 (26)
6 (38)
183 (547)
2 (8)
7 (3)
7 (4)
25 (24)
7 (8)
13 (32)
5 (18)
9 (6)
228 (316)
139 (184)
6 (6)
165 (441)
85 (156)
63 (101)
6 (5)
140 (188)
10 (3)
1 (0)
12 (12)
18 (20)
362 (495)
15 (23)
5 (10)
300 (628)
5 (9)
4 (8)
0 (0)
34 (27)
131 (135)
9 (14)
369 (223)
162 (353)
266 (367)
36 (43)
95 (176)
224 (493)
7 (10)
3 (3)
10 (18)
48 (45)
Legend:
Drawing Not To Scale
5 (8)
64 (50)
8 (7)
Weekday AM (PM)
Peak Hour
Traffic Volumes, vph
3200
Daily Traffic
Volumes, vpd

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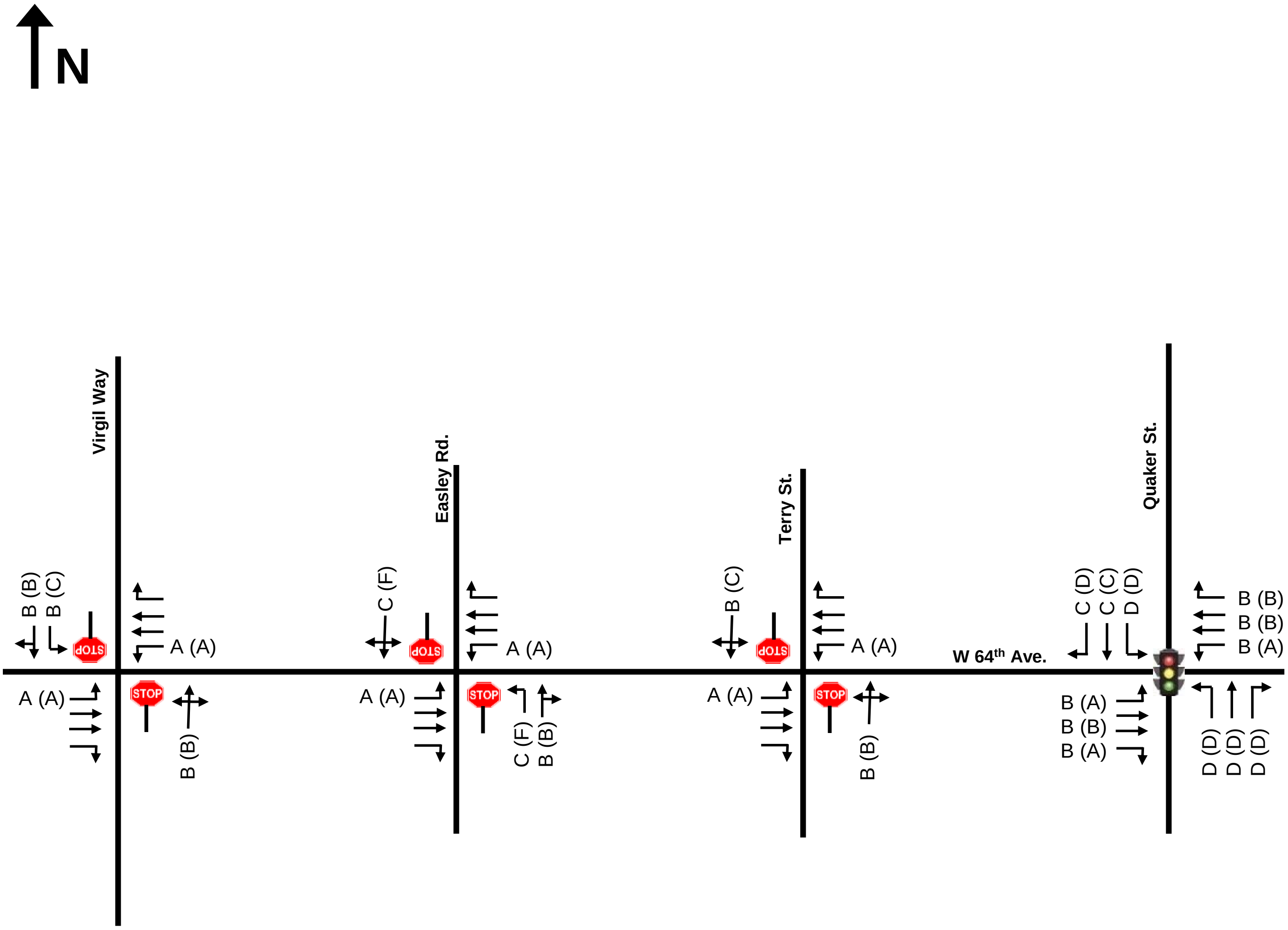
2025 Existing Traffic Volumes

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 3


N
Virgil Way
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
STOP
B (B)
B (C)
A (A)
A (A)
B (B)
C (F)
A (A)
A (A)
C (F)
B (B)
B (C)
A (A)
A (A)
B (B)
C (D)
C (C)
D (D)
B (B)
B (B)
B (A)
B (A)
B (B)
B (A)
D (D)
D (D)
D (D)

Legend: Drawing Not To Scale

A (B) Weekday AM (PM)
A (B) Peak Hour
A (B) Level of Service

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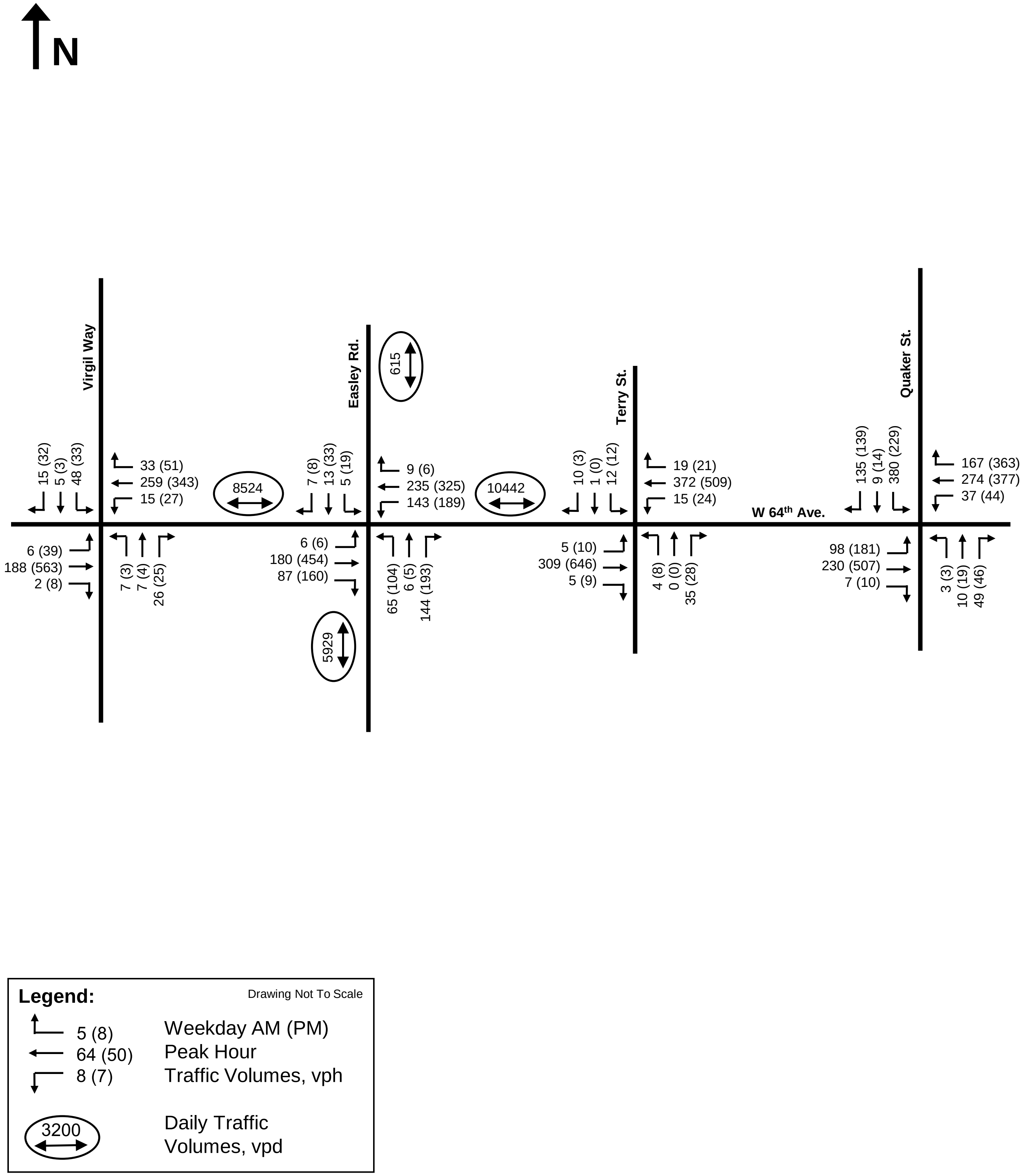
Avalon Arvada
AvalonBay Communities
HKS #241061

2025 Existing Traffic Operational Conditions

Figure 4


N
Virgil Way
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
15 (32)
5 (3)
48 (33)
33 (51)
259 (343)
15 (27)
6 (39)
188 (563)
2 (8)
7 (3)
7 (4)
26 (25)
8524
7 (8)
13 (33)
5 (19)
9 (6)
235 (325)
143 (189)
6 (6)
180 (454)
87 (160)
65 (104)
6 (5)
144 (193)
615
5929
10442
10 (3)
1 (0)
12 (12)
19 (21)
372 (509)
15 (24)
5 (10)
309 (646)
5 (9)
4 (8)
0 (0)
35 (28)
135 (139)
9 (14)
380 (229)
167 (363)
274 (377)
37 (44)
98 (181)
230 (507)
7 (10)
3 (3)
10 (19)
49 (46)
Legend:
Drawing Not To Scale
5 (8)
64 (50)
8 (7)
Weekday AM (PM) Peak Hour Traffic Volumes, vph
3200
Daily Traffic Volumes, vpd

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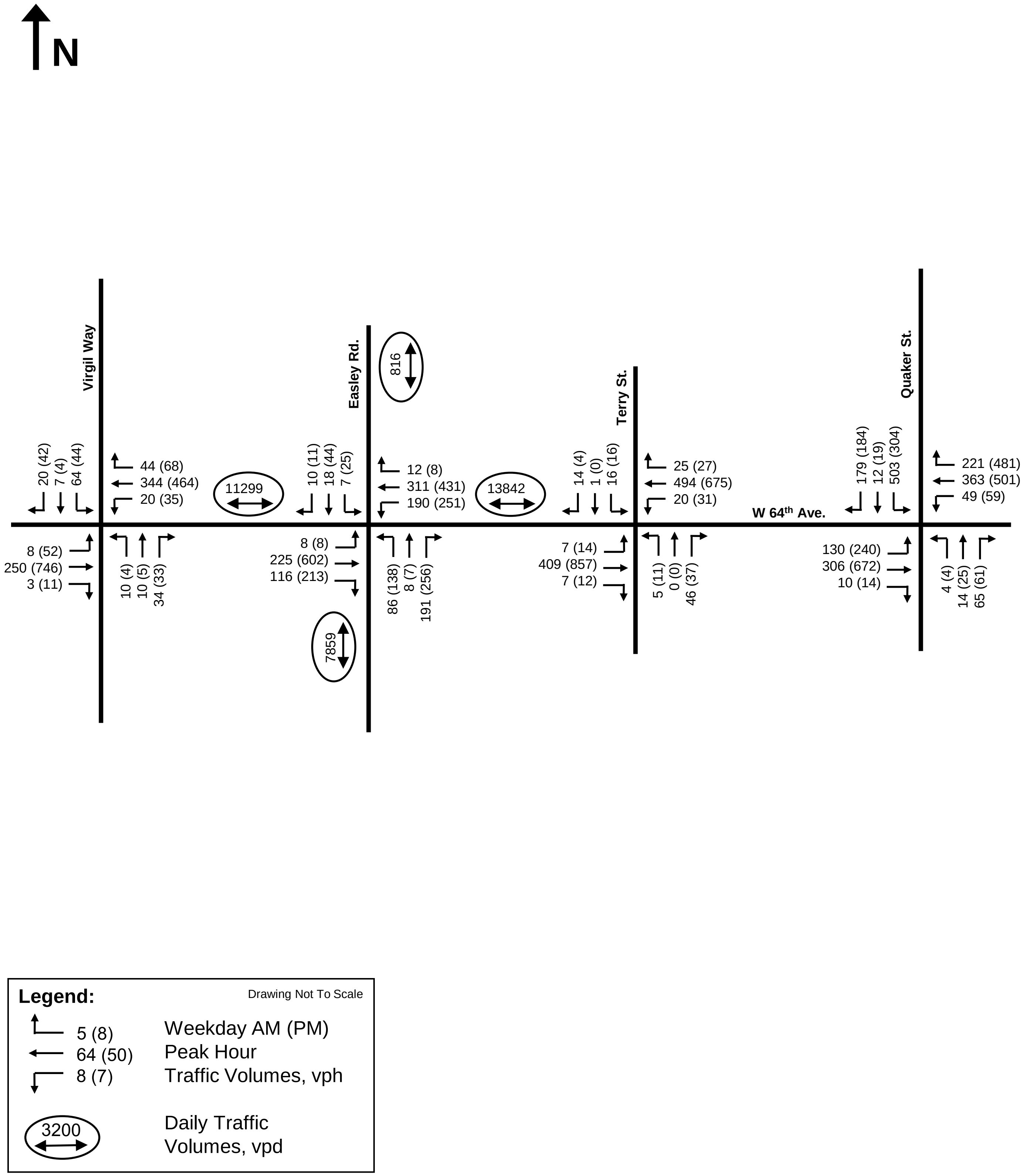
2027 (Build-Out) Analysis Horizon Background Traffic Volumes

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 5


N
Virgil Way
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
816
11299
13842
7859
20 (42)
7 (4)
64 (44)
44 (68)
344 (464)
20 (35)
8 (52)
250 (746)
3 (11)
10 (4)
10 (5)
34 (33)
10 (11)
18 (44)
7 (25)
12 (8)
311 (431)
190 (251)
8 (8)
225 (602)
116 (213)
86 (138)
8 (7)
191 (256)
14 (4)
1 (0)
16 (16)
25 (27)
494 (675)
20 (31)
7 (14)
409 (857)
7 (12)
5 (11)
0 (0)
46 (37)
179 (184)
12 (19)
503 (304)
221 (481)
363 (501)
49 (59)
130 (240)
306 (672)
10 (14)
4 (4)
14 (25)
65 (61)
Legend:
Drawing Not To Scale
5 (8)
64 (50)
8 (7)
Weekday AM (PM)
Peak Hour
Traffic Volumes, vph
3200
Daily Traffic
Volumes, vpd

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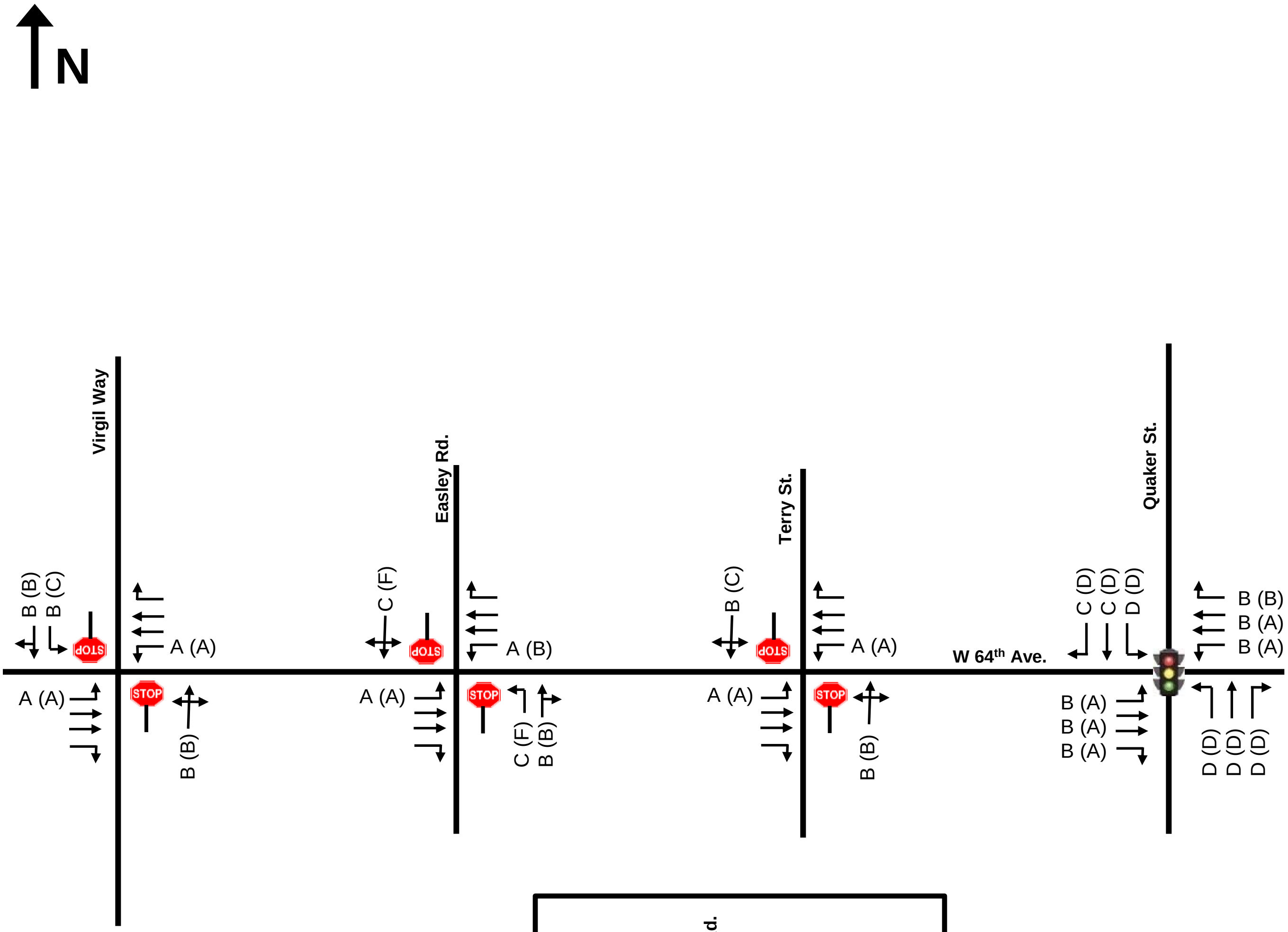
2047 (Long-Term) Analysis Horizon Background Traffic Volumes

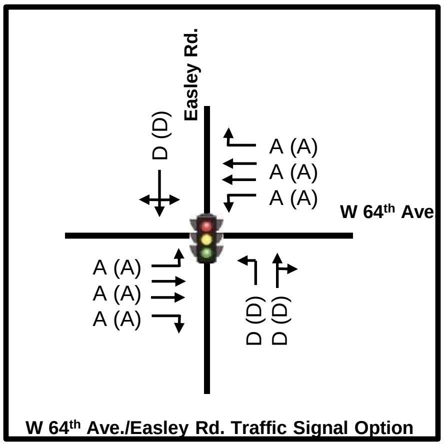
Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 6


N
Virgil Way
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
B (B)
B (C)
A (A)
A (A)
B (B)
C (F)
A (B)
A (A)
C (F)
B (B)
B (C)
A (A)
A (A)
B (B)
C (D)
C (D)
D (D)
B (B)
B (A)
B (A)
B (A)
B (A)
B (A)
D (D)
D (D)
D (D)
STOP


Easley Rd.
W 64th Ave
D (D)
A (A)
A (A)
A (A)
A (A)
A (A)
A (A)
D (D)
D (D)

W 64th Ave./Easley Rd. Traffic Signal Option

Legend:

Drawing Not To Scale

A (B)
A (B)
A (B)

Weekday AM (PM)
Peak Hour
Level of Service

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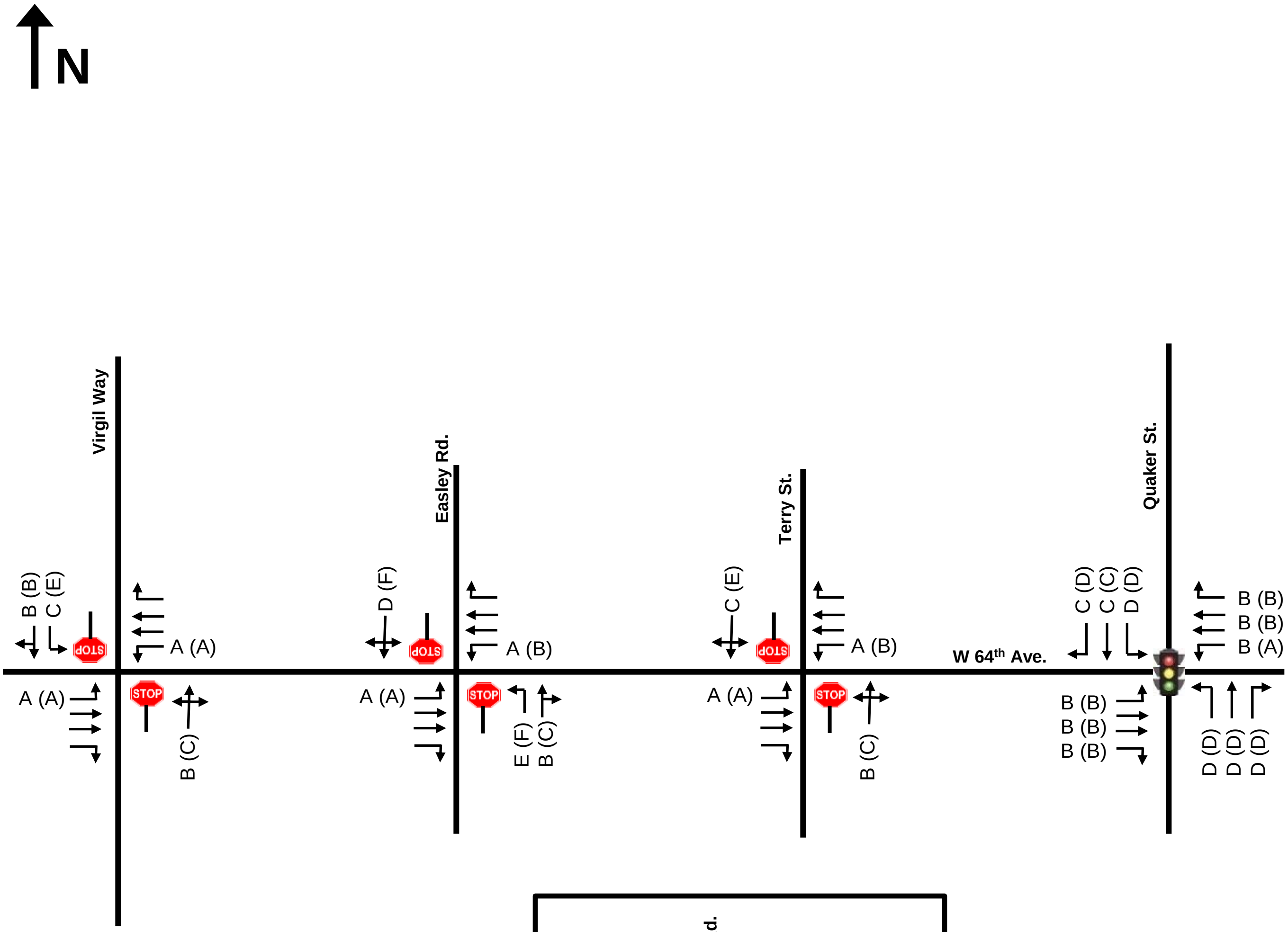
Avalon Arvada

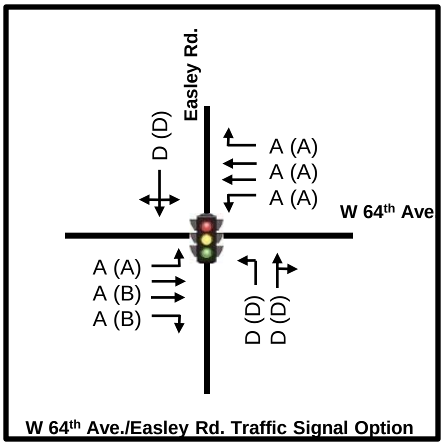
AvalonBay Communities

HKS #241061

2027 (Build-Out) Analysis Horizon Background Traffic Operational Conditions

Figure 7


N
Virgil Way
B (B)
C (E)
A (A)
A (A)
B (C)
Easley Rd.
D (F)
A (B)
A (A)
E (F)
B (C)
Terry St.
C (E)
A (B)
A (A)
B (C)
Quaker St.
W 64th Ave.
C (D)
C (C)
D (D)
B (B)
B (B)
B (A)
B (B)
B (B)
B (B)
D (D)
D (D)
D (D)
STOP


Easley Rd.
D (D)
A (A)
A (A)
A (A)
W 64th Ave
A (A)
A (B)
A (B)
D (D)
D (D)

W 64th Ave./Easley Rd. Traffic Signal Option

Legend: Drawing Not To Scale

A (B) Weekday AM (PM)
A (B) Peak Hour
A (B) Level of Service

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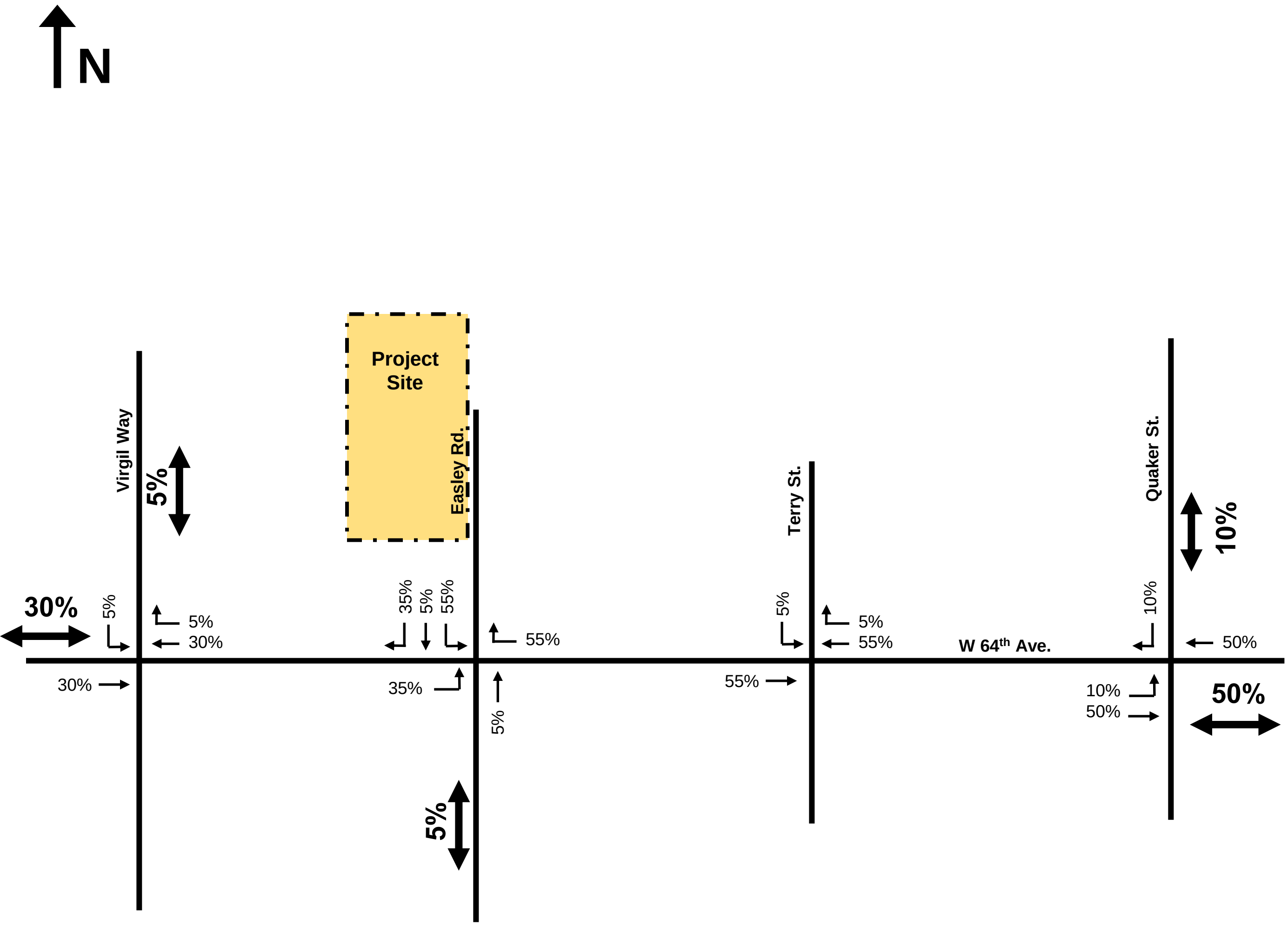
Avalon Arvada
AvalonBay Communities
HKS #241061

2047 (Long-Term) Analysis Horizon Background Traffic Operational Conditions

Figure 8


N
Project Site
Virgil Way
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
30%
5%
5%
10%
50%
5%
5%
30%
30%
35%
5%
55%
35%
55%
5%
5%
5%
55%
55%
10%
50%
10%
50%

Legend:

Drawing Not To Scale

↔ **XX%** Site-Generated Trip Distribution

Site Generated Trip Distribution

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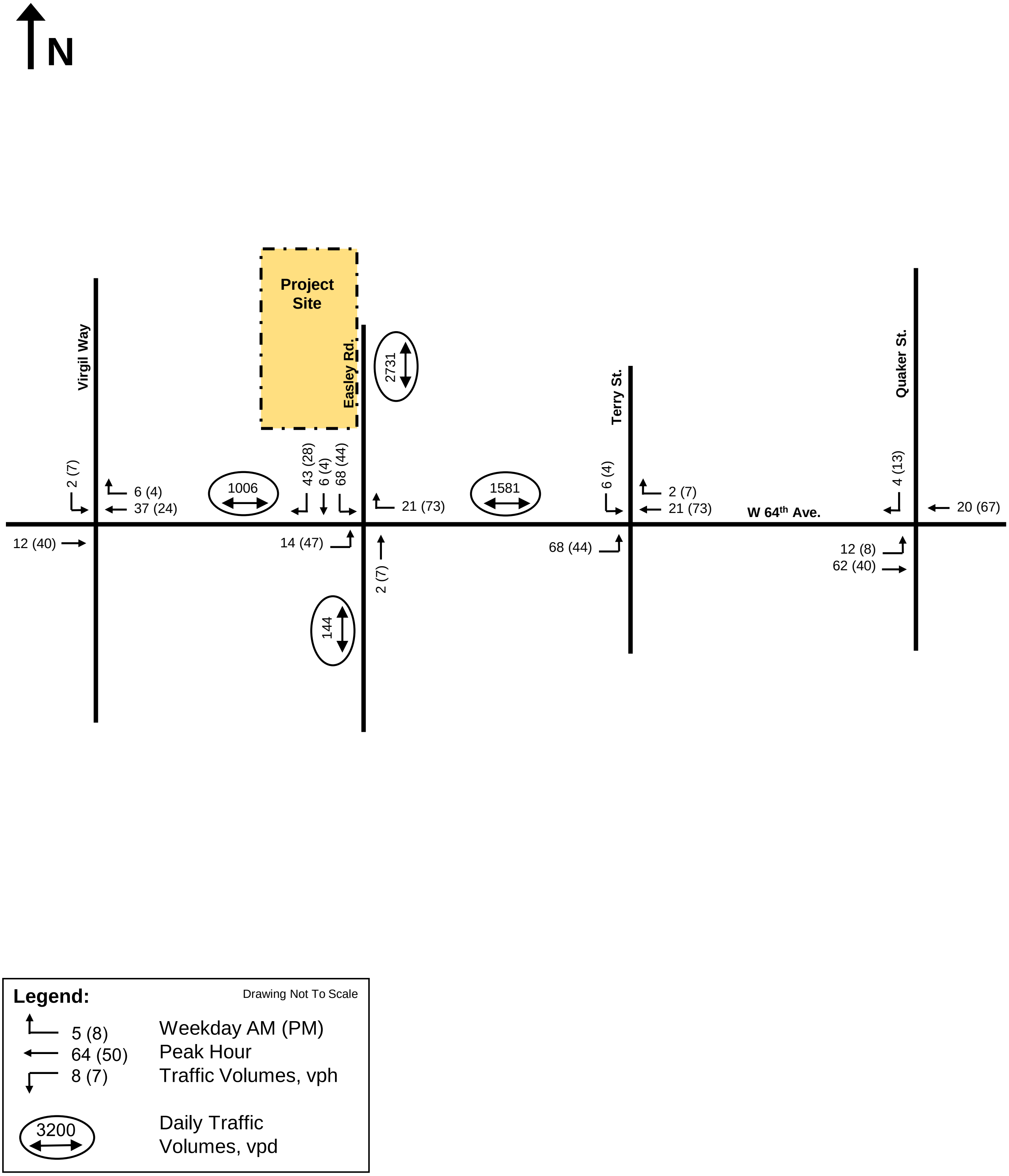
Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 9


N
Project Site
Virgil Way
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
2731
1006
1581
144
2 (7)
6 (4)
37 (24)
12 (40)
43 (28)
6 (4)
68 (44)
14 (47)
21 (73)
2 (7)
6 (4)
2 (7)
21 (73)
68 (44)
4 (13)
20 (67)
12 (8)
62 (40)
Legend:
Drawing Not To Scale
5 (8)
64 (50)
8 (7)
Weekday AM (PM)
Peak Hour
Traffic Volumes, vph
3200
Daily Traffic
Volumes, vpd

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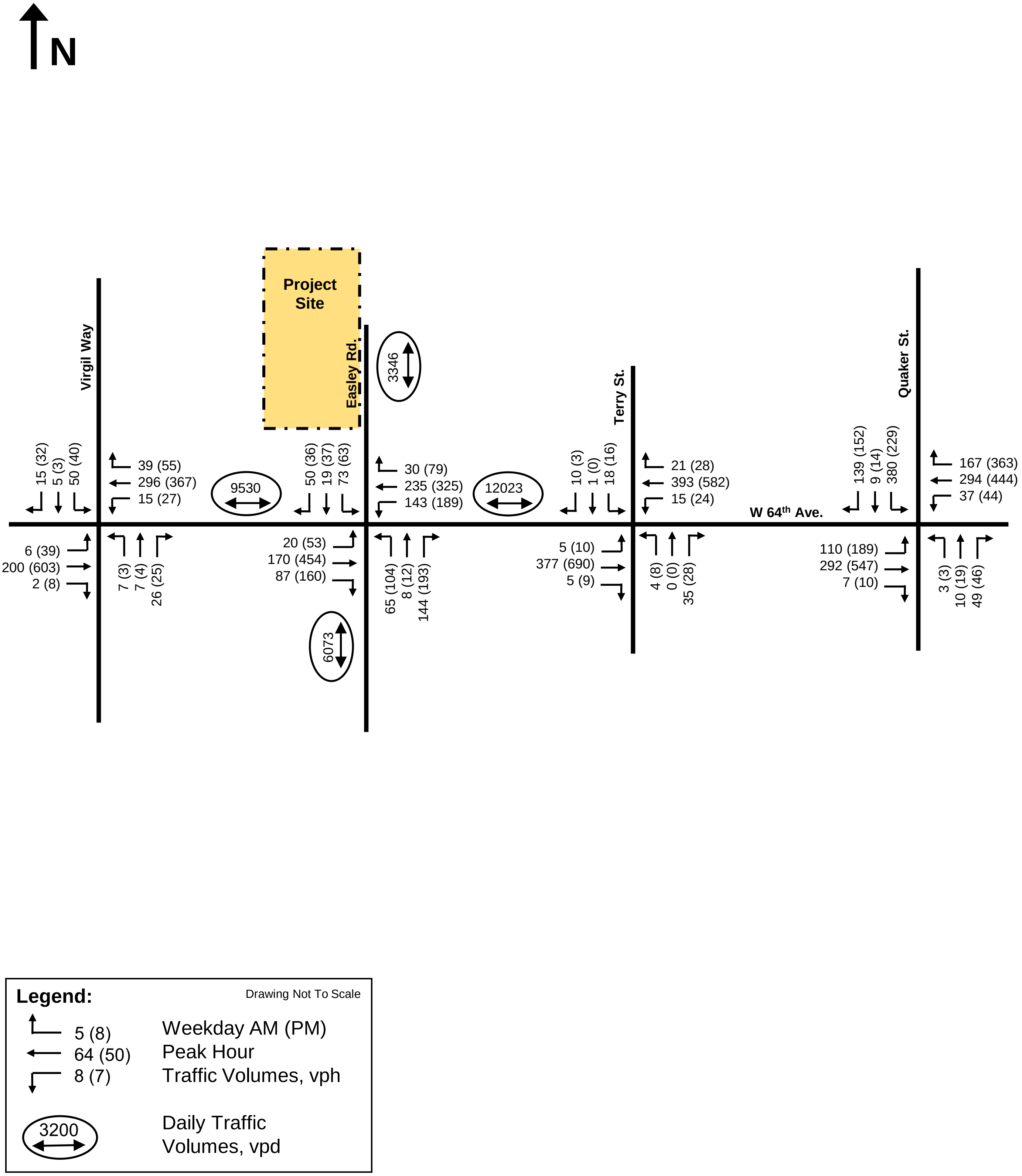
Site Generated Trip Assignment

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 10


N
Project Site
Virgil Way
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
3346
9530
12023
6073
15 (32)
5 (3)
50 (40)
39 (55)
296 (367)
15 (27)
6 (39)
200 (603)
2 (8)
7 (3)
7 (4)
26 (25)
50 (36)
19 (37)
73 (63)
30 (79)
235 (325)
143 (189)
20 (53)
170 (454)
87 (160)
65 (104)
8 (12)
144 (193)
10 (3)
1 (0)
18 (16)
21 (28)
393 (582)
15 (24)
5 (10)
377 (690)
5 (9)
4 (8)
0 (0)
35 (28)
139 (152)
9 (14)
380 (229)
167 (363)
294 (444)
37 (44)
110 (189)
292 (547)
7 (10)
3 (3)
10 (19)
49 (46)
Legend:
Drawing Not To Scale
5 (8)
64 (50)
8 (7)
Weekday AM (PM) Peak Hour Traffic Volumes, vph
3200
Daily Traffic Volumes, vpd

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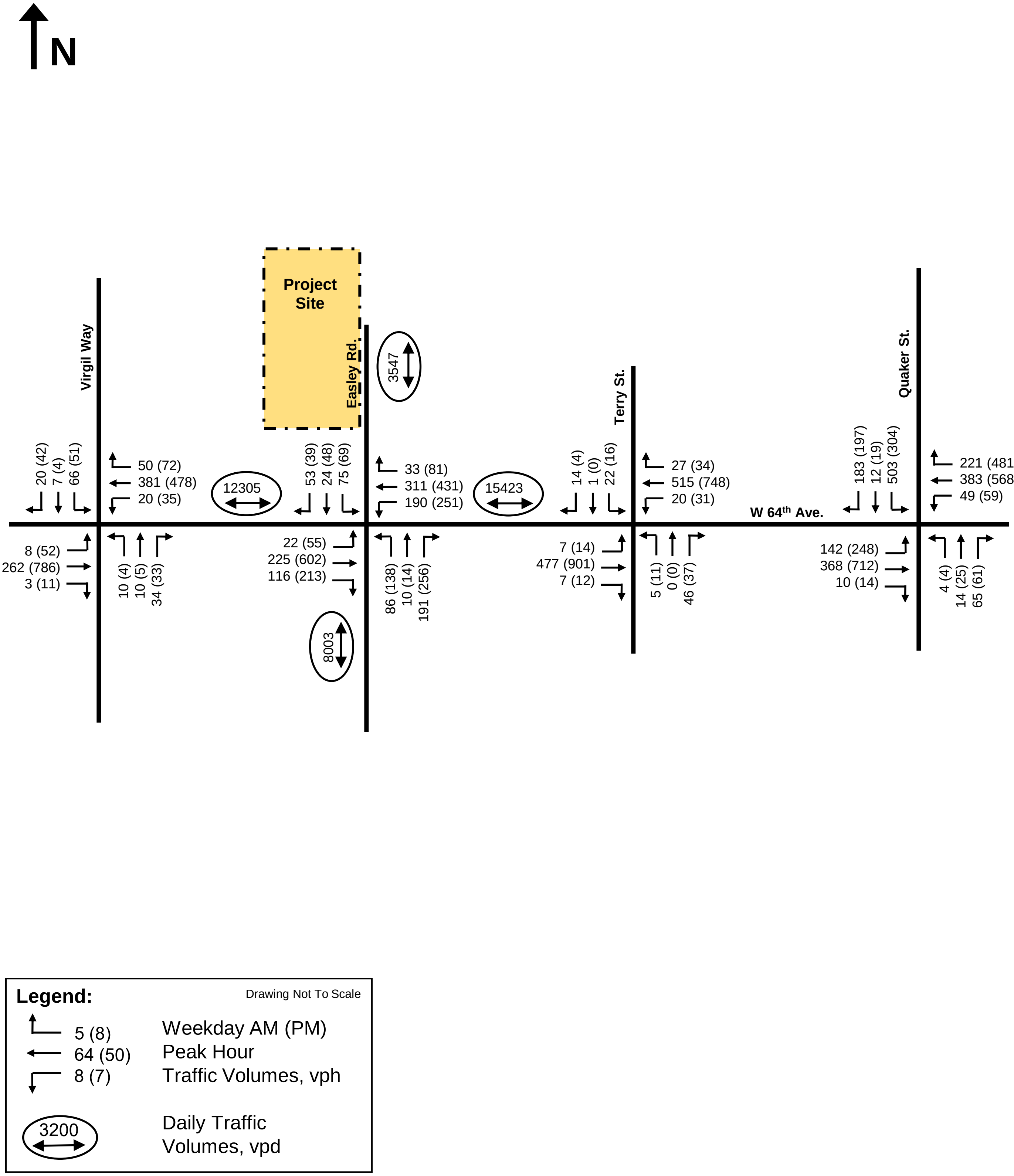
Avalon Arvada
AvalonBay Communities
HKS #241061

2027 (Build-Out) Analysis Horizon Total Traffic Volumes (Background + Site Generated)

Figure 11


N
Project Site
Virgil Way
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
3547
12305
15423
8003
20 (42)
7 (4)
66 (51)
50 (72)
381 (478)
20 (35)
8 (52)
262 (786)
3 (11)
10 (4)
10 (5)
34 (33)
53 (39)
24 (48)
75 (69)
33 (81)
311 (431)
190 (251)
22 (55)
225 (602)
116 (213)
86 (138)
10 (14)
191 (256)
14 (4)
1 (0)
22 (16)
27 (34)
515 (748)
20 (31)
7 (14)
477 (901)
7 (12)
5 (11)
0 (0)
46 (37)
183 (197)
12 (19)
503 (304)
221 (481)
383 (568)
49 (59)
142 (248)
368 (712)
10 (14)
4 (4)
14 (25)
65 (61)
Legend:
Drawing Not To Scale
5 (8)
64 (50)
8 (7)
Weekday AM (PM) Peak Hour Traffic Volumes, vph
3200
Daily Traffic Volumes, vpd

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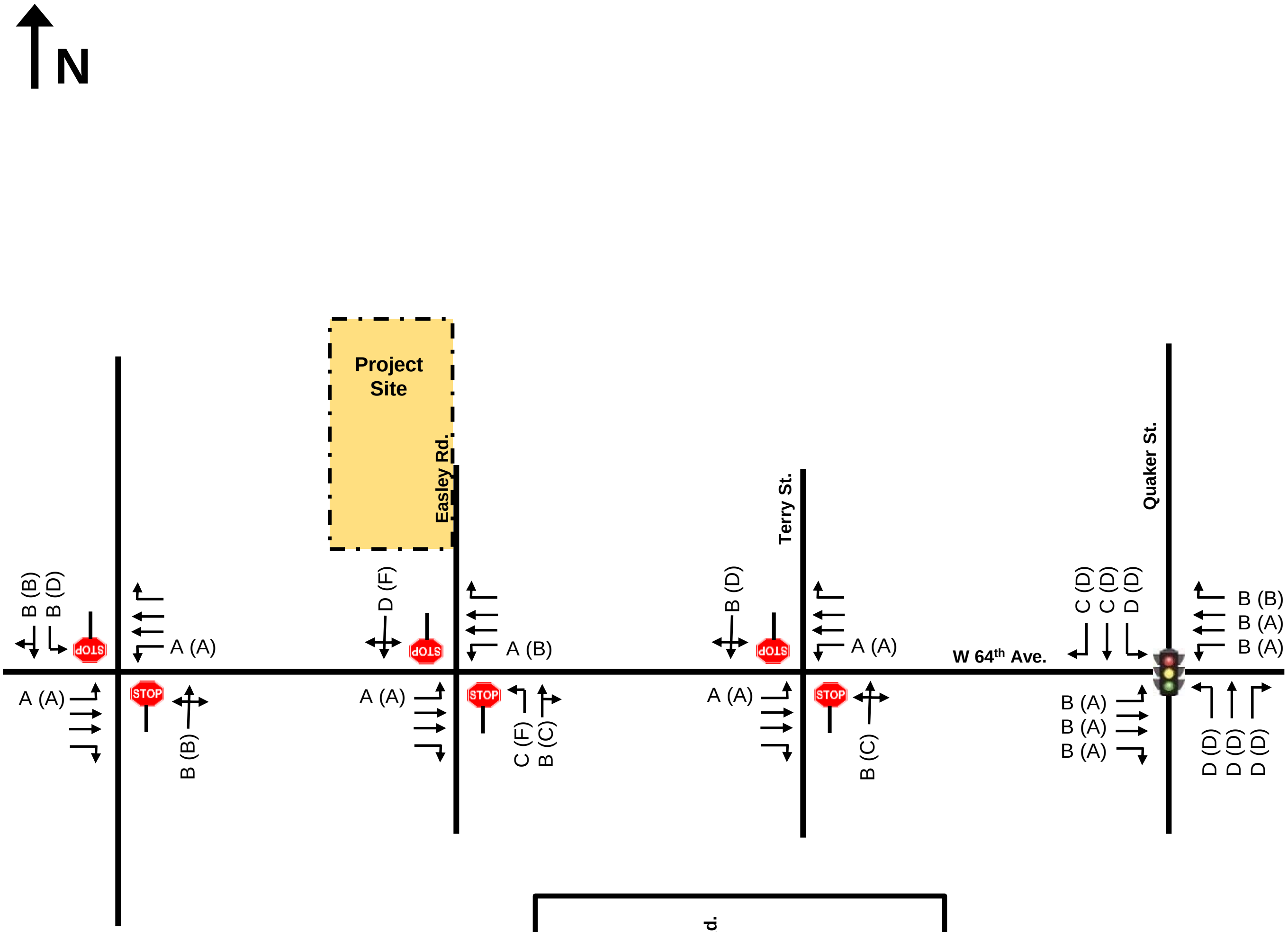
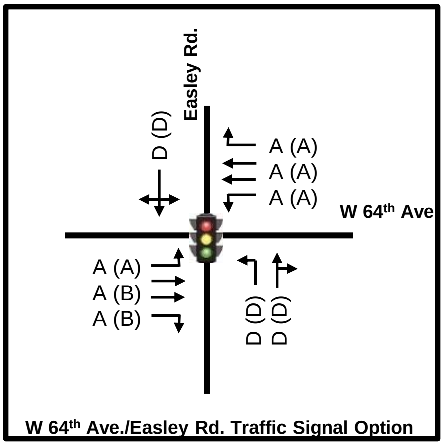
Avalon Arvada
AvalonBay Communities
HKS #241061

2047 (Long-Term) Analysis Horizon Total Traffic Volumes (Background + Site Generated)

Figure 12


N
Project Site
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
STOP
B (B)
B (D)
A (A)
A (A)
B (B)
D (F)
A (B)
A (A)
C (F)
B (C)
B (D)
A (A)
A (A)
B (C)
C (D)
C (D)
D (D)
B (B)
B (A)
B (A)
B (A)
B (A)
B (A)
D (D)
D (D)
D (D)


Easley Rd.
D (D)
A (A)
A (A)
A (A)
W 64th Ave
A (A)
A (B)
A (B)
D (D)
D (D)

W 64th Ave./Easley Rd. Traffic Signal Option

Legend:

Drawing Not To Scale

↰	A (B)	Weekday AM (PM)
←	A (B)	Peak Hour
↲	A (B)	Level of Service

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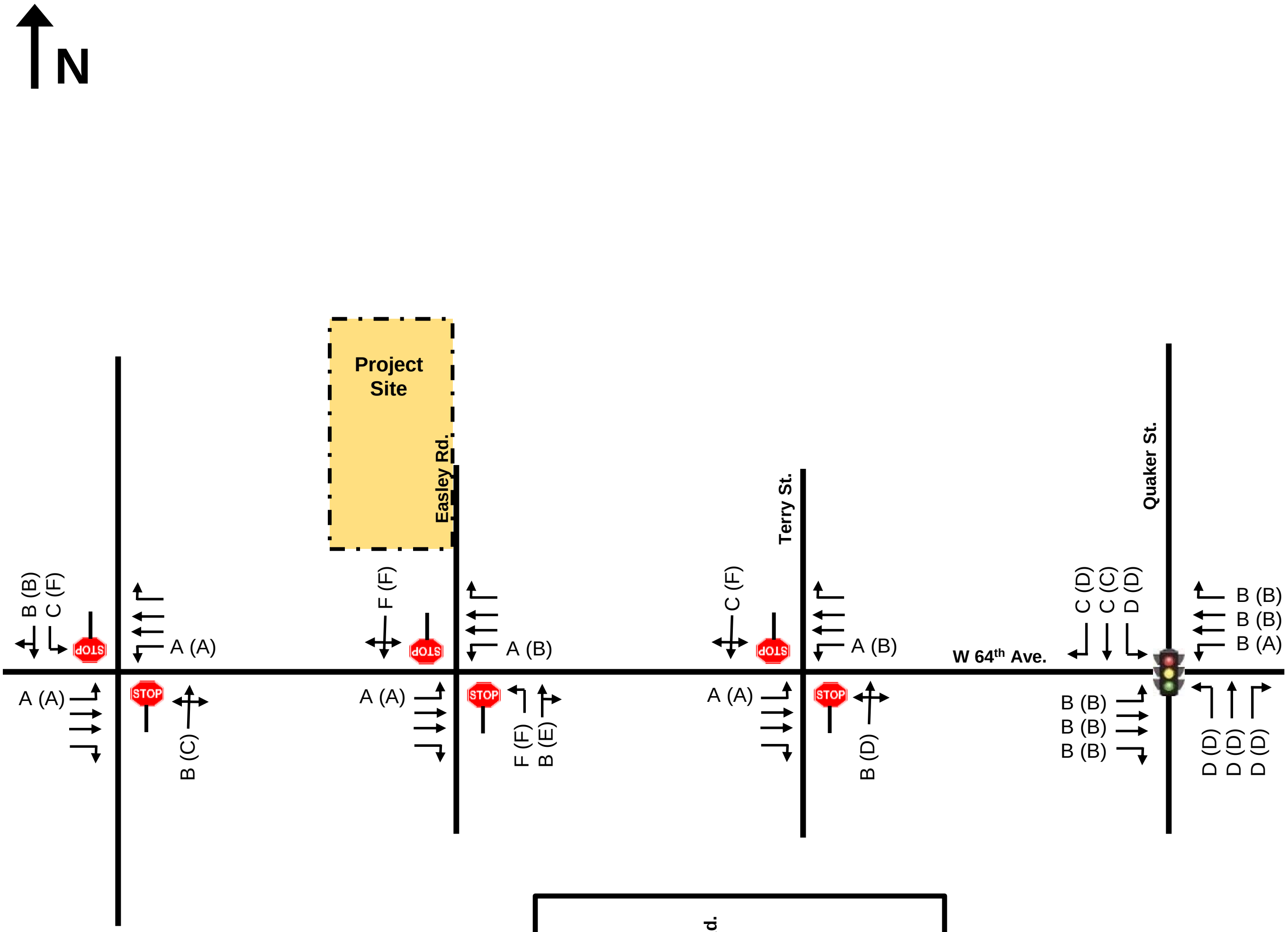
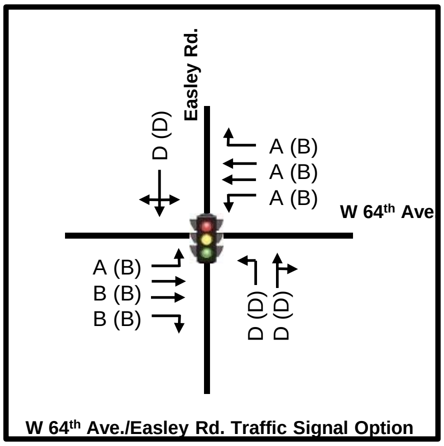
2027 (Build-Out) Analysis Horizon Total Traffic Operational Conditions

Avalon Arvada
AvalonBay Communities
HKS #241061

Figure 13


N
Project Site
Easley Rd.
Terry St.
Quaker St.
W 64th Ave.
B (B)
C (F)
STOP
A (A)
A (A)
STOP
B (C)
F (F)
STOP
A (B)
A (A)
STOP
F (F)
B (E)
C (F)
STOP
A (B)
A (A)
STOP
B (D)
C (D)
C (C)
D (D)
B (B)
B (B)
B (A)
B (B)
B (B)
B (B)
D (D)
D (D)
D (D)


Easley Rd.
D (D)
A (B)
A (B)
A (B)
W 64th Ave
A (B)
B (B)
B (B)
D (D)
D (D)

W 64th Ave./Easley Rd. Traffic Signal Option

Legend:

Drawing Not To Scale

A (B)
A (B)
A (B)

Weekday AM (PM)
Peak Hour
Level of Service

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Avalon Arvada

AvalonBay Communities
HKS #241061

2047 (Long-Term) Analysis Horizon Total Traffic Operational Conditions

Figure 14

APPENDIX “A”

CITY OF ARVADA APPROVED TIS BASE ASSUMPTIONS FORM

City of Arvada Traffic Impact Analysis (TIA) - Base Assumptions Form

(Updated March 2022)

Project Information				
Project Name	AV Arvada-Welby Gardens			
Project Address	17201 W 64th Ave. Arvada, CO 80007			
Project Number	PA2024-0174			
TIA Assumptions				
Study Boundaries	**North**	Ralston Creek	**South**	W 64th Ave.
	East	Easley Rd.	**West**	Umber Cir.
Study Years	**Short Range**	2027	**Long Range**	2047
Future Traffic Growth Rates	**Short Range**	1.42 **%**	**Long Range**	1.42 **%**
	Justification	Based on DRCOG Models, See attached calculations		
Study Intersections	**1**	W 64th Ave. & Virgil Way	**5**	
	2	W 64th Ave. & Easley Rd.	**6**	
	3	W 64th Ave. & Terry St.	**7**	
	4	W 64th Ave. & Quaker St.	**8**	
Time Period for Study	**AM**	7:00-9:00	**PM**	4:00-6:00
	Weekends		**Other**	
Trip Generation Rates	**Rates?**	See Attached	**Equations?**	
Trip Adjustment Factors	**Passby**	N/A	**Captive Market**	
Overall Trip Distribution	**See Attachment**			
Mode Split Assumptions	N/A			
Committed Roadway Improvements	TBD			

City of Arvada Traffic Impact Analysis (TIA) - Base Assumptions Form

(Updated March 2022)

Other Traffic Studies	N/A
Areas Requiring Special Study	Traffic Signal Warrant Analysis at W 64th Ave & Easley Rd. intersection

Benjamin Leech — Benjamin Leech — 01/06/2024

Name — Signature — Date

Applicant Representative

ENGINEERING

APPROVED

CITY OF ARVADA

fmartone 01/06/2025

REVIEWER DATE

City of Arvada Acceptance

Traffic Growth Rate Calculations

DRCOG 2020 Traffic Volume Model:

- 64th Ave just west of Virgil Way: 10
- 64th Ave just west of Quaker St: 13

DRCOG 2050 Traffic Volume Model:

- 64th Ave just west of Virgil Way: 16
- 64th Ave just west of Quaker St: 19

Using the equation, $y=x(1+i)^n$ where n = 30 years, the following growth rates were determined:

- 64th Ave just west of Virgil Way: $16=10(1+i)^{30}$, $i = 0.0157$ or 1.57%
- 64th Ave just west of Quaker St: $19=13(1+i)^{30}$, $i = 0.0127$ or 1.27%

Since the proposed project site is located between Virgil Way and Quaker St, the average of the two growth rates was found and determined to be **1.42%**. Therefore, it is proposed that a 1.42% growth rate is used for this study.

Avalon Arvada

Arvada, CO

HKS Project No. 241061

Avalon Arvada Development Trip Generation

Land Use	Intensity		ITE Code	Daily (vpd)	AM Peak Hour (vph)					PM Peak Hour (vph)				
					Total	% In	% Out	In	Out	Total	% In	% Out	In	Out
Multifamily Housing (Low-Rise)	394	DU	220	2601	145	24%	76%	35	110	190	63%	37%	120	70
Single-Family Attached Housing (Townhomes)	51	DU	215	338	21	25%	75%	5	16	27	59%	41%	16	11
Combined Total				**2,939**	**166**			**40**	**126**	**217**			**136**	**81**

Notes:

1. Trip Generation Projections are based on ITE Trip Generation, 11th Edition

Avalon Arvada Development
Arvada, Colorado

Study Area Intersections:

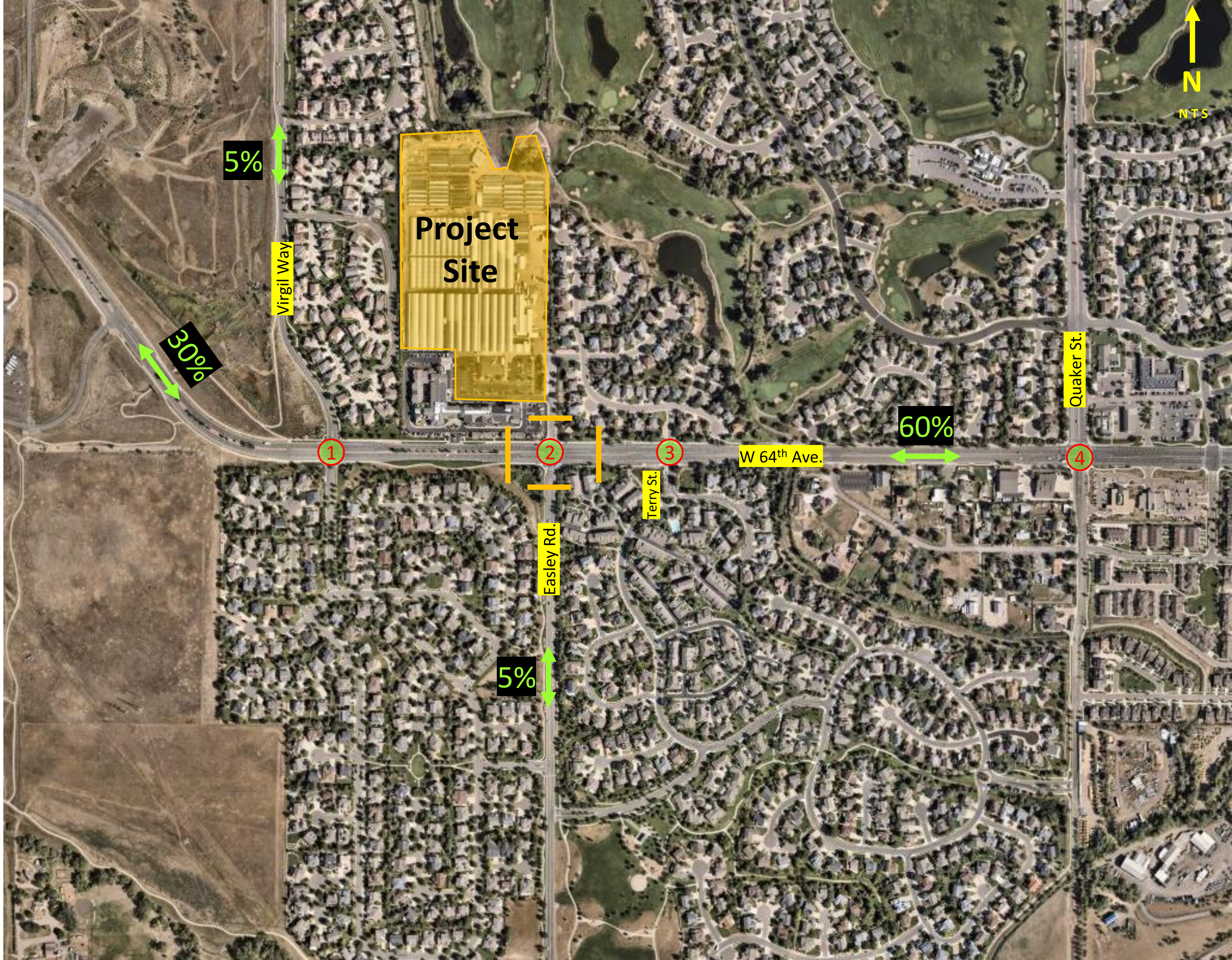
1. W 64th Ave. & Virgil Way
2. W 64th Ave. & Easley Rd.
3. W 64th Ave. & Terry St.
4. W 64th Ave. & Quaker St.

LEGEND

① = Existing Study Area Intersection & AM & PM Peak Hour TMC Locations

▮ = 24 Hour Directional Count Locations

10% ↔ = Site Generated Trip Distribution


5%
30%
Virgil Way
Project Site
1
2
3
4
W 64th Ave.
60%
Terry St.
Easley Rd.
5%
Quaker St.
N
NTS

UNIT MIX - BUILDING A

UNIT TYPE	UNIT DESCRIPTION	QTY	UNIT AREA	TOTAL AREA	MIX
A1	1 BEDROOM / 1 BATH	12	747 SF	8,964	40%
A3	1 BEDROOM / 1 BATH	2	891 SF	1,782	7%
B1	2 BEDROOM / 2 BATH	7	1,165 SF	8,155	23%
B2	2 BEDROOM / 2 BATH	4	1,293 SF	5,172	13%
B3	2 BEDROOM / 2 BATH / DEN	3	1,238 SF	3,714	10%
B4	2 BEDROOM / 2 BATH	2	1,293 SF	2,586	7%
		30		30,373	100%

UNIT MIX - BUILDING B

UNIT TYPE	UNIT DESCRIPTION	QTY	UNIT AREA	TOTAL AREA	MIX
S1	STUDIO	4	575 SF	2,300	13%
A1	1 BEDROOM / 1 BATH	8	747 SF	5,976	27%
A5	1 BEDROOM / 1 BATH	6	844 SF	5,064	20%
B1	2 BEDROOM / 2 BATH	3	1,165 SF	3,495	10%
B3	2 BEDROOM / 2 BATH / DEN	3	1,238 SF	3,714	10%
B7	2 BEDROOM / 2 BATH	2	1,213 SF	2,426	7%
C1	3 BEDROOM / 2 BATH	4	1,506 SF	6,024	13%
		30		28,999	100%

UNIT MIX - BUILDING C

UNIT TYPE	UNIT DESCRIPTION	QTY	UNIT AREA	TOTAL AREA	MIX
A2	1 BEDROOM / 1 BATH	6	822 SF	4,932	14%
A4	1 BEDROOM / 1 BATH / DEN	3	899 SF	2,697	7%
AM19-D	1 BEDROOM / 1 BATH / DEN	6	942 SF	5,652	14%
AM19-D1	1 BEDROOM / 1 BATH / DEN	3	931 SF	2,793	7%
B5	2 BEDROOM / 2 BATH	8	1,261 SF	10,088	19%
B6	2 BEDROOM / 2 BATH	6	1,261 SF	7,566	14%
BM08	2 BEDROOM / 2 BATH	4	1,095 SF	4,380	10%
BM08-B	2 BEDROOM / 2 BATH	6	1,090 SF	6,540	14%
		42		44,648	100%

LEGEND

🟧	AMENITY OR LEASING
🟨	RESIDENTIAL UNIT
▨	CARPORT / BOH
▭	CIRCULATION
🟫	PATIO / BALCONY

PROJECT SITE DENSITY

PARCEL NAME	LOT SIZE	AC	UNIT COUNT	DU/AC
1 - OVERALL PARCEL	874,262 SF	20.1 acres	411	20.5
2 - MULTIFAMILY	706,427 SF	16.2 acres	384	23.7
3 - TOWNHOMES	167,836 SF	3.9 acres	51	13.2

PROJECT OVERALL AREA INFO

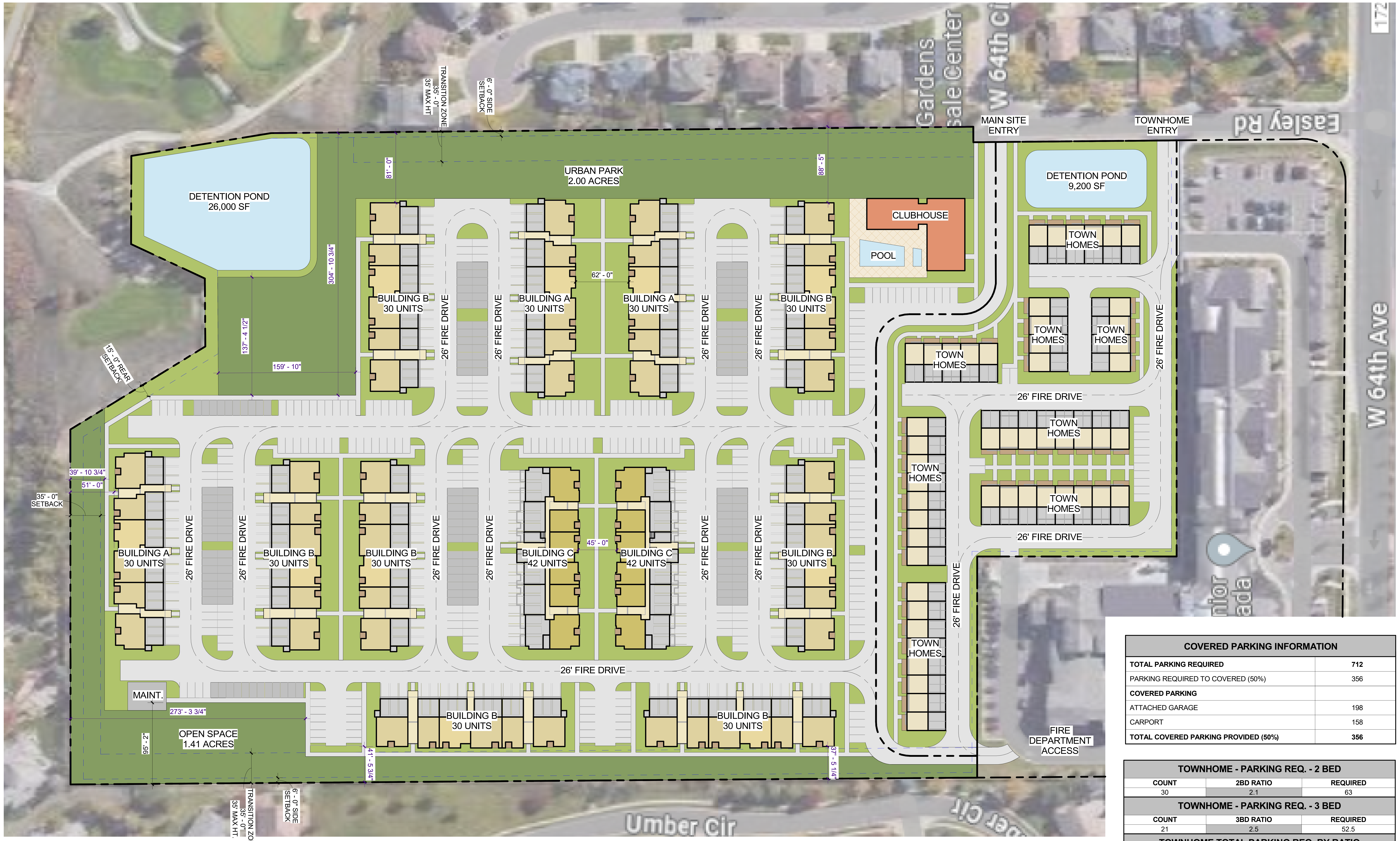
AMENITY	6,096 SF
BALCONY - 3 STORY	5,733 SF
BALCONY - 4 STORY	3,782 SF
CARPORT	25,728 SF
CIRCULATION	34,776 SF
CORRIDOR	8,294 SF
DETENTION	35,452 SF
DRIVES / PARKING RESIDENTIAL	256,214 SF
DRIVES / PARKING TOWNHOME	48,124 SF
ELECTRICAL	198 SF
GARAGE - 3 STORY	38,765 SF
GARAGE - 4 STORY	10,003 SF
JANITOR - 4 STORY	82 SF
MAINTENANCE	1,485 SF
PARK	145,956 SF
PATIO - 3 STORY	3,414 SF
SIDEWALK - RESIDENTIAL	26,030 SF
SIDEWALK - TOWNHOMES	8,859 SF
STORAGE - 4 STORY	258 SF
TELECOM	285 SF
TOWNHOME	44,527 SF
TOWNHOME GARAGE	22,433 SF
TOWNHOME PATIO	5,661 SF
UNIT	383,431 SF
UTILITY	954 SF
UTILITY - 4 STORY	114 SF
GRAND TOTAL GSF	1,116,654 SF

OVERALL UNIT MIX - APARTMENT

UNIT TYPE	UNIT DESCRIPTION	COUNT	UNIT AREA	TOTAL AREA	MIX
S1	STUDIO	28	575 SF	16,100 SF	7.3%
		28		16,100 SF	7.3%
A1	1 BEDROOM / 1 BATH	92	747 SF	68,724 SF	24.0%
A2	1 BEDROOM / 1 BATH	12	822 SF	9,864 SF	3.1%
A3	1 BEDROOM / 1 BATH	6	890 SF	5,340 SF	1.6%
A4	1 BEDROOM / 1 BATH / DEN	6	898 SF	5,388 SF	1.6%
A5	1 BEDROOM / 1 BATH	42	844 SF	35,448 SF	10.9%
AM19-D	1 BEDROOM / 1 BATH / DEN	12	941 SF	11,292 SF	3.1%
AM19-D1	1 BEDROOM / 1 BATH / DEN	6	930 SF	5,580 SF	1.6%
		176		141,636 SF	45.8%
B1	2 BEDROOM / 2 BATH	42	1165 SF	48,930 SF	10.9%
B2	2 BEDROOM / 2 BATH	12	1292 SF	15,504 SF	3.1%
B3	2 BEDROOM / 2 BATH / DEN	30	1237 SF	37,110 SF	7.8%
B4	2 BEDROOM / 2 BATH	6	1292 SF	7,752 SF	1.6%
B5	2 BEDROOM / 2 BATH	16	1260 SF	20,160 SF	4.2%
B6	2 BEDROOM / 2 BATH	12	1260 SF	15,120 SF	3.1%
B7	2 BEDROOM / 2 BATH	14	1212 SF	16,968 SF	3.6%
BM08	2 BEDROOM / 2 BATH	8	1095 SF	8,760 SF	2.1%
BM08-B	2 BEDROOM / 2 BATH	12	1090 SF	13,080 SF	3.1%
		152		183,384 SF	39.6%
C1	3 BEDROOM / 2 BATH	28	1506 SF	42,168 SF	7.3%
		28		42,168 SF	7.3%
GRAND TOTAL: 384		384		383,288 SF	100.0%

OVERALL UNIT MIX - TOWNHOME

UNIT TYPE	UNIT DESCRIPTION	Count	UNIT AREA	TOTAL AREA	MIX
T2	2 BEDROOM / 2.5 BATH	30	1319 SF	39,570 SF	58.8%
		30		39,570 SF	58.8%
T3	3 BEDROOM / 2.5 BATH	21	1516 SF	31,836 SF	41.2%
		21		31,836 SF	41.2%
GRAND TOTAL: 51		51		71,406 SF	100.0%



COVERED PARKING INFORMATION

TOTAL PARKING REQUIRED	**712**
PARKING REQUIRED TO COVERED (50%)	356
COVERED PARKING	
ATTACHED GARAGE	198
CARPORT	158
TOTAL COVERED PARKING PROVIDED (50%)	**356**

TOWNHOME - PARKING REQ. - 2 BED

COUNT	2BD RATIO	REQUIRED
30	2.1	63

TOWNHOME - PARKING REQ. - 3 BED

COUNT	3BD RATIO	REQUIRED
21	2.5	52.5

TOWNHOME TOTAL PARKING REQ. BY RATIO

TOTAL PARKING REQUIRED
116

RESIDENTIAL - PARKING PROVIDED - TOWNHOME

PARKING TYPE	COUNT
GARAGE PARKING (TH)	102
SURFACE PARKING (TH)	15
GRAND TOTAL	117

PARKING REQ - STUDIO

COUNT	STUDIO PARKING RATIO	REQUIRED
28	1.4	39.2

APARTMENT - PARKING REQ - 1 BED

COUNT	1BR RATIO	REQUIRED
176	1.6	281.6

APARTMENT - PARKING REQ. - 2 BED

COUNT	2BD RATIO	REQUIRED
152	2.1	319.2

APT - PARKING REQ. - 3 BED

COUNT	3BD RATIO	REQUIRED
28	2.5	70

APARTMENT TOTAL PARKING REQ. BY RATIO

TOTAL PARKING REQ.
712

RESIDENTIAL - PARKING PROVIDED - APARTMENT

PARKING TYPE	COUNT
CARPORT	158
GARAGE PARKING	198
SURFACE PARKING	244
TANDEM	196
GRAND TOTAL	796

RESIDENTIAL PARKING RATIO

COUNT	UNIT COUNT	PARKING PER UNIT	BED COUNT	PARKING PER BED
796	384	2.07	592	1.34

SCALE: 1" = 60'
0 60'
N

studio PBA

AvalonBay
COMMUNITIES

AVALON WELBY CENTER

ARVADA, COLORADO
VERSION 12

SCHEMATIC SITE PLAN - AVALON

04/01/2025

APPENDIX “B”

2025 EXISTING
TRAFFIC VOLUME COUNTS

10 - EASLEY RD SOUTH OF W 64TH AVE

Time	NB	SB	Total
4/22/2025	3	0	3
4/22/2025 12:15:00 AM	1	2	3
4/22/2025 12:30:00 AM	1	2	3
4/22/2025 12:45:00 AM	1	2	3
4/22/2025 1:00:00 AM	0	0	0
4/22/2025 1:15:00 AM	1	0	1
4/22/2025 1:30:00 AM	0	0	0
4/22/2025 1:45:00 AM	0	0	0
4/22/2025 2:00:00 AM	0	0	0
4/22/2025 2:15:00 AM	0	0	0
4/22/2025 2:30:00 AM	0	1	1
4/22/2025 2:45:00 AM	0	0	0
4/22/2025 3:00:00 AM	0	0	0
4/22/2025 3:15:00 AM	1	1	2
4/22/2025 3:30:00 AM	0	0	0
4/22/2025 3:45:00 AM	5	0	5
4/22/2025 4:00:00 AM	1	2	3
4/22/2025 4:15:00 AM	1	2	3
4/22/2025 4:30:00 AM	3	1	4
4/22/2025 4:45:00 AM	2	4	6
4/22/2025 5:00:00 AM	9	3	12
4/22/2025 5:15:00 AM	6	9	15
4/22/2025 5:30:00 AM	11	12	23
4/22/2025 5:45:00 AM	5	11	16
4/22/2025 6:00:00 AM	15	18	33
4/22/2025 6:15:00 AM	13	20	33
4/22/2025 6:30:00 AM	21	28	49
4/22/2025 6:45:00 AM	40	39	79
4/22/2025 7:00:00 AM	38	48	86
4/22/2025 7:15:00 AM	35	56	91
4/22/2025 7:30:00 AM	35	68	103
4/22/2025 7:45:00 AM	54	73	127
4/22/2025 8:00:00 AM	54	64	118
4/22/2025 8:15:00 AM	35	55	90
4/22/2025 8:30:00 AM	56	45	101
4/22/2025 8:45:00 AM	47	53	100
4/22/2025 9:00:00 AM	35	50	85
4/22/2025 9:15:00 AM	32	47	79
4/22/2025 9:30:00 AM	29	37	66
4/22/2025 9:45:00 AM	25	29	54
4/22/2025 10:00:00 AM	31	43	74
4/22/2025 10:15:00 AM	36	32	68
4/22/2025 10:30:00 AM	32	49	81
4/22/2025 10:45:00 AM	38	28	66
4/22/2025 11:00:00 AM	30	30	60
4/22/2025 11:15:00 AM	29	32	61
4/22/2025 11:30:00 AM	39	30	69
4/22/2025 11:45:00 AM	38	29	67
Total	888	1,055	1,943
Percentage	45.7%	54.3%	
Peak Hour	7:45 AM	7:15 AM	7:15 AM
Volume	199	261	439
PHF	0.888	0.894	0.864

All Traffic Data Services

10 - EASLEY RD SOUTH OF W 64TH AVE

Time	NB	SB	Total
4/22/2025 12:00:00 PM	40	39	79
4/22/2025 12:15:00 PM	30	38	68
4/22/2025 12:30:00 PM	33	34	67
4/22/2025 12:45:00 PM	37	47	84
4/22/2025 1:00:00 PM	30	35	65
4/22/2025 1:15:00 PM	31	44	75
4/22/2025 1:30:00 PM	45	39	84
4/22/2025 1:45:00 PM	40	43	83
4/22/2025 2:00:00 PM	40	27	67
4/22/2025 2:15:00 PM	35	47	82
4/22/2025 2:30:00 PM	26	45	71
4/22/2025 2:45:00 PM	47	42	89
4/22/2025 3:00:00 PM	54	37	91
4/22/2025 3:15:00 PM	43	55	98
4/22/2025 3:30:00 PM	35	67	102
4/22/2025 3:45:00 PM	53	79	132
4/22/2025 4:00:00 PM	73	55	128
4/22/2025 4:15:00 PM	90	61	151
4/22/2025 4:30:00 PM	61	79	140
4/22/2025 4:45:00 PM	84	76	160
4/22/2025 5:00:00 PM	63	97	160
4/22/2025 5:15:00 PM	75	95	170
4/22/2025 5:30:00 PM	72	86	158
4/22/2025 5:45:00 PM	84	91	175
4/22/2025 6:00:00 PM	53	111	164
4/22/2025 6:15:00 PM	46	75	121
4/22/2025 6:30:00 PM	29	60	89
4/22/2025 6:45:00 PM	36	60	96
4/22/2025 7:00:00 PM	48	75	123
4/22/2025 7:15:00 PM	41	53	94
4/22/2025 7:30:00 PM	27	62	89
4/22/2025 7:45:00 PM	28	34	62
4/22/2025 8:00:00 PM	23	36	59
4/22/2025 8:15:00 PM	21	39	60
4/22/2025 8:30:00 PM	20	28	48
4/22/2025 8:45:00 PM	11	35	46
4/22/2025 9:00:00 PM	15	36	51
4/22/2025 9:15:00 PM	15	15	30
4/22/2025 9:30:00 PM	14	16	30
4/22/2025 9:45:00 PM	11	9	20
4/22/2025 10:00:00 PM	5	7	12
4/22/2025 10:15:00 PM	6	7	13
4/22/2025 10:30:00 PM	2	3	5
4/22/2025 10:45:00 PM	2	5	7
4/22/2025 11:00:00 PM	3	5	8
4/22/2025 11:15:00 PM	2	2	4
4/22/2025 11:30:00 PM	3	5	8
4/22/2025 11:45:00 PM	0	1	1
Total	1,682	2,137	3,819
Percentage	44.0%	56.0%	
Peak Hour	4:00 PM	5:15 PM	5:15 PM
Volume	310	387	674
PHF	0.861	0.872	0.963
Grand Total	2,570	3,192	5,762
Percentage	44.6%	55.4%	

All Traffic Data Services

11 - EASLEY RD NORTH OF W 64TH AVE

Time	NB	SB	Total
4/22/2025	2	0	2
4/22/2025 12:15:00 AM	0	0	0
4/22/2025 12:30:00 AM	0	0	0
4/22/2025 12:45:00 AM	0	0	0
4/22/2025 1:00:00 AM	0	0	0
4/22/2025 1:15:00 AM	0	0	0
4/22/2025 1:30:00 AM	0	0	0
4/22/2025 1:45:00 AM	0	1	1
4/22/2025 2:00:00 AM	0	0	0
4/22/2025 2:15:00 AM	0	0	0
4/22/2025 2:30:00 AM	0	0	0
4/22/2025 2:45:00 AM	0	0	0
4/22/2025 3:00:00 AM	0	0	0
4/22/2025 3:15:00 AM	0	0	0
4/22/2025 3:30:00 AM	0	0	0
4/22/2025 3:45:00 AM	0	0	0
4/22/2025 4:00:00 AM	0	0	0
4/22/2025 4:15:00 AM	0	0	0
4/22/2025 4:30:00 AM	1	0	1
4/22/2025 4:45:00 AM	0	1	1
4/22/2025 5:00:00 AM	0	0	0
4/22/2025 5:15:00 AM	1	1	2
4/22/2025 5:30:00 AM	0	2	2
4/22/2025 5:45:00 AM	1	2	3
4/22/2025 6:00:00 AM	1	2	3
4/22/2025 6:15:00 AM	7	0	7
4/22/2025 6:30:00 AM	16	3	19
4/22/2025 6:45:00 AM	28	4	32
4/22/2025 7:00:00 AM	12	2	14
4/22/2025 7:15:00 AM	12	5	17
4/22/2025 7:30:00 AM	6	4	10
4/22/2025 7:45:00 AM	7	8	15
4/22/2025 8:00:00 AM	1	8	9
4/22/2025 8:15:00 AM	6	4	10
4/22/2025 8:30:00 AM	7	5	12
4/22/2025 8:45:00 AM	12	7	19
4/22/2025 9:00:00 AM	5	3	8
4/22/2025 9:15:00 AM	4	3	7
4/22/2025 9:30:00 AM	9	1	10
4/22/2025 9:45:00 AM	7	5	12
4/22/2025 10:00:00 AM	4	2	6
4/22/2025 10:15:00 AM	6	8	14
4/22/2025 10:30:00 AM	4	5	9
4/22/2025 10:45:00 AM	9	4	13
4/22/2025 11:00:00 AM	5	7	12
4/22/2025 11:15:00 AM	3	2	5
4/22/2025 11:30:00 AM	4	10	14
4/22/2025 11:45:00 AM	7	12	19
Total	187	121	308
Percentage	60.7%	39.3%	
Peak Hour	6:30 AM	11:00 AM	6:30 AM
Volume	68	31	82
PHF	0.607	0.646	0.641

11 - EASLEY RD NORTH OF W 64TH AVE

Time	NB	SB	Total
4/22/2025 12:00:00 PM	5	7	12
4/22/2025 12:15:00 PM	1	0	1
4/22/2025 12:30:00 PM	7	4	11
4/22/2025 12:45:00 PM	4	8	12
4/22/2025 1:00:00 PM	5	4	9
4/22/2025 1:15:00 PM	8	6	14
4/22/2025 1:30:00 PM	3	3	6
4/22/2025 1:45:00 PM	4	2	6
4/22/2025 2:00:00 PM	6	7	13
4/22/2025 2:15:00 PM	3	5	8
4/22/2025 2:30:00 PM	2	2	4
4/22/2025 2:45:00 PM	1	3	4
4/22/2025 3:00:00 PM	2	9	11
4/22/2025 3:15:00 PM	1	5	6
4/22/2025 3:30:00 PM	3	16	19
4/22/2025 3:45:00 PM	3	7	10
4/22/2025 4:00:00 PM	2	3	5
4/22/2025 4:15:00 PM	1	7	8
4/22/2025 4:30:00 PM	5	5	10
4/22/2025 4:45:00 PM	5	6	11
4/22/2025 5:00:00 PM	1	22	23
4/22/2025 5:15:00 PM	5	28	33
4/22/2025 5:30:00 PM	6	6	12
4/22/2025 5:45:00 PM	4	2	6
4/22/2025 6:00:00 PM	3	1	4
4/22/2025 6:15:00 PM	3	1	4
4/22/2025 6:30:00 PM	1	2	3
4/22/2025 6:45:00 PM	2	0	2
4/22/2025 7:00:00 PM	1	1	2
4/22/2025 7:15:00 PM	2	0	2
4/22/2025 7:30:00 PM	0	1	1
4/22/2025 7:45:00 PM	3	1	4
4/22/2025 8:00:00 PM	2	1	3
4/22/2025 8:15:00 PM	0	1	1
4/22/2025 8:30:00 PM	2	0	2
4/22/2025 8:45:00 PM	1	0	1
4/22/2025 9:00:00 PM	1	0	1
4/22/2025 9:15:00 PM	0	0	0
4/22/2025 9:30:00 PM	0	0	0
4/22/2025 9:45:00 PM	0	0	0
4/22/2025 10:00:00 PM	0	1	1
4/22/2025 10:15:00 PM	0	1	1
4/22/2025 10:30:00 PM	0	2	2
4/22/2025 10:45:00 PM	0	0	0
4/22/2025 11:00:00 PM	0	1	1
4/22/2025 11:15:00 PM	1	0	1
4/22/2025 11:30:00 PM	0	0	0
4/22/2025 11:45:00 PM	0	0	0
Total	109	181	290
Percentage	37.6%	62.4%	
Peak Hour	12:30 PM	4:45 PM	4:45 PM
Volume	24	62	79
PHF	0.750	0.554	0.598
Grand Total	296	302	598
Percentage	49.5%	50.5%	

All Traffic Data Services

8 - W 64TH AVE WEST OF EASLEY RD

Time	EB	WB	Total
4/22/2025	3	0	3
4/22/2025 12:15:00 AM	3	1	4
4/22/2025 12:30:00 AM	1	3	4
4/22/2025 12:45:00 AM	1	0	1
4/22/2025 1:00:00 AM	1	0	1
4/22/2025 1:15:00 AM	0	1	1
4/22/2025 1:30:00 AM	1	0	1
4/22/2025 1:45:00 AM	0	2	2
4/22/2025 2:00:00 AM	1	2	3
4/22/2025 2:15:00 AM	2	1	3
4/22/2025 2:30:00 AM	2	0	2
4/22/2025 2:45:00 AM	0	0	0
4/22/2025 3:00:00 AM	1	0	1
4/22/2025 3:15:00 AM	1	2	3
4/22/2025 3:30:00 AM	1	1	2
4/22/2025 3:45:00 AM	3	9	12
4/22/2025 4:00:00 AM	5	3	8
4/22/2025 4:15:00 AM	2	2	4
4/22/2025 4:30:00 AM	1	2	3
4/22/2025 4:45:00 AM	5	9	14
4/22/2025 5:00:00 AM	2	5	7
4/22/2025 5:15:00 AM	8	8	16
4/22/2025 5:30:00 AM	8	21	29
4/22/2025 5:45:00 AM	9	26	35
4/22/2025 6:00:00 AM	23	36	59
4/22/2025 6:15:00 AM	23	27	50
4/22/2025 6:30:00 AM	27	38	65
4/22/2025 6:45:00 AM	26	35	61
4/22/2025 7:00:00 AM	48	50	98
4/22/2025 7:15:00 AM	50	55	105
4/22/2025 7:30:00 AM	62	52	114
4/22/2025 7:45:00 AM	71	65	136
4/22/2025 8:00:00 AM	71	77	148
4/22/2025 8:15:00 AM	54	86	140
4/22/2025 8:30:00 AM	60	70	130
4/22/2025 8:45:00 AM	65	68	133
4/22/2025 9:00:00 AM	54	66	120
4/22/2025 9:15:00 AM	59	41	100
4/22/2025 9:30:00 AM	66	50	116
4/22/2025 9:45:00 AM	33	35	68
4/22/2025 10:00:00 AM	57	48	105
4/22/2025 10:15:00 AM	49	36	85
4/22/2025 10:30:00 AM	71	44	115
4/22/2025 10:45:00 AM	70	47	117
4/22/2025 11:00:00 AM	42	45	87
4/22/2025 11:15:00 AM	62	39	101
4/22/2025 11:30:00 AM	48	44	92
4/22/2025 11:45:00 AM	47	44	91
Total	1,299	1,296	2,595
Percentage	50.1%	49.9%	
Peak Hour	7:30 AM	8:00 AM	7:45 AM
Volume	258	301	554
PHF	0.908	0.875	0.936

8 - W 64TH AVE WEST OF EASLEY RD

Time	EB	WB	Total
4/22/2025 12:00:00 PM	66	52	118
4/22/2025 12:15:00 PM	52	42	94
4/22/2025 12:30:00 PM	71	42	113
4/22/2025 12:45:00 PM	48	53	101
4/22/2025 1:00:00 PM	54	40	94
4/22/2025 1:15:00 PM	51	46	97
4/22/2025 1:30:00 PM	51	55	106
4/22/2025 1:45:00 PM	55	34	89
4/22/2025 2:00:00 PM	39	48	87
4/22/2025 2:15:00 PM	58	54	112
4/22/2025 2:30:00 PM	61	46	107
4/22/2025 2:45:00 PM	60	46	106
4/22/2025 3:00:00 PM	65	60	125
4/22/2025 3:15:00 PM	70	50	120
4/22/2025 3:30:00 PM	79	74	153
4/22/2025 3:45:00 PM	90	101	191
4/22/2025 4:00:00 PM	99	101	200
4/22/2025 4:15:00 PM	111	120	231
4/22/2025 4:30:00 PM	147	81	228
4/22/2025 4:45:00 PM	157	113	270
4/22/2025 5:00:00 PM	164	94	258
4/22/2025 5:15:00 PM	154	98	252
4/22/2025 5:30:00 PM	138	101	239
4/22/2025 5:45:00 PM	143	133	276
4/22/2025 6:00:00 PM	169	100	269
4/22/2025 6:15:00 PM	108	81	189
4/22/2025 6:30:00 PM	108	85	193
4/22/2025 6:45:00 PM	109	77	186
4/22/2025 7:00:00 PM	126	69	195
4/22/2025 7:15:00 PM	98	61	159
4/22/2025 7:30:00 PM	105	39	144
4/22/2025 7:45:00 PM	46	30	76
4/22/2025 8:00:00 PM	45	38	83
4/22/2025 8:15:00 PM	64	24	88
4/22/2025 8:30:00 PM	33	19	52
4/22/2025 8:45:00 PM	58	20	78
4/22/2025 9:00:00 PM	61	10	71
4/22/2025 9:15:00 PM	21	13	34
4/22/2025 9:30:00 PM	5	19	24
4/22/2025 9:45:00 PM	6	11	17
4/22/2025 10:00:00 PM	6	11	17
4/22/2025 10:15:00 PM	5	7	12
4/22/2025 10:30:00 PM	6	1	7
4/22/2025 10:45:00 PM	4	2	6
4/22/2025 11:00:00 PM	6	3	9
4/22/2025 11:15:00 PM	1	1	2
4/22/2025 11:30:00 PM	5	3	8
4/22/2025 11:45:00 PM	1	2	3
Total	3,279	2,410	5,689
Percentage	57.6%	42.4%	
Peak Hour	4:30 PM	5:15 PM	5:15 PM
Volume	623	436	1,043
PHF	0.950	0.820	0.945
Grand Total	4,578	3,706	8,284
Percentage	55.3%	44.7%	

9 - W 64TH AVE EAST OF EASLEY RD

Time	EB	WB	Total
4/22/2025	4	0	4
4/22/2025 12:15:00 AM	3	2	5
4/22/2025 12:30:00 AM	0	3	3
4/22/2025 12:45:00 AM	2	2	4
4/22/2025 1:00:00 AM	1	0	1
4/22/2025 1:15:00 AM	0	0	0
4/22/2025 1:30:00 AM	1	0	1
4/22/2025 1:45:00 AM	0	1	1
4/22/2025 2:00:00 AM	0	1	1
4/22/2025 2:15:00 AM	2	1	3
4/22/2025 2:30:00 AM	2	1	3
4/22/2025 2:45:00 AM	0	0	0
4/22/2025 3:00:00 AM	1	0	1
4/22/2025 3:15:00 AM	0	1	1
4/22/2025 3:30:00 AM	1	1	2
4/22/2025 3:45:00 AM	4	5	9
4/22/2025 4:00:00 AM	3	2	5
4/22/2025 4:15:00 AM	2	3	5
4/22/2025 4:30:00 AM	2	2	4
4/22/2025 4:45:00 AM	2	7	9
4/22/2025 5:00:00 AM	8	5	13
4/22/2025 5:15:00 AM	7	10	17
4/22/2025 5:30:00 AM	8	20	28
4/22/2025 5:45:00 AM	10	32	42
4/22/2025 6:00:00 AM	18	33	51
4/22/2025 6:15:00 AM	24	42	66
4/22/2025 6:30:00 AM	31	62	93
4/22/2025 6:45:00 AM	28	60	88
4/22/2025 7:00:00 AM	52	74	126
4/22/2025 7:15:00 AM	50	83	133
4/22/2025 7:30:00 AM	66	91	157
4/22/2025 7:45:00 AM	75	87	162
4/22/2025 8:00:00 AM	84	93	177
4/22/2025 8:15:00 AM	60	114	174
4/22/2025 8:30:00 AM	81	82	163
4/22/2025 8:45:00 AM	77	91	168
4/22/2025 9:00:00 AM	60	89	149
4/22/2025 9:15:00 AM	66	64	130
4/22/2025 9:30:00 AM	70	70	140
4/22/2025 9:45:00 AM	45	53	98
4/22/2025 10:00:00 AM	61	66	127
4/22/2025 10:15:00 AM	72	53	125
4/22/2025 10:30:00 AM	78	67	145
4/22/2025 10:45:00 AM	91	63	154
4/22/2025 11:00:00 AM	59	60	119
4/22/2025 11:15:00 AM	74	55	129
4/22/2025 11:30:00 AM	78	59	137
4/22/2025 11:45:00 AM	82	65	147
Total	1,545	1,775	3,320
Percentage	46.5%	53.5%	
Peak Hour	10:30 AM	7:30 AM	8:00 AM
Volume	304	385	682
PHF	0.835	0.844	0.963

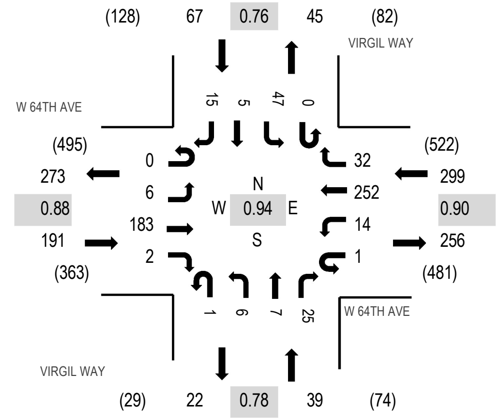
9 - W 64TH AVE EAST OF EASLEY RD

Time	EB	WB	Total
4/22/2025 12:00:00 PM	89	72	161
4/22/2025 12:15:00 PM	63	62	125
4/22/2025 12:30:00 PM	86	61	147
4/22/2025 12:45:00 PM	69	80	149
4/22/2025 1:00:00 PM	69	61	130
4/22/2025 1:15:00 PM	61	71	132
4/22/2025 1:30:00 PM	78	76	154
4/22/2025 1:45:00 PM	80	64	144
4/22/2025 2:00:00 PM	71	66	137
4/22/2025 2:15:00 PM	72	78	150
4/22/2025 2:30:00 PM	66	70	136
4/22/2025 2:45:00 PM	85	64	149
4/22/2025 3:00:00 PM	97	68	165
4/22/2025 3:15:00 PM	92	80	172
4/22/2025 3:30:00 PM	91	105	196
4/22/2025 3:45:00 PM	112	145	257
4/22/2025 4:00:00 PM	126	109	235
4/22/2025 4:15:00 PM	136	110	246
4/22/2025 4:30:00 PM	151	103	254
4/22/2025 4:45:00 PM	166	113	279
4/22/2025 5:00:00 PM	173	116	289
4/22/2025 5:15:00 PM	185	126	311
4/22/2025 5:30:00 PM	146	123	269
4/22/2025 5:45:00 PM	142	141	283
4/22/2025 6:00:00 PM	141	132	273
4/22/2025 6:15:00 PM	99	103	202
4/22/2025 6:30:00 PM	102	109	211
4/22/2025 6:45:00 PM	101	95	196
4/22/2025 7:00:00 PM	128	98	226
4/22/2025 7:15:00 PM	103	80	183
4/22/2025 7:30:00 PM	86	54	140
4/22/2025 7:45:00 PM	51	43	94
4/22/2025 8:00:00 PM	49	56	105
4/22/2025 8:15:00 PM	67	44	111
4/22/2025 8:30:00 PM	42	38	80
4/22/2025 8:45:00 PM	52	39	91
4/22/2025 9:00:00 PM	53	24	77
4/22/2025 9:15:00 PM	22	14	36
4/22/2025 9:30:00 PM	9	25	34
4/22/2025 9:45:00 PM	10	13	23
4/22/2025 10:00:00 PM	6	12	18
4/22/2025 10:15:00 PM	6	8	14
4/22/2025 10:30:00 PM	8	2	10
4/22/2025 10:45:00 PM	5	6	11
4/22/2025 11:00:00 PM	6	4	10
4/22/2025 11:15:00 PM	2	3	5
4/22/2025 11:30:00 PM	3	3	6
4/22/2025 11:45:00 PM	0	2	2
Total	3,657	3,171	6,828
Percentage	53.6%	46.4%	
Peak Hour	4:30 PM	5:15 PM	5:00 PM
Volume	677	526	1,157
PHF	0.915	0.933	0.930
Grand Total	5,202	4,946	10,148
Percentage	51.3%	48.7%	

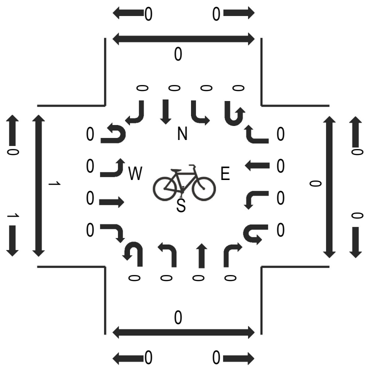
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 VIRGIL WAY & W 64TH AVE AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - Motorized Vehicles


(128)
67
0.76
45
(82)
VIRGIL WAY
W 64TH AVE
15
5
47
0
(495)
273
0.88
191
(363)
0
6
183
2
N
W
0.94
E
S
32
252
14
1
(522)
299
0.90
256
(481)
1
6
7
25
W 64TH AVE
VIRGIL WAY
(29)
22
0.78
39
(74)

Peak Hour - Bicycles


0
0
0
0
0
0
0
0
0
0
0
0
N
W
E
S
0
0
0
0
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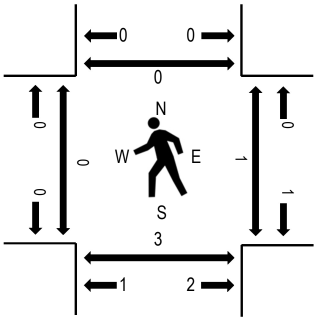
0
0
0
0
0
0
0
0
0
0
0
0
0

Peak Hour - Pedestrians


0
0
0
0
0
N
W
E
S
1
0
1
0
3
1
2

Note: Total study counts contained in parentheses.

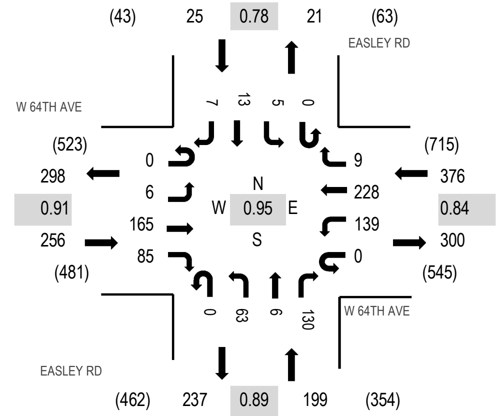
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				VIRGIL WAY Northbound				VIRGIL WAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	2	33	0	1	0	49	0	0	1	1	5	0	9	0	5	106	500	0	2	4	1
7:15 AM	0	5	34	0	0	1	49	4	0	4	0	6	0	13	0	4	120	553	0	1	0	0
7:30 AM	0	5	41	0	0	1	46	4	0	1	3	8	0	12	0	4	125	577	0	0	4	0
7:45 AM	0	1	50	0	0	5	56	8	0	4	2	9	0	11	0	3	149	596	0	0	2	0
8:00 AM	0	3	50	2	0	4	62	12	0	1	1	8	0	13	0	3	159	587	0	0	0	0
8:15 AM	0	1	40	0	1	3	70	9	0	0	2	3	0	8	3	4	144		0	0	0	0
8:30 AM	0	1	43	0	0	2	64	3	1	1	2	5	0	15	2	5	144		0	1	1	0
8:45 AM	0	2	48	2	0	2	55	11	0	1	0	5	0	10	1	3	140		0	1	1	1
Count Total	0	20	339	4	2	18	451	51	1	13	11	49	0	91	6	31	1,087		0	5	12	2
Peak Hour	0	6	183	2	1	14	252	32	1	6	7	25	0	47	5	15	596		0	1	3	0

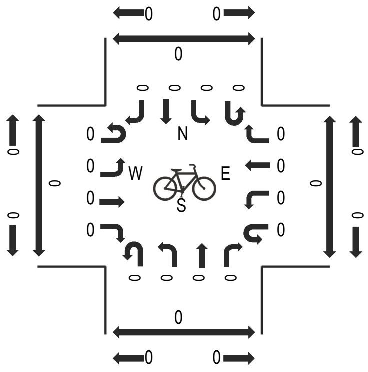
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 EASLEY RD & W 64TH AVE AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

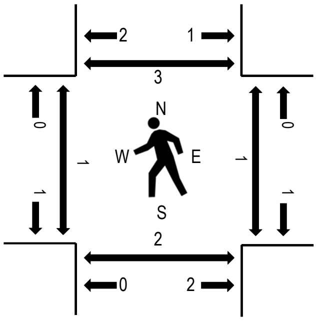
Peak Hour - Motorized Vehicles


(43)
25
0.78
21
(63)
EASLEY RD
W 64TH AVE
7
13
5
0
(523)
298
0.91
256
(481)
0
6
165
85
N
W
0.95
E
S
9
228
139
0
(715)
376
0.84
300
(545)
0
63
6
130
W 64TH AVE
EASLEY RD
(462)
237
0.89
199
(354)

Peak Hour - Bicycles


0
0
0
0
0
0
0
0
0
0
0
0
N
W
E
S
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0

Peak Hour - Pedestrians


2
1
3
0
1
N
W
E
S
1
0
1
1
2
0
2

Note: Total study counts contained in parentheses.

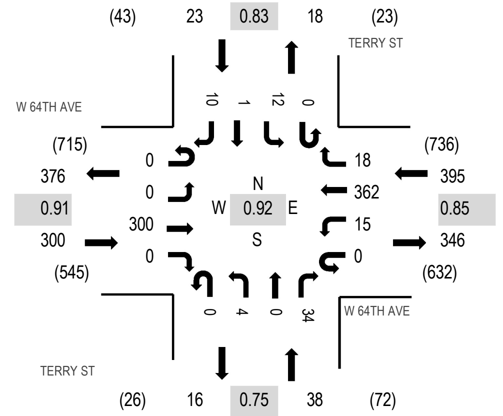
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				EASLEY RD Northbound				EASLEY RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	3	30	15	0	31	37	6	0	13	3	22	0	0	2	0	162	747	0	0	0	1
7:15 AM	1	1	28	20	0	34	42	7	0	11	4	20	0	2	2	1	173	811	0	0	0	0
7:30 AM	0	4	39	19	0	47	43	1	0	8	1	26	0	1	2	1	192	845	0	0	0	1
7:45 AM	0	4	35	32	0	36	50	1	0	15	2	37	0	3	5	0	220	856	1	0	2	0
8:00 AM	0	0	50	21	0	40	53	0	0	20	1	33	0	1	3	4	226	846	0	0	0	1
8:15 AM	0	1	37	16	0	37	73	4	0	11	1	23	0	0	2	2	207		0	1	0	0
8:30 AM	0	1	43	16	0	26	52	4	0	17	2	37	0	1	3	1	203		0	0	0	2
8:45 AM	1	0	43	21	0	30	53	8	0	13	4	30	0	4	2	1	210		0	0	1	2
Count Total	2	14	305	160	0	281	403	31	0	108	18	228	0	12	21	10	1,593		1	1	3	7
Peak Hour	0	6	165	85	0	139	228	9	0	63	6	130	0	5	13	7	856		1	1	2	3

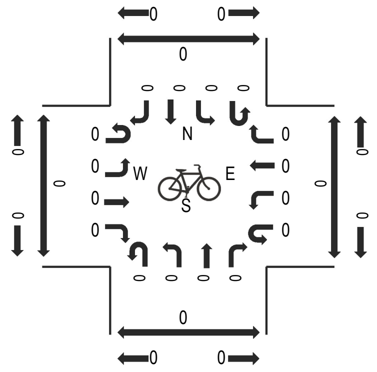
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 TERRY ST & W 64TH AVE AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - Motorized Vehicles


(43)
23
0.83
18
(23)
TERRY ST
W 64TH AVE
10
1
12
0
(715)
376
0.91
300
(545)
0
0
300
0
N
W
0.92
E
S
18
362
15
0
(736)
395
0.85
346
(632)
0
4
0
34
W 64TH AVE
TERRY ST
(26)
16
0.75
38
(72)

Peak Hour - Bicycles


0
0
0
0 0 0 0
0
0
0
0
N
W
E
S
0
0
0
0
0 0 0 0
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0
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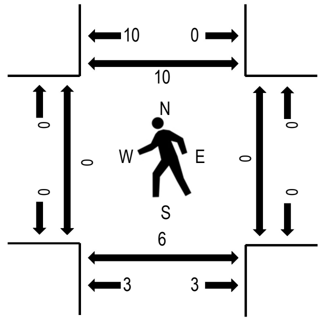
0
0
0

Peak Hour - Pedestrians


10
0
10
N
W
E
S
0
0
0
0
0
0
6
3
3

Note: Total study counts contained in parentheses.

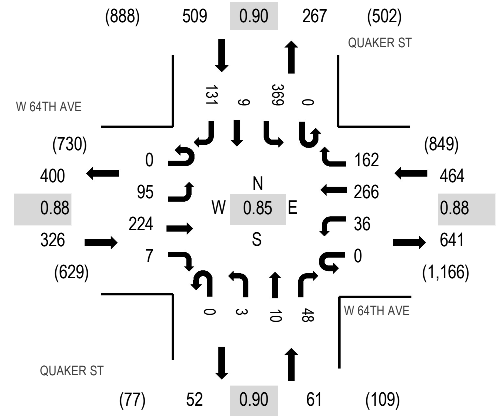
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				TERRY ST Northbound				TERRY ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	50	1	0	0	74	0	0	0	0	9	0	1	0	1	136	642	0	0	0	1
7:15 AM	0	0	51	1	0	2	79	1	0	4	0	6	0	5	0	2	151	711	0	0	2	0
7:30 AM	0	0	64	1	0	2	87	3	0	0	0	5	0	6	0	1	169	751	0	0	1	1
7:45 AM	0	0	76	0	0	4	84	6	0	1	0	8	0	5	0	2	186	756	0	0	5	0
8:00 AM	0	0	83	0	0	5	89	6	0	1	0	12	0	5	1	3	205	754	0	0	0	3
8:15 AM	0	0	60	0	0	5	111	4	0	0	0	8	0	0	0	3	191		0	0	1	6
8:30 AM	0	0	81	0	0	1	78	2	0	2	0	6	0	2	0	2	174		0	0	0	1
8:45 AM	0	0	76	1	0	2	90	1	0	0	0	10	0	3	0	1	184		0	0	0	2
Count Total	0	0	541	4	0	21	692	23	0	8	0	64	0	27	1	15	1,396		0	0	9	14
Peak Hour	0	0	300	0	0	15	362	18	0	4	0	34	0	12	1	10	756		0	0	6	10

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

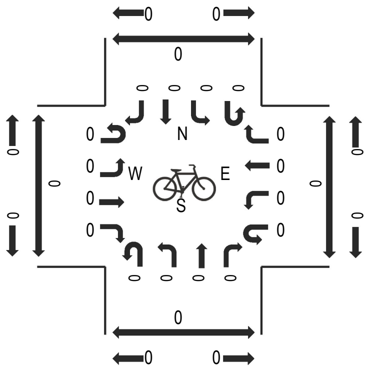
Location: 4 QUAKER ST & W 64TH AVE AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - Motorized Vehicles



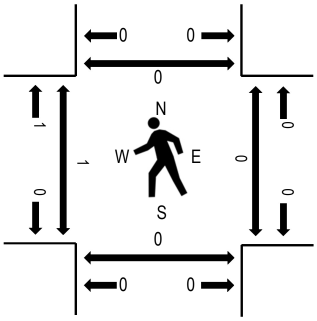
(888)
509
0.90
267
(502)
QUAKER ST
W 64TH AVE
131
9
369
0
(730)
400
0.88
326
(629)
0
95
224
7
N
W
0.85
E
S
162
266
36
0
(849)
464
0.88
641
(1,166)
0
3
10
48
W 64TH AVE
QUAKER ST
(77)
52
0.90
61
(109)

Peak Hour - Bicycles



0
0
0
0
0
0
0
0
0
N
W
E
S
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0

Peak Hour - Pedestrians



0
0
0
1
1
0
N
W
E
S
0
0
0
0
0
0
0
0

Note: Total study counts contained in parentheses.

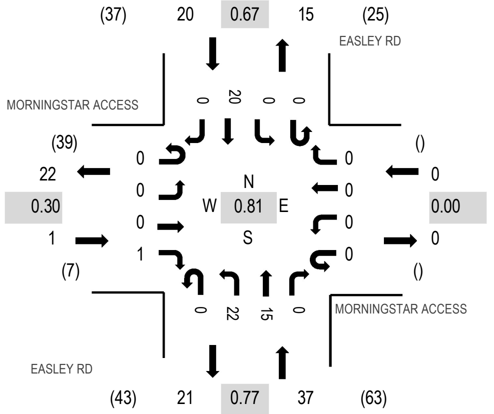
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				QUAKER ST Northbound				QUAKER ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	18	45	1	0	5	49	19	0	0	2	5	0	56	3	26	229	1,121	0	0	0	0
7:15 AM	0	23	35	0	0	3	59	20	0	0	6	7	0	89	0	23	265	1,291	0	0	0	1
7:30 AM	0	17	54	1	0	5	57	30	0	1	3	10	0	99	3	31	311	1,360	0	0	0	0
7:45 AM	0	27	57	4	0	4	59	41	0	0	3	14	0	68	2	37	316	1,343	1	0	0	0
8:00 AM	0	33	66	0	0	14	68	60	0	1	2	14	0	110	3	28	399	1,354	0	0	0	0
8:15 AM	0	18	47	2	0	13	82	31	0	1	2	10	0	92	1	35	334		0	0	0	0
8:30 AM	0	27	58	0	0	2	61	35	0	2	3	9	0	81	1	15	294		1	1	0	0
8:45 AM	0	26	69	1	0	8	72	52	0	0	4	10	0	61	1	23	327		0	0	0	0
Count Total	0	189	431	9	0	54	507	288	0	5	25	79	0	656	14	218	2,475		2	1	0	1
Peak Hour	0	95	224	7	0	36	266	162	0	3	10	48	0	369	9	131	1,360		1	0	0	0

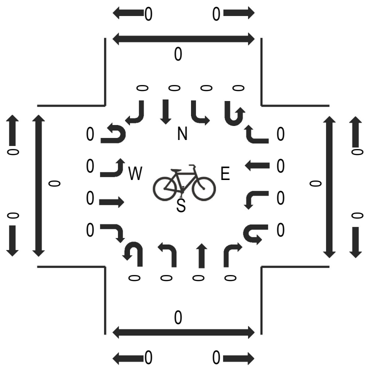
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 5 EASLEY RD & MORNINGSTAR ACCESS AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - Motorized Vehicles


(37)
20
0.67
15
(25)
EASLEY RD
MORNINGSTAR ACCESS
0
20
0
0
(39)
22
0.30
1
(7)
0
0
0
1
N
W
0.81
E
S
()
0
0.00
0
()
0
0
0
0
0
22
15
0
MORNINGSTAR ACCESS
EASLEY RD
(43)
21
0.77
37
(63)

Peak Hour - Bicycles


0
0
0
0
0
0
0
N
W
E
S
0
0
0
0
0
0
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0
0
0
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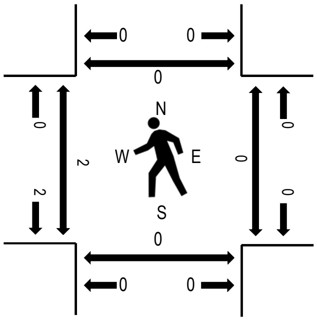
0
0
0
0
0
0
0
0
0

Peak Hour - Pedestrians


0
0
0
N
W
E
S
0
2
2
0
0
0
0
0
0

Note: Total study counts contained in parentheses.

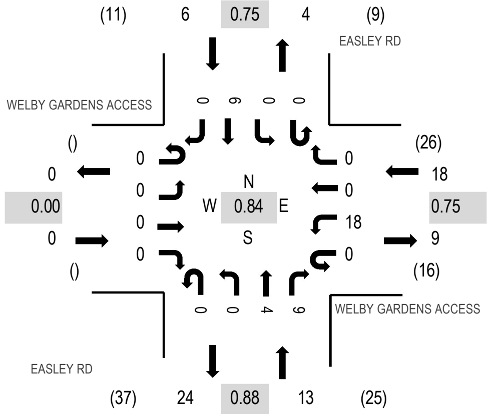
Traffic Counts - Motorized Vehicles

Interval Start Time	MORNINGSTAR ACCESS Eastbound U-Turn	Left	Thru	Right	MORNINGSTAR ACCESS Westbound U-Turn	Left	Thru	Right	EASLEY RD Northbound U-Turn	Left	Thru	Right	EASLEY RD Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
7:00 AM	0	0	0	0	0	0	0	0	0	9	3	0	0	0	2	0	14	58	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	0	0	8	4	0	0	0	5	0	18	52	1	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	2	4	0	0	0	4	0	10	44	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	3	4	0	0	0	9	0	16	46	1	0	0	0
8:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	6	0	8	49	0	1	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	3	3	0	0	0	4	0	10		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	4	3	0	0	0	5	0	12		0	0	0	0
8:45 AM	0	0	0	5	0	0	0	0	0	9	3	0	0	0	2	0	19		1	0	0	0
Count Total	0	1	0	6	0	0	0	0	0	39	24	0	0	0	37	0	107		3	1	0	0
Peak Hour	0	0	0	1	0	0	0	0	0	22	15	0	0	0	20	0	58		2	0	0	0

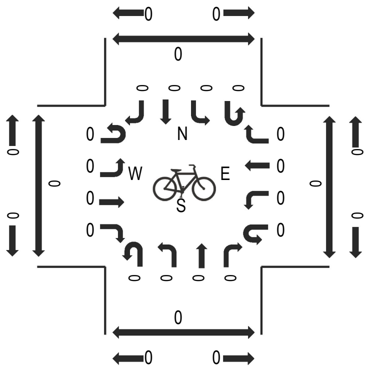
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 6 EASLEY RD & WELBY GARDENS ACCESS AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - Motorized Vehicles


(11)
6
0.75
4
(9)
EASLEY RD
WELBY GARDENS ACCESS
0
6
0
0
()
0
0.00
0
()
0
0
0
0
N
W
0.84
E
S
(26)
18
0.75
9
(16)
0
0
18
0
0
0
4
9
WELBY GARDENS ACCESS
EASLEY RD
(37)
24
0.88
13
(25)

Peak Hour - Bicycles


0
0
0
0
0
0
0
N
W
E
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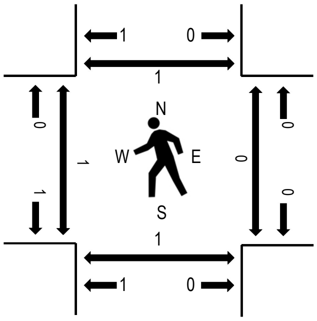
0
0

Peak Hour - Pedestrians


1
0
1
N
W
E
S
0
1
1
0
0
0
1
1
0

Note: Total study counts contained in parentheses.

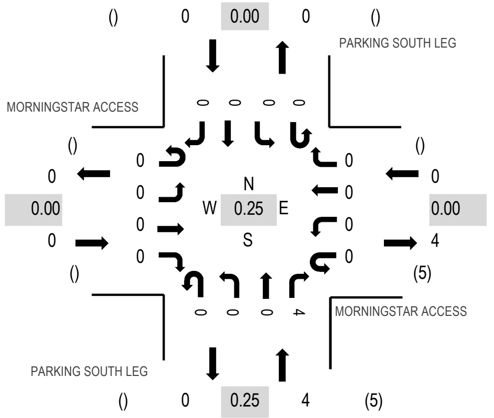
Traffic Counts - Motorized Vehicles

Interval Start Time	WELBY GARDENS ACCESS Eastbound U-Turn	Left	Thru	Right	WELBY GARDENS ACCESS Westbound U-Turn	Left	Thru	Right	EASLEY RD Northbound U-Turn	Left	Thru	Right	EASLEY RD Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
7:00 AM	0	0	0	0	0	1	0	0	0	0	3	0	0	0	1	0	5	34	0	0	0	0
7:15 AM	0	0	0	0	0	3	0	0	0	0	2	2	0	0	2	0	9	37	0	0	1	0
7:30 AM	0	0	0	0	0	4	0	0	0	0	2	2	0	0	1	0	9	35	0	0	0	0
7:45 AM	0	0	0	0	0	6	0	0	0	0	0	3	0	0	2	0	11	34	1	0	0	1
8:00 AM	0	0	0	0	0	5	0	0	0	0	0	2	0	0	1	0	8	28	0	0	0	0
8:15 AM	0	0	0	0	0	3	0	0	0	0	1	2	0	0	1	0	7		0	0	0	0
8:30 AM	0	0	0	0	0	4	0	0	0	0	1	2	0	0	1	0	8		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	0	5		0	0	1	0
Count Total	0	0	0	0	0	26	0	0	0	0	9	16	0	0	11	0	62		1	0	2	1
Peak Hour	0	0	0	0	0	18	0	0	0	0	4	9	0	0	6	0	37		1	0	1	1

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

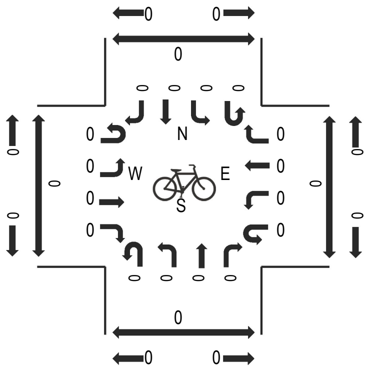
Location: 7 PARKING SOUTH LEG & MORNINGSTAR ACCESS AM
Date: Tuesday, April 22, 2025
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - Motorized Vehicles



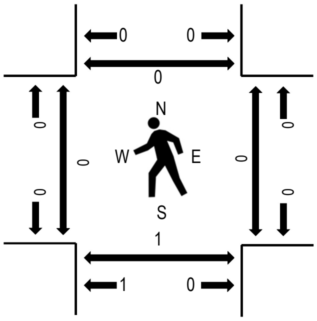
() 0 0.00 0 ()
PARKING SOUTH LEG
MORNINGSTAR ACCESS
0 0 0 0
() 0 0.00 0 ()
0 0 0
N
W 0.25 E
S
0 0
0 0
0 0
() 0 4 (5)
0 0 0 4
MORNINGSTAR ACCESS
0.00
PARKING SOUTH LEG
() 0 0.25 4 (5)

Peak Hour - Bicycles



0 0
0
0 0 0 0
0 0 0 0
0 0 0 0
N W E S
0 0 0 0
0 0 0 0
0
0 0

Peak Hour - Pedestrians



0 0
0
0 0 0 0
N W E S
1
1 0

Note: Total study counts contained in parentheses.

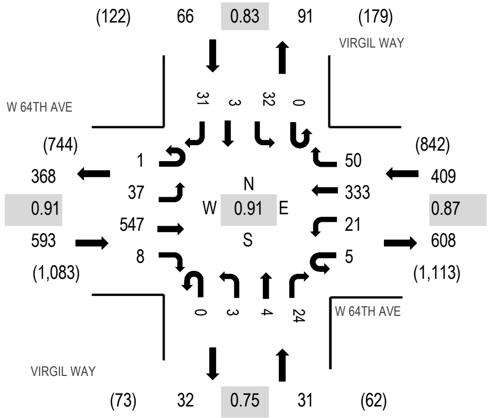
Traffic Counts - Motorized Vehicles

Interval Start Time	MORNINGSTAR ACCESS Eastbound U-Turn	Left	Thru	Right	MORNINGSTAR ACCESS Westbound U-Turn	Left	Thru	Right	PARKING SOUTH LEG Northbound U-Turn	Left	Thru	Right	PARKING SOUTH LEG Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4		0	0	1	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5		0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4		0	0	1	0

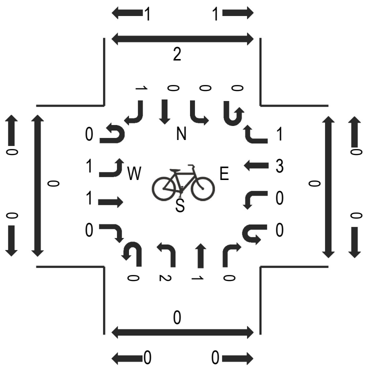
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 VIRGIL WAY & W 64TH AVE PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

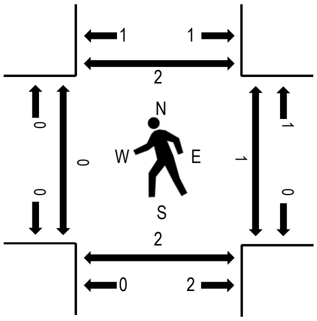
Peak Hour - Motorized Vehicles


(122)
66
0.83
91
(179)
VIRGIL WAY
W 64TH AVE
31
3
32
0
(744)
368
0.91
593
(1,083)
1
37
547
8
N
W
0.91
E
S
50
333
21
5
(842)
409
0.87
608
(1,113)
0
3
4
24
W 64TH AVE
VIRGIL WAY
(73)
32
0.75
31
(62)

Peak Hour - Bicycles


1
1
2
1
0
0
0
0
1
1
0
N
W
E
S
1
3
0
0
0
0
0
0
0
0
0
2
1
0
0
0
0

Peak Hour - Pedestrians


1
1
2
N
W
E
S
0
0
0
1
1
0
2
0
2

Note: Total study counts contained in parentheses.

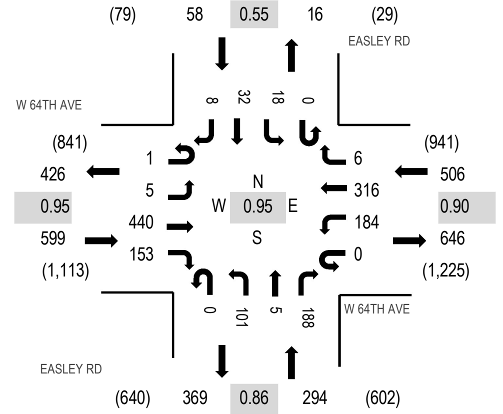
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				VIRGIL WAY Northbound				VIRGIL WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	7	86	2	1	7	74	18	0	1	0	7	0	5	2	6	216	1,018	0	0	0	0
4:15 PM	0	5	97	4	1	4	106	10	0	2	2	4	0	9	1	4	249	1,078	0	2	1	1
4:30 PM	0	11	132	3	1	6	64	11	0	1	0	7	0	9	0	5	250	1,095	0	0	2	0
4:45 PM	0	12	135	5	3	4	103	9	0	0	3	9	0	7	1	12	303	1,099	0	0	1	1
5:00 PM	1	12	155	0	1	6	76	9	0	1	0	3	0	6	0	6	276	1,091	0	0	1	1
5:15 PM	0	7	138	2	1	5	72	19	0	1	0	6	0	8	1	6	266		0	1	0	0
5:30 PM	0	6	119	1	0	6	82	13	0	1	1	6	0	11	1	7	254		0	0	0	0
5:45 PM	0	6	134	3	0	8	106	16	0	2	2	3	0	9	1	5	295		0	0	0	0
Count Total	1	66	996	20	8	46	683	105	0	9	8	45	0	64	7	51	2,109		0	3	5	3
Peak Hour	1	37	547	8	5	21	333	50	0	3	4	24	0	32	3	31	1,099		0	1	2	2

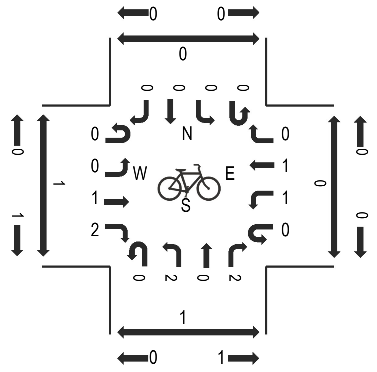
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 EASLEY RD & W 64TH AVE PM
Date: Tuesday, April 22, 2025
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - Motorized Vehicles


(79)
58
0.55
16
(29)
EASLEY RD
W 64TH AVE
8
32
18
0
(841)
426
0.95
599
(1,113)
1
5
440
153
6
316
184
0
(941)
506
0.90
646
(1,225)
N
W
0.95
E
S
0
101
5
188
W 64TH AVE
EASLEY RD
(640)
369
0.86
294
(602)

Peak Hour - Bicycles


0
0
0
0
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0
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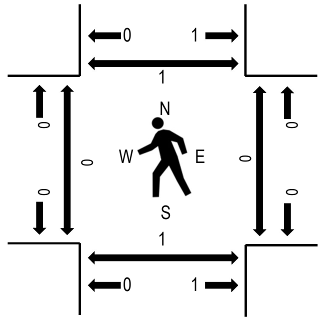
0
0
0
1
2
N
W
E
S
0
1
1
0
0
1
1
0
0
0
0
2
0
2
1
0
1

Peak Hour - Pedestrians


0
1
1
0
0
0
0
0
0
0
0
N
W
E
S
1
0
1

Note: Total study counts contained in parentheses.

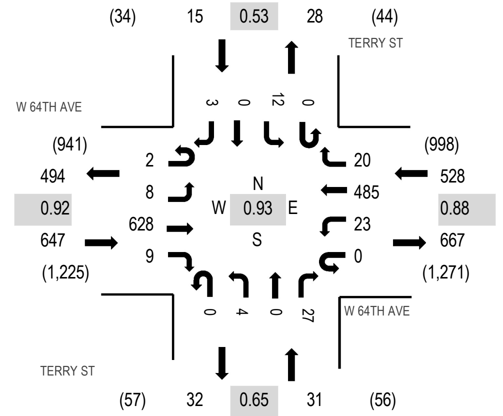
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				EASLEY RD Northbound				EASLEY RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	1	79	18	0	35	73	1	0	27	0	46	0	1	2	0	284	1,278	1	0	0	0
4:15 PM	1	0	88	22	0	37	73	0	0	44	1	45	0	3	2	2	318	1,359	0	0	2	1
4:30 PM	0	0	108	39	0	40	61	2	0	18	3	40	0	3	0	2	316	1,424	0	0	2	0
4:45 PM	0	2	117	38	0	36	76	1	0	35	2	47	0	2	2	2	360	1,447	0	0	0	2
5:00 PM	0	0	123	41	0	44	72	0	0	20	1	42	0	8	12	2	365	1,457	0	0	1	1
5:15 PM	0	2	123	29	0	49	76	1	0	20	2	53	0	9	17	2	383		0	0	0	0
5:30 PM	0	1	97	40	0	43	77	3	0	22	2	48	0	1	3	2	339		0	0	0	0
5:45 PM	1	2	97	43	0	48	91	2	0	39	0	45	0	0	0	2	370		0	0	0	0
Count Total	3	8	832	270	0	332	599	10	0	225	11	366	0	27	38	14	2,735		1	0	5	4
Peak Hour	1	5	440	153	0	184	316	6	0	101	5	188	0	18	32	8	1,457		0	0	1	1

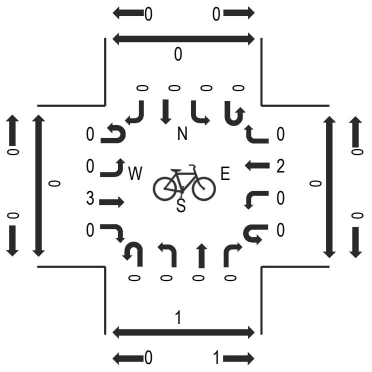
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 TERRY ST & W 64TH AVE PM
Date: Tuesday, April 22, 2025
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - Motorized Vehicles


(34)
15
0.53
28
(44)
TERRY ST
W 64TH AVE
3
0
12
0
(941)
2
20
(998)
494
528
8
485
0.92
W
N
0.93
E
S
0.88
628
23
647
667
9
0
(1,225)
(1,271)
0
4
0
27
W 64TH AVE
TERRY ST
(57)
32
0.65
31
(56)

Peak Hour - Bicycles


0
0
0
0
0
0
0
0
0
0
0
N
W
E
S
0
2
3
0
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0
0
0
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0
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0
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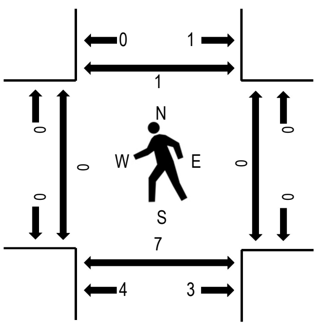
1
0
1

Peak Hour - Pedestrians


0
1
1
N
W
E
S
0
0
0
0
0
0
7
4
3

Note: Total study counts contained in parentheses.

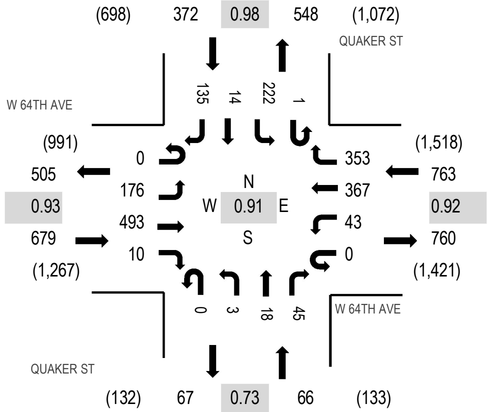
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound U-Turn	Left	Thru	Right	W 64TH AVE Westbound U-Turn	Left	Thru	Right	TERRY ST Northbound U-Turn	Left	Thru	Right	TERRY ST Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
4:00 PM	0	0	127	1	0	8	104	2	0	2	0	5	0	7	0	2	258	1,092	0	0	1	0
4:15 PM	0	3	125	5	0	1	109	5	0	2	0	2	0	5	0	0	257	1,130	0	0	0	1
4:30 PM	0	0	150	0	0	6	103	4	0	0	0	9	0	3	0	1	276	1,202	0	0	2	1
4:45 PM	0	1	166	0	0	4	123	1	0	1	0	4	0	1	0	0	301	1,216	0	0	3	1
5:00 PM	0	1	170	2	0	4	104	6	0	1	0	4	0	4	0	0	296	1,221	0	0	2	1
5:15 PM	0	5	177	2	0	7	124	3	0	2	0	3	0	4	0	2	329		0	0	0	0
5:30 PM	1	1	143	3	0	4	119	7	0	1	0	11	0	0	0	0	290		0	0	5	0
5:45 PM	1	1	138	2	0	8	138	4	0	0	0	9	0	4	0	1	306		0	0	0	0
Count Total	2	12	1,196	15	0	42	924	32	0	9	0	47	0	28	0	6	2,313		0	0	13	4
Peak Hour	2	8	628	9	0	23	485	20	0	4	0	27	0	12	0	3	1,221		0	0	7	1

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

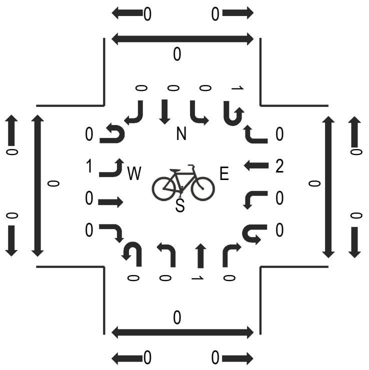
Location: 4 QUAKER ST & W 64TH AVE PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - Motorized Vehicles

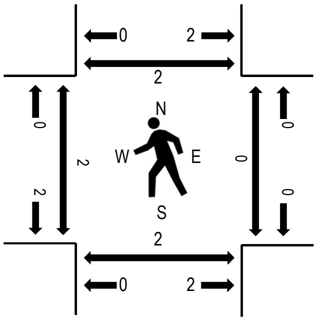

(698)
372
0.98
548
(1,072)
QUAKER ST
135
14
222
1
W 64TH AVE
(991)
505
0.93
679
(1,267)
0
176
493
10
N
W
0.91
E
S
353
367
43
0
(1,518)
763
0.92
760
(1,421)
0
3
18
45
W 64TH AVE
QUAKER ST
(132)
67
0.73
66
(133)

Note: Total study counts contained in parentheses.

Peak Hour - Bicycles


0
0
0
0
0
0
1
0
1
0
0
N
W
E
S
0
2
0
0
0
0
0
0
0
0
0
0
0
0
1
0
0
0
0

Peak Hour - Pedestrians


0
2
2
0
2
2
N
W
E
S
0
0
0
2
0
2

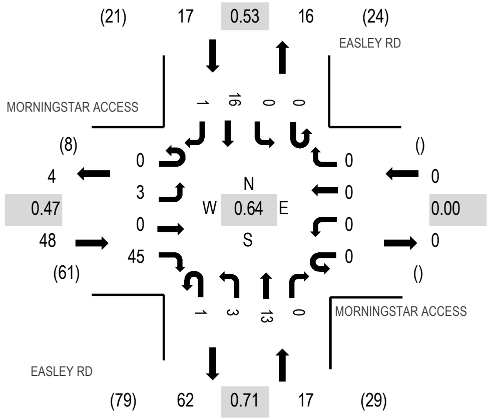
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound U-Turn	Left	Thru	Right	W 64TH AVE Westbound U-Turn	Left	Thru	Right	QUAKER ST Northbound U-Turn	Left	Thru	Right	QUAKER ST Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
4:00 PM	0	47	89	4	0	10	95	65	0	0	3	17	0	54	5	16	405	1,752	0	0	0	0
4:15 PM	0	33	89	4	0	13	86	101	0	0	6	12	0	68	1	27	440	1,804	1	0	0	1
4:30 PM	0	51	118	1	0	8	90	87	0	1	5	11	0	49	1	26	448	1,879	0	0	0	0
4:45 PM	0	48	118	2	0	10	89	88	0	1	2	8	0	53	3	37	459	1,880	0	0	0	0
5:00 PM	0	38	133	4	0	11	87	77	0	0	4	12	1	61	5	24	457	1,864	0	0	0	0
5:15 PM	0	51	136	2	0	10	103	97	0	0	5	18	0	53	5	35	515		2	0	0	0
5:30 PM	0	39	106	2	0	12	88	91	0	2	7	7	0	55	1	39	449		0	0	2	2
5:45 PM	0	42	106	4	0	10	109	81	0	2	3	7	0	41	4	34	443		0	0	1	0
Count Total	0	349	895	23	0	84	747	687	0	6	35	92	1	434	25	238	3,616		3	0	3	3
Peak Hour	0	176	493	10	0	43	367	353	0	3	18	45	1	222	14	135	1,880		2	0	2	2

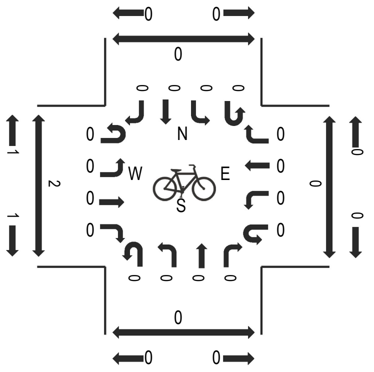
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 5 EASLEY RD & MORNINGSTAR ACCESS PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

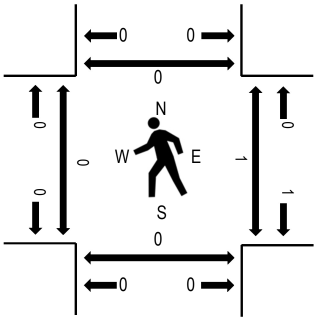
Peak Hour - Motorized Vehicles


(21)
17
0.53
16
(24)
EASLEY RD
MORNINGSTAR ACCESS
1
16
0
0
(8)
4
0.47
48
(61)
0
3
0
45
N
W
0.64
E
S
()
0
0.00
0
()
0
0
0
0
1
3
13
0
MORNINGSTAR ACCESS
EASLEY RD
(79)
62
0.71
17
(29)

Peak Hour - Bicycles


0
0
0
0
0
0
0
N
W
E
S
0
0
0
0
0
0
0
0
1
1
2
0
0
0
0
0
0
0
0
0
0
0

Peak Hour - Pedestrians


0
0
0
N
W
E
S
0
0
0
1
1
1
0
0
0

Note: Total study counts contained in parentheses.

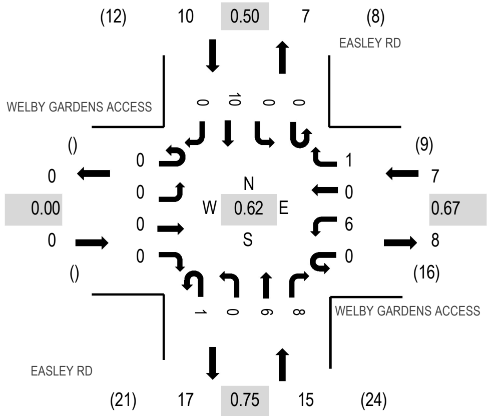
Traffic Counts - Motorized Vehicles

Interval Start Time	MORNINGSTAR ACCESS Eastbound U-Turn	Left	Thru	Right	MORNINGSTAR ACCESS Westbound U-Turn	Left	Thru	Right	EASLEY RD Northbound U-Turn	Left	Thru	Right	EASLEY RD Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
4:00 PM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	1	0	5	34	0	0	0	0
4:15 PM	0	0	0	5	0	0	0	0	0	0	1	0	0	0	2	0	8	61	0	0	0	0
4:30 PM	0	0	0	5	0	0	0	0	0	1	4	0	0	0	0	0	10	80	0	0	0	0
4:45 PM	0	0	0	4	0	0	0	0	0	0	5	0	0	0	2	0	11	82	0	1	0	0
5:00 PM	0	2	0	24	0	0	0	0	0	1	0	0	0	0	4	1	32	77	0	0	0	0
5:15 PM	0	1	0	13	0	0	0	0	0	1	4	0	0	0	8	0	27		0	0	0	0
5:30 PM	0	0	0	4	0	0	0	0	1	1	4	0	0	0	2	0	12		0	0	0	0
5:45 PM	0	0	0	1	0	0	0	0	0	1	3	0	0	0	1	0	6		0	2	0	0
Count Total	0	3	0	58	0	0	0	0	1	7	21	0	0	0	20	1	111		0	3	0	0
Peak Hour	0	3	0	45	0	0	0	0	1	3	13	0	0	0	16	1	82		0	1	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

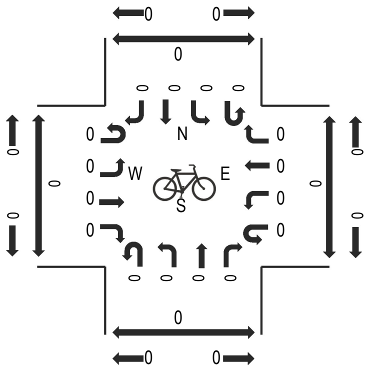
Location: 6 EASLEY RD & WELBY GARDENS ACCESS PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - Motorized Vehicles



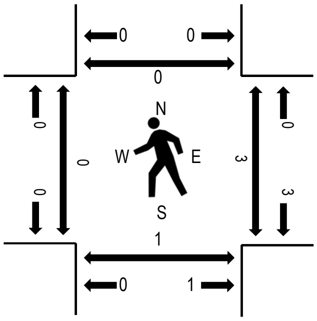
(12)
10
0.50
7
(8)
EASLEY RD
WELBY GARDENS ACCESS
0
10
0
0
()
0
0.00
0
()
0
0
0
0
N
W
0.62
E
S
1
0
6
0
(9)
7
0.67
8
(16)
1
0
6
8
WELBY GARDENS ACCESS
EASLEY RD
(21)
17
0.75
15
(24)

Peak Hour - Bicycles



0
0
0
0
0
0
0
0
0
0
0
0
N
W
E
S
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0

Peak Hour - Pedestrians



0
0
0
N
W
E
S
0
0
0
3
3
3
1
0
1

Note: Total study counts contained in parentheses.

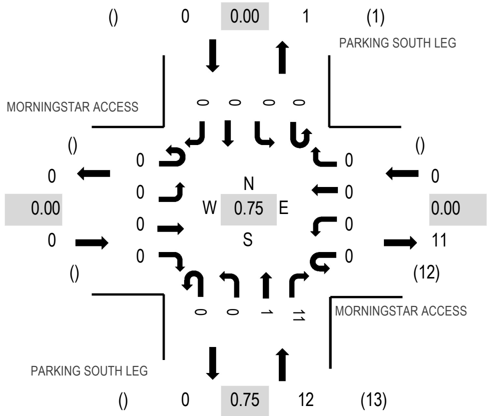
Traffic Counts - Motorized Vehicles

Interval Start Time	WELBY GARDENS ACCESS Eastbound U-Turn	Left	Thru	Right	WELBY GARDENS ACCESS Westbound U-Turn	Left	Thru	Right	EASLEY RD Northbound U-Turn	Left	Thru	Right	EASLEY RD Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	14	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	3	20	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	30	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	3	0	0	2	0	6	32	0	0	0	0
5:00 PM	0	0	0	0	0	2	0	0	0	0	2	0	0	0	3	0	7	31	0	0	1	0
5:15 PM	0	0	0	0	0	2	0	1	1	0	2	2	0	0	5	0	13		0	0	0	0
5:30 PM	0	0	0	0	0	2	0	0	0	0	1	3	0	0	0	0	6		0	3	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	1	3	0	0	0	0	5		0	0	0	0
Count Total	0	0	0	0	0	8	0	1	1	0	7	16	0	0	12	0	45		0	3	1	0
Peak Hour	0	0	0	0	0	6	0	1	1	0	6	8	0	0	10	0	32		0	3	1	0

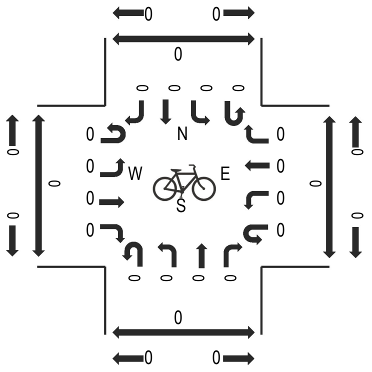
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 7 PARKING SOUTH LEG & MORNINGSTAR ACCESS PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

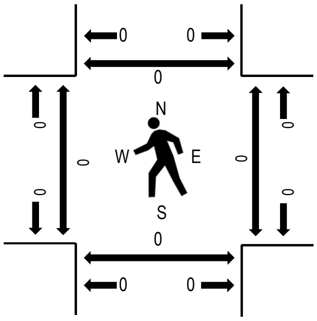
Peak Hour - Motorized Vehicles


()
0
0.00
1
(1)
PARKING SOUTH LEG
MORNINGSTAR ACCESS
0 0 0 0
()
0
0.00
0
()
0
0
0
0
N
W 0.75 E
S
0
0
0
0
()
0
0.00
11
(12)
0 0 1 11
MORNINGSTAR ACCESS
PARKING SOUTH LEG
()
0
0.75
12
(13)

Peak Hour - Bicycles


0
0
0
0 0 0 0
0
0
0
0
N
W
E
S
0
0
0
0
0
0
0
0
0
0
0 0 0 0
0
0
0

Peak Hour - Pedestrians


0
0
0
0
0
0
N
W
E
S
0
0
0
0
0
0

Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	MORNINGSTAR ACCESS Eastbound U-Turn	Left	Thru	Right	MORNINGSTAR ACCESS Westbound U-Turn	Left	Thru	Right	PARKING SOUTH LEG Northbound U-Turn	Left	Thru	Right	PARKING SOUTH LEG Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	12	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	10	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	7	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	4	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1		0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	1	12	0	0	0	0	13		0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	12		0	0	0	0

APPENDIX “C”

INTERSECTION CAPACITY ANALYSIS WORKSHEETS

1: Virgil Way & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.915			0.886	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1650	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1650	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Traffic Vol, veh/h	6	183	2	15	252	32	7	7	25	47	5	15
Future Vol, veh/h	6	183	2	15	252	32	7	7	25	47	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	199	2	16	274	35	8	8	27	51	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	309	0	0	201	0	0	384	553	99	423	521	137
Stage 1	-	-	-	-	-	-	212	212	-	307	307	-
Stage 2	-	-	-	-	-	-	172	341	-	116	214	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1249	-	-	1368	-	-	549	439	937	515	459	886
Stage 1	-	-	-	-	-	-	770	726	-	678	660	-
Stage 2	-	-	-	-	-	-	813	637	-	876	724	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1249	-	-	1368	-	-	523	432	937	483	451	886
Mov Cap-2 Maneuver	-	-	-	-	-	-	523	432	-	483	451	-
Stage 1	-	-	-	-	-	-	766	722	-	670	652	-
Stage 2	-	-	-	-	-	-	782	629	-	837	720	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.25	0.38	10.53	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	693	1249	-	-	1368	-	-	483	714
HCM Lane V/C Ratio	0.061	0.005	-	-	0.012	-	-	0.106	0.03
HCM Control Delay (s/veh)	10.5	7.9	-	-	7.7	-	-	13.3	10.2
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4	0.1

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.857			0.960	
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1596	0	0	1772	0
Flt Permitted	0.950			0.950			0.950				0.991	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1596	0	0	1772	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Vol, veh/h	6	165	85	139	228	9	63	6	140	5	13	7
Future Vol, veh/h	6	165	85	139	228	9	63	6	140	5	13	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	179	92	151	248	10	68	7	152	5	14	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	258	0	0	272	0	0	626	752	90	656	835	124
Stage 1	-	-	-	-	-	-	192	192	-	550	550	-
Stage 2	-	-	-	-	-	-	433	560	-	106	285	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1304	-	-	1289	-	-	369	338	950	351	302	904
Stage 1	-	-	-	-	-	-	791	740	-	487	514	-
Stage 2	-	-	-	-	-	-	571	509	-	888	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1304	-	-	1289	-	-	306	296	950	254	265	904
Mov Cap-2 Maneuver	-	-	-	-	-	-	306	296	-	254	265	-
Stage 1	-	-	-	-	-	-	787	736	-	430	454	-
Stage 2	-	-	-	-	-	-	484	449	-	736	671	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.18	3.02	13.08	17
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	871	1304	-	-	1289	-	-	327
HCM Lane V/C Ratio	0.224	0.182	0.005	-	-	0.117	-	-	0.083
HCM Control Delay (s/veh)	20.1	10	7.8	-	-	8.2	-	-	17
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.7	0	-	-	0.4	-	-	0.3

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.878			0.941	
Flt Protected	0.950			0.950				0.995			0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1709	0
Flt Permitted	0.950			0.950				0.995			0.975	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1709	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Traffic Vol, veh/h	5	300	5	15	362	18	4	0	34	12	1	10
Future Vol, veh/h	5	300	5	15	362	18	4	0	34	12	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	326	5	16	393	20	4	0	37	13	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	413	0	0	332	0	0	567	783	163	600	768	197
Stage 1	-	-	-	-	-	-	337	337	-	426	426	-
Stage 2	-	-	-	-	-	-	230	446	-	174	342	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1142	-	-	1225	-	-	406	324	853	385	330	811
Stage 1	-	-	-	-	-	-	651	640	-	577	584	-
Stage 2	-	-	-	-	-	-	752	573	-	811	636	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1142	-	-	1225	-	-	392	318	853	361	324	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	392	318	-	361	324	-
Stage 1	-	-	-	-	-	-	648	637	-	569	576	-
Stage 2	-	-	-	-	-	-	731	565	-	772	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.3	10.01	13.03
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	759	1142	-	-	1225	-	-	473
HCM Lane V/C Ratio	0.054	0.005	-	-	0.013	-	-	0.053
HCM Control Delay (s/veh)	10	8.2	-	-	8	-	-	13
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.545			0.601			0.751			0.463		
Satd. Flow (perm)	1015	3539	1583	1120	3539	1583	1399	1863	1583	862	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			176			119			142
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

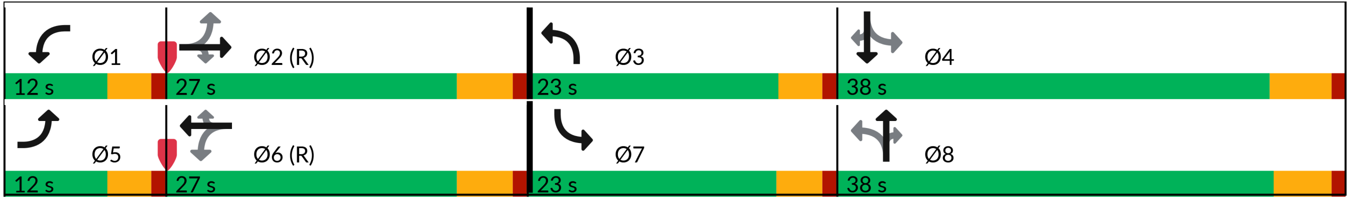
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	95	224	7	36	266	162	3	10	48	369	9	131
Future Volume (vph)	95	224	7	36	266	162	3	10	48	369	9	131
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	12.0	27.0	27.0	12.0	27.0	27.0	23.0	38.0	38.0	23.0	38.0	38.0
Total Split (%)	12.0%	27.0%	27.0%	12.0%	27.0%	27.0%	23.0%	38.0%	38.0%	23.0%	38.0%	38.0%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	62.0	55.8	55.8	58.5	52.3	52.3	11.7	6.2	6.2	27.9	24.7	24.7
Actuated g/C Ratio	0.62	0.56	0.56	0.59	0.52	0.52	0.12	0.06	0.06	0.28	0.25	0.25
v/c Ratio	0.15	0.12	0.01	0.06	0.16	0.19	0.02	0.10	0.25	0.98	0.02	0.29
Control Delay (s/veh)	8.6	12.6	0.0	8.4	14.4	3.1	25.7	45.6	2.8	74.6	29.3	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.6	12.6	0.0	8.4	14.4	3.1	25.7	45.6	2.8	74.6	29.3	7.3
LOS	A	B	A	A	B	A	C	D	A	E	C	A
Approach Delay (s/veh)		11.1			10.0			11.0			56.5	
Approach LOS		B			A			B			E	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 98 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay (s/veh): 27.7 Intersection LOS: C
Intersection Capacity Utilization 52.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Quaker St. & W 64th Ave.



4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	243	8	39	289	176	3	11	52	401	10	142
v/c Ratio	0.15	0.12	0.01	0.06	0.16	0.19	0.02	0.10	0.25	0.98	0.02	0.29
Control Delay (s/veh)	8.6	12.6	0.0	8.4	14.4	3.1	25.7	45.6	2.8	74.6	29.3	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.6	12.6	0.0	8.4	14.4	3.1	25.7	45.6	2.8	74.6	29.3	7.3
Queue Length 50th (ft)	25	42	0	9	52	0	1	7	0	231	5	0
Queue Length 95th (ft)	48	67	0	23	83	37	8	25	0	#351	19	50
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	692	1973	937	715	1852	912	416	609	597	409	603	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.12	0.01	0.05	0.16	0.19	0.01	0.02	0.09	0.98	0.02	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary
4: Quaker St. & W 64th Ave.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	95	224	7	36	266	162	3	10	48	369	9	131
Future Volume (veh/h)	95	224	7	36	266	162	3	10	48	369	9	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	243	8	39	289	176	3	11	52	401	10	142
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	597	1891	844	693	1841	821	145	100	85	468	445	377
Arrive On Green	0.05	0.53	0.53	0.03	0.52	0.52	0.00	0.05	0.05	0.19	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	103	243	8	39	289	176	3	11	52	401	10	142
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.7	3.4	0.2	1.0	4.3	6.0	0.2	0.6	3.2	18.6	0.4	7.5
Cycle Q Clear(g_c), s	2.7	3.4	0.2	1.0	4.3	6.0	0.2	0.6	3.2	18.6	0.4	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	597	1891	844	693	1841	821	145	100	85	468	445	377
V/C Ratio(X)	0.17	0.13	0.01	0.06	0.16	0.21	0.02	0.11	0.61	0.86	0.02	0.38
Avail Cap(c_a), veh/h	650	1891	844	771	1841	821	473	612	518	468	606	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	11.7	11.0	10.3	12.6	13.1	44.5	45.0	46.3	35.8	29.2	31.9
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.6	0.1	0.5	6.9	14.6	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	2.4	0.2	0.7	3.1	4.0	0.1	0.5	2.6	16.5	0.3	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.3	11.9	11.0	10.4	12.8	13.7	44.5	45.5	53.2	50.5	29.2	32.5
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		354			504			66			553	
Approach Delay, s/veh		11.4			12.9			51.5			45.5	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	58.4	4.6	29.4	9.0	57.0	23.0	11.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	7.7	21.8	18.8	32.4	7.7	21.8	18.6	* 33
Max Q Clear Time (g_c+I1), s	3.0	5.4	2.2	9.5	4.7	8.0	20.6	5.2
Green Ext Time (p_c), s	0.0	1.3	0.0	0.5	0.1	2.1	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	26.5
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.894			0.862	
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Flt Permitted	0.950			0.950				0.995		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Traffic Vol, veh/h	38	547	8	26	333	50	3	4	24	32	3	31
Future Vol, veh/h	38	547	8	26	333	50	3	4	24	32	3	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	595	9	28	362	54	3	4	26	35	3	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	416	0	0	603	0	0	916	1150	297	801	1104	181
Stage 1	-	-	-	-	-	-	677	677	-	418	418	-
Stage 2	-	-	-	-	-	-	239	473	-	382	686	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1139	-	-	970	-	-	227	197	699	276	210	831
Stage 1	-	-	-	-	-	-	409	450	-	583	589	-
Stage 2	-	-	-	-	-	-	743	557	-	612	446	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1139	-	-	970	-	-	201	184	699	243	196	831
Mov Cap-2 Maneuver	-	-	-	-	-	-	201	184	-	243	196	-
Stage 1	-	-	-	-	-	-	394	434	-	566	572	-
Stage 2	-	-	-	-	-	-	688	541	-	562	430	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.53	0.56	13.93	16.42
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	437	1139	-	-	970	-	-	243	646
HCM Lane V/C Ratio	0.077	0.036	-	-	0.029	-	-	0.143	0.057
HCM Control Delay (s/veh)	13.9	8.3	-	-	8.8	-	-	22.3	10.9
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	0.5	0.2

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.854			0.981	
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Flt Permitted	0.950			0.950			0.950				0.985	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	20.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✣	
Traffic Vol, veh/h	6	441	156	184	316	6	101	5	188	18	32	8
Future Vol, veh/h	6	441	156	184	316	6	101	5	188	18	32	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	479	170	200	343	7	110	5	204	20	35	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	350	0	0	649	0	0	1082	1242	240	999	1405	172
Stage 1	-	-	-	-	-	-	492	492	-	743	743	-
Stage 2	-	-	-	-	-	-	589	750	-	255	662	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1206	-	-	933	-	-	172	173	761	198	138	842
Stage 1	-	-	-	-	-	-	527	546	-	373	420	-
Stage 2	-	-	-	-	-	-	461	417	-	727	457	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1206	-	-	933	-	-	~ 97	135	761	109	108	842
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 97	135	-	109	108	-
Stage 1	-	-	-	-	-	-	524	543	-	293	330	-
Stage 2	-	-	-	-	-	-	321	328	-	523	455	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.08	3.6	81.28	61.38
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	97	680	1206	-	-	933	-	-	123
HCM Lane V/C Ratio	1.132	0.309	0.005	-	-	0.214	-	-	0.511
HCM Control Delay (s/veh)	212.4	12.6	8	-	-	9.9	-	-	61.4
HCM Lane LOS	F	B	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	7.3	1.3	0	-	-	0.8	-	-	2.4

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.897			0.975	
Flt Protected	0.950			0.950				0.988			0.961	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1745	0
Flt Permitted	0.950			0.950				0.988			0.961	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1745	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		↰↑↱			↰↑↱	
Traffic Vol, veh/h	10	628	9	23	495	20	8	0	27	12	0	3
Future Vol, veh/h	10	628	9	23	495	20	8	0	27	12	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	683	10	25	538	22	9	0	29	13	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	560	0	0	692	0	0	1023	1314	341	951	1302	269
Stage 1	-	-	-	-	-	-	704	704	-	588	588	-
Stage 2	-	-	-	-	-	-	319	610	-	363	714	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1007	-	-	899	-	-	190	157	655	214	160	729
Stage 1	-	-	-	-	-	-	394	438	-	462	494	-
Stage 2	-	-	-	-	-	-	667	483	-	628	433	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1007	-	-	899	-	-	182	151	655	197	153	729
Mov Cap-2 Maneuver	-	-	-	-	-	-	182	151	-	197	153	-
Stage 1	-	-	-	-	-	-	389	433	-	449	480	-
Stage 2	-	-	-	-	-	-	645	470	-	594	428	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.39	14.67	21.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	410	1007	-	-	899	-	-	231
HCM Lane V/C Ratio	0.093	0.011	-	-	0.028	-	-	0.071
HCM Control Delay (s/veh)	14.7	8.6	-	-	9.1	-	-	21.8
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.2

Lanes and Geometrics
4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.458			0.453			0.748			0.471		
Satd. Flow (perm)	853	3539	1583	844	3539	1583	1393	1863	1583	877	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			384			165			147
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

Intersection Summary	
Area Type:	Other

4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	176	493	10	43	367	353	3	18	45	223	14	135
Future Volume (vph)	176	493	10	43	367	353	3	18	45	223	14	135
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	25.0	20.0	30.0	30.0
Total Split (%)	15.0%	40.0%	40.0%	15.0%	40.0%	40.0%	15.0%	25.0%	25.0%	20.0%	30.0%	30.0%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	66.4	58.9	58.9	58.9	51.5	51.5	12.1	6.7	6.7	24.7	21.5	21.5
Actuated g/C Ratio	0.66	0.59	0.59	0.59	0.52	0.52	0.12	0.07	0.07	0.25	0.22	0.22
v/c Ratio	0.29	0.26	0.01	0.08	0.22	0.38	0.02	0.16	0.19	0.69	0.04	0.32
Control Delay (s/veh)	8.4	12.2	0.0	7.8	15.1	3.0	26.7	46.4	1.6	42.7	31.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.4	12.2	0.0	7.8	15.1	3.0	26.7	46.4	1.6	42.7	31.1	7.9
LOS	A	B	A	A	B	A	C	D	A	D	C	A
Approach Delay (s/veh)		11.1			9.1			15.1			29.6	
Approach LOS		B			A			B			C	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

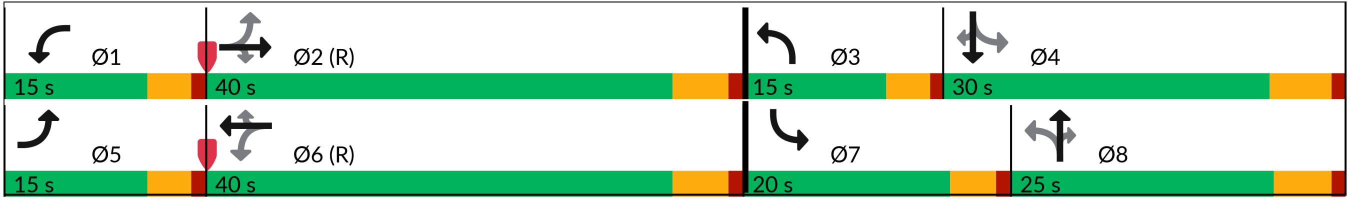
Maximum v/c Ratio: 0.69

Intersection Signal Delay (s/veh): 14.1 Intersection LOS: B

Intersection Capacity Utilization 51.5% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Quaker St. & W 64th Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	191	536	11	47	399	384	3	20	49	242	15	147
v/c Ratio	0.29	0.26	0.01	0.08	0.22	0.38	0.02	0.16	0.19	0.69	0.04	0.32
Control Delay (s/veh)	8.4	12.2	0.0	7.8	15.1	3.0	26.7	46.4	1.6	42.7	31.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.4	12.2	0.0	7.8	15.1	3.0	26.7	46.4	1.6	42.7	31.1	7.9
Queue Length 50th (ft)	45	96	0	10	74	0	1	12	0	130	7	0
Queue Length 95th (ft)	78	140	0	24	115	52	8	36	0	201	26	52
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	670	2083	1001	631	1823	1001	281	367	444	362	474	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.26	0.01	0.07	0.22	0.38	0.01	0.05	0.11	0.67	0.03	0.29

Intersection Summary

HCM 7th Signalized Intersection Summary
4: Quaker St. & W 64th Ave.

Avalon Arvada
06/25/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	176	493	10	43	367	353	3	18	45	223	14	135
Future Volume (veh/h)	176	493	10	43	367	353	3	18	45	223	14	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	536	11	47	399	384	3	20	49	242	15	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	526	2036	908	564	1925	859	142	97	82	384	362	307
Arrive On Green	0.07	0.57	0.57	0.04	0.54	0.54	0.00	0.05	0.05	0.14	0.19	0.19
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	191	536	11	47	399	384	3	20	49	242	15	147
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.6	7.6	0.3	1.1	5.8	14.7	0.2	1.0	3.0	12.3	0.7	8.2
Cycle Q Clear(g_c), s	4.6	7.6	0.3	1.1	5.8	14.7	0.2	1.0	3.0	12.3	0.7	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	526	2036	908	564	1925	859	142	97	82	384	362	307
V/C Ratio(X)	0.36	0.26	0.01	0.08	0.21	0.45	0.02	0.21	0.60	0.63	0.04	0.48
Avail Cap(c_a), veh/h	597	2036	908	690	1925	859	328	368	312	405	456	387
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.5	10.7	9.2	9.2	11.8	13.9	44.7	45.5	46.4	35.6	32.8	35.8
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.1	0.2	1.7	0.1	1.0	6.8	2.9	0.0	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	5.3	0.2	0.8	4.1	9.2	0.1	0.9	2.4	9.5	0.5	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.9	11.1	9.2	9.3	12.1	15.5	44.7	46.5	53.2	38.5	32.8	37.0
LnGrp LOS	A	B	A	A	B	B	D	D	D	D	C	D
Approach Vol, veh/h		738			830			72			404	
Approach Delay, s/veh		10.5			13.5			51.0			37.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	62.5	4.6	25.0	11.1	59.4	18.8	10.8
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	10.7	34.8	10.8	24.4	10.7	34.8	15.6	* 20
Max Q Clear Time (g_c+I1), s	3.1	9.6	2.2	10.2	6.6	16.7	14.3	5.0
Green Ext Time (p_c), s	0.0	3.8	0.0	0.4	0.2	3.9	0.1	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	18.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

1: Virgil Way & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.914			0.886	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1687	0	1770	1650	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1687	0	1770	1650	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Traffic Vol, veh/h	6	188	2	15	259	33	7	7	26	48	5	15
Future Vol, veh/h	6	188	2	15	259	33	7	7	26	48	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	204	2	16	282	36	8	8	28	52	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	317	0	0	207	0	0	393	567	102	433	534	141
Stage 1	-	-	-	-	-	-	217	217	-	314	314	-
Stage 2	-	-	-	-	-	-	176	350	-	119	220	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1239	-	-	1362	-	-	540	431	933	506	451	881
Stage 1	-	-	-	-	-	-	765	722	-	671	655	-
Stage 2	-	-	-	-	-	-	809	631	-	873	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1239	-	-	1362	-	-	515	424	933	474	443	881
Mov Cap-2 Maneuver	-	-	-	-	-	-	515	424	-	474	443	-
Stage 1	-	-	-	-	-	-	761	718	-	663	647	-
Stage 2	-	-	-	-	-	-	777	624	-	833	716	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.24	0.38	10.57	12.57
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	690	1239	-	-	1362	-	-	474	707
HCM Lane V/C Ratio	0.063	0.005	-	-	0.012	-	-	0.11	0.031
HCM Control Delay (s/veh)	10.6	7.9	-	-	7.7	-	-	13.5	10.3
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4	0.1

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.856			0.960	
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1772	0
Flt Permitted	0.950			0.950			0.950				0.991	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1772	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Vol, veh/h	6	170	87	143	235	9	65	6	144	5	13	7
Future Vol, veh/h	6	170	87	143	235	9	65	6	144	5	13	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	185	95	155	255	10	71	7	157	5	14	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	265	0	0	279	0	0	643	774	92	675	859	128
Stage 1	-	-	-	-	-	-	198	198	-	566	566	-
Stage 2	-	-	-	-	-	-	446	576	-	109	292	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1296	-	-	1280	-	-	358	328	947	340	293	899
Stage 1	-	-	-	-	-	-	785	736	-	476	505	-
Stage 2	-	-	-	-	-	-	561	500	-	885	669	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1296	-	-	1280	-	-	295	287	947	243	256	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	295	287	-	243	256	-
Stage 1	-	-	-	-	-	-	781	732	-	418	444	-
Stage 2	-	-	-	-	-	-	474	440	-	728	666	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.18	3.03	13.4	17.47
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	295	867	1296	-	-	1280	-	-	316
HCM Lane V/C Ratio	0.239	0.188	0.005	-	-	0.121	-	-	0.086
HCM Control Delay (s/veh)	21	10.1	7.8	-	-	8.2	-	-	17.5
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.7	0	-	-	0.4	-	-	0.3

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.878			0.941	
Flt Protected	0.950			0.950				0.995			0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1709	0
Flt Permitted	0.950			0.950				0.995			0.975	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1709	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✣			✣	
Traffic Vol, veh/h	5	309	5	15	372	19	4	0	35	12	1	10
Future Vol, veh/h	5	309	5	15	372	19	4	0	35	12	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	336	5	16	404	21	4	0	38	13	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	425	0	0	341	0	0	582	804	168	616	789	202
Stage 1	-	-	-	-	-	-	347	347	-	437	437	-
Stage 2	-	-	-	-	-	-	235	458	-	179	352	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1131	-	-	1214	-	-	396	315	847	375	321	805
Stage 1	-	-	-	-	-	-	642	633	-	568	578	-
Stage 2	-	-	-	-	-	-	747	566	-	806	630	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1131	-	-	1214	-	-	383	309	847	352	315	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	309	-	352	315	-
Stage 1	-	-	-	-	-	-	639	630	-	561	570	-
Stage 2	-	-	-	-	-	-	725	558	-	766	627	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.3	10.07	13.23
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	753	1131	-	-	1214	-	-	462
HCM Lane V/C Ratio	0.056	0.005	-	-	0.013	-	-	0.054
HCM Control Delay (s/veh)	10.1	8.2	-	-	8	-	-	13.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.526			0.597			0.751			0.463		
Satd. Flow (perm)	980	3539	1583	1112	3539	1583	1399	1863	1583	862	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			182			119			147
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

Intersection Summary	
Area Type:	Other

4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	98	230	7	37	274	167	3	10	49	380	9	135
Future Volume (vph)	98	230	7	37	274	167	3	10	49	380	9	135
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	23.0	37.0	37.0	23.0	37.0	37.0
Total Split (%)	12.0%	28.0%	28.0%	12.0%	28.0%	28.0%	23.0%	37.0%	37.0%	23.0%	37.0%	37.0%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	62.0	55.8	55.8	57.5	50.2	50.2	11.7	6.2	6.2	27.9	24.7	24.7
Actuated g/C Ratio	0.62	0.56	0.56	0.58	0.50	0.50	0.12	0.06	0.06	0.28	0.25	0.25
v/c Ratio	0.16	0.13	0.01	0.06	0.17	0.21	0.02	0.10	0.25	1.01	0.02	0.29
Control Delay (s/veh)	8.6	12.6	0.0	8.4	14.9	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.6	12.6	0.0	8.4	14.9	3.1	25.7	45.6	2.9	81.8	29.3	7.2
LOS	A	B	A	A	B	A	C	D	A	F	C	A
Approach Delay (s/veh)		11.2			10.3			10.9			61.7	
Approach LOS		B			B			B			E	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

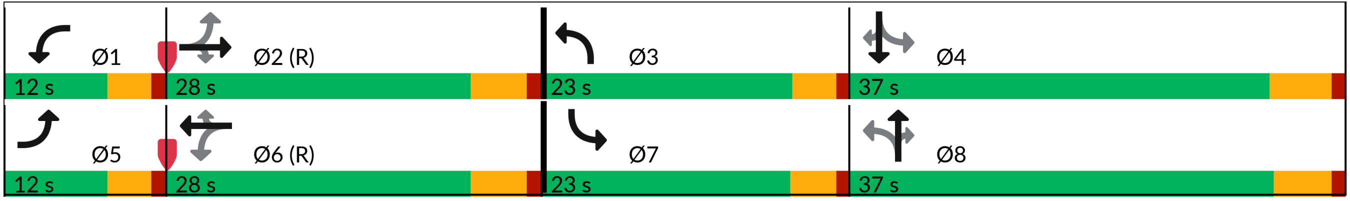
Maximum v/c Ratio: 1.01

Intersection Signal Delay (s/veh): 29.8 Intersection LOS: C

Intersection Capacity Utilization 53.3% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Quaker St. & W 64th Ave.



Queues
4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	250	8	40	298	182	3	11	53	413	10	147
v/c Ratio	0.16	0.13	0.01	0.06	0.17	0.21	0.02	0.10	0.25	1.01	0.02	0.29
Control Delay (s/veh)	8.6	12.6	0.0	8.4	14.9	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.6	12.6	0.0	8.4	14.9	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Length 50th (ft)	26	43	0	9	54	0	1	7	0	240	5	0
Queue Length 95th (ft)	50	69	0	23	86	37	8	25	0	#370	19	51
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	674	1973	937	704	1776	885	416	590	583	409	584	597
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.13	0.01	0.06	0.17	0.21	0.01	0.02	0.09	1.01	0.02	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary
4: Quaker St. & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	98	230	7	37	274	167	3	10	49	380	9	135
Future Volume (veh/h)	98	230	7	37	274	167	3	10	49	380	9	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	250	8	40	298	182	3	11	53	413	10	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	589	1887	842	688	1838	820	146	102	86	469	446	378
Arrive On Green	0.05	0.53	0.53	0.03	0.52	0.52	0.00	0.05	0.05	0.19	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	107	250	8	40	298	182	3	11	53	413	10	147
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.8	3.5	0.2	1.0	4.4	6.3	0.2	0.6	3.3	18.6	0.4	7.8
Cycle Q Clear(g_c), s	2.8	3.5	0.2	1.0	4.4	6.3	0.2	0.6	3.3	18.6	0.4	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	589	1887	842	688	1838	820	146	102	86	469	446	378
V/C Ratio(X)	0.18	0.13	0.01	0.06	0.16	0.22	0.02	0.11	0.62	0.88	0.02	0.39
Avail Cap(c_a), veh/h	642	1887	842	765	1838	820	474	593	502	469	587	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.2	11.8	11.0	10.3	12.7	13.2	44.4	45.0	46.3	36.2	29.2	32.0
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.6	0.1	0.5	6.9	17.5	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	2.5	0.2	0.7	3.2	4.1	0.1	0.5	2.6	17.9	0.3	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.3	12.0	11.1	10.4	12.9	13.8	44.5	45.4	53.2	53.7	29.2	32.6
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		365			520			67			570	
Approach Delay, s/veh		11.5			13.0			51.5			47.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	58.3	4.6	29.4	9.0	56.9	23.0	11.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	7.7	22.8	18.8	31.4	7.7	22.8	18.6	* 32
Max Q Clear Time (g_c+I1), s	3.0	5.5	2.2	9.8	4.8	8.3	20.6	5.3
Green Ext Time (p_c), s	0.0	1.4	0.0	0.5	0.1	2.2	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	27.4
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes and Geometrics
200: Easley Rd. & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.856			0.960	
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1772	0
Flt Permitted	0.594			0.592			0.634				0.895	
Satd. Flow (perm)	1106	3539	1583	1103	3539	1583	1181	1595	0	0	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			115		157			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		606			489			425			365	
Travel Time (s)		13.8			11.1			9.7			8.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰↑↱
Traffic Volume (vph)	6	170	87	143	235	9	65	6	5	13
Future Volume (vph)	6	170	87	143	235	9	65	6	5	13
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	10.0	41.0	41.0	12.0	43.0	43.0	14.0	47.0	33.0	33.0
Total Split (%)	10.0%	41.0%	41.0%	12.0%	43.0%	43.0%	14.0%	47.0%	33.0%	33.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	68.4	62.8	62.8	75.4	73.4	73.4	15.6	15.6		6.8
Actuated g/C Ratio	0.68	0.63	0.63	0.75	0.73	0.73	0.16	0.16		0.07
v/c Ratio	0.01	0.08	0.09	0.17	0.10	0.01	0.30	0.43		0.23
Control Delay (s/veh)	5.3	9.2	1.7	4.9	5.5	0.0	37.5	9.8		38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	5.3	9.2	1.7	4.9	5.5	0.0	37.5	9.8		38.9
LOS	A	A	A	A	A	A	D	A		D
Approach Delay (s/veh)		6.6			5.1			18.2		38.9
Approach LOS		A			A			B		D

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

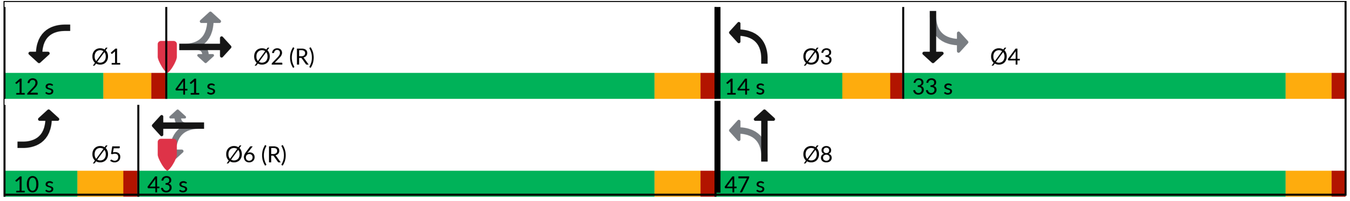
Maximum v/c Ratio: 0.43

Intersection Signal Delay (s/veh): 9.7 Intersection LOS: A

Intersection Capacity Utilization 34.1% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 200: Easley Rd. & W 64th Ave.



200: Easley Rd. & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↓
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	7	185	95	155	255	10	71	164	27
v/c Ratio	0.01	0.08	0.09	0.17	0.10	0.01	0.30	0.43	0.23
Control Delay (s/veh)	5.3	9.2	1.7	4.9	5.5	0.0	37.5	9.8	38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.3	9.2	1.7	4.9	5.5	0.0	37.5	9.8	38.9
Queue Length 50th (ft)	1	25	0	28	23	0	38	4	12
Queue Length 95th (ft)	5	46	17	52	55	0	75	55	38
Internal Link Dist (ft)		526			409			345	285
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	794	2221	1036	889	2596	1191	253	768	461
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.08	0.09	0.17	0.10	0.01	0.28	0.21	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Volume (veh/h)	6	170	87	143	235	9	65	6	144	5	13	7
Future Volume (veh/h)	6	170	87	143	235	9	65	6	144	5	13	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	185	95	155	255	10	71	7	157	5	14	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	836	2388	1065	879	2532	1129	270	10	220	52	50	25
Arrive On Green	0.01	0.67	0.67	0.05	0.71	0.71	0.05	0.14	0.14	0.05	0.05	0.05
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	68	1527	187	996	498
Grp Volume(v), veh/h	7	185	95	155	255	10	71	0	164	27	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1595	1681	0	0
Q Serve(g_s), s	0.1	1.8	2.1	2.5	2.2	0.2	3.7	0.0	9.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	1.8	2.1	2.5	2.2	0.2	3.7	0.0	9.8	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	0.19		0.30
Lane Grp Cap(c), veh/h	836	2388	1065	879	2532	1129	270	0	229	126	0	0
V/C Ratio(X)	0.01	0.08	0.09	0.18	0.10	0.01	0.26	0.00	0.71	0.21	0.00	0.00
Avail Cap(c_a), veh/h	919	2388	1065	924	2532	1129	352	0	678	508	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.1	5.7	5.7	3.9	4.5	4.2	40.4	0.0	40.9	45.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.1	0.1	0.0	0.5	0.0	4.1	0.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	1.1	1.2	1.4	1.3	0.1	2.9	0.0	7.4	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.1	5.7	5.9	4.0	4.5	4.2	41.0	0.0	45.0	46.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D		D	D		
Approach Vol, veh/h		287			420			235			27	
Approach Delay, s/veh		5.8			4.3			43.8			46.7	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	71.7	9.4	9.5	5.4	75.7		18.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	7.5	36.5	9.5	28.5	5.5	38.5		42.5
Max Q Clear Time (g_c+I1), s	4.5	4.1	5.7	3.5	2.1	4.2		11.8
Green Ext Time (p_c), s	0.1	1.5	0.0	0.1	0.0	1.8		1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	15.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.893			0.862	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Flt Permitted	0.950			0.950				0.996		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Traffic Vol, veh/h	39	563	8	27	343	51	3	4	25	33	3	32
Future Vol, veh/h	39	563	8	27	343	51	3	4	25	33	3	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	612	9	29	373	55	3	4	27	36	3	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	428	0	0	621	0	0	943	1184	306	824	1137	186
Stage 1	-	-	-	-	-	-	697	697	-	432	432	-
Stage 2	-	-	-	-	-	-	247	487	-	393	705	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1128	-	-	956	-	-	217	188	690	265	200	824
Stage 1	-	-	-	-	-	-	398	441	-	572	581	-
Stage 2	-	-	-	-	-	-	735	549	-	603	437	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1128	-	-	956	-	-	191	175	690	232	187	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	175	-	232	187	-
Stage 1	-	-	-	-	-	-	383	424	-	555	563	-
Stage 2	-	-	-	-	-	-	679	532	-	552	421	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.53	0.57	14.15	16.99
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	428	1128	-	-	956	-	-	232	638
HCM Lane V/C Ratio	0.081	0.038	-	-	0.031	-	-	0.155	0.06
HCM Control Delay (s/veh)	14.2	8.3	-	-	8.9	-	-	23.3	11
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.5	0.2

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.853			0.982	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1589	0	0	1800	0
Flt Permitted	0.950			0.950			0.950				0.984	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1589	0	0	1800	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	25.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Vol, veh/h	6	454	160	189	325	6	104	5	193	19	33	8
Future Vol, veh/h	6	454	160	189	325	6	104	5	193	19	33	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	493	174	205	353	7	113	5	210	21	36	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	360	0	0	667	0	0	1112	1277	247	1027	1445	177
Stage 1	-	-	-	-	-	-	507	507	-	764	764	-
Stage 2	-	-	-	-	-	-	605	771	-	263	680	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1195	-	-	918	-	-	163	165	753	189	131	836
Stage 1	-	-	-	-	-	-	517	538	-	362	411	-
Stage 2	-	-	-	-	-	-	451	408	-	720	449	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1195	-	-	918	-	-	~ 88	128	753	102	101	836
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 88	128	-	102	101	-
Stage 1	-	-	-	-	-	-	514	535	-	281	319	-
Stage 2	-	-	-	-	-	-	308	317	-	511	446	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.08	3.65	104.65	71.49
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	88	670	1195	-	-	918	-	-	115
HCM Lane V/C Ratio	1.291	0.321	0.005	-	-	0.224	-	-	0.569
HCM Control Delay (s/veh)	279.4	12.9	8	-	-	10	-	-	71.5
HCM Lane LOS	F	B	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	8.3	1.4	0	-	-	0.9	-	-	2.7

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.896			0.975	
Flt Protected	0.950			0.950				0.989			0.961	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1745	0
Flt Permitted	0.950			0.950				0.989			0.961	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1745	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Traffic Vol, veh/h	10	646	9	24	509	21	8	0	28	12	0	3
Future Vol, veh/h	10	646	9	24	509	21	8	0	28	12	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	702	10	26	553	23	9	0	30	13	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	576	0	0	712	0	0	1053	1352	351	978	1339	277
Stage 1	-	-	-	-	-	-	724	724	-	605	605	-
Stage 2	-	-	-	-	-	-	329	628	-	373	734	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	993	-	-	884	-	-	181	149	645	205	152	721
Stage 1	-	-	-	-	-	-	383	429	-	451	485	-
Stage 2	-	-	-	-	-	-	658	474	-	620	424	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	993	-	-	884	-	-	173	143	645	187	145	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	173	143	-	187	145	-
Stage 1	-	-	-	-	-	-	379	424	-	438	471	-
Stage 2	-	-	-	-	-	-	636	460	-	584	420	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.4	14.94	22.69
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	401	993	-	-	884	-	-	220
HCM Lane V/C Ratio	0.098	0.011	-	-	0.03	-	-	0.074
HCM Control Delay (s/veh)	14.9	8.7	-	-	9.2	-	-	22.7
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.462			0.446			0.748			0.471		
Satd. Flow (perm)	861	3539	1583	831	3539	1583	1393	1863	1583	877	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			395			119			151
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

Intersection Summary

Area Type: Other

4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	181	507	10	44	377	363	3	19	46	229	14	139
Future Volume (vph)	181	507	10	44	377	363	3	19	46	229	14	139
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	35.0	35.0	9.5	35.0	35.0	14.9	40.6	40.6	14.9	40.6	40.6
Total Split (%)	9.5%	35.0%	35.0%	9.5%	35.0%	35.0%	14.9%	40.6%	40.6%	14.9%	40.6%	40.6%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	70.6	63.4	63.4	63.7	56.4	56.4	12.2	6.7	6.7	20.3	17.1	17.1
Actuated g/C Ratio	0.71	0.63	0.63	0.64	0.56	0.56	0.12	0.07	0.07	0.20	0.17	0.17
v/c Ratio	0.28	0.25	0.01	0.08	0.21	0.37	0.02	0.17	0.23	0.92	0.05	0.38
Control Delay (s/veh)	6.5	9.8	0.0	6.0	12.2	2.5	29.7	46.5	2.5	74.6	35.4	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.5	9.8	0.0	6.0	12.2	2.5	29.7	46.5	2.5	74.6	35.4	9.5
LOS	A	A	A	A	B	A	C	D	A	E	D	A
Approach Delay (s/veh)		8.8			7.3			16.1			49.5	
Approach LOS		A			A			B			D	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

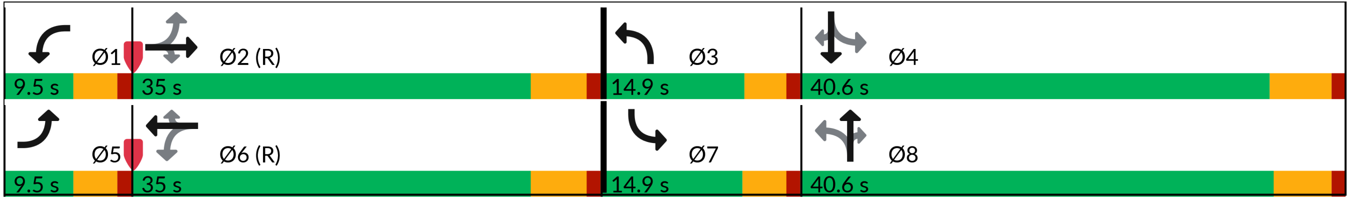
Maximum v/c Ratio: 0.92

Intersection Signal Delay (s/veh): 16.5 Intersection LOS: B

Intersection Capacity Utilization 52.4% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Quaker St. & W 64th Ave.



Queues
4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	197	551	11	48	410	395	3	21	50	249	15	151
v/c Ratio	0.28	0.25	0.01	0.08	0.21	0.37	0.02	0.17	0.23	0.92	0.05	0.38
Control Delay (s/veh)	6.5	9.8	0.0	6.0	12.2	2.5	29.7	46.5	2.5	74.6	35.4	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.5	9.8	0.0	6.0	12.2	2.5	29.7	46.5	2.5	74.6	35.4	9.5
Queue Length 50th (ft)	39	87	0	9	66	0	2	13	0	144	8	0
Queue Length 95th (ft)	68	127	0	21	105	46	9	36	0	#270	28	56
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	692	2242	1048	588	1995	1064	279	657	635	272	652	652
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.25	0.01	0.08	0.21	0.37	0.01	0.03	0.08	0.92	0.02	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	181	507	10	44	377	363	3	19	46	229	14	139
Future Volume (veh/h)	181	507	10	44	377	363	3	19	46	229	14	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	197	551	11	48	410	395	3	21	50	249	15	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	531	2168	967	594	2114	943	144	99	84	315	292	247
Arrive On Green	0.05	0.61	0.61	0.04	0.59	0.59	0.00	0.05	0.05	0.10	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	197	551	11	48	410	395	3	21	50	249	15	151
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.4	7.2	0.3	1.0	5.3	13.4	0.2	1.1	3.1	10.5	0.7	8.9
Cycle Q Clear(g_c), s	4.4	7.2	0.3	1.0	5.3	13.4	0.2	1.1	3.1	10.5	0.7	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	531	2168	967	594	2114	943	144	99	84	315	292	247
V/C Ratio(X)	0.37	0.25	0.01	0.08	0.19	0.42	0.02	0.21	0.59	0.79	0.05	0.61
Avail Cap(c_a), veh/h	531	2168	967	621	2114	943	327	660	560	315	655	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.2	9.0	7.7	7.1	9.3	10.9	44.5	45.3	46.3	40.1	35.9	39.4
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.1	0.2	1.4	0.1	1.0	6.5	12.7	0.1	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	4.8	0.2	0.7	3.6	8.3	0.1	0.9	2.4	3.6	0.6	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.6	9.3	7.7	7.2	9.5	12.3	44.6	46.4	52.8	52.8	36.0	41.8
LnGrp LOS	A	A	A	A	A	B	D	D	D	D	D	D
Approach Vol, veh/h		759			853			74			415	
Approach Delay, s/veh		8.8			10.7			50.7			48.2	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	66.2	4.6	21.2	9.5	64.7	14.9	10.9
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	29.8	10.7	35.0	5.2	29.8	10.5	* 35
Max Q Clear Time (g_c+I1), s	3.0	9.2	2.2	10.9	6.4	15.4	12.5	5.1
Green Ext Time (p_c), s	0.0	3.7	0.0	0.5	0.0	3.7	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	18.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.853			0.982	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1589	0	0	1800	0
Flt Permitted	0.540			0.420			0.548				0.813	
Satd. Flow (perm)	1006	3539	1583	782	3539	1583	1021	1589	0	0	1487	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			174			115		210			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		561			625			425			340	
Travel Time (s)		12.8			14.2			9.7			7.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱		✥
Traffic Volume (vph)	6	454	160	189	325	6	104	5	19	33
Future Volume (vph)	6	454	160	189	325	6	104	5	19	33
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	43.0	43.0	15.0	48.5	48.5	10.5	42.0	31.5	31.5
Total Split (%)	9.5%	43.0%	43.0%	15.0%	48.5%	48.5%	10.5%	42.0%	31.5%	31.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	65.3	59.7	59.7	73.4	71.3	71.3	17.6	17.6		9.1
Actuated g/C Ratio	0.65	0.60	0.60	0.73	0.71	0.71	0.18	0.18		0.09
v/c Ratio	0.01	0.23	0.17	0.31	0.14	0.01	0.50	0.48		0.46
Control Delay (s/veh)	5.5	11.1	2.4	6.1	6.0	0.0	42.6	8.8		48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	5.5	11.1	2.4	6.1	6.0	0.0	42.6	8.8		48.3
LOS	A	B	A	A	A	A	D	A		D
Approach Delay (s/veh)		8.8			6.0			20.4		48.3
Approach LOS		A			A			C		D

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 51 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

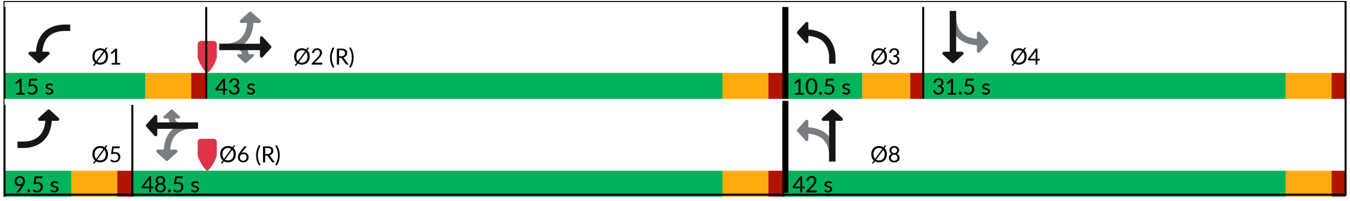
Maximum v/c Ratio: 0.50

Intersection Signal Delay (s/veh): 11.7 Intersection LOS: B

Intersection Capacity Utilization 53.6% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 200: Easley Rd. & W 64th Ave.



	↗	→	↘	↙	←	↖	↖	↑	↓
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	7	493	174	205	353	7	113	215	66
v/c Ratio	0.01	0.23	0.17	0.31	0.14	0.01	0.50	0.48	0.46
Control Delay (s/veh)	5.5	11.1	2.4	6.1	6.0	0.0	42.6	8.8	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.5	11.1	2.4	6.1	6.0	0.0	42.6	8.8	48.3
Queue Length 50th (ft)	1	75	0	36	32	0	62	3	36
Queue Length 95th (ft)	6	123	32	69	75	0	108	60	76
Internal Link Dist (ft)		481			545			345	260
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	700	2111	1014	681	2524	1162	224	727	407
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.23	0.17	0.30	0.14	0.01	0.50	0.30	0.16

Intersection Summary

200: Easley Rd. & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Volume (veh/h)	6	454	160	189	325	6	104	5	193	19	33	8
Future Volume (veh/h)	6	454	160	189	325	6	104	5	193	19	33	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	493	174	205	353	7	113	5	210	21	36	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	733	2245	1002	619	2426	1082	287	6	270	69	64	14
Arrive On Green	0.01	0.63	0.63	0.06	0.68	0.68	0.06	0.17	0.17	0.07	0.07	0.07
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	37	1554	316	936	198
Grp Volume(v), veh/h	7	493	174	205	353	7	113	0	215	66	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1591	1450	0	0
Q Serve(g_s), s	0.1	5.9	4.5	3.8	3.5	0.1	5.8	0.0	12.9	2.2	0.0	0.0
Cycle Q Clear(g_c), s	0.1	5.9	4.5	3.8	3.5	0.1	5.8	0.0	12.9	4.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.98	0.32		0.14
Lane Grp Cap(c), veh/h	733	2245	1002	619	2426	1082	287	0	276	147	0	0
V/C Ratio(X)	0.01	0.22	0.17	0.33	0.15	0.01	0.39	0.00	0.78	0.45	0.00	0.00
Avail Cap(c_a), veh/h	807	2245	1002	700	2426	1082	287	0	597	457	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	7.9	7.6	5.1	5.6	5.1	38.7	0.0	39.5	45.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.3	0.1	0.0	0.9	0.0	4.7	2.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	3.9	2.8	2.2	2.2	0.1	4.6	0.0	9.1	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	8.1	8.0	5.4	5.7	5.1	39.6	0.0	44.2	47.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D		D	D		
Approach Vol, veh/h		674			565			328			66	
Approach Delay, s/veh		8.0			5.6			42.6			47.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	67.7	10.5	11.3	5.4	72.8		21.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.5	38.5	6.0	27.0	5.0	44.0		37.5
Max Q Clear Time (g_c+I1), s	5.8	7.9	7.8	6.6	2.1	5.5		14.9
Green Ext Time (p_c), s	0.2	4.2	0.0	0.3	0.0	2.6		1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	15.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✣		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.914			0.886	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1687	0	1770	1650	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1687	0	1770	1650	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Traffic Vol, veh/h	6	200	2	15	296	39	7	7	26	50	5	15
Future Vol, veh/h	6	200	2	15	296	39	7	7	26	50	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	217	2	16	322	42	8	8	28	54	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	364	0	0	220	0	0	427	627	109	480	587	161
Stage 1	-	-	-	-	-	-	230	230	-	354	354	-
Stage 2	-	-	-	-	-	-	196	397	-	126	233	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1191	-	-	1347	-	-	512	399	924	469	420	856
Stage 1	-	-	-	-	-	-	752	712	-	636	629	-
Stage 2	-	-	-	-	-	-	787	602	-	865	711	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1191	-	-	1347	-	-	487	392	924	438	413	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	487	392	-	438	413	-
Stage 1	-	-	-	-	-	-	747	709	-	628	621	-
Stage 2	-	-	-	-	-	-	756	595	-	825	707	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.23	0.33	10.82	13.27
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	662	1191	-	-	1347	-	-	438	675
HCM Lane V/C Ratio	0.066	0.005	-	-	0.012	-	-	0.124	0.032
HCM Control Delay (s/veh)	10.8	8	-	-	7.7	-	-	14.4	10.5
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.953	
Flt Protected	0.950			0.950			0.950				0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1731	0
Flt Permitted	0.950			0.950			0.950				0.975	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1731	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Vol, veh/h	20	170	87	143	235	30	65	8	144	73	19	50
Future Vol, veh/h	20	170	87	143	235	30	65	8	144	73	19	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	185	95	155	255	33	71	9	157	79	21	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	288	0	0	279	0	0	677	827	92	707	889	128
Stage 1	-	-	-	-	-	-	228	228	-	566	566	-
Stage 2	-	-	-	-	-	-	449	599	-	140	323	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1271	-	-	1280	-	-	339	305	947	322	281	899
Stage 1	-	-	-	-	-	-	754	714	-	476	505	-
Stage 2	-	-	-	-	-	-	559	489	-	848	649	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1271	-	-	1280	-	-	254	264	947	226	243	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	254	264	-	226	243	-
Stage 1	-	-	-	-	-	-	741	702	-	418	444	-
Stage 2	-	-	-	-	-	-	440	429	-	687	638	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.57	2.87	14.62	27.52
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	254	833	1271	-	-	1280	-	-	311
HCM Lane V/C Ratio	0.278	0.198	0.017	-	-	0.121	-	-	0.497
HCM Control Delay (s/veh)	24.5	10.4	7.9	-	-	8.2	-	-	27.5
HCM Lane LOS	C	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.1	0.7	0.1	-	-	0.4	-	-	2.6

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.878			0.954	
Flt Protected	0.950			0.950				0.995			0.970	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1724	0
Flt Permitted	0.950			0.950				0.995			0.970	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1724	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Traffic Vol, veh/h	5	377	5	15	393	21	4	0	35	18	1	10
Future Vol, veh/h	5	377	5	15	393	21	4	0	35	18	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	410	5	16	427	23	4	0	38	20	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	450	0	0	415	0	0	667	903	205	676	886	214
Stage 1	-	-	-	-	-	-	421	421	-	460	460	-
Stage 2	-	-	-	-	-	-	247	483	-	216	426	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1107	-	-	1140	-	-	344	276	802	340	282	791
Stage 1	-	-	-	-	-	-	581	587	-	551	564	-
Stage 2	-	-	-	-	-	-	735	551	-	767	584	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1107	-	-	1140	-	-	332	270	802	317	277	791
Mov Cap-2 Maneuver	-	-	-	-	-	-	332	270	-	317	277	-
Stage 1	-	-	-	-	-	-	578	585	-	543	556	-
Stage 2	-	-	-	-	-	-	713	543	-	727	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.11	0.29	10.47	14.84
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	700	1107	-	-	1140	-	-	397
HCM Lane V/C Ratio	0.061	0.005	-	-	0.014	-	-	0.079
HCM Control Delay (s/veh)	10.5	8.3	-	-	8.2	-	-	14.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.3

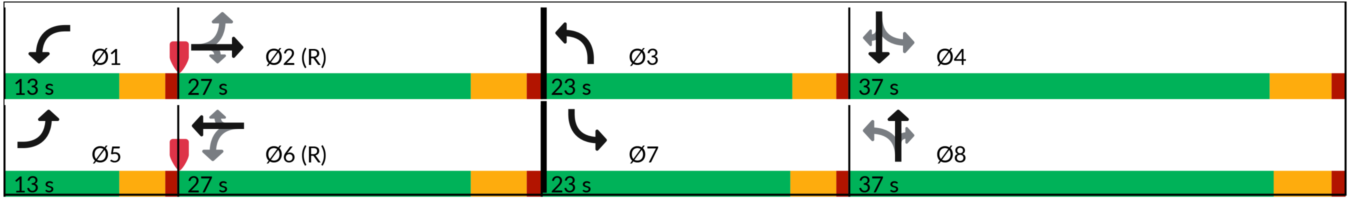
	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.508			0.560			0.751			0.463		
Satd. Flow (perm)	946	3539	1583	1043	3539	1583	1399	1863	1583	862	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			182			119			151
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	110	292	7	37	294	167	3	10	49	380	9	139
Future Volume (vph)	110	292	7	37	294	167	3	10	49	380	9	139
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	13.0	27.0	27.0	13.0	27.0	27.0	23.0	37.0	37.0	23.0	37.0	37.0
Total Split (%)	13.0%	27.0%	27.0%	13.0%	27.0%	27.0%	23.0%	37.0%	37.0%	23.0%	37.0%	37.0%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	62.3	55.8	55.8	57.2	49.9	49.9	11.7	6.2	6.2	27.9	24.7	24.7
Actuated g/C Ratio	0.62	0.56	0.56	0.57	0.50	0.50	0.12	0.06	0.06	0.28	0.25	0.25
v/c Ratio	0.18	0.16	0.01	0.06	0.18	0.21	0.02	0.10	0.25	1.01	0.02	0.30
Control Delay (s/veh)	8.8	12.8	0.0	8.4	15.3	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.8	12.8	0.0	8.4	15.3	3.1	25.7	45.6	2.9	81.8	29.3	7.2
LOS	A	B	A	A	B	A	C	D	A	F	C	A
Approach Delay (s/veh)		11.5			10.7			10.9			61.3	
Approach LOS		B			B			B			E	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 98 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay (s/veh): 28.8	Intersection LOS: C
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	120	317	8	40	320	182	3	11	53	413	10	151
v/c Ratio	0.18	0.16	0.01	0.06	0.18	0.21	0.02	0.10	0.25	1.01	0.02	0.30
Control Delay (s/veh)	8.8	12.8	0.0	8.4	15.3	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.8	12.8	0.0	8.4	15.3	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Length 50th (ft)	29	56	0	9	59	0	1	7	0	240	5	0
Queue Length 95th (ft)	55	86	0	23	93	38	8	25	0	#370	19	52
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	665	1973	937	683	1764	880	416	590	583	409	584	600
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.16	0.01	0.06	0.18	0.21	0.01	0.02	0.09	1.01	0.02	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	110	292	7	37	294	167	3	10	49	380	9	139
Future Volume (veh/h)	110	292	7	37	294	167	3	10	49	380	9	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	317	8	40	320	182	3	11	53	413	10	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	580	1887	842	644	1827	815	146	102	86	469	446	378
Arrive On Green	0.05	0.53	0.53	0.03	0.51	0.51	0.00	0.05	0.05	0.19	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	120	317	8	40	320	182	3	11	53	413	10	151
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.1	4.6	0.2	1.0	4.8	6.3	0.2	0.6	3.3	18.6	0.4	8.0
Cycle Q Clear(g_c), s	3.1	4.6	0.2	1.0	4.8	6.3	0.2	0.6	3.3	18.6	0.4	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	580	1887	842	644	1827	815	146	102	86	469	446	378
V/C Ratio(X)	0.21	0.17	0.01	0.06	0.18	0.22	0.02	0.11	0.62	0.88	0.02	0.40
Avail Cap(c_a), veh/h	645	1887	842	739	1827	815	473	593	502	469	587	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.3	12.1	11.0	10.5	13.0	13.3	44.4	45.0	46.3	36.2	29.2	32.1
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.0	0.2	0.6	0.1	0.5	6.9	17.5	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	3.3	0.2	0.7	3.4	4.2	0.1	0.5	2.6	17.9	0.3	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.5	12.3	11.1	10.5	13.2	14.0	44.5	45.4	53.2	53.7	29.2	32.7
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		445			542			67			574	
Approach Delay, s/veh		11.8			13.2			51.5			47.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	58.3	4.6	29.4	9.3	56.6	23.0	11.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	8.7	21.8	18.8	31.4	8.7	21.8	18.6	* 32
Max Q Clear Time (g_c+I1), s	3.0	6.6	2.2	10.0	5.1	8.3	20.6	5.3
Green Ext Time (p_c), s	0.0	1.8	0.0	0.5	0.1	2.3	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	26.6
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

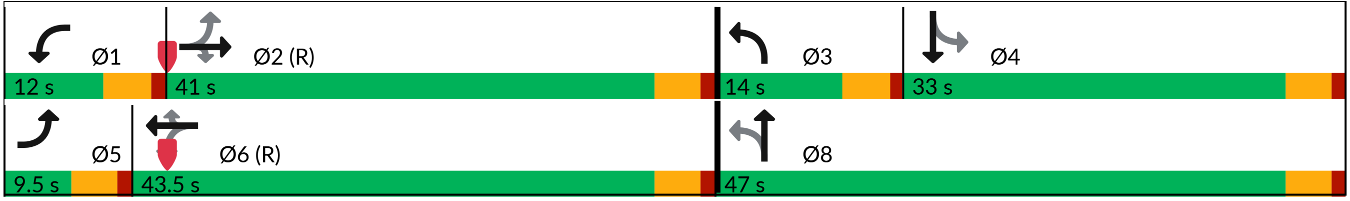
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.953	
Flt Protected	0.950			0.950			0.950				0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1731	0
Flt Permitted	0.594			0.584			0.567				0.753	
Satd. Flow (perm)	1106	3539	1583	1088	3539	1583	1056	1598	0	0	1337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			115		157			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		606			489			425			365	
Travel Time (s)		13.8			11.1			9.7			8.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱		✥
Traffic Volume (vph)	20	170	87	143	235	30	65	8	73	19
Future Volume (vph)	20	170	87	143	235	30	65	8	73	19
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	41.0	41.0	12.0	43.5	43.5	14.0	47.0	33.0	33.0
Total Split (%)	9.5%	41.0%	41.0%	12.0%	43.5%	43.5%	14.0%	47.0%	33.0%	33.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	58.0	52.0	52.0	65.6	61.2	61.2	25.3	25.3		14.7
Actuated g/C Ratio	0.58	0.52	0.52	0.66	0.61	0.61	0.25	0.25		0.15
v/c Ratio	0.03	0.10	0.11	0.20	0.12	0.03	0.22	0.32		0.70
Control Delay (s/veh)	9.4	15.3	2.9	9.1	11.3	0.1	26.8	6.3		49.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	9.4	15.3	2.9	9.1	11.3	0.1	26.8	6.3		49.3
LOS	A	B	A	A	B	A	C	A		D
Approach Delay (s/veh)		11.0			9.7			12.4		49.3
Approach LOS		B			A			B		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay (s/veh): 16.0	Intersection LOS: B
Intersection Capacity Utilization 45.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 200: Easley Rd. & W 64th Ave.



200: Easley Rd. & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↓
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	22	185	95	155	255	33	71	166	154
v/c Ratio	0.03	0.10	0.11	0.20	0.12	0.03	0.22	0.32	0.70
Control Delay (s/veh)	9.4	15.3	2.9	9.1	11.3	0.1	26.8	6.3	49.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.4	15.3	2.9	9.1	11.3	0.1	26.8	6.3	49.3
Queue Length 50th (ft)	5	31	0	36	31	0	34	4	78
Queue Length 95th (ft)	17	63	23	78	76	0	61	46	135
Internal Link Dist (ft)		526			409			345	285
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	682	1838	877	778	2165	1013	339	769	400
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.10	0.11	0.20	0.12	0.03	0.21	0.22	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Volume (veh/h)	20	170	87	143	235	30	65	8	144	73	19	50
Future Volume (veh/h)	20	170	87	143	235	30	65	8	144	73	19	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	185	95	155	255	33	71	9	157	79	21	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	755	2092	933	790	2201	982	321	19	337	140	37	66
Arrive On Green	0.02	0.59	0.59	0.05	0.62	0.62	0.05	0.22	0.22	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	87	1512	652	278	502
Grp Volume(v), veh/h	22	185	95	155	255	33	71	0	166	154	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1598	1432	0	0
Q Serve(g_s), s	0.5	2.3	2.6	3.4	2.9	0.8	3.3	0.0	9.0	9.2	0.0	0.0
Cycle Q Clear(g_c), s	0.5	2.3	2.6	3.4	2.9	0.8	3.3	0.0	9.0	10.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.95	0.51		0.35
Lane Grp Cap(c), veh/h	755	2092	933	790	2201	982	321	0	356	243	0	0
V/C Ratio(X)	0.03	0.09	0.10	0.20	0.12	0.03	0.22	0.00	0.47	0.63	0.00	0.00
Avail Cap(c_a), veh/h	803	2092	933	828	2201	982	407	0	679	458	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.6	8.9	9.0	6.8	7.8	7.4	33.5	0.0	33.7	42.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.1	0.1	0.1	0.3	0.0	1.0	2.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	1.5	1.7	2.1	2.0	0.5	2.6	0.0	6.4	6.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.7	9.0	9.2	6.9	7.9	7.5	33.9	0.0	34.7	44.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C		C	D		
Approach Vol, veh/h		302			443			237			154	
Approach Delay, s/veh		9.0			7.5			34.4			44.8	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	8
Phs Duration (G+Y+Rc), s	9.9	63.4	9.1	17.6	6.8	66.4	26.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	36.5	9.5	28.5	5.0	39.0	42.5
Max Q Clear Time (g_c+I1), s	5.4	4.6	5.3	12.4	2.5	4.9	11.0
Green Ext Time (p_c), s	0.1	1.5	0.0	0.7	0.0	1.9	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✣		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.893			0.862	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Flt Permitted	0.950			0.950				0.996		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Traffic Vol, veh/h	39	603	8	27	367	55	3	4	25	40	3	32
Future Vol, veh/h	39	603	8	27	367	55	3	4	25	40	3	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	655	9	29	399	60	3	4	27	43	3	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	459	0	0	664	0	0	1000	1258	328	872	1207	199
Stage 1	-	-	-	-	-	-	740	740	-	458	458	-
Stage 2	-	-	-	-	-	-	260	517	-	415	749	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1099	-	-	921	-	-	197	170	668	245	182	808
Stage 1	-	-	-	-	-	-	375	421	-	552	566	-
Stage 2	-	-	-	-	-	-	722	532	-	586	417	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1099	-	-	921	-	-	173	158	668	213	170	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	173	158	-	213	170	-
Stage 1	-	-	-	-	-	-	360	405	-	535	548	-
Stage 2	-	-	-	-	-	-	665	515	-	534	401	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.5	0.54	14.87	19.24
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	399	1099	-	-	921	-	-	213	611
HCM Lane V/C Ratio	0.087	0.039	-	-	0.032	-	-	0.204	0.062
HCM Control Delay (s/veh)	14.9	8.4	-	-	9	-	-	26.2	11.3
HCM Lane LOS	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.7	0.2

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.859			0.964	
Flt Protected	0.950			0.950			0.950				0.977	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1600	0	0	1754	0
Flt Permitted	0.950			0.950			0.950				0.977	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1600	0	0	1754	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	66.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Vol, veh/h	53	454	160	189	325	79	104	12	193	63	37	36
Future Vol, veh/h	53	454	160	189	325	79	104	12	193	63	37	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	493	174	205	353	86	113	13	210	68	40	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	439	0	0	667	0	0	1216	1459	247	1133	1547	177
Stage 1	-	-	-	-	-	-	609	609	-	764	764	-
Stage 2	-	-	-	-	-	-	608	850	-	368	783	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1117	-	-	918	-	-	137	128	753	158	113	836
Stage 1	-	-	-	-	-	-	449	484	-	362	411	-
Stage 2	-	-	-	-	-	-	450	375	-	624	403	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1117	-	-	918	-	-	~ 57	94	753	75	83	836
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 57	94	-	75	83	-
Stage 1	-	-	-	-	-	-	426	459	-	281	319	-
Stage 2	-	-	-	-	-	-	291	291	-	415	382	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.67	3.2	217.64	$ 320.57
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	57	535	1117	-	-	918	-	-	102
HCM Lane V/C Ratio	1.984	0.417	0.052	-	-	0.224	-	-	1.443
HCM Control Delay (s/veh)	$ 614.2	16.5	8.4	-	-	10	-	-	$ 320.6
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	10.9	2	0.2	-	-	0.9	-	-	10.8

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

3: Terry St. & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✣			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.896			0.980	
Flt Protected	0.950			0.950				0.989			0.959	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1751	0
Flt Permitted	0.950			0.950				0.989			0.959	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1751	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Traffic Vol, veh/h	10	690	9	24	582	28	8	0	28	16	0	3
Future Vol, veh/h	10	690	9	24	582	28	8	0	28	16	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	750	10	26	633	30	9	0	30	17	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	663	0	0	760	0	0	1140	1487	375	1082	1466	316
Stage 1	-	-	-	-	-	-	772	772	-	685	685	-
Stage 2	-	-	-	-	-	-	368	715	-	397	782	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	922	-	-	848	-	-	156	123	623	172	127	679
Stage 1	-	-	-	-	-	-	358	407	-	404	447	-
Stage 2	-	-	-	-	-	-	624	433	-	600	403	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	922	-	-	848	-	-	148	118	623	157	121	679
Mov Cap-2 Maneuver	-	-	-	-	-	-	148	118	-	157	121	-
Stage 1	-	-	-	-	-	-	354	403	-	392	433	-
Stage 2	-	-	-	-	-	-	602	419	-	564	398	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.36	16.07	27.81
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	364	922	-	-	848	-	-	178
HCM Lane V/C Ratio	0.107	0.012	-	-	0.031	-	-	0.116
HCM Control Delay (s/veh)	16.1	9	-	-	9.4	-	-	27.8
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.4

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.419			0.427			0.748			0.471		
Satd. Flow (perm)	780	3539	1583	795	3539	1583	1393	1863	1583	877	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			395			119			165
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

Intersection Summary	
Area Type:	Other

4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	189	547	10	44	444	363	3	19	46	229	14	152
Future Volume (vph)	189	547	10	44	444	363	3	19	46	229	14	152
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	35.0	35.0	9.5	35.0	35.0	14.9	40.6	40.6	14.9	40.6	40.6
Total Split (%)	9.5%	35.0%	35.0%	9.5%	35.0%	35.0%	14.9%	40.6%	40.6%	14.9%	40.6%	40.6%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	70.7	63.4	63.4	63.4	56.1	56.1	12.2	6.7	6.7	20.3	17.1	17.1
Actuated g/C Ratio	0.71	0.63	0.63	0.63	0.56	0.56	0.12	0.07	0.07	0.20	0.17	0.17
v/c Ratio	0.32	0.27	0.01	0.08	0.24	0.37	0.02	0.17	0.23	0.92	0.05	0.41
Control Delay (s/veh)	6.8	9.9	0.0	6.0	12.6	2.5	29.7	46.5	2.5	74.6	35.4	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.8	9.9	0.0	6.0	12.6	2.5	29.7	46.5	2.5	74.6	35.4	9.4
LOS	A	A	A	A	B	A	C	D	A	E	D	A
Approach Delay (s/veh)		9.0			8.0			16.1			48.1	
Approach LOS		A			A			B			D	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

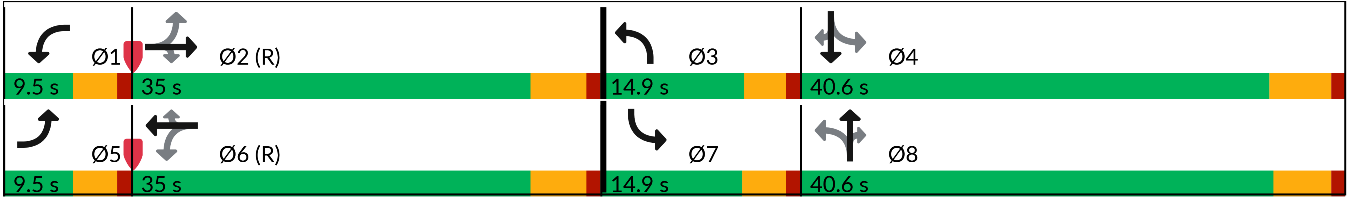
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay (s/veh): 16.3	Intersection LOS: B
Intersection Capacity Utilization 54.7%	ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Quaker St. & W 64th Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	205	595	11	48	483	395	3	21	50	249	15	165
v/c Ratio	0.32	0.27	0.01	0.08	0.24	0.37	0.02	0.17	0.23	0.92	0.05	0.41
Control Delay (s/veh)	6.8	9.9	0.0	6.0	12.6	2.5	29.7	46.5	2.5	74.6	35.4	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.8	9.9	0.0	6.0	12.6	2.5	29.7	46.5	2.5	74.6	35.4	9.4
Queue Length 50th (ft)	40	95	0	9	81	0	2	13	0	144	8	0
Queue Length 95th (ft)	71	137	0	21	125	47	9	36	0	#270	28	59
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	647	2242	1048	565	1984	1061	279	657	635	272	652	661
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.27	0.01	0.08	0.24	0.37	0.01	0.03	0.08	0.92	0.02	0.25

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	189	547	10	44	444	363	3	19	46	229	14	152
Future Volume (veh/h)	189	547	10	44	444	363	3	19	46	229	14	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	205	595	11	48	483	395	3	21	50	249	15	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	500	2168	967	570	2114	943	143	99	84	315	292	247
Arrive On Green	0.05	0.61	0.61	0.04	0.59	0.59	0.00	0.05	0.05	0.10	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	205	595	11	48	483	395	3	21	50	249	15	165
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.6	7.8	0.3	1.0	6.4	13.4	0.2	1.1	3.1	10.5	0.7	9.8
Cycle Q Clear(g_c), s	4.6	7.8	0.3	1.0	6.4	13.4	0.2	1.1	3.1	10.5	0.7	9.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	500	2168	967	570	2114	943	143	99	84	315	292	247
V/C Ratio(X)	0.41	0.27	0.01	0.08	0.23	0.42	0.02	0.21	0.59	0.79	0.05	0.67
Avail Cap(c_a), veh/h	500	2168	967	598	2114	943	327	660	560	315	655	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	9.1	7.7	7.2	9.5	10.9	44.5	45.3	46.3	40.1	35.9	39.7
Incr Delay (d2), s/veh	0.5	0.3	0.0	0.1	0.3	1.4	0.1	1.0	6.5	12.7	0.1	3.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	5.3	0.2	0.7	4.3	8.3	0.1	0.9	2.4	3.6	0.6	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.9	9.4	7.7	7.2	9.7	12.3	44.6	46.4	52.8	52.8	36.0	42.8
LnGrp LOS	A	A	A	A	A	B	D	D	D	D	D	D
Approach Vol, veh/h		811			926			74			429	
Approach Delay, s/veh		9.0			10.7			50.7			48.4	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	66.2	4.6	21.2	9.5	64.7	14.9	10.9
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	29.8	10.7	35.0	5.2	29.8	10.5	* 35
Max Q Clear Time (g_c+I1), s	3.0	9.8	2.2	11.8	6.6	15.4	12.5	5.1
Green Ext Time (p_c), s	0.0	4.0	0.0	0.6	0.0	4.1	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.859			0.964	
Flt Protected	0.950			0.950			0.950				0.977	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1600	0	0	1754	0
Flt Permitted	0.540			0.403			0.543				0.745	
Satd. Flow (perm)	1006	3539	1583	751	3539	1583	1011	1600	0	0	1338	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			174			115		210			18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		561			625			425			340	
Travel Time (s)		12.8			14.2			9.7			7.7	

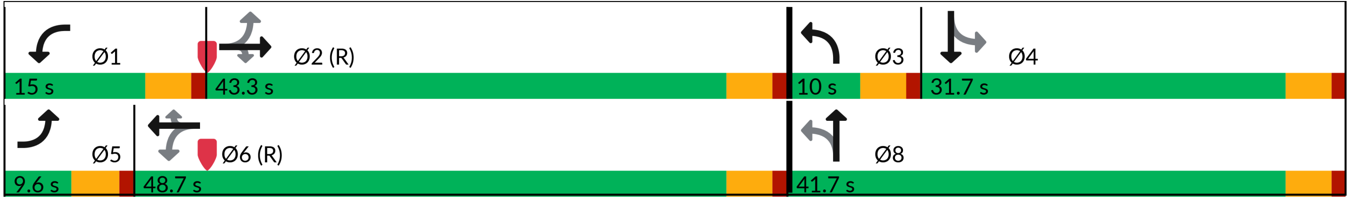
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		✥
Traffic Volume (vph)	53	454	160	189	325	79	104	12	63	37
Future Volume (vph)	53	454	160	189	325	79	104	12	63	37
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.6	43.3	43.3	15.0	48.7	48.7	10.0	41.7	31.7	31.7
Total Split (%)	9.6%	43.3%	43.3%	15.0%	48.7%	48.7%	10.0%	41.7%	31.7%	31.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	58.3	51.6	51.6	65.6	57.0	57.0	24.7	24.7		14.7
Actuated g/C Ratio	0.58	0.52	0.52	0.66	0.57	0.57	0.25	0.25		0.15
v/c Ratio	0.09	0.27	0.19	0.34	0.17	0.09	0.39	0.40		0.69
Control Delay (s/veh)	7.9	15.5	3.3	9.0	12.2	1.6	33.0	7.0		51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	7.9	15.5	3.3	9.0	12.2	1.6	33.0	7.0		51.5
LOS	A	B	A	A	B	A	C	A		D
Approach Delay (s/veh)		12.0			9.7			15.7		51.5
Approach LOS		B			A			B		D

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 51 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay (s/veh): 15.0 Intersection LOS: B
Intersection Capacity Utilization 58.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 200: Easley Rd. & W 64th Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	58	493	174	205	353	86	113	223	147
v/c Ratio	0.09	0.27	0.19	0.34	0.17	0.09	0.39	0.40	0.69
Control Delay (s/veh)	7.9	15.5	3.3	9.0	12.2	1.6	33.0	7.0	51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.9	15.5	3.3	9.0	12.2	1.6	33.0	7.0	51.5
Queue Length 50th (ft)	12	87	0	45	55	0	58	6	79
Queue Length 95th (ft)	31	152	39	90	96	15	96	58	135
Internal Link Dist (ft)		481			545			345	260
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	638	1824	900	613	2018	952	291	727	377
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.27	0.19	0.33	0.17	0.09	0.39	0.31	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱			✥	
Traffic Volume (veh/h)	53	454	160	189	325	79	104	12	193	63	37	36
Future Volume (veh/h)	53	454	160	189	325	79	104	12	193	63	37	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	493	174	205	353	86	113	13	210	68	40	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	664	2004	894	575	2107	940	328	22	349	122	63	48
Arrive On Green	0.04	0.56	0.56	0.07	0.59	0.59	0.05	0.23	0.23	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	93	1506	529	476	363
Grp Volume(v), veh/h	58	493	174	205	353	86	113	0	223	147	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1599	1368	0	0
Q Serve(g_s), s	1.3	7.0	5.4	4.7	4.5	2.3	5.4	0.0	12.4	8.1	0.0	0.0
Cycle Q Clear(g_c), s	1.3	7.0	5.4	4.7	4.5	2.3	5.4	0.0	12.4	10.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.94	0.46		0.27
Lane Grp Cap(c), veh/h	664	2004	894	575	2107	940	328	0	371	233	0	0
V/C Ratio(X)	0.09	0.25	0.19	0.36	0.17	0.09	0.34	0.00	0.60	0.63	0.00	0.00
Avail Cap(c_a), veh/h	684	2004	894	639	2107	940	328	0	595	430	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.1	11.0	10.7	7.8	9.2	8.8	33.6	0.0	34.3	42.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.5	0.4	0.2	0.2	0.6	0.0	1.6	2.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	4.9	3.4	3.1	3.1	1.5	4.2	0.0	8.6	6.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.2	11.3	11.2	8.2	9.4	9.0	34.2	0.0	35.8	45.1	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	C		D	D		
Approach Vol, veh/h		725			644			336			147	
Approach Delay, s/veh		11.0			8.9			35.3			45.1	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.4	60.9	10.0	17.7	8.5	63.8		27.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.5	38.8	5.5	27.2	5.1	44.2		37.2
Max Q Clear Time (g_c+I1), s	6.7	9.0	7.4	12.5	3.3	6.5		14.4
Green Ext Time (p_c), s	0.2	4.2	0.0	0.7	0.0	2.8		1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	17.4
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Lanes and Geometrics
1: Virgil Way & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.915			0.890	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1658	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1658	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Traffic Vol, veh/h	8	250	3	20	344	44	10	10	34	64	7	20
Future Vol, veh/h	8	250	3	20	344	44	10	10	34	64	7	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	272	3	22	374	48	11	11	37	70	8	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	422	0	0	275	0	0	523	754	136	576	710	187
Stage 1	-	-	-	-	-	-	289	289	-	417	417	-
Stage 2	-	-	-	-	-	-	234	465	-	159	292	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1134	-	-	1285	-	-	437	337	888	400	357	823
Stage 1	-	-	-	-	-	-	694	672	-	584	589	-
Stage 2	-	-	-	-	-	-	748	561	-	828	669	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1134	-	-	1285	-	-	406	328	888	362	348	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	406	328	-	362	348	-
Stage 1	-	-	-	-	-	-	689	666	-	574	579	-
Stage 2	-	-	-	-	-	-	706	552	-	774	664	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.25	0.38	11.93	15.49
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	578	1134	-	-	1285	-	-	362	608
HCM Lane V/C Ratio	0.102	0.008	-	-	0.017	-	-	0.192	0.048
HCM Control Delay (s/veh)	11.9	8.2	-	-	7.8	-	-	17.3	11.2
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.7	0.2

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.856			0.962	
Flt Protected	0.950			0.950			0.950				0.990	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1774	0
Flt Permitted	0.950			0.950			0.950				0.990	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1774	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Vol, veh/h	8	225	116	190	311	12	86	8	191	7	18	10
Future Vol, veh/h	8	225	116	190	311	12	86	8	191	7	18	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	245	126	207	338	13	93	9	208	8	20	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	351	0	0	371	0	0	854	1026	122	895	1139	169
Stage 1	-	-	-	-	-	-	262	262	-	751	751	-
Stage 2	-	-	-	-	-	-	592	764	-	144	388	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1204	-	-	1184	-	-	252	233	906	235	200	845
Stage 1	-	-	-	-	-	-	720	690	-	369	416	-
Stage 2	-	-	-	-	-	-	460	411	-	844	607	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1204	-	-	1184	-	-	184	191	906	143	164	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	191	-	143	164	-
Stage 1	-	-	-	-	-	-	715	685	-	305	344	-
Stage 2	-	-	-	-	-	-	353	339	-	638	603	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.18	3.21	20.96	26.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	184	787	1204	-	-	1184	-	-	205
HCM Lane V/C Ratio	0.509	0.275	0.007	-	-	0.174	-	-	0.185
HCM Control Delay (s/veh)	43.3	11.3	8	-	-	8.7	-	-	26.5
HCM Lane LOS	E	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	2.5	1.1	0	-	-	0.6	-	-	0.7

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.877			0.939	
Flt Protected	0.950			0.950				0.995			0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1625	0	0	1705	0
Flt Permitted	0.950			0.950				0.995			0.975	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1625	0	0	1705	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Traffic Vol, veh/h	7	409	7	20	494	25	5	0	46	16	1	14
Future Vol, veh/h	7	409	7	20	494	25	5	0	46	16	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	445	8	22	537	27	5	0	50	17	1	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	564	0	0	452	0	0	772	1067	222	818	1048	268
Stage 1	-	-	-	-	-	-	460	460	-	580	580	-
Stage 2	-	-	-	-	-	-	312	608	-	237	467	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1004	-	-	1105	-	-	289	220	781	268	226	730
Stage 1	-	-	-	-	-	-	551	564	-	467	498	-
Stage 2	-	-	-	-	-	-	673	484	-	744	560	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1004	-	-	1105	-	-	274	214	781	244	220	730
Mov Cap-2 Maneuver	-	-	-	-	-	-	274	214	-	244	220	-
Stage 1	-	-	-	-	-	-	547	560	-	458	488	-
Stage 2	-	-	-	-	-	-	644	475	-	692	556	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.14	0.31	10.94	16.49
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	661	1004	-	-	1105	-	-	347
HCM Lane V/C Ratio	0.084	0.008	-	-	0.02	-	-	0.097
HCM Control Delay (s/veh)	10.9	8.6	-	-	8.3	-	-	16.5
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.3

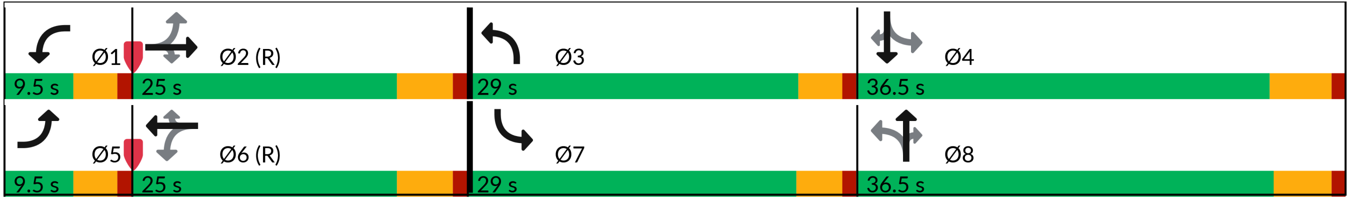
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.442			0.551			0.749			0.467		
Satd. Flow (perm)	823	3539	1583	1026	3539	1583	1395	1863	1583	870	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			240			119			195
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	130	306	10	49	363	221	4	14	65	503	12	179
Future Volume (vph)	130	306	10	49	363	221	4	14	65	503	12	179
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	25.0	25.0	9.5	25.0	25.0	29.0	36.5	36.5	29.0	36.5	36.5
Total Split (%)	9.5%	25.0%	25.0%	9.5%	25.0%	25.0%	29.0%	36.5%	36.5%	29.0%	36.5%	36.5%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	56.0	47.0	47.0	50.4	42.6	42.6	11.9	6.4	6.4	34.1	30.9	30.9
Actuated g/C Ratio	0.56	0.47	0.47	0.50	0.43	0.43	0.12	0.06	0.06	0.34	0.31	0.31
v/c Ratio	0.26	0.20	0.01	0.09	0.26	0.30	0.02	0.13	0.33	1.06	0.02	0.31
Control Delay (s/veh)	12.2	17.7	0.0	11.5	20.5	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.2	17.7	0.0	11.5	20.5	4.0	22.5	46.0	6.3	86.3	24.7	5.5
LOS	B	B	A	B	C	A	C	D	A	F	C	A
Approach Delay (s/veh)		15.7			14.0			13.6			64.4	
Approach LOS		B			B			B			E	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 98 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay (s/veh): 33.2	Intersection LOS: C
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.



Queues
4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	333	11	53	395	240	4	15	71	547	13	195
v/c Ratio	0.26	0.20	0.01	0.09	0.26	0.30	0.02	0.13	0.33	1.06	0.02	0.31
Control Delay (s/veh)	12.2	17.7	0.0	11.5	20.5	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.2	17.7	0.0	11.5	20.5	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Length 50th (ft)	41	68	0	15	86	0	2	9	0	~329	5	0
Queue Length 95th (ft)	75	105	0	34	133	50	9	30	12	#488	21	53
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	549	1664	809	568	1507	812	525	581	575	518	620	657
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.20	0.01	0.09	0.26	0.30	0.01	0.03	0.12	1.06	0.02	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary
4: Quaker St. & W 64th Ave.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	130	306	10	49	363	221	4	14	65	503	12	179
Future Volume (veh/h)	130	306	10	49	363	221	4	14	65	503	12	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	333	11	53	395	240	4	15	71	547	13	195
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	1614	720	553	1566	699	159	124	105	587	578	490
Arrive On Green	0.05	0.45	0.45	0.04	0.44	0.44	0.01	0.07	0.07	0.25	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	141	333	11	53	395	240	4	15	71	547	13	195
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.4	5.6	0.4	1.6	7.0	10.0	0.2	0.8	4.4	24.6	0.5	9.7
Cycle Q Clear(g_c), s	4.4	5.6	0.4	1.6	7.0	10.0	0.2	0.8	4.4	24.6	0.5	9.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	1614	720	553	1566	699	159	124	105	587	578	490
V/C Ratio(X)	0.31	0.21	0.02	0.10	0.25	0.34	0.03	0.12	0.68	0.93	0.02	0.40
Avail Cap(c_a), veh/h	459	1614	720	577	1566	699	592	584	495	587	578	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	16.4	15.0	14.1	17.6	18.4	43.2	43.9	45.6	32.8	24.0	27.2
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.1	0.4	1.3	0.1	0.4	7.4	21.8	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	4.2	0.3	1.2	5.2	6.9	0.2	0.7	3.5	8.0	0.4	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.6	16.7	15.0	14.1	18.0	19.8	43.3	44.4	53.0	54.6	24.1	27.7
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		485			688			90			755	
Approach Delay, s/veh		16.1			18.3			51.1			47.2	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	50.6	4.7	36.5	9.5	49.3	29.0	12.2
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	19.8	24.8	30.9	5.2	19.8	24.6	* 31
Max Q Clear Time (g_c+I1), s	3.6	7.6	2.2	11.7	6.4	12.0	26.6	6.4
Green Ext Time (p_c), s	0.0	1.7	0.0	0.6	0.0	2.2	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	30.0
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

200: Easley Rd. & W 64th Ave.

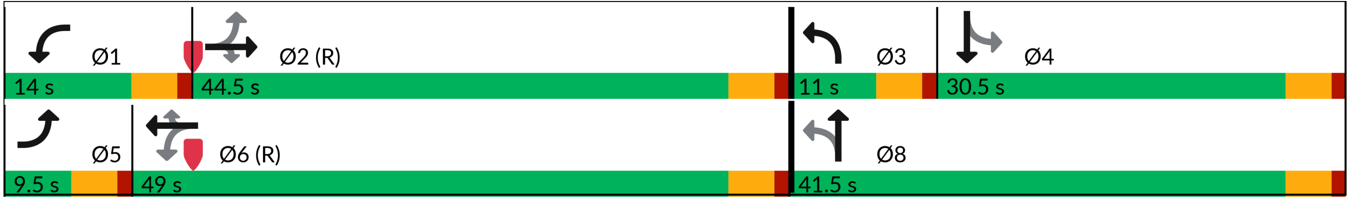
	⤴	→	⤵	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱			↰↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.856			0.962	
Flt Protected	0.950			0.950			0.950				0.990	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1774	0
Flt Permitted	0.548			0.559			0.613				0.870	
Satd. Flow (perm)	1021	3539	1583	1041	3539	1583	1142	1595	0	0	1559	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			115		208			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		606			489			425			365	
Travel Time (s)		13.8			11.1			9.7			8.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱		✣
Traffic Volume (vph)	8	225	116	190	311	12	86	8	7	18
Future Volume (vph)	8	225	116	190	311	12	86	8	7	18
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	44.5	44.5	14.0	49.0	49.0	11.0	41.5	30.5	30.5
Total Split (%)	9.5%	44.5%	44.5%	14.0%	49.0%	49.0%	11.0%	41.5%	30.5%	30.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	69.2	63.6	63.6	77.0	74.9	74.9	14.2	14.0		7.3
Actuated g/C Ratio	0.69	0.64	0.64	0.77	0.75	0.75	0.14	0.14		0.07
v/c Ratio	0.01	0.11	0.12	0.24	0.13	0.01	0.46	0.54		0.31
Control Delay (s/veh)	4.8	8.8	2.3	4.6	5.0	0.0	44.0	11.0		40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	4.8	8.8	2.3	4.6	5.0	0.0	44.0	11.0		40.4
LOS	A	A	A	A	A	A	D	B		D
Approach Delay (s/veh)		6.5			4.7			20.9		40.4
Approach LOS		A			A			C		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 54 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay (s/veh): 10.2	Intersection LOS: B
Intersection Capacity Utilization 40.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 200: Easley Rd. & W 64th Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	9	245	126	207	338	13	93	217	39
v/c Ratio	0.01	0.11	0.12	0.24	0.13	0.01	0.46	0.54	0.31
Control Delay (s/veh)	4.8	8.8	2.3	4.6	5.0	0.0	44.0	11.0	40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.8	8.8	2.3	4.6	5.0	0.0	44.0	11.0	40.4
Queue Length 50th (ft)	1	33	0	34	28	0	52	5	17
Queue Length 95th (ft)	6	58	26	63	67	0	95	65	49
Internal Link Dist (ft)		526			409			345	285
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	749	2250	1052	875	2649	1214	203	721	413
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.11	0.12	0.24	0.13	0.01	0.46	0.30	0.09

Intersection Summary

HCM 7th Signalized Intersection Summary
200: Easley Rd. & W 64th Ave.

Avalon Arvada
06/25/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Volume (veh/h)	8	225	116	190	311	12	86	8	191	7	18	10
Future Volume (veh/h)	8	225	116	190	311	12	86	8	191	7	18	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	245	126	207	338	13	93	9	208	8	20	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	753	2280	1017	798	2449	1092	298	11	252	54	54	26
Arrive On Green	0.01	0.64	0.64	0.06	0.69	0.69	0.06	0.16	0.16	0.06	0.06	0.06
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	66	1529	189	942	444
Grp Volume(v), veh/h	9	245	126	207	338	13	93	0	217	39	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1595	1575	0	0
Q Serve(g_s), s	0.2	2.7	3.1	3.7	3.3	0.3	4.7	0.0	13.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	2.7	3.1	3.7	3.3	0.3	4.7	0.0	13.2	2.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	0.21		0.28
Lane Grp Cap(c), veh/h	753	2280	1017	798	2449	1092	298	0	263	134	0	0
V/C Ratio(X)	0.01	0.11	0.12	0.26	0.14	0.01	0.31	0.00	0.83	0.29	0.00	0.00
Avail Cap(c_a), veh/h	822	2280	1017	863	2449	1092	303	0	590	456	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.1	6.9	7.0	4.6	5.3	4.9	39.0	0.0	40.4	45.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.2	0.1	0.0	0.6	0.0	6.5	1.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	1.7	1.9	2.1	2.0	0.1	3.8	0.0	9.5	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.1	7.0	7.2	4.7	5.5	4.9	39.6	0.0	46.9	46.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D		D	D		
Approach Vol, veh/h		380			558			310			39	
Approach Delay, s/veh		7.0			5.2			44.7			46.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	68.7	10.7	10.2	5.6	73.4		21.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	9.5	40.0	6.5	26.0	5.0	44.5		37.0
Max Q Clear Time (g_c+I1), s	5.7	5.1	6.7	4.4	2.2	5.3		15.2
Green Ext Time (p_c), s	0.2	2.1	0.0	0.1	0.0	2.5		1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

	⤴	→	⤵	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.892			0.862	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1655	0	1770	1606	0
Flt Permitted	0.950			0.950				0.996		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1655	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Traffic Vol, veh/h	52	746	11	35	454	68	4	5	33	44	4	42
Future Vol, veh/h	52	746	11	35	454	68	4	5	33	44	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	811	12	38	493	74	4	5	36	48	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	567	0	0	823	0	0	1249	1567	405	1091	1505	247
Stage 1	-	-	-	-	-	-	924	924	-	570	570	-
Stage 2	-	-	-	-	-	-	325	643	-	521	936	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1001	-	-	803	-	-	129	110	595	169	120	753
Stage 1	-	-	-	-	-	-	290	346	-	474	504	-
Stage 2	-	-	-	-	-	-	661	466	-	506	342	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1001	-	-	803	-	-	105	99	595	136	108	753
Mov Cap-2 Maneuver	-	-	-	-	-	-	105	99	-	136	108	-
Stage 1	-	-	-	-	-	-	274	327	-	451	480	-
Stage 2	-	-	-	-	-	-	587	444	-	442	323	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.57	0.61	19.62	28.79
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	292	1001	-	-	803	-	-	136	496
HCM Lane V/C Ratio	0.157	0.056	-	-	0.047	-	-	0.352	0.101
HCM Control Delay (s/veh)	19.6	8.8	-	-	9.7	-	-	45.2	13.1
HCM Lane LOS	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.1	-	-	1.4	0.3

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.854			0.981	
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Flt Permitted	0.950			0.950			0.950				0.985	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	93.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Vol, veh/h	8	602	213	251	431	8	138	7	256	25	44	11
Future Vol, veh/h	8	602	213	251	431	8	138	7	256	25	44	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	654	232	273	468	9	150	8	278	27	48	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	477	0	0	886	0	0	1476	1695	327	1363	1917	234
Stage 1	-	-	-	-	-	-	672	672	-	1014	1014	-
Stage 2	-	-	-	-	-	-	804	1023	-	348	903	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1081	-	-	760	-	-	~ 88	92	669	107	67	768
Stage 1	-	-	-	-	-	-	412	453	-	255	314	-
Stage 2	-	-	-	-	-	-	343	311	-	641	354	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1081	-	-	760	-	-	~ 55	58	669	36	~ 42	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 55	58	-	36	~ 42	-
Stage 1	-	-	-	-	-	-	408	449	-	164	201	-
Stage 2	-	-	-	-	-	-	165	200	-	365	351	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.08	4.5	$ 336.55	$ 612.47
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	55	523	1081	-	-	760	-	-	46
HCM Lane V/C Ratio	2.727	0.547	0.008	-	-	0.359	-	-	1.895
HCM Control Delay (s/veh)	$ 940.1	19.9	8.4	-	-	12.4	-	-	$ 612.5
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	15.5	3.3	0	-	-	1.6	-	-	8.8

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.896			0.974	
Flt Protected	0.950			0.950				0.989			0.961	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1744	0
Flt Permitted	0.950			0.950				0.989			0.961	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1744	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✣			✣	
Traffic Vol, veh/h	14	857	12	31	675	27	11	0	37	16	0	4
Future Vol, veh/h	14	857	12	31	675	27	11	0	37	16	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	932	13	34	734	29	12	0	40	17	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	763	0	0	945	0	0	1396	1792	466	1297	1776	367
Stage 1	-	-	-	-	-	-	962	962	-	801	801	-
Stage 2	-	-	-	-	-	-	434	830	-	496	975	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	845	-	-	722	-	-	101	80	543	119	82	630
Stage 1	-	-	-	-	-	-	275	332	-	344	395	-
Stage 2	-	-	-	-	-	-	570	383	-	524	328	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	845	-	-	722	-	-	94	75	543	103	77	630
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	75	-	103	77	-
Stage 1	-	-	-	-	-	-	270	326	-	328	377	-
Stage 2	-	-	-	-	-	-	540	365	-	477	322	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.15	0.43	22.4	40.06
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	259	845	-	-	722	-	-	124
HCM Lane V/C Ratio	0.202	0.018	-	-	0.047	-	-	0.175
HCM Control Delay (s/veh)	22.4	9.3	-	-	10.2	-	-	40.1
HCM Lane LOS	C	A	-	-	B	-	-	E
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.6

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.345			0.374			0.744			0.475		
Satd. Flow (perm)	643	3539	1583	697	3539	1583	1386	1863	1583	885	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			523			119			200
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

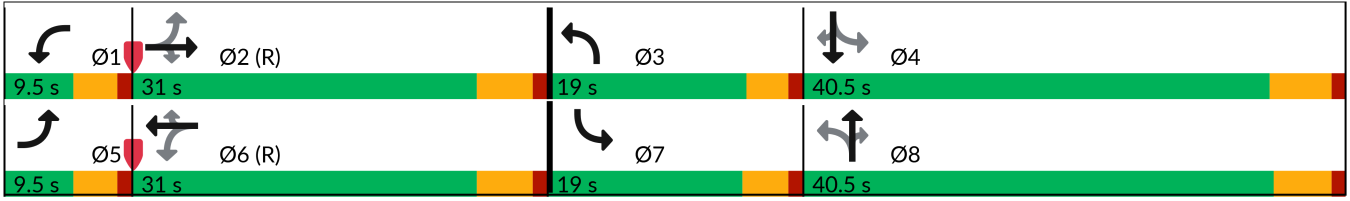
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	240	672	14	59	501	481	4	25	61	304	19	184
Future Volume (vph)	240	672	14	59	501	481	4	25	61	304	19	184
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	31.0	31.0	9.5	31.0	31.0	19.0	40.5	40.5	19.0	40.5	40.5
Total Split (%)	9.5%	31.0%	31.0%	9.5%	31.0%	31.0%	19.0%	40.5%	40.5%	19.0%	40.5%	40.5%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	66.5	56.5	56.5	51.8	44.0	44.0	12.5	7.0	7.0	24.8	21.5	21.5
Actuated g/C Ratio	0.67	0.57	0.57	0.52	0.44	0.44	0.13	0.07	0.07	0.25	0.22	0.22
v/c Ratio	0.42	0.37	0.02	0.15	0.35	0.53	0.02	0.21	0.30	0.95	0.05	0.40
Control Delay (s/veh)	9.5	14.2	0.0	8.7	19.9	3.9	26.8	47.0	4.6	72.6	31.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.5	14.2	0.0	8.7	19.9	3.9	26.8	47.0	4.6	72.6	31.5	7.7
LOS	A	B	A	A	B	A	C	D	A	E	C	A
Approach Delay (s/veh)		12.7			11.9			17.3			47.5	
Approach LOS		B			B			B			D	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay (s/veh): 19.4 Intersection LOS: B
Intersection Capacity Utilization 63.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Quaker St. & W 64th Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	261	730	15	64	545	523	4	27	66	330	21	200
v/c Ratio	0.42	0.37	0.02	0.15	0.35	0.53	0.02	0.21	0.30	0.95	0.05	0.40
Control Delay (s/veh)	9.5	14.2	0.0	8.7	19.9	3.9	26.8	47.0	4.6	72.6	31.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.5	14.2	0.0	8.7	19.9	3.9	26.8	47.0	4.6	72.6	31.5	7.7
Queue Length 50th (ft)	63	139	0	14	120	0	2	17	0	189	10	0
Queue Length 95th (ft)	106	198	0	31	167	61	10	43	7	#268	32	61
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	623	1998	947	434	1557	989	355	655	634	348	650	682
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.37	0.02	0.15	0.35	0.53	0.01	0.04	0.10	0.95	0.03	0.29

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	240	672	14	59	501	481	4	25	61	304	19	184
Future Volume (veh/h)	240	672	14	59	501	481	4	25	61	304	19	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	730	15	64	545	523	4	27	66	330	21	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	1967	878	460	1930	861	155	119	101	397	386	327
Arrive On Green	0.05	0.55	0.55	0.04	0.54	0.54	0.01	0.06	0.06	0.15	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	261	730	15	64	545	523	4	27	66	330	21	200
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.2	11.5	0.4	1.5	8.3	22.5	0.2	1.4	4.1	14.6	0.9	11.5
Cycle Q Clear(g_c), s	5.2	11.5	0.4	1.5	8.3	22.5	0.2	1.4	4.1	14.6	0.9	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	1967	878	460	1930	861	155	119	101	397	386	327
V/C Ratio(X)	0.64	0.37	0.02	0.14	0.28	0.61	0.03	0.23	0.65	0.83	0.05	0.61
Avail Cap(c_a), veh/h	408	1967	878	478	1930	861	410	658	558	397	653	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	12.5	10.1	9.5	12.3	15.6	43.4	44.5	45.7	37.1	31.8	36.0
Incr Delay (d2), s/veh	3.3	0.5	0.0	0.1	0.4	3.2	0.1	1.0	6.9	13.8	0.1	1.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	8.0	0.3	1.1	5.8	13.2	0.2	1.2	3.2	4.0	0.7	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.7	13.1	10.1	9.7	12.7	18.7	43.5	45.4	52.6	50.9	31.9	37.9
LnGrp LOS	B	B	B	A	B	B	D	D	D	D	C	D
Approach Vol, veh/h		1006			1132			97			551	
Approach Delay, s/veh		13.7			15.3			50.3			45.5	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	60.6	4.7	26.3	9.5	59.5	19.0	12.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	25.8	14.8	34.9	5.2	25.8	14.6	* 35
Max Q Clear Time (g_c+I1), s	3.5	13.5	2.2	13.5	7.2	24.5	16.6	6.1
Green Ext Time (p_c), s	0.0	4.1	0.0	0.7	0.0	0.8	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	21.9
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.854			0.981	
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Flt Permitted	0.483			0.336			0.500				0.694	
Satd. Flow (perm)	900	3539	1583	626	3539	1583	931	1591	0	0	1268	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			232			115		265			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		561			625			425			340	
Travel Time (s)		12.8			14.2			9.7			7.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱		✥
Traffic Volume (vph)	8	602	213	251	431	8	138	7	25	44
Future Volume (vph)	8	602	213	251	431	8	138	7	25	44
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	42.9	42.9	16.0	49.4	49.4	9.6	41.1	31.5	31.5
Total Split (%)	9.5%	42.9%	42.9%	16.0%	49.4%	49.4%	9.6%	41.1%	31.5%	31.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	63.3	57.6	57.6	73.0	70.9	70.9	18.0	18.0		10.4
Actuated g/C Ratio	0.63	0.58	0.58	0.73	0.71	0.71	0.18	0.18		0.10
v/c Ratio	0.01	0.32	0.23	0.47	0.19	0.01	0.71	0.57		0.63
Control Delay (s/veh)	6.0	13.2	2.6	8.0	6.5	0.0	54.4	10.1		57.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	6.0	13.2	2.6	8.0	6.5	0.0	54.4	10.1		57.6
LOS	A	B	A	A	A	A	D	B		E
Approach Delay (s/veh)		10.4			7.0			25.4		57.6
Approach LOS		B			A			C		E

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 51 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

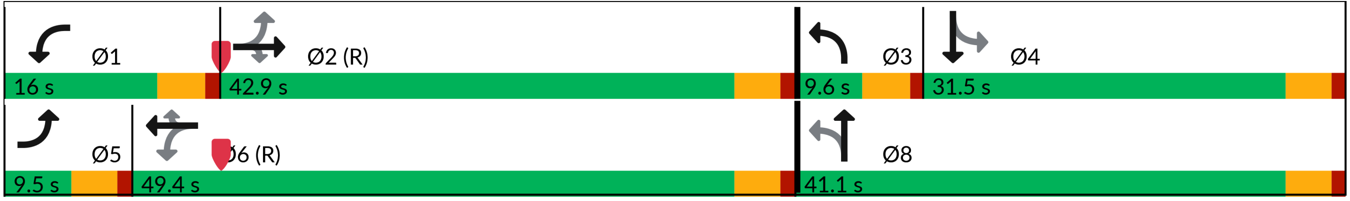
Maximum v/c Ratio: 0.71

Intersection Signal Delay (s/veh): 14.1 Intersection LOS: B

Intersection Capacity Utilization 66.1% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 200: Easley Rd. & W 64th Ave.



200: Easley Rd. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	9	654	232	273	468	9	150	286	87
v/c Ratio	0.01	0.32	0.23	0.47	0.19	0.01	0.71	0.57	0.63
Control Delay (s/veh)	6.0	13.2	2.6	8.0	6.5	0.0	54.4	10.1	57.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.0	13.2	2.6	8.0	6.5	0.0	54.4	10.1	57.6
Queue Length 50th (ft)	1	112	0	52	45	0	84	11	49
Queue Length 95th (ft)	7	183	40	97	103	0	136	78	96
Internal Link Dist (ft)		481			545			345	260
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	619	2037	1009	599	2507	1155	211	750	348
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.32	0.23	0.46	0.19	0.01	0.71	0.38	0.25

Intersection Summary

200: Easley Rd. & W 64th Ave.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✣	
Traffic Volume (veh/h)	8	602	213	251	431	8	138	7	256	25	44	11
Future Volume (veh/h)	8	602	213	251	431	8	138	7	256	25	44	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	654	232	273	468	9	150	8	278	27	48	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	618	2038	909	517	2289	1021	289	9	325	64	87	17
Arrive On Green	0.01	0.57	0.57	0.08	0.64	0.64	0.05	0.21	0.21	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	45	1547	151	760	146
Grp Volume(v), veh/h	9	654	232	273	468	9	150	0	286	87	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1592	1056	0	0
Q Serve(g_s), s	0.2	9.6	7.3	5.9	5.4	0.2	5.1	0.0	17.3	1.3	0.0	0.0
Cycle Q Clear(g_c), s	0.2	9.6	7.3	5.9	5.4	0.2	5.1	0.0	17.3	9.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.97	0.31		0.14
Lane Grp Cap(c), veh/h	618	2038	909	517	2289	1021	289	0	334	168	0	0
V/C Ratio(X)	0.01	0.32	0.26	0.53	0.20	0.01	0.52	0.00	0.86	0.52	0.00	0.00
Avail Cap(c_a), veh/h	687	2038	909	576	2289	1021	289	0	583	402	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.7	11.1	10.7	7.4	7.3	6.4	36.7	0.0	38.0	42.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.7	0.8	0.2	0.0	1.7	0.0	6.3	2.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	6.7	4.7	3.8	3.5	0.1	6.2	0.0	11.6	4.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.7	11.6	11.3	8.3	7.5	6.4	38.3	0.0	44.3	44.6	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	D		D	D		
Approach Vol, veh/h		895			750			436			87	
Approach Delay, s/veh		11.5			7.8			42.3			44.6	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.7	61.8	9.6	15.9	5.6	68.9		25.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.5	38.4	5.1	27.0	5.0	44.9		36.6
Max Q Clear Time (g_c+I1), s	7.9	11.6	7.1	11.0	2.2	7.4		19.3
Green Ext Time (p_c), s	0.3	5.8	0.0	0.3	0.0	3.5		1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	17.7
HCM 7th LOS	B

1: Virgil Way & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.915			0.890	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1658	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1658	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥		↰	↱	
Traffic Vol, veh/h	8	262	3	20	381	50	10	10	34	66	7	20
Future Vol, veh/h	8	262	3	20	381	50	10	10	34	66	7	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	285	3	22	414	54	11	11	37	72	8	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	468	0	0	288	0	0	557	814	142	623	763	207
Stage 1	-	-	-	-	-	-	302	302	-	458	458	-
Stage 2	-	-	-	-	-	-	254	512	-	165	305	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1089	-	-	1271	-	-	413	311	879	370	333	799
Stage 1	-	-	-	-	-	-	682	663	-	552	566	-
Stage 2	-	-	-	-	-	-	728	535	-	820	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1089	-	-	1271	-	-	383	303	879	334	324	799
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	303	-	334	324	-
Stage 1	-	-	-	-	-	-	677	657	-	543	556	-
Stage 2	-	-	-	-	-	-	686	526	-	767	655	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.24	0.35	12.29	16.63
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	552	1089	-	-	1271	-	-	334	579
HCM Lane V/C Ratio	0.106	0.008	-	-	0.017	-	-	0.215	0.051
HCM Control Delay (s/veh)	12.3	8.3	-	-	7.9	-	-	18.7	11.5
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.8	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.953	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1733	0
Flt Permitted	0.950			0.950			0.950				0.976	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1733	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	16.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Traffic Vol, veh/h	22	225	116	190	311	33	86	10	191	75	24	53
Future Vol, veh/h	22	225	116	190	311	33	86	10	191	75	24	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	245	126	207	338	36	93	11	208	82	26	58

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	374	0	0	371	0	0	888	1079	122	927	1170	169
Stage 1	-	-	-	-	-	-	292	292	-	751	751	-
Stage 2	-	-	-	-	-	-	595	787	-	176	418	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1181	-	-	1184	-	-	238	217	906	223	192	845
Stage 1	-	-	-	-	-	-	691	669	-	369	416	-
Stage 2	-	-	-	-	-	-	458	401	-	809	589	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1181	-	-	1184	-	-	154	175	906	132	155	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	175	-	132	155	-
Stage 1	-	-	-	-	-	-	677	656	-	305	344	-
Stage 2	-	-	-	-	-	-	325	331	-	601	577	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.49			3.09			25.85			81.28		
HCM LOS							D			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	154	750	1181	-	-	1184	-	-	194
HCM Lane V/C Ratio	0.605	0.291	0.02	-	-	0.174	-	-	0.853
HCM Control Delay (s/veh)	58.8	11.8	8.1	-	-	8.7	-	-	81.3
HCM Lane LOS	F	B	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	3.2	1.2	0.1	-	-	0.6	-	-	6.3

Lanes and Geometrics

3: Terry St. & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.877			0.949	
Flt Protected	0.950			0.950				0.995			0.971	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1625	0	0	1716	0
Flt Permitted	0.950			0.950				0.995			0.971	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1625	0	0	1716	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

3: Terry St. & W 64th Ave.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Traffic Vol, veh/h	7	477	7	20	515	27	5	0	46	22	1	14
Future Vol, veh/h	7	477	7	20	515	27	5	0	46	22	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	518	8	22	560	29	5	0	50	24	1	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	589	0	0	526	0	0	858	1166	259	878	1145	280
Stage 1	-	-	-	-	-	-	534	534	-	603	603	-
Stage 2	-	-	-	-	-	-	324	633	-	274	541	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	982	-	-	1037	-	-	251	193	740	242	198	717
Stage 1	-	-	-	-	-	-	498	523	-	452	486	-
Stage 2	-	-	-	-	-	-	662	472	-	708	519	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	982	-	-	1037	-	-	237	187	740	220	193	717
Mov Cap-2 Maneuver	-	-	-	-	-	-	237	187	-	220	193	-
Stage 1	-	-	-	-	-	-	494	519	-	443	476	-
Stage 2	-	-	-	-	-	-	633	462	-	655	515	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.12	0.3	11.46	19.05
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	612	982	-	-	1037	-	-	296
HCM Lane V/C Ratio	0.091	0.008	-	-	0.021	-	-	0.136
HCM Control Delay (s/veh)	11.5	8.7	-	-	8.5	-	-	19.1
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.5

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.419			0.516			0.749			0.467		
Satd. Flow (perm)	780	3539	1583	961	3539	1583	1395	1863	1583	870	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			240			119			199
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	142	368	10	49	383	221	4	14	65	503	12	183
Future Volume (vph)	142	368	10	49	383	221	4	14	65	503	12	183
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	25.0	25.0	9.5	25.0	25.0	29.0	36.5	36.5	29.0	36.5	36.5
Total Split (%)	9.5%	25.0%	25.0%	9.5%	25.0%	25.0%	29.0%	36.5%	36.5%	29.0%	36.5%	36.5%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	56.5	47.0	47.0	49.8	42.0	42.0	11.9	6.4	6.4	34.1	30.9	30.9
Actuated g/C Ratio	0.57	0.47	0.47	0.50	0.42	0.42	0.12	0.06	0.06	0.34	0.31	0.31
v/c Ratio	0.29	0.24	0.01	0.10	0.28	0.30	0.02	0.13	0.33	1.06	0.02	0.32
Control Delay (s/veh)	12.5	18.1	0.0	11.6	21.1	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.5	18.1	0.0	11.6	21.1	4.0	22.5	46.0	6.3	86.3	24.7	5.5
LOS	B	B	A	B	C	A	C	D	A	F	C	A
Approach Delay (s/veh)		16.2			14.6			13.6			64.1	
Approach LOS		B			B			B			E	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

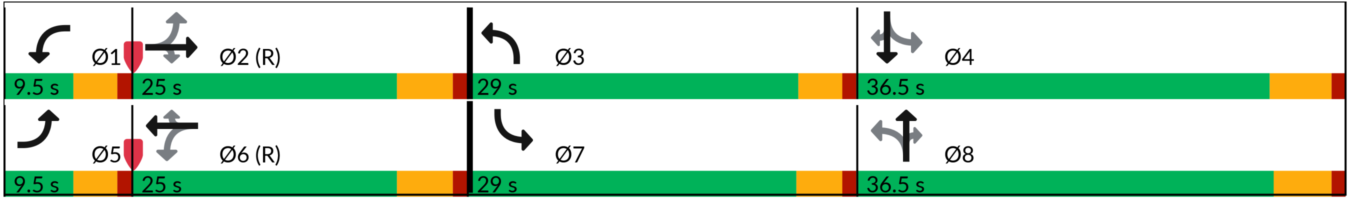
Maximum v/c Ratio: 1.06

Intersection Signal Delay (s/veh): 32.7 Intersection LOS: C

Intersection Capacity Utilization 65.6% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Quaker St. & W 64th Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	154	400	11	53	416	240	4	15	71	547	13	199
v/c Ratio	0.29	0.24	0.01	0.10	0.28	0.30	0.02	0.13	0.33	1.06	0.02	0.32
Control Delay (s/veh)	12.5	18.1	0.0	11.6	21.1	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.5	18.1	0.0	11.6	21.1	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Length 50th (ft)	45	83	0	15	93	0	2	9	0	~329	5	0
Queue Length 95th (ft)	81	125	0	34	141	50	9	30	12	#488	21	53
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	539	1664	809	534	1484	803	525	581	575	518	620	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.24	0.01	0.10	0.28	0.30	0.01	0.03	0.12	1.06	0.02	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary
4: Quaker St. & W 64th Ave.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	142	368	10	49	383	221	4	14	65	503	12	183
Future Volume (veh/h)	142	368	10	49	383	221	4	14	65	503	12	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	400	11	53	416	240	4	15	71	547	13	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	1614	720	516	1566	699	159	124	105	587	578	490
Arrive On Green	0.05	0.45	0.45	0.04	0.44	0.44	0.01	0.07	0.07	0.25	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	154	400	11	53	416	240	4	15	71	547	13	199
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.8	6.9	0.4	1.6	7.4	10.0	0.2	0.8	4.4	24.6	0.5	9.9
Cycle Q Clear(g_c), s	4.8	6.9	0.4	1.6	7.4	10.0	0.2	0.8	4.4	24.6	0.5	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	450	1614	720	516	1566	699	159	124	105	587	578	490
V/C Ratio(X)	0.34	0.25	0.02	0.10	0.27	0.34	0.03	0.12	0.68	0.93	0.02	0.41
Avail Cap(c_a), veh/h	450	1614	720	540	1566	699	591	584	495	587	578	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	16.8	15.0	14.1	17.7	18.4	43.2	43.9	45.6	32.8	24.0	27.3
Incr Delay (d2), s/veh	0.5	0.4	0.0	0.1	0.4	1.3	0.1	0.4	7.3	21.8	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	5.1	0.3	1.2	5.5	6.9	0.2	0.7	3.5	8.0	0.4	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.9	17.2	15.0	14.2	18.1	19.8	43.3	44.4	53.0	54.6	24.1	27.8
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		565			709			90			759	
Approach Delay, s/veh		16.5			18.4			51.1			47.1	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	50.6	4.7	36.5	9.5	49.3	29.0	12.2
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	19.8	24.8	30.9	5.2	19.8	24.6	* 31
Max Q Clear Time (g_c+I1), s	3.6	8.9	2.2	11.9	6.8	12.0	26.6	6.4
Green Ext Time (p_c), s	0.0	1.9	0.0	0.7	0.0	2.2	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	29.5
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

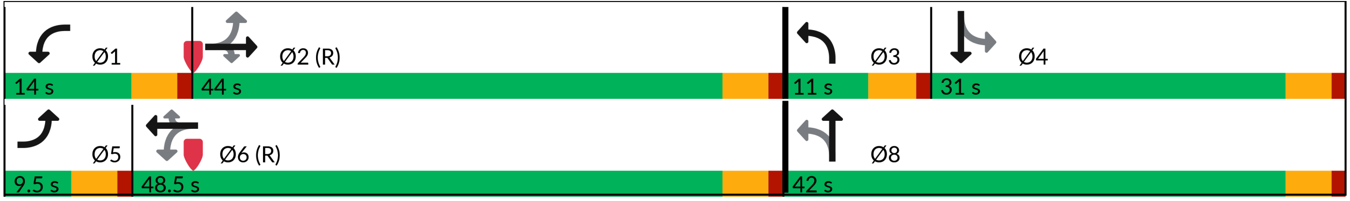
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.953	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1733	0
Flt Permitted	0.548			0.551			0.554				0.734	
Satd. Flow (perm)	1021	3539	1583	1026	3539	1583	1032	1598	0	0	1303	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			115		208			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		606			489			425			365	
Travel Time (s)		13.8			11.1			9.7			8.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱		✥
Traffic Volume (vph)	22	225	116	190	311	33	86	10	75	24
Future Volume (vph)	22	225	116	190	311	33	86	10	75	24
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	44.0	44.0	14.0	48.5	48.5	11.0	42.0	31.0	31.0
Total Split (%)	9.5%	44.0%	44.0%	14.0%	48.5%	48.5%	11.0%	42.0%	31.0%	31.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	57.8	51.7	51.7	66.2	61.8	61.8	24.8	24.8		16.0
Actuated g/C Ratio	0.58	0.52	0.52	0.66	0.62	0.62	0.25	0.25		0.16
v/c Ratio	0.04	0.13	0.14	0.27	0.15	0.04	0.31	0.40		0.72
Control Delay (s/veh)	8.9	15.2	3.9	9.1	10.9	0.1	29.5	6.5		50.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	8.9	15.2	3.9	9.1	10.9	0.1	29.5	6.5		50.5
LOS	A	B	A	A	B	A	C	A		D
Approach Delay (s/veh)		11.2			9.6			13.3		50.5
Approach LOS		B			A			B		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 54 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay (s/veh): 15.5	Intersection LOS: B
Intersection Capacity Utilization 52.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 200: Easley Rd. & W 64th Ave.



	↗	→	↘	↙	←	↖	↖	↑	↓
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	24	245	126	207	338	36	93	219	166
v/c Ratio	0.04	0.13	0.14	0.27	0.15	0.04	0.31	0.40	0.72
Control Delay (s/veh)	8.9	15.2	3.9	9.1	10.9	0.1	29.5	6.5	50.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.9	15.2	3.9	9.1	10.9	0.1	29.5	6.5	50.5
Queue Length 50th (ft)	5	43	0	49	41	0	46	5	86
Queue Length 95th (ft)	18	79	35	99	95	0	78	54	145
Internal Link Dist (ft)		526			409			345	285
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	635	1830	879	759	2186	1022	303	729	364
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.13	0.14	0.27	0.15	0.04	0.31	0.30	0.46

Intersection Summary

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✣	
Traffic Volume (veh/h)	22	225	116	190	311	33	86	10	191	75	24	53
Future Volume (veh/h)	22	225	116	190	311	33	86	10	191	75	24	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	245	126	207	338	36	93	11	208	82	26	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	669	1952	870	716	2110	941	348	20	375	140	43	70
Arrive On Green	0.02	0.55	0.55	0.07	0.59	0.59	0.06	0.25	0.25	0.14	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	80	1517	600	301	484
Grp Volume(v), veh/h	24	245	126	207	338	36	93	0	219	166	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1597	1385	0	0
Q Serve(g_s), s	0.6	3.3	3.9	4.8	4.3	0.9	4.3	0.0	12.0	10.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	3.3	3.9	4.8	4.3	0.9	4.3	0.0	12.0	11.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.95	0.49		0.35
Lane Grp Cap(c), veh/h	669	1952	870	716	2110	941	348	0	394	253	0	0
V/C Ratio(X)	0.04	0.13	0.14	0.29	0.16	0.04	0.27	0.00	0.56	0.66	0.00	0.00
Avail Cap(c_a), veh/h	715	1952	870	763	2110	941	360	0	599	419	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.2	10.9	11.0	7.6	9.1	8.4	31.9	0.0	32.9	41.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.2	0.2	0.1	0.4	0.0	1.2	2.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	2.3	2.5	3.1	2.9	0.6	3.4	0.0	8.3	7.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.2	11.0	11.4	7.8	9.3	8.5	32.3	0.0	34.1	44.4	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	C		C	D		
Approach Vol, veh/h		395			581			312			166	
Approach Delay, s/veh		11.0			8.7			33.6			44.4	
Approach LOS		B			A			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	8
Phs Duration (G+Y+Rc), s	11.4	59.4	10.3	18.9	6.9	63.9	29.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	39.5	6.5	26.5	5.0	44.0	37.5
Max Q Clear Time (g_c+I1), s	6.8	5.9	6.3	13.6	2.6	6.3	14.0
Green Ext Time (p_c), s	0.2	2.1	0.0	0.7	0.0	2.5	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	18.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✣		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.892			0.862	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1655	0	1770	1606	0
Flt Permitted	0.950			0.950				0.996		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1655	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✣		↰	↱	
Traffic Vol, veh/h	52	786	11	35	478	72	4	5	33	51	4	42
Future Vol, veh/h	52	786	11	35	478	72	4	5	33	51	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	854	12	38	520	78	4	5	36	55	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	598	0	0	866	0	0	1305	1641	427	1139	1575	260
Stage 1	-	-	-	-	-	-	967	967	-	596	596	-
Stage 2	-	-	-	-	-	-	338	674	-	543	979	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	975	-	-	773	-	-	118	99	576	156	109	739
Stage 1	-	-	-	-	-	-	273	331	-	457	490	-
Stage 2	-	-	-	-	-	-	650	452	-	492	326	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	975	-	-	773	-	-	95	89	576	124	97	739
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	89	-	124	97	-
Stage 1	-	-	-	-	-	-	257	311	-	435	466	-
Stage 2	-	-	-	-	-	-	574	430	-	427	307	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.55	0.59	21.06	35.71
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	270	975	-	-	773	-	-	124	470
HCM Lane V/C Ratio	0.169	0.058	-	-	0.049	-	-	0.447	0.106
HCM Control Delay (s/veh)	21.1	8.9	-	-	9.9	-	-	55.7	13.6
HCM Lane LOS	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.2	-	-	2	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.966	
Flt Protected	0.950			0.950			0.950				0.978	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1760	0
Flt Permitted	0.950			0.950			0.950				0.978	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1760	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	228.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱			✥	
Traffic Vol, veh/h	55	602	213	251	431	81	138	14	256	69	48	39
Future Vol, veh/h	55	602	213	251	431	81	138	14	256	69	48	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	654	232	273	468	88	150	15	278	75	52	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	557	0	0	886	0	0	1580	1876	327	1468	2020	234
Stage 1	-	-	-	-	-	-	774	774	-	1014	1014	-
Stage 2	-	-	-	-	-	-	806	1102	-	454	1005	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1010	-	-	760	-	-	~ 73	71	669	89	58	768
Stage 1	-	-	-	-	-	-	357	407	-	255	314	-
Stage 2	-	-	-	-	-	-	342	286	-	555	317	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1010	-	-	760	-	-	~ 42	43	669	~ 23	~ 35	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 42	43	-	~ 23	~ 35	-
Stage 1	-	-	-	-	-	-	336	382	-	164	201	-
Stage 2	-	-	-	-	-	-	153	183	-	293	298	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.56	4.07	$ 487.97	$ 1914.48
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	42	380	1010	-	-	760	-	-	36
HCM Lane V/C Ratio	3.586	0.773	0.059	-	-	0.359	-	-	4.754
HCM Control Delay (s/veh)	$ 1364	40.2	8.8	-	-	12.4	-	-	$ 1914.5
HCM Lane LOS	F	E	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	16.9	6.4	0.2	-	-	1.6	-	-	19.9

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.896			0.979	
Flt Protected	0.950			0.950				0.989			0.959	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1749	0
Flt Permitted	0.950			0.950				0.989			0.959	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1749	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			✥	
Traffic Vol, veh/h	14	901	12	31	748	34	11	0	37	20	0	4
Future Vol, veh/h	14	901	12	31	748	34	11	0	37	20	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	979	13	34	813	37	12	0	40	22	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	850	0	0	992	0	0	1484	1927	490	1401	1903	407
Stage 1	-	-	-	-	-	-	1010	1010	-	880	880	-
Stage 2	-	-	-	-	-	-	474	917	-	520	1023	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	784	-	-	693	-	-	87	66	524	100	68	594
Stage 1	-	-	-	-	-	-	257	316	-	308	363	-
Stage 2	-	-	-	-	-	-	540	349	-	507	311	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	784	-	-	693	-	-	80	61	524	86	64	594
Mov Cap-2 Maneuver	-	-	-	-	-	-	80	61	-	86	64	-
Stage 1	-	-	-	-	-	-	252	310	-	293	345	-
Stage 2	-	-	-	-	-	-	510	332	-	459	305	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.15	0.4	25.06	53.01
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	231	784	-	-	693	-	-	100
HCM Lane V/C Ratio	0.226	0.019	-	-	0.049	-	-	0.26
HCM Control Delay (s/veh)	25.1	9.7	-	-	10.5	-	-	53
HCM Lane LOS	D	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.2	-	-	1

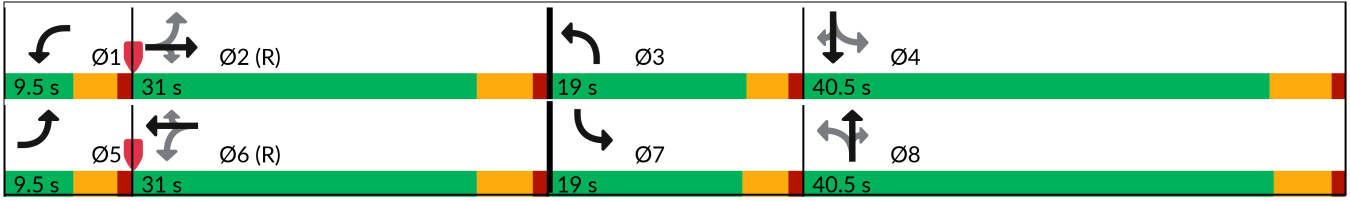
	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.288			0.358			0.744			0.475		
Satd. Flow (perm)	536	3539	1583	667	3539	1583	1386	1863	1583	885	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			523			119			214
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (vph)	248	712	14	59	568	481	4	25	61	304	19	197
Future Volume (vph)	248	712	14	59	568	481	4	25	61	304	19	197
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	31.0	31.0	9.5	31.0	31.0	19.0	40.5	40.5	19.0	40.5	40.5
Total Split (%)	9.5%	31.0%	31.0%	9.5%	31.0%	31.0%	19.0%	40.5%	40.5%	19.0%	40.5%	40.5%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	66.5	56.5	56.5	48.4	40.7	40.7	12.5	7.0	7.0	24.8	21.5	21.5
Actuated g/C Ratio	0.67	0.57	0.57	0.48	0.41	0.41	0.13	0.07	0.07	0.25	0.22	0.22
v/c Ratio	0.44	0.39	0.02	0.16	0.43	0.55	0.02	0.21	0.30	0.95	0.05	0.42
Control Delay (s/veh)	9.8	14.4	0.0	9.1	22.4	4.2	26.8	47.0	4.6	72.6	31.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.8	14.4	0.0	9.1	22.4	4.2	26.8	47.0	4.6	72.6	31.5	7.7
LOS	A	B	A	A	C	A	C	D	A	E	C	A
Approach Delay (s/veh)		13.0			13.8			17.3			46.5	
Approach LOS		B			B			B			D	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay (s/veh): 19.9	Intersection LOS: B
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.



Queues

4: Quaker St. & W 64th Ave.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	270	774	15	64	617	523	4	27	66	330	21	214
v/c Ratio	0.44	0.39	0.02	0.16	0.43	0.55	0.02	0.21	0.30	0.95	0.05	0.42
Control Delay (s/veh)	9.8	14.4	0.0	9.1	22.4	4.2	26.8	47.0	4.6	72.6	31.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.8	14.4	0.0	9.1	22.4	4.2	26.8	47.0	4.6	72.6	31.5	7.7
Queue Length 50th (ft)	65	150	0	14	145	0	2	17	0	189	10	0
Queue Length 95th (ft)	109	212	0	31	192	62	10	43	7	#268	32	62
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	611	1998	947	398	1439	954	355	655	634	348	650	691
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.39	0.02	0.16	0.43	0.55	0.01	0.04	0.10	0.95	0.03	0.31

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	248	712	14	59	568	481	4	25	61	304	19	197
Future Volume (veh/h)	248	712	14	59	568	481	4	25	61	304	19	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	270	774	15	64	617	523	4	27	66	330	21	214
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	385	1967	878	441	1930	861	154	119	101	397	386	327
Arrive On Green	0.05	0.55	0.55	0.04	0.54	0.54	0.01	0.06	0.06	0.15	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	270	774	15	64	617	523	4	27	66	330	21	214
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.2	12.4	0.4	1.5	9.6	22.5	0.2	1.4	4.1	14.6	0.9	12.4
Cycle Q Clear(g_c), s	5.2	12.4	0.4	1.5	9.6	22.5	0.2	1.4	4.1	14.6	0.9	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	385	1967	878	441	1930	861	154	119	101	397	386	327
V/C Ratio(X)	0.70	0.39	0.02	0.15	0.32	0.61	0.03	0.23	0.65	0.83	0.05	0.65
Avail Cap(c_a), veh/h	385	1967	878	459	1930	861	409	658	558	397	653	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	12.7	10.1	9.7	12.6	15.6	43.4	44.5	45.7	37.1	31.8	36.4
Incr Delay (d2), s/veh	5.6	0.6	0.0	0.1	0.4	3.2	0.1	1.0	6.9	13.8	0.1	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	8.5	0.3	1.1	6.8	13.2	0.2	1.2	3.2	4.0	0.7	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.3	13.3	10.1	9.8	13.1	18.7	43.5	45.4	52.6	50.9	31.9	38.6
LnGrp LOS	B	B	B	A	B	B	D	D	D	D	C	D
Approach Vol, veh/h		1059			1204			97			565	
Approach Delay, s/veh		14.8			15.4			50.3			45.6	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	60.6	4.7	26.3	9.5	59.5	19.0	12.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	25.8	14.8	34.9	5.2	25.8	14.6	* 35
Max Q Clear Time (g_c+I1), s	3.5	14.4	2.2	14.4	7.2	24.5	16.6	6.1
Green Ext Time (p_c), s	0.0	4.1	0.0	0.8	0.0	0.8	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	22.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

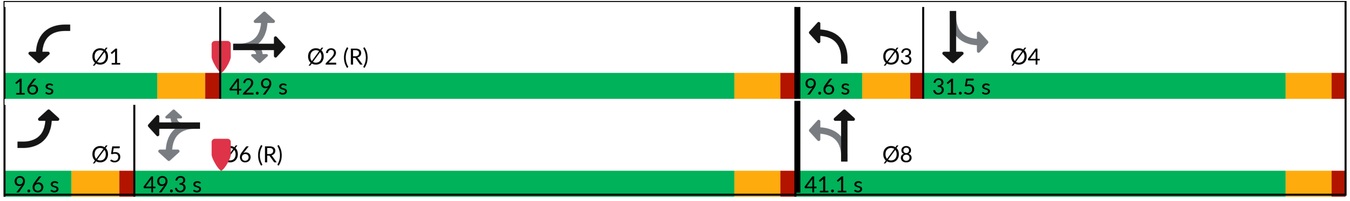
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.966	
Flt Protected	0.950			0.950			0.950				0.978	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1760	0
Flt Permitted	0.483			0.310			0.528				0.713	
Satd. Flow (perm)	900	3539	1583	577	3539	1583	984	1598	0	0	1283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			232			115		265			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		561			625			425			340	
Travel Time (s)		12.8			14.2			9.7			7.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↱		✣
Traffic Volume (vph)	55	602	213	251	431	81	138	14	69	48
Future Volume (vph)	55	602	213	251	431	81	138	14	69	48
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.6	42.9	42.9	16.0	49.3	49.3	9.6	41.1	31.5	31.5
Total Split (%)	9.6%	42.9%	42.9%	16.0%	49.3%	49.3%	9.6%	41.1%	31.5%	31.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	55.2	48.4	48.4	64.5	55.4	55.4	26.4	26.4		16.8
Actuated g/C Ratio	0.55	0.48	0.48	0.65	0.55	0.55	0.26	0.26		0.17
v/c Ratio	0.11	0.38	0.26	0.53	0.24	0.09	0.50	0.48		0.74
Control Delay (s/veh)	9.0	18.7	3.5	12.5	13.5	1.9	34.8	7.4		54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	9.0	18.7	3.5	12.5	13.5	1.9	34.8	7.4		54.2
LOS	A	B	A	B	B	A	C	A		D
Approach Delay (s/veh)		14.3			12.0			16.6		54.2
Approach LOS		B			B			B		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 51 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay (s/veh): 16.8	Intersection LOS: B
Intersection Capacity Utilization 70.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 200: Easley Rd. & W 64th Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	60	654	232	273	468	88	150	293	169
v/c Ratio	0.11	0.38	0.26	0.53	0.24	0.09	0.50	0.48	0.74
Control Delay (s/veh)	9.0	18.7	3.5	12.5	13.5	1.9	34.8	7.4	54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.0	18.7	3.5	12.5	13.5	1.9	34.8	7.4	54.2
Queue Length 50th (ft)	13	134	0	66	80	0	77	13	94
Queue Length 95th (ft)	33	215	47	128	133	17	119	71	153
Internal Link Dist (ft)		481			545			345	260
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	555	1714	886	524	1960	928	299	752	358
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.38	0.26	0.52	0.24	0.09	0.50	0.39	0.47

Intersection Summary

HCM 7th Signalized Intersection Summary
200: Easley Rd. & W 64th Ave.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱			✥	
Traffic Volume (veh/h)	55	602	213	251	431	81	138	14	256	69	48	39
Future Volume (veh/h)	55	602	213	251	431	81	138	14	256	69	48	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	654	232	273	468	88	150	15	278	75	52	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	1762	786	477	1948	869	351	23	419	121	82	50
Arrive On Green	0.04	0.50	0.50	0.09	0.55	0.55	0.05	0.28	0.28	0.18	0.18	0.18
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	82	1516	384	452	276
Grp Volume(v), veh/h	60	654	232	273	468	88	150	0	293	169	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1598	1112	0	0
Q Serve(g_s), s	1.6	11.4	8.6	7.1	6.9	2.7	5.1	0.0	16.3	8.8	0.0	0.0
Cycle Q Clear(g_c), s	1.6	11.4	8.6	7.1	6.9	2.7	5.1	0.0	16.3	15.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.95	0.44		0.25
Lane Grp Cap(c), veh/h	553	1762	786	477	1948	869	351	0	442	253	0	0
V/C Ratio(X)	0.11	0.37	0.30	0.57	0.24	0.10	0.43	0.00	0.66	0.67	0.00	0.00
Avail Cap(c_a), veh/h	572	1762	786	516	1948	869	351	0	585	375	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	15.6	14.9	10.6	11.8	10.8	30.8	0.0	32.1	40.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	1.0	1.3	0.3	0.2	0.8	0.0	1.7	3.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	8.1	5.8	4.9	4.8	1.7	5.5	0.0	10.5	7.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.2	16.2	15.8	11.9	12.1	11.0	31.6	0.0	33.8	43.6	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	C		C	D		
Approach Vol, veh/h		946			829			443			169	
Approach Delay, s/veh		15.8			11.9			33.1			43.6	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	13.8	54.1	9.6	22.5	8.6	59.3		32.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.5	38.4	5.1	27.0	5.1	44.8		36.6
Max Q Clear Time (g_c+I1), s	9.1	13.4	7.1	17.4	3.6	8.9		18.3
Green Ext Time (p_c), s	0.2	5.7	0.0	0.6	0.0	3.8		1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	19.6
HCM 7th LOS	B

APPENDIX “D”

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

2025 Existing - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: W. 64th Ave. & Easley Rd.
County: Jefferson
City: Arvada

Major Street:	W. 64th Ave.	Minor Street:	Easley Rd.
Critical Approach Speed:	45 mph	Critical Approach Speed:	35 mph
Lanes:	2 or more lanes	Lanes:	2 or more lanes

% Right Turns Included

From North (SB)	100%
From East (WB)	0%
From South (NB)	100%
From West (EB)	0%

In built-up area of isolated community of < 10,000 population?	No
Total number of approaches at intersection?	4 or more
If it is a "T" intersection, inflate minor threshold to 150%?	No
Manually set volume level?	No

Analysis based on **EXISTING** **volume data.**

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
4/22/2025	Tuesday	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied?** Yes **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	9	13

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	3	6

Satisfied? No

Condition C: Combination of A & B at 56%

Satisfied? No

6:00 AM	Enter Start Time (Military Time) (HH:MM)				
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	263	89	352
2	7:00	8:00	492	162	654
3	8:00	9:00	550	192	742
4	9:00	10:00	421	121	542
5	10:00	11:00	419	137	556
6	11:00	12:00	375	136	511
7	12:00	13:00	438	140	578
8	13:00	14:00	416	146	562
9	14:00	15:00	427	148	575
10	15:00	16:00	606	185	791
11	16:00	17:00	791	308	1099
12	17:00	18:00	920	294	1214
13	18:00	19:00	780	164	944
14	19:00	20:00	535	144	679
15	20:00	21:00	315	75	390
16	21:00	22:00	140	55	195

Warrant 2: Four-Hour Volume 70%

Warrant Evaluated? Yes
Warrant Satisfied? Yes
Manually Set To:

Hour Start	17:00	16:00	18:00	15:00
Major Road Vol.	920	791	780	606
Minor Road Vol.	294	308	164	185

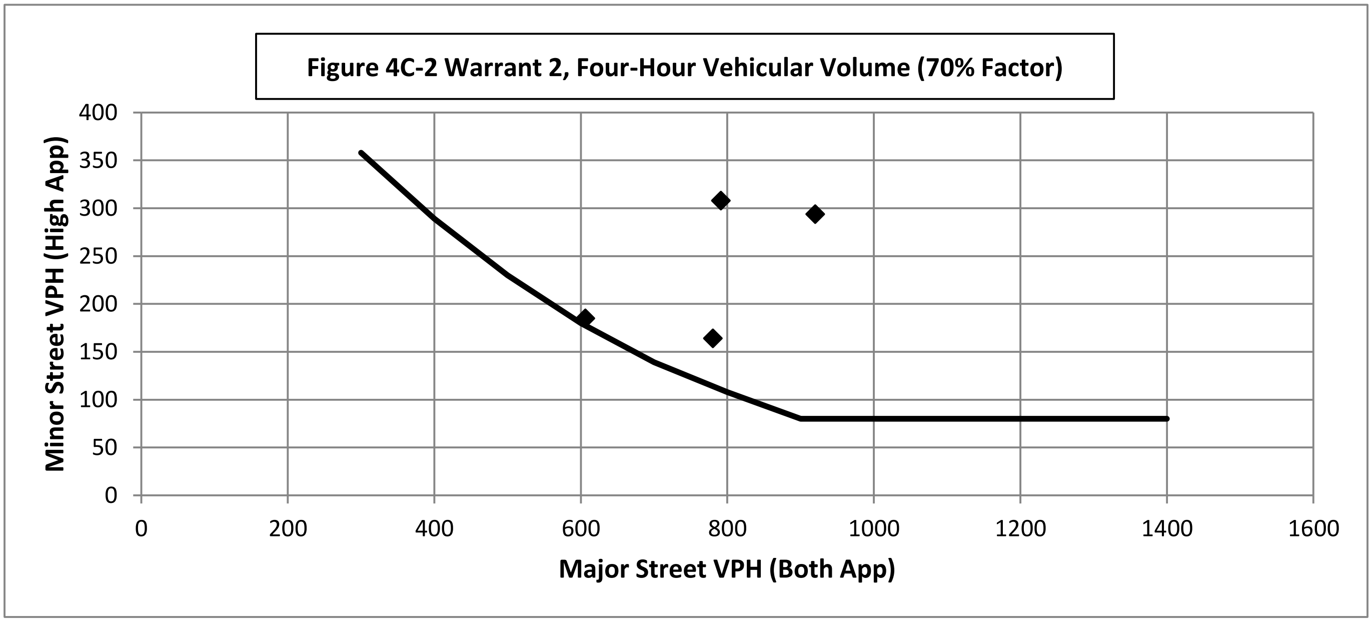


Figure 4C-2 Warrant 2, Four-Hour Vehicular Volume (70% Factor)

Warrant 3: Peak Hour Volume 70%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

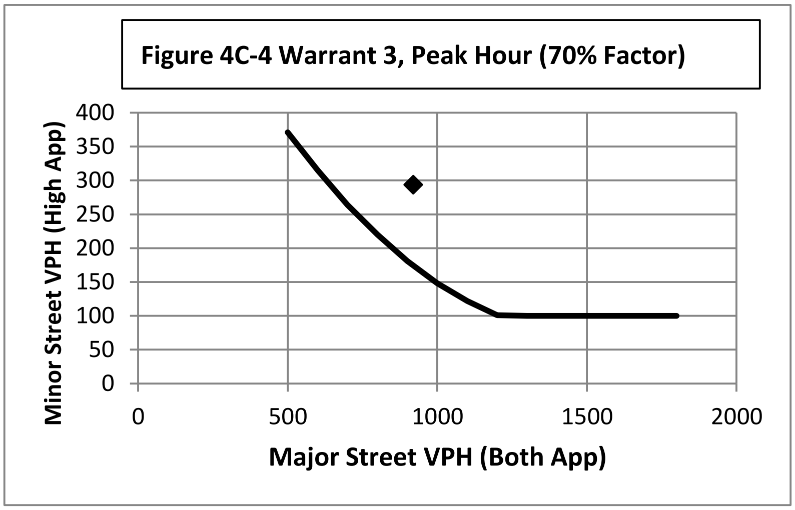
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	920	294



2027 Background Traffic - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: W. 64th Ave. & Easley Rd.
County: Jefferson
City: Arvada

Major Street:	W. 64th Ave.	Minor Street:	Easley Rd.
Critical Approach Speed:	45 mph	Critical Approach Speed:	35 mph
Lanes:	2 or more lanes	Lanes:	2 or more lanes

% Right Turns Included	
From North (SB)	100%
From East (WB)	0%
From South (NB)	100%
From West (EB)	0%

In built-up area of isolated community of < 10,000 population?	No
Total number of approaches at intersection?	4 or more
If it is a "T" intersection, inflate minor threshold to 150%?	No
Manually set volume level?	No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2027	Yes	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied?** Yes **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	11	13

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	3	7

Satisfied? No

Condition C:
Combination of A & B at 56%

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)			
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	271	92	363
2	7:00	8:00	507	167	674
3	8:00	9:00	566	198	764
4	9:00	10:00	433	125	558
5	10:00	11:00	431	141	572
6	11:00	12:00	386	140	526
7	12:00	13:00	450	144	594
8	13:00	14:00	428	150	578
9	14:00	15:00	440	152	592
10	15:00	16:00	623	190	813
11	16:00	17:00	813	317	1130
12	17:00	18:00	947	303	1250
13	18:00	19:00	803	169	972
14	19:00	20:00	551	148	699
15	20:00	21:00	324	77	401
16	21:00	22:00	144	57	201

Warrant 2: Four-Hour Volume 70%

Warrant Evaluated? Yes
Warrant Satisfied? Yes
Manually Set To:

Hour Start	17:00	16:00	18:00	15:00
Major Road Vol.	947	813	803	623
Minor Road Vol.	303	317	169	190

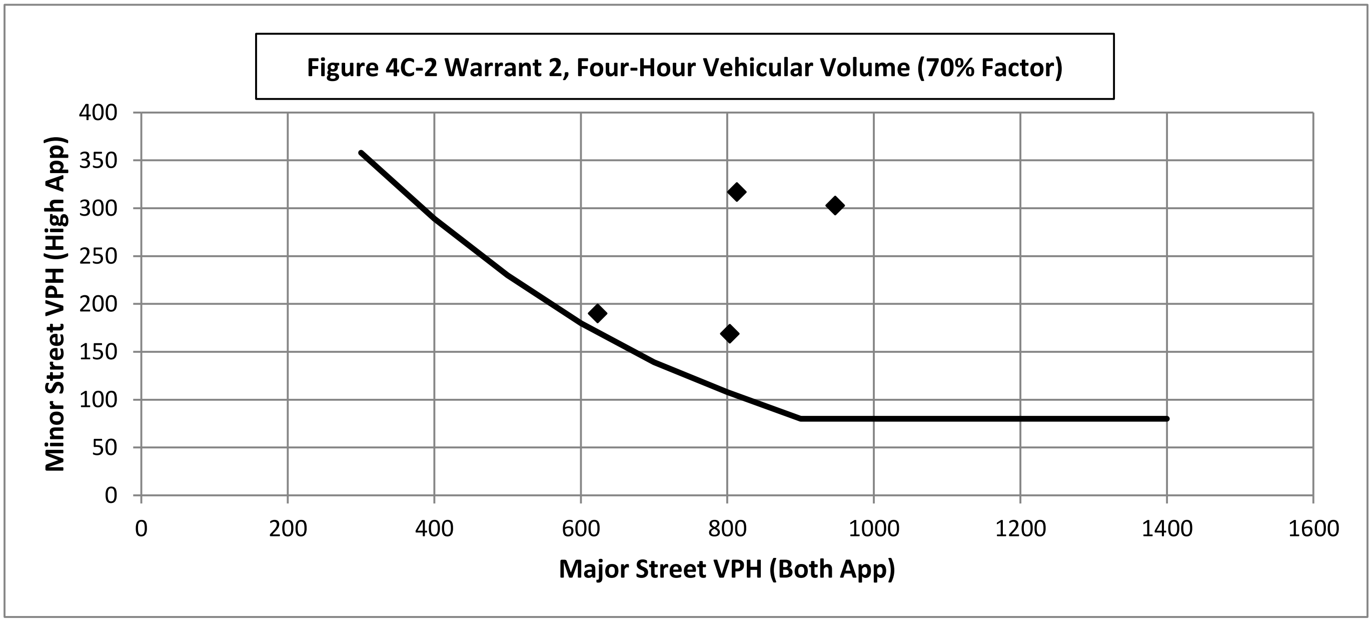


Figure 4C-2 Warrant 2, Four-Hour Vehicular Volume (70% Factor)

Warrant 3: Peak Hour Volume

70%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? **No**

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	947	303

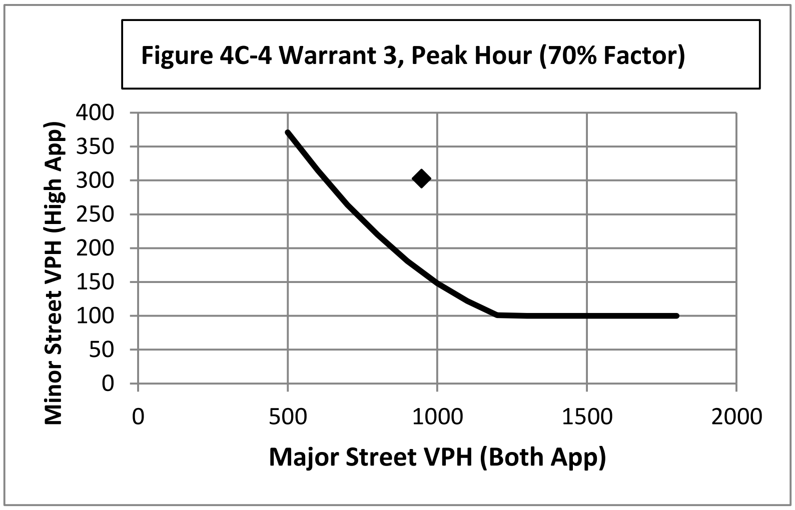


Figure 4C-4 Warrant 3, Peak Hour (70% Factor)

2027 Total Traffic - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: W. 64th Ave. & Easley Rd.
County: Jefferson
City: Arvada

Major Street:	W. 64th Ave.	Minor Street:	Easley Rd.
Critical Approach Speed:	45 mph	Critical Approach Speed:	35 mph
Lanes:	2 or more lanes	Lanes:	2 or more lanes

% Right Turns Included

From North (SB)	100%
From East (WB)	0%
From South (NB)	100%
From West (EB)	0%

In built-up area of isolated community of < 10,000 population?	No
Total number of approaches at intersection?	4 or more
If it is a "T" intersection, inflate minor threshold to 150%?	No
Manually set volume level?	No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2027	Yes	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	Yes
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume

70%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	12	13

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	5	8

Satisfied? No

Condition C:
Combination of A & B at 56%

Satisfied? Yes

6:00 AM		Enter Start Time (Military Time) (HH:MM)			
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	304	94	398
2	7:00	8:00	568	171	739
3	8:00	9:00	634	202	836
4	9:00	10:00	485	128	613
5	10:00	11:00	483	145	628
6	11:00	12:00	433	143	576
7	12:00	13:00	505	148	653
8	13:00	14:00	480	154	634
9	14:00	15:00	493	156	649
10	15:00	16:00	699	196	895
11	16:00	17:00	912	324	1236
12	17:00	18:00	1061	311	1372
13	18:00	19:00	900	176	1076
14	19:00	20:00	617	153	770
15	20:00	21:00	364	80	444
16	21:00	22:00	162	58	220

Warrant 2: Four-Hour Volume

70%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Hour Start	17:00	16:00	18:00	15:00
Major Road Vol.	1061	912	900	699
Minor Road Vol.	311	324	176	196

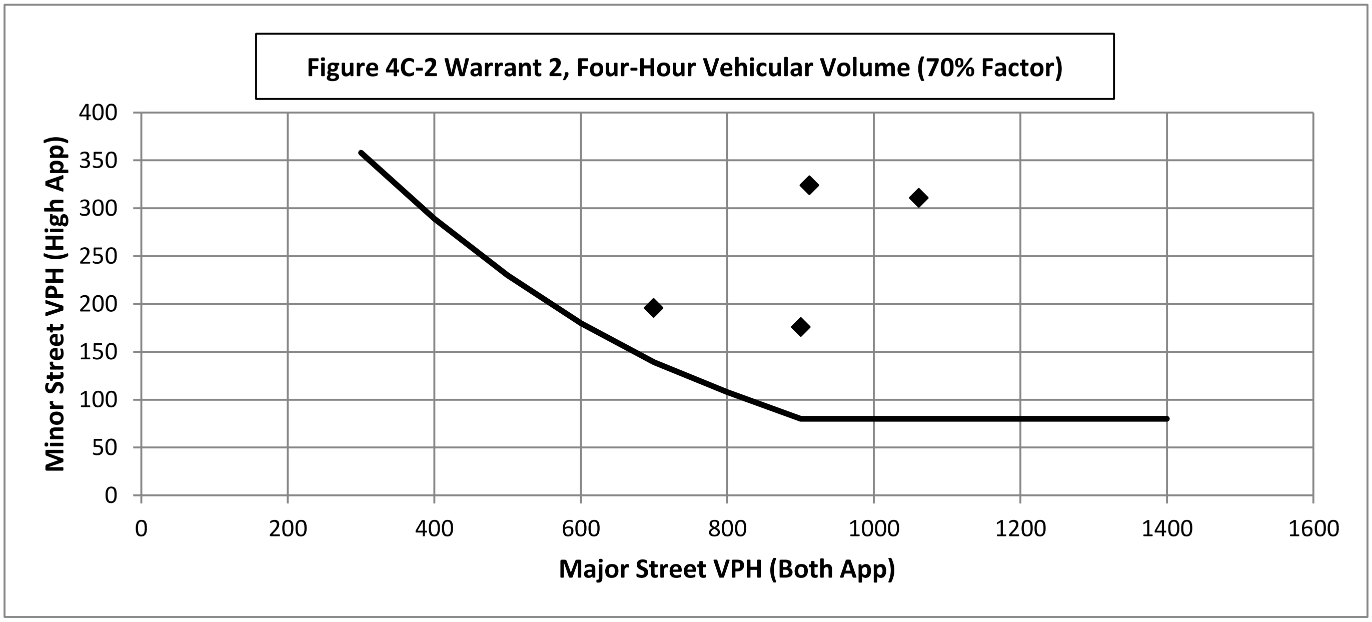


Figure 4C-2 Warrant 2, Four-Hour Vehicular Volume (70% Factor)

Warrant 3: Peak Hour Volume

70%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

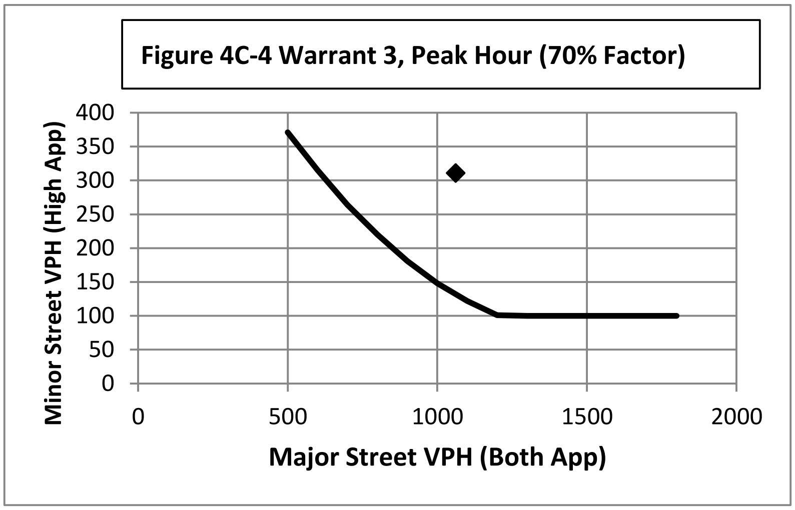
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	1061	311



2047 Background Traffic - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: W. 64th Ave. & Easley Rd.
County: Jefferson
City: Arvada

Major Street:	W. 64th Ave.	Minor Street:	Easley Rd.
Critical Approach Speed:	45 mph	Critical Approach Speed:	35 mph
Lanes:	2 or more lanes	Lanes:	2 or more lanes

% Right Turns Included

From North (SB)	100%
From East (WB)	0%
From South (NB)	100%
From West (EB)	0%

In built-up area of isolated community of < 10,000 population?	No
Total number of approaches at intersection?	4 or more
If it is a "T" intersection, inflate minor threshold to 150%?	No
Manually set volume level?	No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2047	No	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	Yes
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied?** Yes **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	13	14

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	7	13

Satisfied? No

Condition C:

Combination of A & B at 56%

Satisfied? Yes

6:00 AM		Enter Start Time (Military Time) (HH:MM)			
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	359	121	480
2	7:00	8:00	671	221	892
3	8:00	9:00	750	262	1012
4	9:00	10:00	574	165	739
5	10:00	11:00	572	187	759
6	11:00	12:00	512	186	698
7	12:00	13:00	597	191	788
8	13:00	14:00	568	199	767
9	14:00	15:00	583	202	785
10	15:00	16:00	826	252	1078
11	16:00	17:00	1078	420	1498
12	17:00	18:00	1255	201	1456
13	18:00	19:00	1064	224	1288
14	19:00	20:00	730	196	926
15	20:00	21:00	430	102	532
16	21:00	22:00	191	75	266

Warrant 2: Four-Hour Volume 70%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Hour Start	16:00	17:00	18:00	15:00
Major Road Vol.	1078	1255	1064	826
Minor Road Vol.	420	201	224	252

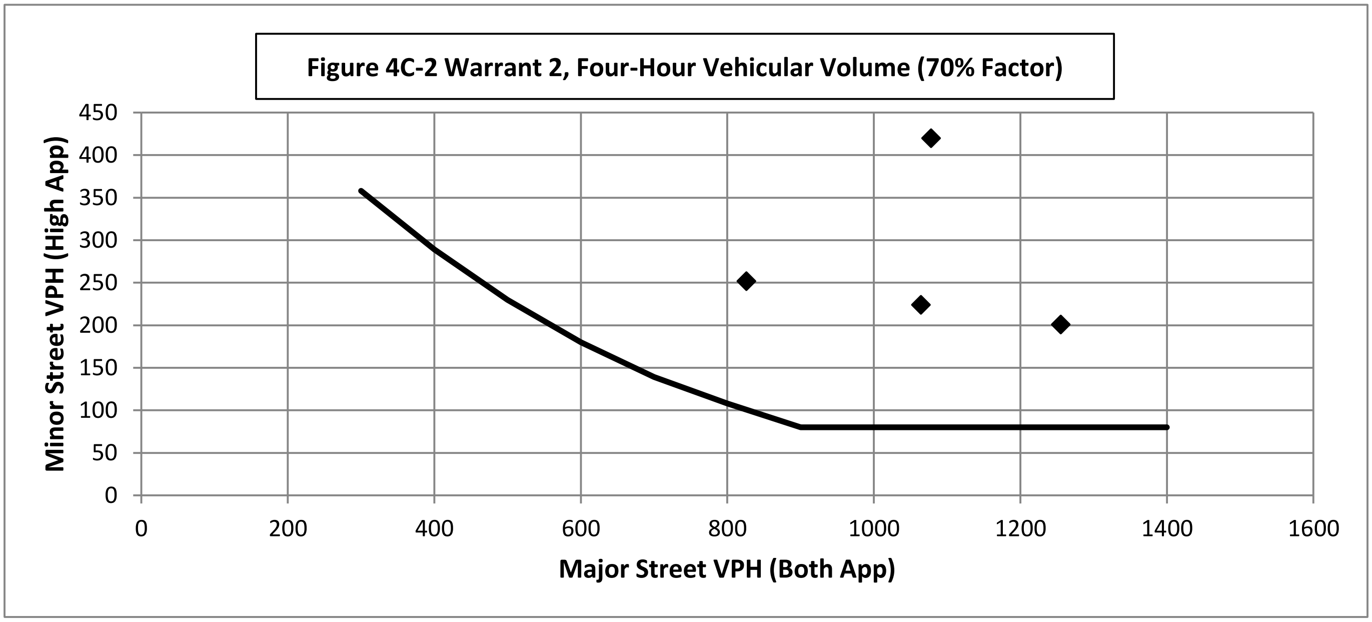


Figure 4C-2 Warrant 2, Four-Hour Vehicular Volume (70% Factor)

Warrant 3: Peak Hour Volume

70%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

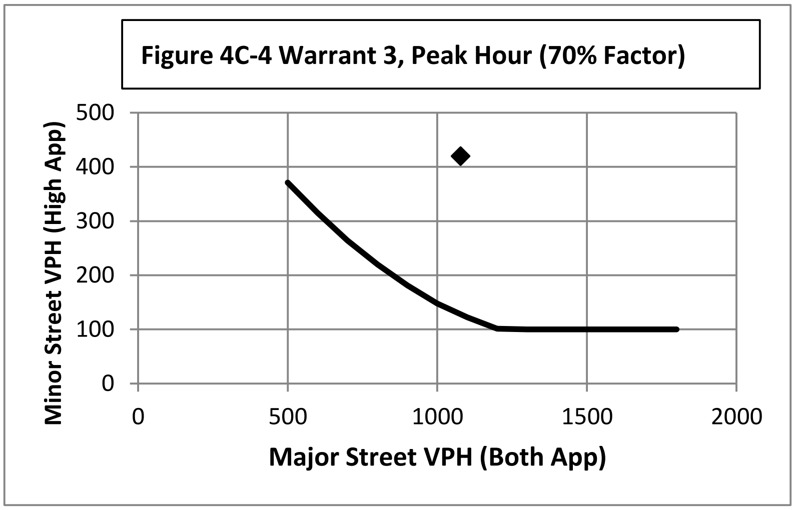
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? **No**

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1078	420



2047 Total Traffic - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: W. 64th Ave. & Easley Rd.
County: Jefferson
City: Arvada

Major Street:	W. 64th Ave.	Minor Street:	Easley Rd.
Critical Approach Speed:	45 mph	Critical Approach Speed:	35 mph
Lanes:	2 or more lanes	Lanes:	2 or more lanes

% Right Turns Included
From North (SB) 100%
From East (WB) 0%
From South (NB) 100%
From West (EB) 0%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2047	No	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	Yes
Condition C: Combination: 80% of A and B	Yes
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied?** Yes **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	13	14

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	9	13

Satisfied? Yes

Condition C:

Combination of A & B at 56%

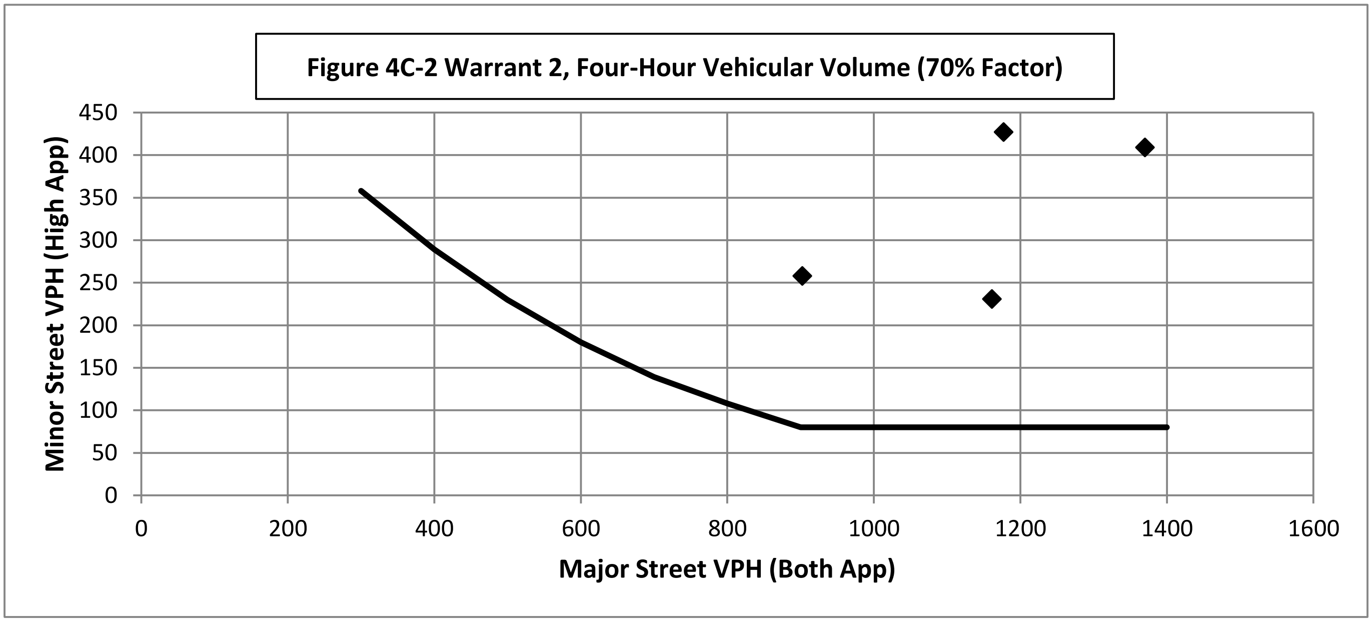
Satisfied? Yes

6:00 AM	Enter Start Time (Military Time) (HH:MM)				
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	392	124	516
2	7:00	8:00	733	225	958
3	8:00	9:00	818	267	1085
4	9:00	10:00	626	169	795
5	10:00	11:00	624	191	815
6	11:00	12:00	559	189	748
7	12:00	13:00	651	195	846
8	13:00	14:00	620	203	823
9	14:00	15:00	636	206	842
10	15:00	16:00	902	258	1160
11	16:00	17:00	1177	427	1604
12	17:00	18:00	1370	409	1779
13	18:00	19:00	1161	231	1392
14	19:00	20:00	796	201	997
15	20:00	21:00	469	105	574
16	21:00	22:00	209	76	285

Warrant 2: Four-Hour Volume 70%

Warrant Evaluated? Yes
Warrant Satisfied? Yes
Manually Set To:

Hour Start	17:00	16:00	18:00	15:00
Major Road Vol.	1370	1177	1161	902
Minor Road Vol.	409	427	231	258



Warrant 3: Peak Hour Volume 70%

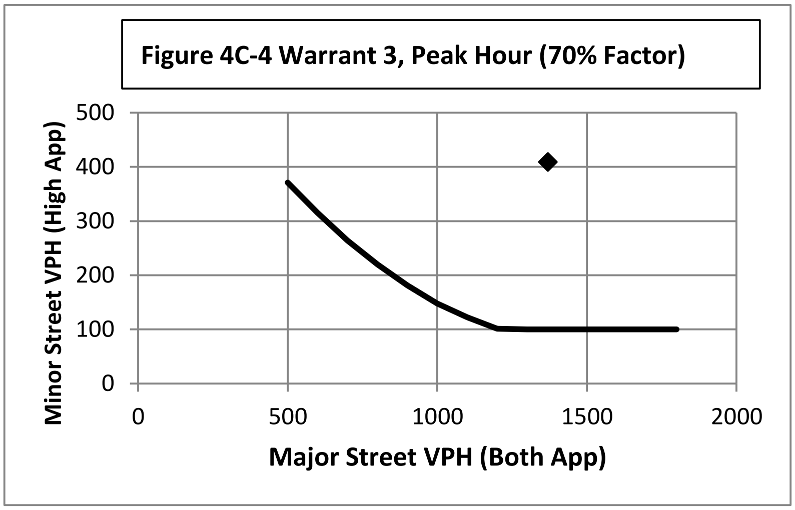
Warrant Evaluated? Yes **Warrant Satisfied?** Yes **Manually Set To:**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	1370	409



W. 64th Ave. & Easley Rd. Traffic Volume Counts

2025 Existing Traffic Volumes

	EB	WB	EB +WB	NB	NB Volumes	100% of Right Turns	8	7	0.707
0:00	6	7	13	6	6	included	2	1	0.982
1:00	1	1	2	1	1		5	3	
2:00	4	3	6	0	0		6	7	
3:00	4	7	11	6	6		13	14	
4:00	9	14	23	7	7		27	67	
5:00	19	66	85	31	31		99	197	
6:00	70	193	263	89	89		231	335	
7:00	163	329	492	162	162		250	380	
8:00	177	373	550	192	192		212	276	
9:00	150	271	421	121	121		247	249	
10:00	175	245	419	137	137		199	239	
11:00	141	235	375	136	136		237	275	
12:00	168	270	438	140	140		211	272	
13:00	149	267	416	146	146		218	278	
14:00	154	273	427	148	148		304	398	
15:00	215	391	606	185	185		514	435	
16:00	363	427	791	308	308		599	506	
17:00	423	497	920	294	294		494	439	
18:00	349	431	780	164	164		375	275	
19:00	265	270	535	144	144		200	177	
20:00	141	174	315	75	75		93	76	
21:00	66	75	140	55	55		21	28	
22:00	15	27	42	15	15		13	12	
23:00	9	12	21	8	8				
			8094		2570				

2027 Background Traffic Volumes

	2025 Volumes		2027 Regional Background			2027 Local Background		2027 Total Background	
	2025 EB + WB	2025 NB	2027 EB + WB	2027 NB	Hourly Distribution	EB/WB Traffic	NB Traffic	EB/WB Total	NB Total
0:00	13	6	13	6	0.15%	0	0	13	6
1:00	2	1	2	1	0.03%	0	0	2	1
2:00	6	0	7	0	0.08%	0	0	7	0
3:00	11	6	11	6	0.14%	0	0	11	6
4:00	23	7	24	7	0.28%	0	0	24	7
5:00	85	31	87	32	1.05%	0	0	87	32
6:00	263	89	271	92	3.25%	0	0	271	92
7:00	492	162	507	167	6.08%	0	0	507	167
8:00	550	192	566	198	6.79%	0	0	566	198
9:00	421	121	433	125	5.20%	0	0	433	125
10:00	419	137	431	141	5.18%	0	0	431	141
11:00	375	136	386	140	4.64%	0	0	386	140
12:00	438	140	450	144	5.41%	0	0	450	144
13:00	416	146	428	150	5.14%	0	0	428	150
14:00	427	148	440	152	5.28%	0	0	440	152
15:00	606	185	623	190	7.48%	0	0	623	190
16:00	791	308	813	317	9.77%	0	0	813	317
17:00	920	294	947	303	11.37%	0	0	947	303
18:00	780	164	803	169	9.64%	0	0	803	169
19:00	535	144	551	148	6.61%	0	0	551	148
20:00	315	75	324	77	3.89%	0	0	324	77
21:00	140	55	144	57	1.73%	0	0	144	57
22:00	42	15	44	15	0.52%	0	0	44	15
23:00	21	8	22	8	0.26%	0	0	22	8
	8094	2570			100.00%	0	0	8328	2645

2-Year GF: 1.029

2027 Total Traffic Volumes

	2025 EB + WB	2025 NB	EB/WB BG Total	NB BG Total	Hourly Distribution	EB/WB Site Traffic	NB Site Traffic	EB/WB Total	NB Total
0:00	13	6	13	6	0.15%	1	0	14	6
1:00	2	1	2	1	0.03%	0	0	3	1
2:00	6	0	7	0	0.08%	0	0	7	0
3:00	11	6	11	6	0.14%	1	0	12	6
4:00	23	7	24	7	0.28%	1	0	25	7
5:00	85	31	87	32	1.05%	5	1	93	33
6:00	263	89	271	92	3.25%	16	2	287	94
7:00	492	162	507	167	6.08%	31	4	537	171
8:00	550	192	566	198	6.79%	34	5	600	202
9:00	421	121	433	125	5.20%	26	4	459	128
10:00	419	137	431	141	5.18%	26	4	457	145
11:00	375	136	386	140	4.64%	23	3	410	143
12:00	438	140	450	144	5.41%	27	4	477	148
13:00	416	146	428	150	5.14%	26	4	454	154
14:00	427	148	440	152	5.28%	27	4	466	156
15:00	606	185	623	190	7.48%	38	5	661	196
16:00	791	308	813	317	9.77%	49	7	863	324
17:00	920	294	947	303	11.37%	57	8	1004	311
18:00	780	164	803	169	9.64%	48	7	851	176
19:00	535	144	551	148	6.61%	33	5	584	153
20:00	315	75	324	77	3.89%	20	3	344	80
21:00	140	55	144	57	1.73%	9	1	153	58
22:00	42	15	44	15	0.52%	3	0	46	16
23:00	21	8	22	8	0.26%	1	0	23	8
	8094	2570	8328	2645	100.00%	503	72	8831	2717

EB/WB Site Traffic: 503
NB Site Traffic: 72

*Site Traffic ADT's determined from Site Generated Trip Distribution & Assignment for 2027 Analysis Horizon

2047 Background Traffic Volumes

	2025 Volumes		2047 Regional Background			2047 Local Background		2047 Total Background	
	2025 EB + WB	2025 NB	2047 EB + WB	2047 NB	Hourly Distribution	EB/WB Traffic	NB Traffic	EB/WB Total	NB Total
0:00	13	6	17	8	0.15%	0	0	17	8
1:00	2	1	3	1	0.03%	0	0	3	1
2:00	6	0	9	0	0.08%	0	0	9	0
3:00	11	6	15	8	0.14%	0	0	15	8
4:00	23	7	31	10	0.28%	0	0	31	10
5:00	85	31	116	42	1.05%	0	0	116	42
6:00	263	89	359	121	3.25%	0	0	359	121
7:00	492	162	671	221	6.08%	0	0	671	221
8:00	550	192	750	262	6.79%	0	0	750	262
9:00	421	121	574	165	5.20%	0	0	574	165
10:00	419	137	572	187	5.18%	0	0	572	187
11:00	375	136	512	186	4.64%	0	0	512	186
12:00	438	140	597	191	5.41%	0	0	597	191
13:00	416	146	568	199	5.14%	0	0	568	199
14:00	427	148	583	202	5.28%	0	0	583	202
15:00	606	185	826	252	7.48%	0	0	826	252
16:00	791	308	1078	420	9.77%	0	0	1078	420
17:00	920	294	1255	401	11.37%	0	0	1255	401
18:00	780	164	1064	224	9.64%	0	0	1064	224
19:00	535	144	730	196	6.61%	0	0	730	196
20:00	315	75	430	102	3.89%	0	0	430	102
21:00	140	55	191	75	1.73%	0	0	191	75
22:00	42	15	58	20	0.52%	0	0	58	20
23:00	21	8	29	11	0.26%	0	0	29	11
	8094	2570			100.00%	0	0	11040	3505

22-Year GF: 1.364

2047 Total Traffic Volumes

	2025 EB + WB	2025 NB	EB/WB BG Total	NB BG Total	Hourly Distribution	EB/WB Site Traffic	NB Site Traffic	EB/WB Total	NB Total
0:00	13	6	17	8	0.15%	1	0	18	8
1:00	2	1	3	1	0.03%	0	0	3	1
2:00	6	0	9	0	0.08%	0	0	9	0
3:00	11	6	15	8	0.14%	1	0	16	8
4:00	23	7	31	10	0.28%	1	0	33	10
5:00	85	31	116	42	1.05%	5	1	121	43
6:00	263	89	359	121	3.25%	16	2	376	124
7:00	492	162	671	221	6.08%	31	4	702	225
8:00	550	192	750	262	6.79%	34	5	784	267
9:00	421	121	574	165	5.20%	26	4	600	169
10:00	419	137	572	187	5.18%	26	4	598	191
11:00	375	136	512	186	4.64%	23	3	535	189
12:00	438	140	597	191	5.41%	27	4	624	195
13:00	416	146	568	199	5.14%	26	4	594	203
14:00	427	148	583	202	5.28%	27	4	609	206
15:00	606	185	826	252	7.48%	38	5	864	258
16:00	791	308	1078	420	9.77%	49	7	1127	427
17:00	920	294	1255	401	11.37%	57	8	1313	409
18:00	780	164	1064	224	9.64%	48	7	1113	231
19:00	535	144	730	196	6.61%	33	5	763	201
20:00	315	75	430	102	3.89%	20	3	450	105
21:00	140	55	191	75	1.73%	9	1	200	76
22:00	42	15	58	20	0.52%	3	0	60	21
23:00	21	8	29	11	0.26%	1	0	30	11
	8094	2570	11040	3505	100.00%	503	72	11543	3577

EB/WB Site Traffic: 503
NB Site Traffic: 72
SB Site Traffic:

*Site Traffic ADT's determined from Site Generated Trip Distribution & Assignment for 2027 Analysis Horizon

AvalonBay
COMMUNITIES

October 20, 2025

Rozalynne Thompson
City of Arvada
Community Development Department
8101 Ralston Rd
Arvada, CO 80001

RE: Avalon Arvada Environmental Reports

Dear Ms. Thompson,

AvalonBay Communities is pleased to submit the following materials in response to the City of Arvada's request for environmental information regarding the existing conditions at the Welby Gardens Wholesale Center site. AvalonBay plans to clean and redevelop this site as Avalon Arvada.

AvalonBay Communities has a long and successful history of environmental remediation across its national portfolio. We are committed to conducting the cleanup of the Welby Gardens site safely and in close coordination with the Colorado Department of Public Health and Environment (CDPHE). Our approach emphasizes regulatory compliance, community safety, and environmental stewardship.

The following items are being submitted for your review:

- Summary of AvalonBay Communities recent environmental cleanup experience
- Summary and peer review of Welby Gardens site environmental reports by ERO Resources Corporation
- Phase I Environmental Site Assessment Report
- Phase II Environmental Site Assessment Report
- Example of recent greenhouse cleanup in Colorado

We appreciate your attention to this matter and look forward to working collaboratively with the City of Arvada and CDPHE through the remediation and redevelopment process. Please do not hesitate to contact me with any questions or requests for additional information.

Thank you,
Andrew Johnson
Senior Development Manager
AvalonBay Communities, Inc

AvalonBay Environmental Cleanup Experience

AvalonBay Communities has a proven track record of successfully executing environmental cleanup projects across Colorado and in other states where we develop residential communities. Our team is well-versed in navigating both relatively simple to more complex remediation efforts and restoring each site to a condition that is safe for residential use, and in full compliance with applicable regulations and guidance. Below are a few recent examples.

Project Title: AVA RiNo (2021)

Location: Denver, Colorado

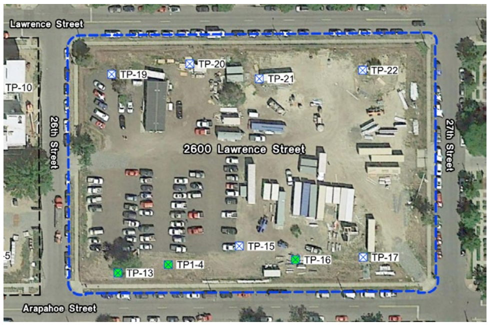
Environmental conditions: The site was historically used for auto repair and painting, which led to recognized environmental conditions including potential asbestos-containing materials and low levels of volatile organic compounds (VOCs), specifically tetrachloroethene (PCE), in groundwater. Additionally, non-native fill materials with possible regulated contaminants were present.

Cleanup Program/Oversight: Remediation was conducted by a licensed professional under the state-approved cleanup program Voluntary Cleanup Plan (VCUP) program, with oversight from the Colorado Department of Public Health and Environment(CDPHE).

Physical Cleanup: Removal of approximately 28,000 cubic yards of non-native fill material containing debris and regulated compounds, which was disposed of as Special Solid Waste at a licensed landfill. Post-removal sampling confirmed that remaining soils met all regulatory standards for VOCs, PAHs, and RCRA metals.

Remediation Cost: ~$400 thousand

Result: Clean site with unrestricted residential use. CDPHE no further action letter received (attached).



Project Title: Avalon Governors Park (2024)

Location: Denver, Colorado

Environmental conditions: The site was historically used for dry-cleaning operations, which led to environmental conditions including chlorinated VOCs such as PCE and trichloroethene (TCE) in soil and groundwater. Additionally, petroleum hydrocarbons and other regulated contaminants were present in soil vapor and groundwater, exceeding regulatory thresholds and requiring excavation, treatment, and disposal.

Cleanup Program/Oversight: Remediation was conducted by a licensed professional under the state-approved cleanup program Corrective Action Plan (CAP) program, with oversight from the Colorado Department of Public Health and Environment(CDPHE).

Physical Cleanup: Excavation and offsite disposal of approximately 430 cubic yards of chlorinated VOC-impacted soil and 115 cubic yards of petroleum-impacted soil, with removed materials disposed of at the appropriate landfill. Groundwater was treated through dewatering and filtration and confirmation sampling verified that contaminant levels were reduced below regulatory thresholds.

Remediation Cost: ~$450 thousand

Result: Clean site with unrestricted residential use. CDPHE no further action letter received (attached).

CLEANERS
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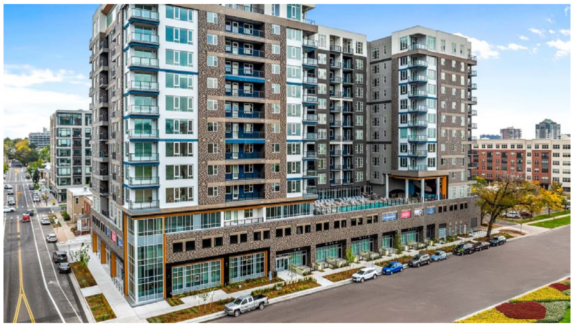
STOP



Project Title: Avalon Montville (2023)

Location: Montville, New Jersey

Environmental conditions: The soil was contaminated with benzene and other pollutants from the former auto salvage yard on the site.

Cleanup Program/Oversight: Remediation was conducted by a licensed professional under a state-approved cleanup program, with oversight from the New Jersey Department of Environmental Protection (NJDEP).

Physical Cleanup: Removal of impacted soil, clean topsoil cap, demarcation layers, wetland buffer restoration, flood risk mitigation, and stormwater management system installation.

Remediation Cost: ~$9 million

Result: Clean site with unrestricted residential use.

Project Title: Avalon Boonton (2019)

Location: Boonton, New Jersey

Environmental conditions: The soil was contaminated with chemicals improperly disposed of on site.

Cleanup Program/Oversight: Remediation was conducted by a licensed professional under a state-approved cleanup program, with oversight from the New Jersey Department of Environmental Protection (NJDEP).

Physical Cleanup: Removal of contaminated soil, groundwater treatment, site preparation for residential development, replace with clean fill.

Remediation Cost: ~$15 million

Result: Clean site with unrestricted residential use.

Avalon Boonton
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Project Title: Avalon Yonkers (2019)

Location: Yonkers, New York

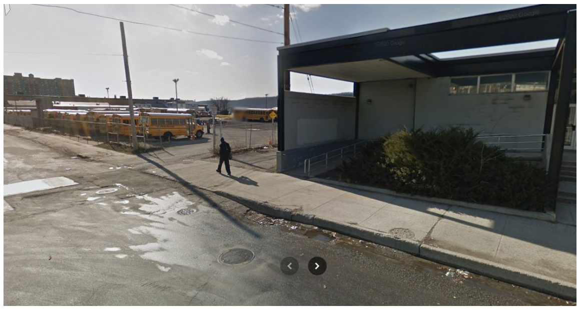
Environmental conditions: Contaminated soils and groundwater from former industrial/brownfield site.

Cleanup Program/Oversight: Brownfield remediation under New York State Department of Environmental Conservation (NYS DEC) oversight.

Physical Cleanup: Removal of contaminated soils, groundwater treatment, site preparation for residential development, stormwater management, flood mitigation, and ecological restoration.

Remediation Cost: ~$13 million

Result: Clean site with unrestricted residential use.



COLORADO
Department of Public
Health & Environment

July 6, 2020

Mr. Todd Nicotra
AVA Lawrence St, LLC
1630 Welton St.; Suite 600B
Denver, CO 80202

RE: No Action Determination Approval for 2600 Lawrence St., Denver, CO

Dear Mr. Nocotra:

A No Action Petition (the Petition) was submitted on behalf of AVA Lawrence Street, LLC (the Applicant) to the Colorado Department of Public Health and Environment (the Department) pursuant to C.R.S. 25-16-307(2) of the Colorado Voluntary Cleanup and Redevelopment Act. The Petition was submitted for the applicant's property identified in the Petition and listed here generally as 2600 Lawrence St., in Denver, Colorado ("the property").

The Department conducted a review of the environmental data collected on the above-referenced property. Based on this review and pursuant to C.R.S. 25-16-307(2), the Department approves the applicant's Petition and makes the following determinations:

- The environmental assessment submitted by the applicant and performed by qualified environmental professionals indicates that there is no evidence of contamination released into the environment present from the applicant's property, which exceeds applicable promulgated state standards or which poses an unacceptable risk to human health and the environment.

Based on the information provided by the applicant concerning property identified in the Petition and listed here generally as 2600 Lawrence St., in Denver, Colorado, it is the opinion of the Colorado Department of Public Health and Environment that no further action is required to assure that this property, when used for the purposes identified in the No Action Petition (**Residential Use**), is protective of existing and proposed uses and does not pose an unacceptable risk to human health or the environment at the site.

The approval of the applicant's Petition by the Department applies only to conditions on the property and state standards that exist as of the time of submission of the Petition. In addition, this approval applies only for the land use specified in the application, which is **Residential Use**. This approval shall be considered void if it is determined that materially misleading information has been submitted by the applicant. Nothing in this letter shall be construed to limit the Department's authority to take actions under existing statutes as necessary, should new information come to the attention of the Department.

If you have any questions, please contact me at (303) 692-3411.

Sincerely,

Fonda Apostolopoulos
Voluntary Cleanup Program

File: RV200521-1

AvalonBay Environmental
Cleanup Experience:
NFA Letter Example 2

COLORADO
Department of Public
Health & Environment
CDPHE

November 2, 2022

650 North Sherman, LLC
c/o Todd Nicotra
AvalonBay Communities, Inc.
todd_nicotra@avalonbay.com

RE: Modified Correction Action Plan Completion Report and No Further Action Request; (former) Colorado Lace Dry Cleaners (Seventh and Sherman, LLC), 696 North Sherman Street and 200 East 7th Avenue, Denver, Colorado; EPA ID No.: COD031964661; HAZ COR - No Further Action

Dear Todd Nicotra:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (the Division) has reviewed the August 17, 2022 *Modified Corrective Action Plan Completion Report and No Further Action Request* (the NFA Request). The NFA Request was written, compiled and submitted by Casey Resources, Inc. on the behalf of 650 North Sherman, LLC.

The NFA Request documents remedial efforts of chloroethenes beneath the building at the referenced location and petroleum impacts south of the same building. Redevelopment plans on the property demanded over-excavation of impacted soils and bedrock. Reportedly, soil, bedrock and groundwater were all appropriately managed and characterized. Manifests confirm proper disposal of hazardous and non-hazardous waste streams. Confirmation soil and bedrock sampling results in addition to groundwater monitoring during excavation and dewatering activities confirm adequate remediation of soil, bedrock, and groundwater at the referenced facility. Therefore, the Division has determined that no further action is required and the corrective action process be terminated.

It is important to note that this determination is based information presented to the Division, it is also taken from a snapshot in time, and if additional information is learned subsequent to the date of this letter that suggests a new release has been identified at the referenced property then this determination may no longer apply. Finally, if any borehole remains on the property and is no longer of use or will be abandoned it must be plugged in accordance with Rule 16 (2 CCR402-2). Great job on this effort. This project is a tremendous success story.

If any question, comment, or concern should arise regarding this correspondence please contact me at (720) 598-2843 or via email at richard.mruz@state.co.us.

Sincerely,

Richard Mruz, Jr., REHS
Hazardous Waste Corrective Action Unit
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and Environment

EC: Paul Casey and Terry McGowan, Casey Resources, Inc.
Brian Packard, Lisa Keskin, Gregory Himmel, AvalonBay Communities, Inc.

ERO Resources Corporation

Denver | 1626 Cole Boulevard, Suite 100, Lakewood, CO 80401
Durango | 835 East 2nd Avenue, Suite 314, Durango, CO 81301
Grand Junction | 715 Horizon Drive, Unit 301, Grand Junction, CO 81506
Idaho | 7154 West State Street, Suite 398, Boise, ID 83714

October 20, 2025

TO: Andrew Johnson, Sr. Development Manager
AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025
Denver, CO 80237

FROM: Jack Denman, Senior Geologist

RE: Welby Gardens Environmental Report Summary

ERO Resources Corporation (ERO) is providing this Technical Memorandum to summarizing ERO's review of the following reports prepared by Baseline Engineering Corporation for the Welby Gardens Wholesale Center at 17201 West 64th Avenue in Arvada, Colorado.

Phase I Environmental Site Assessment. *Date: 12/26/2024* - The report is a standard ASTM Phase I Environmental Site Assessment to evaluate property for environmental conditions. The report notes that the property was cultivated agricultural fields until the development of the (currently-closed) landscape nursery facility beginning in the early 1970's. The report documents the review of historical and publicly available records and identified environmental concerns that, in ERO's professional experience, are typical for a historical landscape nursery facility. These concerns were primarily associated with the known use or presumed historical use of horticultural and petroleum products during the course of business operations. No manufacturing or known disposal of horticultural or petroleum products were identified, however as with similar operations, additional investigation was recommended to evaluate the property for the presence of horticultural chemicals, heavy metals commonly associated with horticultural activities, and petroleum products in soil or groundwater.

Limited Phase II Site Investigation – *Date: 10/17/2025* - This "Phase 2 Report" report documents the initial assessment of the soils and groundwater on the property to quantify the presence or absence of typical horticultural chemicals, petroleum products, and heavy metals commonly associated with horticultural activities. The Phase 2 Report describes drilling and sampling of soils throughout the property and the installation and sampling of several groundwater monitoring wells to evaluate groundwater quality beneath the property. ERO has the following comments based on our review:

- Twenty-two locations across the property were subject to drilling and/or sampling to be representative of the areas of concern identified in the Phase I ESA and provide a high-level overview of site conditions across the differing operational activities. Although any remedial action can be expected to require additional sampling to design, execute, and document cleanup actions, the initial effort detailed in the Phase 2 Report, in ERO's opinion, presents a reasonable characterization of the property conditions given the size of the former operations.

- Shallow soil samples detected the pesticide dieldrin at a range of concentrations indicative of use on the property during historical operations. It is presumed the use occurred prior to EPA banning the use of dieldrin as an insecticide in the early 1970s. The distribution of the detections is consistent with the reported historical usage in the older areas of the former operations. The decrease in concentrations with depth is consistent with the presumed plant-applications during operations.

- The lack of other elevated concentrations of pesticides or herbicides compounds in soils sampled from the property suggests limited historical use of other common horticultural chemicals that would present additional sources of contamination.

- Lead and arsenic are two heavy metals that are typically found in soils concurrently with historical horticultural chemical use and were not detected at concentrations that suggest lead- or arsenic-based compounds were likely used on the site. In ERO's opinion, the reported arsenic concentrations are well within typical background levels in Colorado, where arsenic is naturally occurring.

- Two areas of petroleum soil contamination were identified at the locations of above ground petroleum storage tanks, which is both logical and not uncommon. The contamination appears to have been the result of operational releases.

- Groundwater samples were collected from four of the five boring completed as monitoring wells, including at two downgradient locations (MW-02 and MW-04). The results provide a reasonable characterization of groundwater quality at the property.

- Groundwater results presented in the report indicate that site activities have not resulted in detectable concentrations of volatile organic compounds, pesticides, or herbicides in the wells downgradient from the former operations. This suggests that, although releases to the surface appear to have occurred, the releases have not impacted groundwater quality.

- PFAS, or per- and polyfluoroalkyl substances which are ubiquitous in the environment, were detected in one downgradient monitoring well (MW-04) even though there is no record of use on the property. Potential cross-contamination issues during the first sampling event may also lead to the discrepancies in the results in the Phase 2 Report. So long as groundwater is not used for domestic purposes, ERO agrees with the report conclusion that further evaluation of PFAS is not warranted at this time.

In conclusion, the preferred remediation strategy for the impacted soils in this circumstance would typically consist of excavation and off-site disposal at a permitted landfill. Based on the results of the Phase 2 Report reviewed by ERO, that remediation strategy would appear to be appropriate for this location to safely develop the property for residential land use. In Colorado, the typical mechanism for such remediation, documentation, and oversight would be within the Voluntary Cleanup Program (VCUP) of the Colorado Department of Public Health and Environment (CDPHE).

SIGNED: Jack Denman

Jack Denman, Senior Geologist

PREPARED FOR:
AvalonBay Communities, Inc.
Attn: Mr. Greg Himmel
5050 S. Syracuse St., Suite 1025
Denver, CO 80237

PHASE I ENVIRONMENTAL SITE ASSESSMENT

WELBY GARDENS

17201 WEST 64TH AVENUE
ARVADA, COLORADO 80007

PREPARED BY:
BASELINE ENGINEERING CORPORATION
112 N. RUBEY DRIVE, SUITE 210
GOLDEN, CO 80403

December 26, 2024
REPORT EXPIRATION DATE: April 29, 2025

JOB # 45033

BASELINE
Engineering · Planning · Surveying

EXECUTIVE SUMMARY

On behalf of AvalonBay Communities, Inc. (*User* or the Client), Baseline Engineering Corporation (Baseline) completed a Phase I Environmental Site Assessment (ESA) for the Welby Gardens located at 17201 West 64th Avenue, Arvada, Colorado (the "Subject Property"). The Subject Property consists of approximate 20.05-acres of land that is developed with a wholesale plant nursery (Figure 1 and Figure 2). The Phase I ESA was requested by the Client to support the due diligence process in a purchase and sales agreement for the Subject Property.

This Phase I ESA was completed in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Standard Practice E1527-21, which was approved on March 14, 2022 by the Environmental Protection Agency (EPA) for being an acceptable guidance document for satisfying Federal All Appropriate Inquiry requirements (AAI). Any exceptions to, or deletions from, this practice are described in Section 1.8 - Limitations. The ASTM Standard Practice E1527-21 clarifies the start of a Phase I ESA as the date the first data are collected for developing the Phase I ESA report. For this report, the first data were obtained from Environmental Data Resources (EDR) of Shelton, Connecticut on October 31, 2024. Per the ASTM Standard Practice E1527-21, this report is viable for 180 days from that date, which is April 29, 2025.

This Phase I ESA was completed by reviewing numerous documents, maps, and regulatory databases. Baseline contracted with EDR to provide historical information and to search reasonably attainable regulatory databases. Multiple databases were scanned for regulatory facilities within the ASTM Standard Practice E1527-21 recommended search radius of the Subject Property (EDR, 2024a). Historic topographic maps, aerial photographs, city directories, fire insurance maps, geologic and groundwater reports and maps, and environmental reports for the Subject Property and adjacent areas were reviewed when available. Interviews were conducted with persons knowledgeable of the Subject Property history. City, County, and State regulatory agencies were also contacted where applicable.

The Phase I ESA identified historical and current use and storage of fertilizers, pesticides, and herbicides on the Subject Property, use of aboveground storage tanks (ASTs) for fuel and water storage, historical pond, three former septic system areas, an onsite water well, among others.

Baseline performed this Phase I ESA in conformance with the scope and limitations of the ASTM Standard Practice E1527-21 for the Subject Property on behalf of the Client. This assessment has revealed eight recognized environmental conditions (RECs) on the Subject Property and no adjacent or upgradient RECs. The four RECs include:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline ASTs.
- The use of waste oil and grease containers and ASTs.

- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST.
- Surface drainage from the fertilizer, herbicides, and pesticide mixing areas.
- Historical use of septic systems.

Other concerns identified not considered RECs per the ASTM Standard is the probable existence of ACM insulation on piping throughout the greenhouses and the existence of the deep water well. As noted, Mr. Marty Gerace stated that they do not own the well and that the current owner is required to properly abandon the well.

The Subject Property has a surface water retention system that includes ponds between several of the greenhouses. Over time, wetland grasses and cattails have grown in the retention ponds establishing what are considered wetlands. Any work in these areas, whether for modification or removal, will fall under the jurisdiction of the United States Army Corp of Engineers (USACOA). This work will have to be negotiated with the local USACOE administrator and off-setting wetland acreage must be arranged for prior to any disturbance to the wetland habitat.

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Appendices are included in electronic format due to the volume of material contained in the appendices.

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Appendix B Records, Communications, and Interviews
Appendix C FEMA Flood Insurance Rate Map
Appendix D Environmental Data Resources (EDR) Reports
Appendix E Water Well Information
Appendix F Site Photographs
Appendix G Resumes of Environmental Professionals

LIST OF ACRONYMS/DEFINITIONS

AAI	All Appropriate Inquiries
ACM	Asbestos-Containing Materials
AMSL	Above Mean Sea Level
APCD	Air Pollution Control Division
AST	Above Ground Storage Tank
ASTM	American Society for Testing and Materials
AUL	Activity and Use Limitation
Baseline	Baseline Engineering Corporation
bgs	Below Ground Surface
CDPHE	Colorado Department of Public Health and Environment
CDWR	Colorado Department of Water Resources
Client	AvalonBay Communities, Inc.
CREC	Controlled Recognized Environmental Condition
EDR	Environmental Data Resources
EPA	Unites States Environmental Protection Agency
ESA	Environmental Site Assessment
ft^2	Square Feet
FEMA	Federal Emergency Management Agency
gal	Gallon
HMWMD	Hazardous Materials and Waste Management Division
HREC	Historic Recognized Environmental Condition
L	Liter
REC	Recognized Environmental Condition
Subject Property	17201 West 64th Avenue, Arvada, Colorado 80007
USACOE	United States Army Corp of Engineers
User	AvalonBay Communities, Inc.
USGS	United States Geological Survey
WQCD	Water Quality Control Division

1.0 INTRODUCTION

Baseline Engineering Corporation (Baseline) was retained by AvalonBay Communities, Inc. (*User* or the Client) to complete a Phase I Environmental Site Assessment (ESA) for the Welby Gardens located at 17201 West 64th Avenue, Arvada, Colorado (the "Subject Property"). The Phase I ESA was requested by the Client to support the due diligence process in a purchase and sales agreement for the Subject Property.

This Phase I ESA was completed in general conformance with practices as recommended by the American Society for Testing and Materials (ASTM) Standard Practice E1527-21, which was approved on March 14, 2022 by the Environmental Protection Agency (EPA) for being an acceptable guidance document for satisfying Federal All Appropriate Inquiry requirements (AAI). Any exceptions to, or deletions from, this practice are described in Section 1.8 – Limitations. The ASTM Standard Practice E1527-21 clarifies the start of a Phase I ESA as the date the first data are collected for developing the Phase I ESA report. For this report, the first data were obtained from Environmental Data Resources (EDR) of Shelton, Connecticut on October 31, 2024. Per the ASTM Standard Practice E1527-21, this report is viable for 180 days from that date, which is April 29, 2025.

1.1 Location and Legal Description

The Phase I ESA was completed on behalf of AvalonBay Communities, Inc. the "*User*" per the ASTM E1527-21 for the Subject Property, parcel number: 30-023-01-083 (Figure 1 and Figure 2). .

The Jefferson County Assessor Offices indicates the following related to the Subject Property:

- Parcel ID Number 30-023-01-083, Lot 0001 and Lot 0002, 20.05 acres or 873,334 square-feet, located in the southwest quarter of Section 2 Township 3 South, Range 70 West, and Subdivision 774355 Veldkamp Minor Subdivision First Amendment. The Subject Property is currently a wholesale plant nursery and has land use classified as Agricultural/Business, and the current owners are Welby Gardens CO, LLC. Nine main structures are listed as constructed on the Subject Property and occupy approximately 324,175 square feet ("ft^2"). There are 27,985 ft^2 of minor structures (outbuildings or sheds); 65,880 ft^2 of asphalt parking and road; and 4,280 ft^2 of concrete. The nine structures include:
    - Two storage warehouses,
    - Five greenhouse buildings, and
    - Two utility buildings noted as light commercial.
- The structures were constructed from 1976 to 1990.

Copies of the Jefferson County Assessor's Office records are presented in Appendix A for the Subject Property.

1.2 Purpose

The purpose of this Phase I ESA is to identify potential recognized environmental conditions (RECs) and conditions indicative of releases or threatened releases of hazardous substances or petroleum products, which may exist at or adjacent to the Subject Property, and to meet AAI requirements for the potential defenses under the Comprehensive Environmental Response, Compensation, and Liability Act, through literature review, site reconnaissance, interviews, and regulatory databases searches. The information provided in this Phase I ESA report provides the *User(s)* with a current understanding of the existing conditions and the potential environmental risks that may be associated with the Subject Property.

The ASTM Standard Practice E1527-21 defines the term ‘recognized environmental conditions’ as:

“*(1)* the presence of *hazardous substances* or *petroleum products* in, on, or at the *Subject Property* due to a *release* to the *environment*; *(2)* the likely presence of *hazardous substances* or *petroleum products* in, on, or at the *Subject Property* due to a *release* or likely *release* to the *environment*; or *(3)* the presence of *hazardous substances* or *petroleum products* in, on, or at the *Subject Property* under conditions that pose a *material threat* of a future *release* to the *environment*. A *de minimis condition* is not a *recognized environmental condition*.”

A ‘material threat’ is defined as “*obvious* threat which is likely to lead to a *release* and that, in the opinion of the *environmental professional*, would likely result in impact to public health or the environment.”

RECs are to be further classified, where applicable, as “controlled” and/or “historic” as follows:

A ‘controlled recognized environmental condition’ (CREC) is defined by the ASTM Standard Practice E1527-21 as “*recognized environmental condition* affecting the *Subject Property* that has been addressed to the satisfaction of the applicable regulatory authority or authorities with *hazardous substances* or *petroleum products* allowed to remain in place subject to implementation of required controls (for example, *activity and use limitations* or *other property use limitations*).*”* A CREC is further defined as being in, on, or at the Subject Property.

A ‘historic recognized environmental condition’ (HREC) is defined by the ASTM Standard Practice E1527-21 as “a previous *release of hazardous substances* or *petroleum products* affecting the *Subject Property* that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the *Subject Property* to any controls (for example, *activity and use limitations* or other *property use limitations*). A *historical recognized environmental condition* is not a *recognized environmental condition*.” A HREC is also further defined as being in, on, or at the Subject Property.

1.3 Planned Development

The Client plans to build 350 to 450 multifamily apartment units on the Subject Property.

1.4 Scope of Work

Baseline followed the ASTM E1527-21 Standard Practice to complete the Phase I ESA. This Phase I ESA was completed by Baseline personnel qualified to prepare a Phase I ESA, meeting the ASTM E1527-21 definition of a qualified '*environmental professional*'.

As part of this Phase I ESA, Baseline completed:

- Visual inspections of the Subject Property and adjacent sites (from the Subject Property);
- Interviews, as feasible, with past and present owners, operators, and occupants;
- Review of historical sources back to the first obvious use of the Subject Property, including aerial photographs, topographic maps, city directories, and fire insurance maps, where reasonably ascertainable;
- Review of government records provided by a qualified subcontractor;
- Review of reasonably available pertinent public records;
- Review of reasonably available environmental reports for the Subject Property; and
- Identification of data gaps, and the significance of those data gaps in relation to the environmental conditions of the Subject Property;

The findings and conclusions expressed in this report are limited to the purpose stated herein, and the conditions observed at the time of the site reconnaissance by Baseline personnel. The scope of work does not include structural, electrical, mechanical, radon, wetlands, geotechnical, sampling, or other analyses/activities not expressly described in Section 1.6, and as part of an ASTM Standard Practice E1527-21 compliant Phase I ESA. Therefore, the findings and conclusions set forth herein are made without the benefit of said activities.

1.5 User Requirements

The ASTM Standard Practice E1527-21 places several requirements for the completion of due diligence activities on the *User* (potential purchaser, seller, lender, or owner requesting the Phase I ESA). The *User's* responsibilities include the following items:

- Environmental cleanup liens filed or recorded against the Subject Property;
- Activity and use limitations (AULs) placed on the Subject Property;
- Any specialized knowledge or experience related to the Subject Property or nearby properties;
- The relationship of the purchase price being paid for the Subject Property to its value if not contaminated;
- Commonly known or reasonable ascertainable information about the Subject Property; and

- Any obvious indications indicating the presence or likely presence of contamination on the Subject Property.

1.6 Special Terms and Conditions

A Phase I ESA typically excludes several activities defined in the ASTM Standard Practice E1527-21 as non-scope considerations. Non-scope considerations have not been taken into account as part of this assessment. These non-scope considerations include, but are not limited to:

- Recommendations;
- Sampling and testing for asbestos-containing material (ACM);
- Sampling and testing for radon;
- Sampling and testing for lead-based paint;
- Sampling and testing for lead in drinking water;
- Sampling and testing for mold;
- Sampling and testing of soil and groundwater;
- Wetland delineation;
- Cultural and historic resources delineation;
- Review of industrial hygiene issues;
- Review of health and safety issues;
- Ecological resources and endangered species delineation;
- Assessment of indoor and outdoor air quality; and
- Impacts from high voltage power lines.

In addition to these exclusions, a title records search was not conducted by Baseline.

1.7 User Reliance and Warranty

This report was prepared at the direction, and for the exclusive use, of the Client. Readers that have not completed the User Requirements as established in Section 6 of ASTM Standard Practice E1527-21 may not rely on this report.

The *User* is bound by the terms and conditions established between the Client and Baseline for development of this Phase I ESA. No other parties should rely on the information contained herein without prior written consent from the *User* and Baseline.

This report has been prepared in accordance with standard industry practices for the sole express use by the *User*. Data and observations presented in this report represent conditions in existence at the time and specific locations investigated and may not reflect conditions existing at other locations or times. Many of the findings contained in this Phase I ESA are based on information available from public sources as well as interviews with persons knowledgeable of the Subject Property. Available information, especially environmental databases, changes continually and is frequently incomplete. Baseline assumes no liability for information that has been misrepresented or for items not visible, accessible, or present on the Subject Property at the time of the site reconnaissance. No warranties, expressed or implied, are made regarding the condition of the Subject Property.

1.8 Limitations

The limitations to the completion of this Phase I ESA include the following:

- A detailed search for environmental liens against the Subject Property was not conducted by Baseline. The Client has indicated that environmental liens or AULs were not identified for the Subject Property. Based on information from the Client and CDPHE website, this data gap is not considered a concern.
- Data gaps were identified as part of the aerial photograph and topographic reviews. Both aerial photographs and topographic maps were not reasonably ascertainable in five-year intervals. These represent data gaps; however, based on data obtained from other historical data sources, this does not represent a significant data gap.

2.0 USER PROVIDED INFORMATION

A *User* questionnaire was completed by Mr. Gregory Himmel, Client representative, on November 12, 2024 and is provided in Appendix B. Mr. Himmel's responses are presented in the following section.

2.1 Legal Description, Title, Records/Environmental Liens, and/or Activity and Use Limitations

The Jefferson County Assessor's Office provides a legal description for the Subject Property. These documents are provided in Appendix A.

A title search for past owners was not provided by the Client. However, the Client noted that the Subject Property has been a wholesale nursery for over 30 years.

Mr. Himmel noted that no environmental lien records were found for the Subject Property; however, there are typical zoning restrictions for the Subject Property. .

2.2 Specialized Knowledge

Mr. Himmel was not aware of any issues or specialized knowledge associated with the Subject Property with the exception that he noticed petroleum staining adjacent to the waste oil, aboveground storage tank (AST).

2.3 Valuation Reduction for Environmental Issues

Mr. Himmel indicated that the purchase price reflects a fair market value for land intended for multifamily residential development.

2.4 Owner, Site Manager, and Occupant Information

Mr. Himmel provided owner contact information as follows:

Marty Gerace & Nick Gerace
Welby Gardens LLC
17201 W 64th Ave
Arvada, CO 80007
303-288-3398
martyg@hardyboyplant.com
nickg@hardyboyplant.com

2.5 Commonly Known or Reasonably Ascertainable Information

Mr. Himmel noted that there are no known previous environmental or geotechnical reports for the Subject Property.

3.0 PHYSICAL SETTING

The following sections provide a brief discussion of the physical setting of the Subject Property.

3.1 Location and Topography

As presented in Section 1.1, the Subject Property consists of 20.05-acres of land that is developed with a wholesale plant nursery (Welby Gardens), located at 17201 West 64th Avenue, Arvada, Colorado.

The Subject Property is bounded on the north and northeast by the City of Arvada West Woods Golf Course, on the east and southeast by residential properties, on the south by a MorningStar Senior Living Center, and on the southwest, west, and northwest by residential properties (Figure 3). A more complete description of the current condition of the Subject Property is included in Section 6.2.

Review of topographic maps and Google Earth images indicate that the ground surface at the Subject Property gently slopes downward from west to east. The Subject Property elevation varies from approximately 5,690 feet above mean sea level (AMSL) on the west to approximately 5,675 feet AMSL on the east.

3.2 Local Geology

The *Surficial and Bedrock Geologic Map of the Golden Quadrangle, Jefferson County, Colorado* (Van Horn, Richard, 1972) shows the surficial lithology underlying the Subject Property as consisting of Louviers Alluvium. The Louviers Alluvium is described as a “*silty fine-grained sand becoming coarser with depth*”. The upper one to three feet is commonly clayey to sandy silt, and in areas underlain by gravel up to three feet thick. Overall, the thickness of the alluvium is 10 to 20 feet.

The Louviers Alluvium is underlain by the Arapahoe Formation which consists of light-gray to brown quartzose sandstone and silty claystone.

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) maintains surface soil data, which encompass the Subject Property. The NRCS in conjunction with the Soil Survey Geographic Database (SSURGO) has mapped the soils beneath the Subject Property as dominantly very cobbly sandy loam. The sandy loam is a well-drained soil class that consists of coarse-grained soils that are a mixture of sands, sands with fines, and clayey sand.

Recent geotechnical drilling at the Subject Property by Cole Garner Geotechnical (2024) indicates non-native fill materials occur from the ground surface to depths ranging from approximately 6 feet to 7 feet below ground surface (bgs). The fill consists mainly of fine-grained to coarse-grained sand and gravels, with some silt and clay lenses and cobbles. No debris or other deleterious materials were encountered. Beneath the non-native fill, native silty and was encountered at one location to a depth of approximately 12 feet bgs. Sedimentary sandstone and claystone bedrock was encountered below the non-native fill and native soils. Groundwater was encountered in Boring Nos. 1 and 3 at depths of approximately 13 and 8 feet bgs, respectively (Figure 4).

3.3 Hydrology

The closest prominent surface water features to the Subject Property are Blunn (Arvada) Reservoir approximately 0.57 mile to the northwest and Tucker Lake approximately 0.6 mile to the north. Ralston Creek, flowing from west to east is approximately 0.27 mile north of the Subject Property and Van Bibber Creek, flowing northwest to southeast, is approximately 0.66 mile south of the Subject Property.

Based on review of the online Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, included in Appendix C, the Subject Property lies within Floodplain Designation ‘Zone X’. FEMA defines Zone X as an “[a]rea of minimal flood hazard”.

3.4 Hydrogeology

Shallow groundwater flow generally mimics surface topography; therefore, shallow groundwater flow across the Subject Property is expected to flow from west to east.

4.0 HISTORICAL LAND USE REVIEW

A number of historical sources were examined in an effort to develop an understanding of previous uses of the Subject Property and the surrounding area. Baseline utilized EDR to compile reports from a selection of historic sources. Those sources included a variety of maps and city directories. Information collected from those sources is presented below.

4.1 Past Land Ownership

Limited information was found for ownership history of the Subject Property. The Jefferson County Assessor's Office lists limited chain of title information and shows the following ownership for the parcel:

Welby Gardens Co LLC is the current owner. Welby Gardens Co LLC purchased the Subject Property in November 2013 from Veldkamps Real Estate Inc. The date Veldkamps Real Estate Inc. purchased the Subject Property is not listed.

4.2 Historic Topographic Map Review

United States Geologic Survey (USGS) topographic quadrangle maps of the Subject Property obtained from EDR (2024b) were reviewed for the years 1899, 1939, 1942, 1944, 1957, 1965, 1971, 1980, 1994, 2013, 2016, 2019 and 2022. Copies of the topographic maps are provided within an electronic file contained in Appendix D. The topographic map review focused on development of the Subject Property and immediately adjacent properties, landfills, pits, depressions, lagoons, etc.

The 1899 topographic map shows the Subject Property and surrounding areas as vacant land. West 64th Avenue is shown on the south and Virgil Way to the west. Two railroad alignments are shown to the west.

The 1939 map shows the roads as dirt roads with the Subject Property vacant. The railroads are no longer shown. Tucker Lake is shown to the north and Church Ditch has been constructed to the east. The 1942 map is the same as 1939 with the exception that West 64th Avenue is partially paved.

The 1944, 1957, and 1965 topographic maps are essentially the same as the 1942 map with the Subject Property remaining vacant.

The first development of the Subject Property is shown on the 1971 map. The map shows one large building on the southern portion of the Subject Property. The 1980 topographic map shows the 1971 building as being expanded to the west property boundary. By 1994, a second building is shown north of the original building. This building is similar in size as the first building. Arvada (Blunn) Reservoir is now present to the west of Tucker Lake.

The 2013, 2016, 2019, and 2022 topographic maps do not show the buildings on the Subject Property. All the land areas to the south, west, north, and east are shown as developed with roadways. West 64th Avenue is now a four lane paved roadway, configured in its present day alignment.

Topographic Map Review Summary

The Subject Property remained vacant from 1899 to approximately 1965. By 1971, the Subject Property is developed with one building. The development of the Subject Property continues until the land area is developed. No environmental issues (RECs) were identified for the Subject Property and adjacent areas during the topographic map review.

4.3 Aerial Photograph Review

High altitude aerial photographs of the Subject Property obtained from EDR (2024c) were reviewed for the years 1937, 1955, 196e, 1971, 1979, 1983, 1994, 1999, 2005, 2011, 2015, and 2019. The aerial photographs were reviewed at a scale of 1 inch = 500 feet. The review was limited to the Subject Property and immediately adjacent land areas. The review focused on identifying stained areas, pits, landfills, soil piles, aboveground storage tanks, gas stations, etc. Reviewing aerial photography is also helpful in correlating a timeline of development with other sources that reference historical use. Copies of the aerial photographs are provided within an electronic file contained in Appendix D. Significant observations from select aerial photographs are summarized below.

1937 – 1963

The Subject Property is vacant. Church Ditch is shown to the east. Surrounding land areas are vacant.

1971

The Subject Property is developed with an array of greenhouses aligned north-south and an apparent office building adjacent to the east. This building is located on the south side of the Subject Property. Church Ditch is shown to the east. Surrounding land areas are vacant.

1979

Additional greenhouse buildings have been added to the west and north on the Subject Property. Surrounding land areas remain vacant.

1983

Additional greenhouse buildings have been added the Subject Property and now occupy an estimated one half to two thirds of the property area. Surrounding land areas remain vacant.

1994

The land use has now expanded to the north boundary and the development occupies approximately 80% of the land area. Residential homes and golf course fairways are present to the northwest. The remaining adjacent land areas remain vacant.

1999

The land use of the Subject Property has expanded to approximately 90% of the land area. Golf course fairways have been constructed to the north. Residential homes and golf course fairways are present to the northwest and west. New residential areas are being constructed south of West 64th Avenue.

2005, 2011, and 2015

The entire land area of the Subject Property is now developed. The southern portion appears to be an office/sales building and parking. The surrounding areas have all been developed with residential homes or golf course. A small area between the Subject Property and West 64th Avenue remains vacant.

2019

By 2019, the MorningStar Senior Living Center has been constructed in the area between the Subject Property and West 64th Avenue.

Aerial Photograph Review Summary

The Subject Property was shown as being developed with greenhouses on the southern portion of the property in 1971. Development continued through 2005 when the entire Subject Property area was occupied by greenhouse buildings and support structures. By 1994, the surrounding areas were being developed. By 2019, the surrounding land areas were developed with residential homes, golf course fairways, or commercial senior living centers. The use of the Subject Property as a wholesale greenhouses operation implies the use of fertilizers, pesticides, and herbicides. Potential improper use and storage of these compounds are considered a REC. No other RECs were identified on the Subject Property or adjacent properties as part of the aerial photograph review.

4.4 Fire Insurance Map Review

Sanborn maps were originally created as a product to help fire insurance companies assess the potential risks involved in underwriting policies. Sanborn has been developing these maps since 1866 and are a valuable tool for assessing historic use. EDR purchased the rights to all Sanborn maps produced after 1923. EDR reported that no Sanborn maps covering the Subject Property and adjacent area were found (EDR, 2024d).

4.5 City Directory Review

EDR completed a city directory review for the Subject Property (EDR 2024e). Business directories reviewed included the Haines, InfoUSA, Polk, Cole, Bresser, and Stewart directories along with the EDR Digital Archive of Cole and InfoUSA records. The directories search spanned from 1962 to 2020. The review was completed on approximate five-year intervals per the ASTM Standard Practice E1527-21. The directory listings provided are noted in the following paragraphs. Note that listings were not identified for 1962, 1967, and 2014. An electronic copy of the City Directory report is provided in Appendix D.

4.5.1 Subject Property Listings

The following are the Subject Property listings from 2020 to 1972.

2020

County Fair Garden Center Arvada
Hardy Boy Bedding Plants
Welby Gardens

2017

County Fair at Westwoods
Welby Gardens

2010
County Fair at Westwoods
Welby Gardens

2005
County Fair Garden Centers
S. Little and Brent Ragsdale

2000
Veldkamps Wholesale Greenhouses
Michael Girten

1995
Florawest Wholesale Greenhouse
L. Grant and S. Tisdale

1992
Florawest Wholesale Greenhouse
L. Grant
Veldkamps Flowers
Erich Hostetler

1986
Colorado Greenhouse
John Haberer
Veldkamps Inc.

1986
Veldkamps Greenhouse and Veldkamp Wholesale

1977
Veldkamps Greenhouse

1972
R. Weakland Inc.

4.5.2 Off Subject Property Listings of Concern

There were no listings adjacent to the Subject Property or in the Subject Property area that would be a concern. Listings included residential addresses from 1972 to 2017, and the MorningStar Senior Living Center at 17351 West 64th Avenue in 2020.

City Directory Review Summary

The Subject Property listings show the property was used as a wholesale greenhouse growing center. This implies the use of fertilizers, pesticides, and herbicides. Potential improper use and storage of these compounds are considered a REC.

4.6 Environmental Lien and AUL Search

Environmental liens and AULs for the Subject Property were not provided by the Client; however, the Client noted in the User Questionnaire that no liens or AULs were identified. The Colorado Department of Public Health and Environment (CDPHE) lists sites that have an environmental lien and/or AULs. No environmental liens and/or AULs were identified for the Subject Property or any of the adjacent land parcels. The nearest record of an environmental lien/AUL record is for the Table Mountain and Amax Research and Development Centers located 1.37 miles to the southeast of the Subject Property.

5.0 RECORDS REVIEW

5.1 Client Provided Environmental Reports

The Client confirmed that there were no environmental reports provided by the current owners of the Subject Property.

5.2 Regulatory Database

This section provides a summary of the significant findings from a search of federal, state, tribal, and proprietary records specific to environmental issues. This search was performed in an effort to identify onsite, adjacent, and/or hydraulically upgradient facilities that could potentially impact the Subject Property. EDR was contracted by Baseline to perform this search. Multiple databases were scanned for regulatory facilities within the ASTM-recommended search radius of 1-mile of the Subject Property. Results were plotted and labeled on radius maps and specific details of each site listed (EDR, 2024a).

5.2.1 Property Listings

There are standard environmental record sources required to be reviewed according to the ASTM E1527-21 standards. Listed in Table 1 is a summary of the federal, state, and tribal databases searched within the ASTM-required distances from the Subject Property as identified by EDR and the number of listings identified within those ranges. A total of 118 databases were searched for environmental information specific to the Subject Property and within the ASTM Standard Practice E1527-21 required search radiuses.

5.2.2 Regulatory Facilities

Table 2 summarizes the regulatory facility listing information provided by EDR. EDR identified 18 environmental listings for eight facilities within the ASTM Standard Practice E1527-21 specified search distances. Facilities are generally listed in order of proximity to the Subject Property as determined by EDR. Locations for the identified facilities are presented in Appendix D.

Three of the EDR-identified facilities had the same address and those facilities were combined by Baseline. Making these corrections resulted in a total of six facilities within the ASTM-specified search distance.

These six facilities are presented in Table 2. Three of the facilities are considered a potential concern and are 'bolded' in Table 2 and discussed in greater detail below. The remaining three facilities are not considered to represent a likely past, present or material threat of release in, on, or at the Subject Property based on distance, topography, assumed groundwater flow direction/gradient, current regulatory status, and/or the absence of reported releases. EDR facility locations can be found in Appendix D (Overview and Detail Maps).

Two orphan sites were identified by EDR with unspecified locations that could potentially fall within the search radius (Table 2). The orphan sites were reviewed and found to be located north of the Subject Property, which is considered cross-gradient to the Subject Property. Assuming groundwater flow to the east, these two orphan sites are not a concern.

SUBJECT PROPERTY FACILITIES

EDR Map ID #A1, A2, and A3 – Welby Gardens Veldkamps Greenhouses

These facilities are located on the Subject Property and were listed in the FTTS, HIST FTTS, and FINDS databases (please see Table 1 for acronym definitions). Both FTTS and HIST FTTS relate to administrative cases and pesticide enforcement actions and compliance activities related to the Federal Insecticide, Fungicide, & Rodenticide Act and Toxic Substances Control Act. The EDR report shows that the facility had two inspections completed in 1995 and 2004 and that no violations were identified. Although the records appear to show proper use and storage of pesticides and herbicides, the use of these compounds remain a REC.

UPGRADIENT FACILITIES

EDR Map ID #4 – Rocky Flats Industrial Park (THORO - AERRCO - GWI)

This facility is located at 17100 - 17400 West Highway 72 in Arvada. This facility is listed on the SEMS listing but is not a National Priority List (NPL) facility. The facility is listed under performance monitoring and has an environmental covenant dated 1/3/2019.

Under the U.S. Environmental Protection Agency (EPA) Administrative Order, the CERCLA response actions at this facility included installation and operation of an air sparging/soil vapor extraction (AS/SVE) system at the parcel formerly owned and operated by American Ecological Recycle Research Corporation at the Rocky Flats Industrial Park Site. The intent of the system was to reduce sources of volatile organic compound contamination to soil, groundwater, and surface water. That system operated successfully until it met shutdown parameters. On March 6, 2014, the EPA and CDPHE were informed that the AS/SVE equipment and above-ground facilities had been removed, and the AS, SVE, and groundwater monitoring wells had all been abandoned in accordance with the 2012 Proposed Completion Report. EPA issued a final Pollution Report on March 7, 2016.

An environmental covenant for the facility was established in 2019. The records reviewed and the issuance of an environmental covenant indicate that the facility has been remediated to the satisfaction of EPA and the CDPHE, and as a result, this facility is not considered a REC to the Subject Property.

EDR Map ID #8 – City of Arvada Water Treatment Plant

This facility is located at 18001 West 66th avenue and is listed under the Solid/Hazardous Waste Facility (SHWF) list. This facility is a water treatment plant which has a surface impoundment to discharge alum treatment sludge. Alum sludge is a by-product generated during the drinking water purification process, where aluminum-salt is used as a coagulant to remove certain compounds such as phosphorous. The sludge is placed in the surface impoundment where it is dried and then either disposed as a waste or recycled for other purposes.

The EDR records do not show any violations. This facility is not considered a concern to the Subject Property.

5.3 Local Agency Records Review

The following local/regional agencies were contacted regarding records that could potentially identify environmental concerns and historical use information.

5.3.1 Federal, State, and county Environmental Agencies

The following agencies were contacted, and the data obtained discussed.

Hazardous Materials and Waste Management Division

Records for the Subject Property address was searched on the CDPHE Hazardous Materials and Waste Management Division (HMWMD) online records. No records were discovered. This result was confirmed in an email communication from HMWMD on November 12, 2024.

5.3.2 County Assessor

Baseline reviewed the Jefferson County Assessor's Office online database for records concerning the Subject Property. The records provided a legal description, description of structures, ownership information, and others. The Jefferson County Assessor’s Office records are included in Appendix A.

5.3.3 Pollution Control Agencies

The following agencies were contacted, and the data obtained discussed in the respective section.

Oil and Public Safety

The Colorado Division of Labor and Environment (CDLE) Oil and Public Safety (OPS) maintains records of registered fuel aboveground storage tanks (ASTs) and underground storage tanks (USTs). These records are maintained in a database referred to as COSTIS (Colorado Storage Tank Information System). The COSTIS database did not have any records for the ASTs at the Subject Property.

Air Pollution Control Division

Records for the Subject Property address was searched on the Air Pollution Control Division (APCD) online records. No records were discovered. This result was confirmed in an email communication from APCD on November 14, 2024.

5.3.4 Water Quality Agencies

The following agencies were contacted, and the data obtained discussed in the respective section.

Water Quality Control Division

Records for the Subject Property address was searched on the Water Quality Control Division (WQCD) online records. No records were discovered. . This result was confirmed in an email communication from WQCD on November 13, 2024.

Colorado Division of Water Resources

The Colorado Division of Water Resources (CDWR) online database of groundwater wells was reviewed to provide information concerning potential wells on the Subject Property and to assess if any monitoring wells had been installed on or adjacent to the Subject Property. Monitoring wells or water wells within a 0.5-mile radius were plotted (Appendix E). There were six wells listed as constructed and three wells listed as permitted, but not constructed (Table E-1 in Appendix E). One constructed well is located on the Subject Property. One constructed well and one permitted well are located to the north of the Subject Property, and the other six constructed and three permitted wells are located southeast of the Subject Property. There are no monitoring wells located within the 0.5-mile radius.

The water supply well on the Subject Property is listed as used for commercial, replacement, and augmentation purposes. It is completed in the Laramie Fox-Hills Formation at 1,071 feet bgs. The maximum pumping rate listed is 150 gallons per minute (gpm); however, the yield was listed at 15 gpm.

5.3.5 Arvada Fire Department

A records request for the Subject Property addresses was submitted to the Arvada Fire Department on November 18, 2024. Mr. Steven Parker - Fire Marshall of the Arvada Fire Department replied on November 22, 2024 and noted that he did not find any incident responses to the Welby Garden's address related to hazardous materials. He provided an inspection summary report for the Subject Property. The most recent inspection on December 14, 2023 noted that the fire alarm system was not functional and that the fire sprinkler system needed repair. This is listed as an open violation.

Previous inspections on January 2023, October 2017, and December 2015 had similar deficiencies with the fire system. The listed issues were noted as corrected in the same year.

Review of the fire inspection details did not identify any environmental issues.

5.3.6 Building Records

A property report for the Subject Property and the EDR report lists several permits for dry utilities, commercial improvements, fencing, signage, wiring of light poles, building electrical, building (greenhouse) construction, bathroom install, plumbing, among others. There is also a reference to installation of a well pump. None of the permits suggest an environmental concern.

6.0 INTERVIEWS AND SITE RECONNAISSANCE

Interviews of current owners of the Subject Property and completion of a site reconnaissance of the Subject Property are required by the ASTM Standard Practice E1527-21. The following sections provide the results of the interviews conducted and findings from the site reconnaissance.

6.1 Results from Interviews

Nickolas (Nick) Gerace, current owner and Director of Wholesale Operations, was provided a questionnaire that addressed the Subject Property. Mr. Gerace completed the questionnaire on November 12, 2024. The completed questionnaire is provided in Appendix B. For most of the questions, Mr. Gerace answered the questions with a “No”. Those that had positive responses are noted below:

- The Subject Property is not used for an industrial use and has not in the past;
- The adjoining properties to the Subject Property are not used for industrial purposes and have not in the past;
- The Subject Property and adjacent properties have not been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility;
- There have not been any damaged or discarded batteries, or pesticides, paints, or other chemicals in containers of greater than 5 gallons (gal) / (19 liters [L]) in volume or 50 gal (190L) in the aggregate, stored on or used at the Subject Property;
- In response to whether there currently, or have there been previously, any drums (typically 55 gal (208L)) or sacks of chemicals located on the Subject Property, Mr. Gerace noted there are boiler cleaner and hydrogen peroxide chemical stored on the Subject Property;
- No fill dirt has been brought onto the Subject Property;
- A pit or pond was located on the northeast corner of the Subject Property;
- The is no stained soil on the Subject Property;
- Mr. Gerace noted that there are water and diesel tanks located on the Subject Property. There are no vent pipes or fill pipes protruding from the ground;
- There is no evidence of leaks, spills, or staining by substances other than water, or foul odors, associated with any flooring, drains, walls, ceilings, or exposed grounds on the Subject Property;
- A private well on premise is used for augmentation for a subdivision not owned by Welby Gardens;
- There are three known septic systems located on the Subject Property;
- There are no environmental liens or governmental notifications relating to past or recurrent violations of environmental laws with respect to the Subject Property;
- There are no past, threatened, or pending lawsuits or administrative proceedings concerning a

release or threatened release of any hazardous substance or petroleum products involving the Subject Property;

- The Subject Property does not discharge any waste water to the stormwater or sanitary sewer systems;
- There have been no hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials been dumped above grade, buried and/or burned on the Subject Property;
- Xcel maintains a transformer on the Subject Property;
- Ben Veldkamp was the previous owner of the Subject Property;
- Mr. Gerace noted that about 8-acres of greenhouses were built in the 1960s on the Subject Property;
- The water system was upgraded in 2004 and the boiler system upgraded in 2019;
- The Subject Property is serviced by Xcel for water, sewer, power, and (transported) natural gas; and
- Safety data sheets, community right to know plan, spill prevention and other safety/preparedness plans, and geotechnical studies report are available for the Subject Property.

Based on these responses, Baseline provided additional questions which Nick Gerace responded to in an email dated December 2, 2024 (Appendix B). The original question is listed and Mr. Gerace's response is provided in blue font.

1. At the end of the questionnaire (page 7), you noted that Material Safety Data Sheets (MSDS), a Community Right-to-Know Plan, Spill Prevention or other safety/preparedness plans, and geotechnical studies documents exist for the Subject Property. Are these available for review and copying? In addition, is there a Property Site Plan available? This could be part of the Spill Prevention Plan.

   We store the MSDS's in several locations across all of our properties. The right to know board is visible for the facility next to the break room. I have a facility map, but it is more for our production purposes. The spill prevention is a kit we keep on hand for cleaning up any agricultural chemical spills.

2. On page 3, question #8, you note that boiler cleaner and hydrogen peroxide are contained in 55-gallon drums or sacks. Can you be more specific on the type of container, where they are stored, and purpose or use.

   They are stored in 55-gallon drums either metal or plastic depending on the supplier. They are stored in our boiler room. They are used to treat the boiler water to keep our steam system clean and operating correctly.

3. On page 3, question #10, you note the existence of a current or historic pit, pond, or lagoon on the northeast corner of the Subject Property. Was this a pond? What was the purpose (stormwater retention?)? What was the water source (stormwater?)? Review of aerial photographs suggest that area is currently heavily vegetated and may no longer be a pond. The aerial photographs do not show standing water. It looks like the area may have constructed berms starting in about 1999. Can you provide additional information please.

   It is storm water runoff/retention, it is dry most of the year depending on weather. It collects water after the other retention areas are full. It does have a lot of trees and grass growing in it. I don't have any knowledge of berms being built it the area; we didn't take over operations of the facility until 2003.

4. On page 4, question #12, you note the existence of current and historical storage tanks for water and diesel tanks. Can you please provide more information on size (volume), location, and if secondary containment is present. All this information may be in the Spill Prevention Plan.

   The storage tanks are centralized around our shop/ boiler area on the East side of the property. Our main water storage tank in located inside the shop it is 12,000 gallons. We use city water for irrigation. There are 3 horizontal tanks by the well that were used for the augmentation basically the well would fill them then a water truck would fill from them. I would guess they are between 3,000 and 4,000 gallons. We have two old vertical water tanks that haven't been used since we took over the property. They won't even hold water but they are 12,000 gallons. The two diesel tanks are 12,000 gallons we only use one of them for emergency backup for our boilers. The are contained with berms but don't know much about the system.

5. On page 4, question #15, you note the existence of a water well on the Subject Property "*used for augmentation for a subdivision not owned by Welby Gardens*". Based on review of the Colorado Division of Water Resources, the well installation applicant was a Peter Warren for the YWAM Foundation. This implies the well owner is the YWAM Foundation. Is this correct? How is the water used (yard irrigation or drinking water?). Does Welby Gardens, LLC receive a rent for this well and are you responsibly in any way, other than protecting the surface expression of the well? Are there any water quality data for this water? Can you provide any history on this well. I have found an original permit in 1976 (expired) followed by several others in 1994, 1997, and 2020 (all expired) with the well constructed in November 2020 (permit #84879-F), which would be when you owned the Subject Property.

   The well has been in place before 2020. YWAM does own the water rights. As far as we know they collected the water in the past and added back to a ditch in the area. We are not aware of anything wrong with the water quality or any testing that has been done. We don't receive rent for the well and we are not responsible for anything.

6. On page 5, question #16, you note three known septic systems. Can you provide their locations, approximate size of the tanks, the size of the leach areas, and the history of use? Are the systems still in place or have they been removed?

   The septic systems are still in place. There is one right buy the offices up front on the Southeast corner of the property. We hooked up the city in 2003 for this system and it isn't currently used. There is one on westside of the property that is currently in use. Also, one on the northside of the property that is also in use. We don't have any information on the size or leach fields. We were not involved in the property when they were installed.

7. On page 5, question #20, regarding the Xcel transformer. Is it pad mounted. I can confirm this on the site visit.

   It is pad mounted.

8. On page 6, question #24, you note that you upgraded the water system in 2004 and upgraded the boiler system in 2019. How was the water system upgraded? We assume the boiler system is/was used for overall water baseboard type heating of the greenhouses and offices/sales area. Is this correct?

   The water system upgrade included the installation of a new storage tank, water tempering system, and new pumps. The boiler system upgrade was the addition of a new boiler. The boiler system is a medium pressure steam system that we use pipes with steam traps and unit heaters to control the temperatures in the greenhouse. Our offices run off a traditional HVAC system.

9. On page 6, question #25, you may have a misprint. You note Xcel provides water and sewer. Is this actually the City of Arvada?

   Yes.

6.2 Results from Site Reconnaissance

Baseline's Environmental Professionals Mr. Terry McGowan and Mr. Vincent Barlock completed a site reconnaissance of the Subject Property on December 6, 2024. Mr. Todd Nicotra of AvalonBay Communities was also present for this site reconnaissance. Mr. Nick Gerace of Welby Gardens escorted the group throughout the Subject Property. Select photographs taken during the site reconnaissance are provided in Appendix F. Figure 5 and Figure 6 illustrate the findings from the site reconnaissance.

The Subject Property is bounded as follows (see *Adjacent Facilities Map*, Figure 3):

- North and Northeast: City of Arvada Westwoods Golf Course;
- East and Southeast: Residential properties;

- South: MorningStar Senior Living Center; and
- Southwest, West, and Northwest: Residential properties.

The majority of the Subject Property is improved with greenhouses and hoop houses used for growing perennial and annual plants throughout the year. At the time of reconnaissance, several of the greenhouses had poinsettia plants growing.

There are six large (approximately 45,000 ft^2 or larger) greenhouses and at least two storage warehouse areas constructed with metal frame and metal/plastic siding. The foundations appear to be slab on grade with drainage collection systems designed to move water overflow out of the greenhouses. Heating is provided via steam heat or natural gas heaters, with cooling completed by dripping water through filter media along the sides of the greenhouses, with accompanying large fans, i.e. essentially a large capacity swamp cooling system.

There are 30 plus hoop houses on the north and northeast sides of the Subject Property. These are used to grow plants and store planting materials. At the time of the visit, most of the hoop houses were not being used. The foundations appeared to be native ground, covered with landscape fabric.

There is a production area in one of the greenhouses where plants are potted for growing; a fertilizer mixing and storage area that contains mixing equipment, manifolds that direct water fertilizer to the appropriate greenhouse, and air compressors with air used to assist in delivery of the water fertilizer; and a separate area for pesticide/herbicide mixing and storage (Figure 5). The herbicides and pesticides are contained in a separate container that contains spills. The herbicides and pesticides are numerous (40+) in type and mostly contained in quart-size plastic bottles. Mr. Nick Gerace explained that open bottles were situated in the front and dated to make sure the open bottle was used up before opening another bottle. This also reduced waste generation. There is a large diesel powered generator for the emergency generation of electricity (Figure 5). There was a hydraulic oil drum in this area as well and abundant staining.

Plants are watered via an overhead sprinkler system for potted perennial plants and a separate drip system for larger plants. Fertilizer is mixed in with the irrigation water in a dedicated area shown on Figure 5 that has a concrete foundation with a drainage cut in the concrete to collect overflow and spillage. The overflow appears to flow to the retention system discussed in the following paragraph. Pesticides and herbicides are mixed separately and hand sprayed onto the plants.

Throughout the Subject Property, there are several areas that collect stormwater runoff as well as discharges from the greenhouses or hoop houses. Water retention ponds are shown on Figure 5 and generally are located between the large greenhouse structures. Wetland grasses and cattails have grown in these areas. The retention pond areas are connected to subsurface drainage lines that direct flow to the large / main retention pond in the northeast corner of the Subject Property. This main pond area is filled with trees, brush, and grasses. The main pond discharges to the west, eventually discharging to an offsite ditch. Flow occurs when the ponds fill and overflow; otherwise, water remains in the pond. The retention ponds are not lined. Other drainage ditches are located adjacent to the hoop houses and direct surface water flow to the north where they connect to the main discharge line from the large main retention pond.

There are several ASTs located in a soil-bermed area on the east-southeast side of the Subject Property (Figure 6). The soil berm exists on the north, south, and east sides and is open on the west for access. The assumed flow direction in this area is east. There are four 12,000 gallon, vertical ASTs. Two formerly contained water; however, these ASTs leak and are not used. The other two vertical ASTs are meant for fuel. One of these ASTs contains diesel, used for emergency backup to the boiler; the other is not in use. A diesel fuel dispenser is located on the west side of the fuel ASTs and is not used. Staining is evident beneath the dispenser.

There are three 3,000/4,000-gallon horizontal ASTs formerly used to contain water pumped from the water well located in this same area on the east-southeast side of the Subject Property (Figure 6). The water well is not being used and according to Marty Gerace, the well should be abandoned by the current owner. He provided the contact's name as Billy Halux, Greek Metropolis of Colorado, 303-550-1211. Adjacent to these ASTs to the north is a former 1,000-gallon horizontal gasoline AST and dispenser which is not used.

In this same area on the east-southeast, there are 55-gallon containers of boiler cleaner, hydrogen peroxide, isopropyl alcohol, hydraulic oil, #2 grease, phosphoric acid, 15W-40 motor oil; used batteries stored on a pallet, used tires, a portable 250-gallon fuel AST with dispenser hose with possible soil staining, and numerous 5-gallon buckets of Redusol (greenhouse shading), Aqua-Tab water purifier, among others (Figure 5). There are also several storage containers in this area.

There are at least three septic and leach systems located on the Subject Property (Figure 5). Two are currently in use in the greenhouse areas and one is no longer used and was part of the office bathroom system. That system is now connected to City of Arvada sewer. Mr. Nick Gerace noted that there could be other septic systems that he does not know about as the greenhouse operations have expanded from south to north over time.

The boilers are heated using natural gas transported to the Subject Property by underground pipeline. The main pipeline entry to the boiler room is exposed on the east-southeast side of the Subject Property. The boiler room is located on the east side of the Subject Property and includes 3-4 boilers and a 12,000 gallon vertical water AST. Water is supplied by the City of Arvada.

The machinery and vehicle maintenance room are located on the east side of the Subject Property. They do only simple vehicle maintenance such as engine oil changes and radiator flushes. Major engine work is subcontracted out. They do not have a parts washer.

There is a pad-mounted transformer near the front of the office area and three pole-mounted transformers located in the northeast area of the Subject Property. There is no evidence oil staining on the pad or soil; however, the support pole has been sprayed with creosote which has stained the soil adjacent to the pole. Note that after 1979, any polychlorinated biphenyl (PCB) dielectric oil used in transformers had to contain less than 50 parts per million of PCBs.

The exterior of the Subject Property has fencing, either constructed of wood, brick, or chain-link. Numerous old tractor trailers used for storage and miscellaneous material piles are located adjacent the fence line. The material piles consist of old metal and electrical parts.

There is a 500-gallon mobile waste oil AST in the north area of the Subject Property. There is evidence of spillage that has migrated to one of the stormwater drainage ditches.

Fire hydrants and underground water lines are present on the west side of the Subject Property. An additional fire hydrant is located near the entrance to the Subject Property.

7.0 VAPOR MIGRATION/INTRUSION

Based on the review summarized in this Phase I ESA, the potential for vapor intrusion at the Subject Property is considered low based on the Subject Property having limited fuel storage, limited soil staining, and that no adjacent or upgradient facilities were considered a concern.

8.0 FINDINGS

Baseline completed the required ASTM investigations with regard to the Subject Property. No significant data gaps were identified during this assessment.

RECs for the Subject Property were identified as follows:

The following RECs were identified:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline ASTs.
- The use of waste oil and grease containers and ASTs.
- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST.
- Surface drainage from the fertilizer, herbicides, and pesticide mixing areas.
- Historical use of septic systems,

No RECs were identified adjacent to or hydraulically upgradient from the Subject Property.

Other concerns identified not considered RECs per the ASTM Standard is the probable existence of ACM insulation on piping throughout the greenhouses and the existence of the deep water well. As noted, Mr. Marty Gerace stated that they do not own the well and that the current owner is required to properly abandon the well.

The Subject Property has a surface water retention system that includes ponds between several of the greenhouses. Over time, wetland grasses and cattails have grown in the retention ponds establishing what are considered wetlands. Any work in these areas, whether for modification or removal, will fall under the jurisdiction of the United States Army Corp of Engineers (USACOA). This work will have to be negotiated with the local USACOE administrator and off-setting wetland acreage must be arranged for prior to any disturbance to the wetland habitat.

9.0 CONCLUSIONS

Baseline has performed this Phase I ESA in conformance with the scope and limitations of the ASTM Standard Practice E1527-21 for Welby Gardens located at 17201 West 64th Avenue, Arvada, Colorado parcel number: 30-023-01-083. Any exceptions to, or deletions from, this practice and/or data gaps are described in Section 1.8 Limitations. This assessment has revealed eight RECs for the Subject Property and no adjacent or upgradient RECs as identified in Section 8.0.

10.0 PROFESSIONAL SIGNATURE

We declare that, to the best of our professional knowledge and belief, we meet the definition of an Environmental Professional as defined in § 312.10 of 40 C.F.R. § 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. This report has been prepared by the following qualified professionals (resumes provided in Appendix G):

Terry O. McGowan

Terry O. McGowan, P.G. – Senior Consultant
BASELINE ENGINEERING CORPORATION

Vincent E. Barlock

Vincent E. Barlock, P.G. – Environmental Division Manager
BASELINE ENGINEERING CORPORATION

11.0 REFERENCES

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Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division (WQCD) 2024. Review of online records and email communications November 2024.

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TABLES

TABLE 1

SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
ASTM Federal Databases			
NPL	The National Priorities List (NPL) is the Environmental Protection Agency's (EPA's) database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program. This includes the EPA's database of sites that have been proposed for listing on the NPL through issuance of a proposed rule in the Federal Register.	1.0	0
NPL-Delisted	Sites that have been deleted from the NPL by the EPA using the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) criteria where no further response is appropriate.	1.0	0
SEMS	SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list contains data on potentially hazardous waste sites that have been reported to the EPA by states, municipalities, private companies, and private persons, pursuant to Section 103 of CERCLA. This dataset also contains sites which are either proposed to or on the NPL and the sites which are in the screening and assessment phase for possible inclusion on the NPL.	0.5	1
SEMS ARCHIVE	SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. These are archived sites that have been removed from the inventory of CERCLIS listings. Archived status indicates that assessment has been completed and the EPA has determined that the location is not judged to be a potential NPL site; however, this classification does not necessarily mean that there is no hazard associated with the site.	0.5	0
RCRA CORRACTS	CORRACTS is an EPA list of Resource, Conservation, and Recovery Act (RCRA) permitted facilities that are undergoing corrective actions to remediate release of hazardous waste or constituents into the environment.	1.0	1

TABLE 1 (Continued)

SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
RCRA NON-CORRACTS RCRA TSDF	RCRAInfo is EPA's comprehensive information system for RCRA. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the RCRA. Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.	0.5	1
RCRA LQG	The RCRAInfo database identifies facilities that generate hazardous waste. Large quantity generators (LQG) produce at least 1,000 kg/month of hazardous waste or 1 kg/ month of acutely hazardous waste.	0.250	0
RCRA SQG	The RCRAInfo database identifies facilities that generate hazardous waste. Small quantity generators (SQG) produce 100 to 1,000 kg/month of hazardous waste.	0.250	0
RCRA VSQG	Formerly conditionally exempt small quantity generators (CESQG); now very small quantity generators (VSQG). The RCRAInfo database identifies facilities that generate hazardous waste. RCRA VSQG generate less than 100 kg/month of hazardous waste.	0.250	1
LUCIS	EDR searches the Land Use Control Information System (LUCIS) which contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties, the Engineering Controls Sites List, and the list of Sites with Institutional Controls.	0.5	0
US ENG CONTROLS	Engineering Controls Sites List - A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.	0.5	0
US INST CONTROL	Sites with Institutional Controls - A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.	0.5	0

TABLE 1 (Continued)

SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
ERNS	Emergency Response Notification System (ERNS) is a database of reported releases of oil and hazardous substances as reported by the United States Coast-Guard, National Response Center.	Target Property	0
ASTM State and Tribal Databases			
SHWF	A listing from the state Solid Waste Information System, which is used to help administer the various programs of the solid waste and materials management program. It includes a wide variety of types of facilities and sites, and includes information obtained over several decades and numerous legacy data systems.	0.5	1
LAST	A listing of Leaking Aboveground Storage Tank (LAST) records containing an inventory of reported releases from aboveground storage tanks (ASTs) in Colorado as reported by the Department of Labor and Employment, Oil Inspection Section. This includes LAST TRUST listings, which reimburses eligible applicants for costs incurred in remediating petroleum contamination from Petroleum ASTs.	0.5	0
LUST	A listing of Leaking Underground Storage Tank (LUST) records containing and inventory of reported releases from underground storage tanks (USTs) in Colorado as reported by the Department of Labor and Employment, Oil Inspection Section. For Tribal lands, EPA Region 8 maintains the LUST list.	0.5	0
LUST TRUST	LUST TRUST listings - Colorado Department of Labor and Employment, Oil Inspection Section program that reimburses eligible applicants for costs incurred in remediating petroleum contamination from petroleum USTs. These are typically also listed under LUST.	0.5	0
LTANKS	Petroleum Release Events Listing - Active and Closed Petroleum Release Events maintained by the Colorado Department of Labor and Employment, Oil Inspection Section. Includes Open Event locations, but also shows locations of closed events (releases that have been issued a No Further Action determination).	0.5	0
UST	A listing of USTs registered in Colorado as reported by the Department of Labor and Employment, Oil Inspection Section. For Tribal lands, EPA Region 8 maintains the UST list.	0.25	0

TABLE 1 (Continued)

SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
AST	A listing of AST in Colorado as reported by the Department of Labor and Employment, Oil Inspection Section. For Tribal lands, EPA Region 8 maintains the AST list.	0.25	0
VCP	Voluntary Cleanup and Redevelopment (VCP) listings identify sites that owners have submitted either a Voluntary Cleanup Plan (VCUP) or a request for a No-Action Determination (NAD) for CDPHE approval. The State’s remediation decisions are based on existing standards and the proposed use of the property.	0.5	0
Other Common Database Listings (non-ASTM)			
U.S. Brownfields	The EPA's database that collects, tracks, and updates information pertaining to the various Brownfields grant programs. The Brownfields Management System (BMS) provides assessment, cleanup, and redevelopment information as it relates to "areas served/jurisdictions, grants and properties".	0.5	0
RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated - RCRAInfo is EPA’s comprehensive information system, providing access to RCRA/HSWA data. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste. Non-Generators do not presently generate hazardous waste.	0.25	2
FUDS	Formerly Used Defense Sites (FUDS). The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.	1.0	0
FINDS	Facility Index System. FINDS contains both facility information and ‘pointers’ to other sources that contain more detail. E	Target Property	1
ECHO	Enforcement & Compliance History Information (ECHO) provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.	Target Property	0

TABLE 1 (Continued)

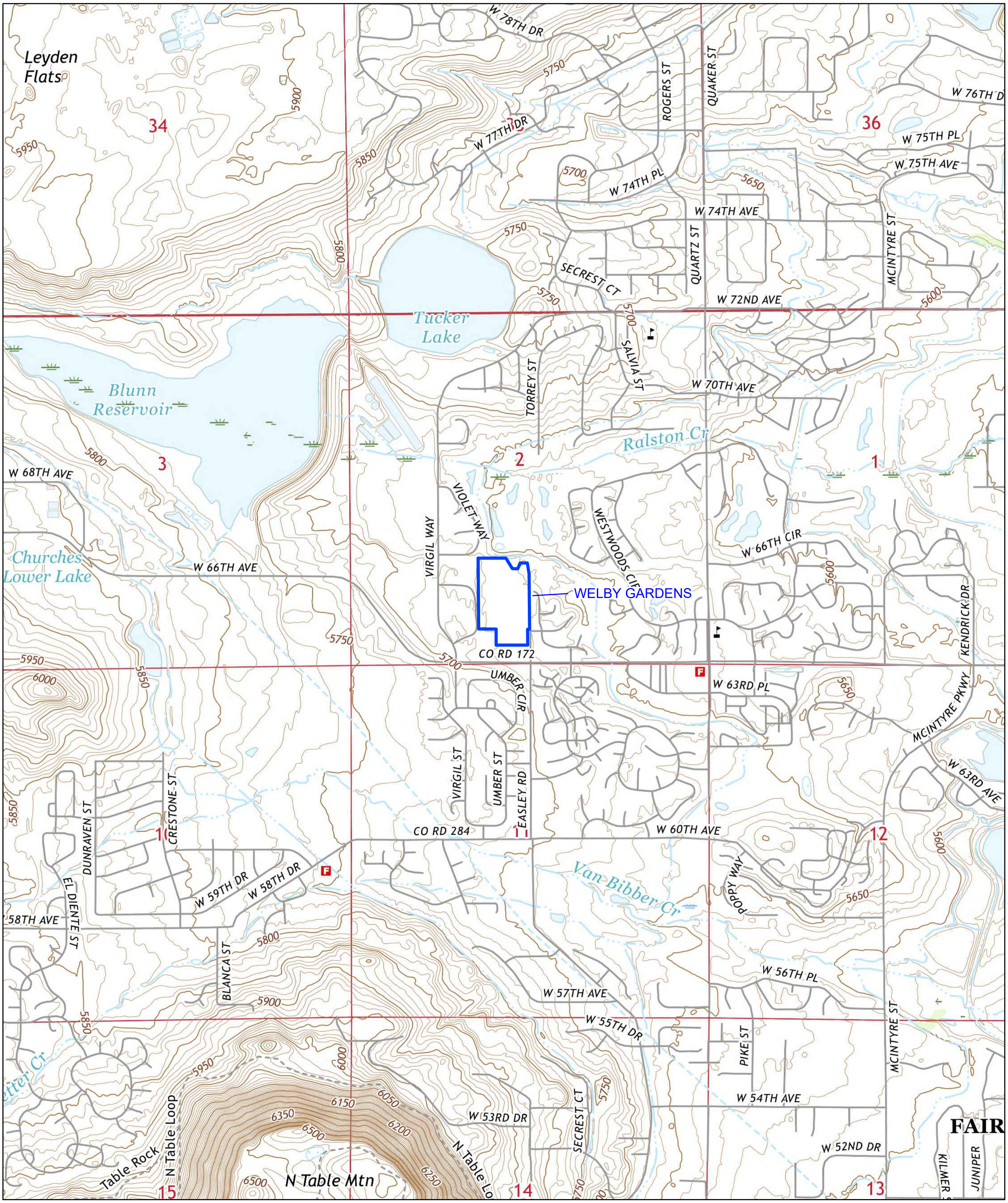
SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
AQUEOUS FOAM	Class B foams put out fires caused by flammable liquids like gasoline, oil, and jet fuel. They may contain PFAS chemicals. Anyone using or storing Class B firefighting foam containing these chemicals must register through the Certificate of Registration Program.	0.25	0
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act).	TP	2
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing. Thie list may include records that may not be included in the newer FTTS database updates.	TP	2
NPDES	US National Pollutant Discharge Elimination System (NPDES). Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit.	TP	0
EDR High Risk Historical Records (non-ASTM) - Search Distance Selected By EDR			
EDR Hist Auto	EDR Exclusive Historic Gas Stations - EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. This database presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns but may not show up in current government records searches.	0.125	0
EDR Hist Cleaner	EDR Exclusive Historic Dry Cleaners - EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. This database presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns but may not show up in current government records searches.	0.125	0

Notes:

- This is not a comprehensive list of database sources. Refer to the Environmental Data Resources (EDR) Radius Map report for a comprehensive list of sources. All sources with "listings" are included in this summary table

FIGURES

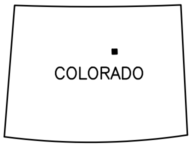

Leyden Flats
34
36
W 78TH DR
W 77TH DR
ROGERS ST
QUAKER ST
W 76TH D
W 75TH PL
W 75TH AVE
W 74TH PL
W 74TH AVE
QUARTZ ST
MCINTYRE ST
SECREST CT
W 72ND AVE
Tucker Lake
Blunn Reservoir
TORREY ST
SALVIA ST
W 70TH AVE
Ralston Cr
2
3
1
W 68TH AVE
VIOLET WAY
VIRGIL WAY
WESTWOODS CIR
W 66TH CIR
Churches Lower Lake
W 66TH AVE
WELBY GARDENS
KENDRICK DR
CO RD 172
UMBER CIR
W 63RD PL
MCINTYRE PKWY
W 63RD AVE
VIRGIL ST
UMBER ST
EASLEY RD
CRESTONE ST
DUNRAVEN ST
CO RD 284
W 60TH AVE
12
Van Bibber Cr
POPPY WAY
W 59TH DR
W 58TH DR
58TH AVE
EL DIENTE ST
BLANCA ST
W 57TH AVE
W 56TH PL
W 55TH DR
PIKE ST
W 54TH AVE
W 53RD DR
SECREST CT
W 52ND DR
FAIR
KILMER
JUNIPER
Table Rock
N Table Loop
N Table Mtn
15
14
13
5600
5650
5700
5750
5800
5850
5900
5950
6000
6050
6150
6200
6250
6350
6500

D:\00SRV\Mclients\Baseline\Welby Gardens\Welby Gardens Site-Loc.dwg 12/16/2024

BASELINE

112 N. Rubey Drive, Suite 210
Golden, CO 80403

Source:USGS Golden 7.5 Minute Quadrangle



QUADRANGLE LOCATION

N

0 1000 2000

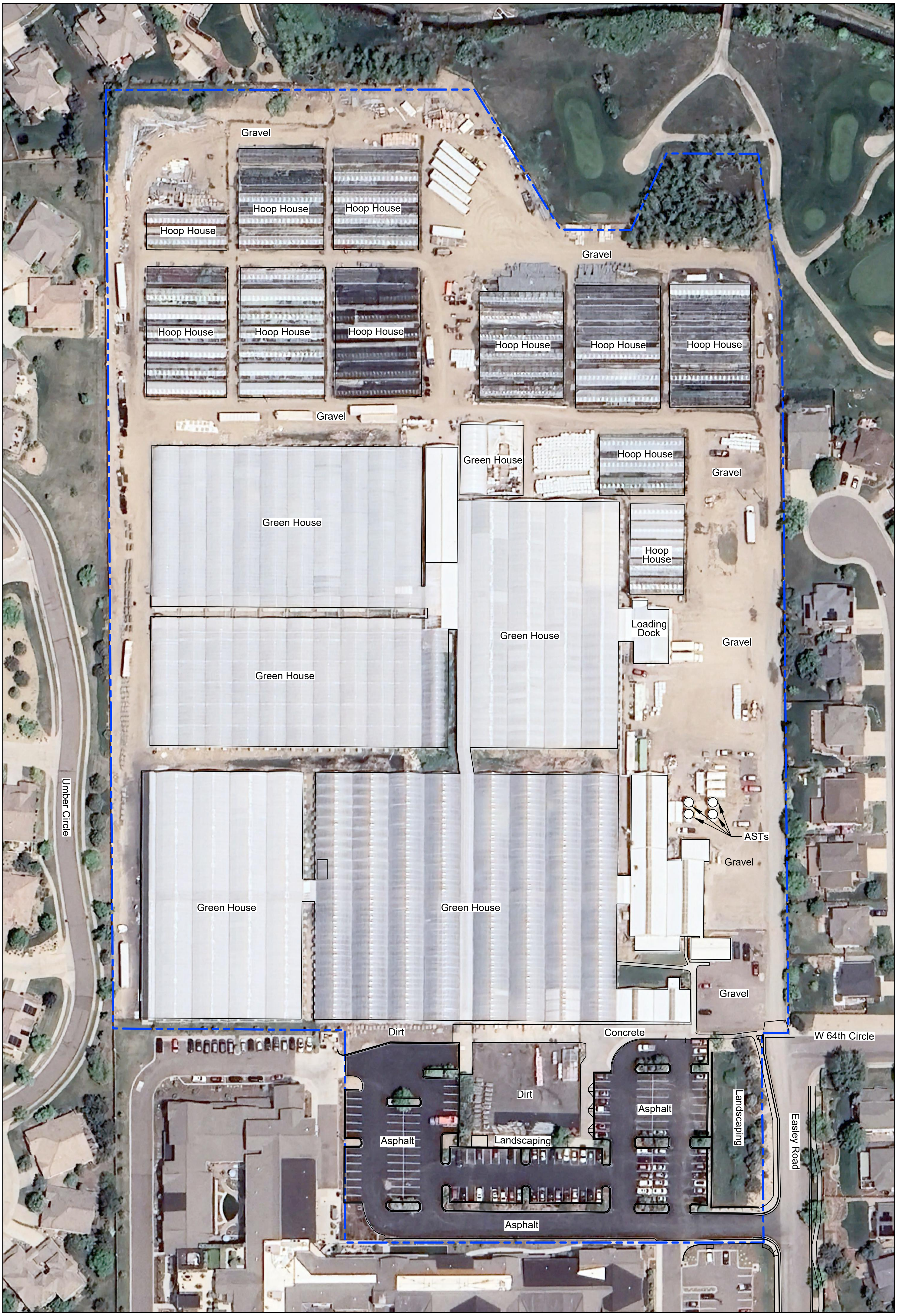
SCALE IN FEET

PROJECT: 45033.02
DATE: 12/13/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 1

VICINITY MAP

Avalon Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007


Gravel
Hoop House
Hoop House
Hoop House
Gravel
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Gravel
Green House
Hoop House
Gravel
Green House
Hoop
House
Green House
Loading
Dock
Gravel
Green House
Umber Circle
ASTs
Gravel
Green House
Green House
Gravel
Dirt
Concrete
W 64th Circle
Dirt
Asphalt
Asphalt
Landscaping
Landscaping
Easley Road
Asphalt

BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

- - - Property Boundary

N

0 50 100
SCALE IN FEET

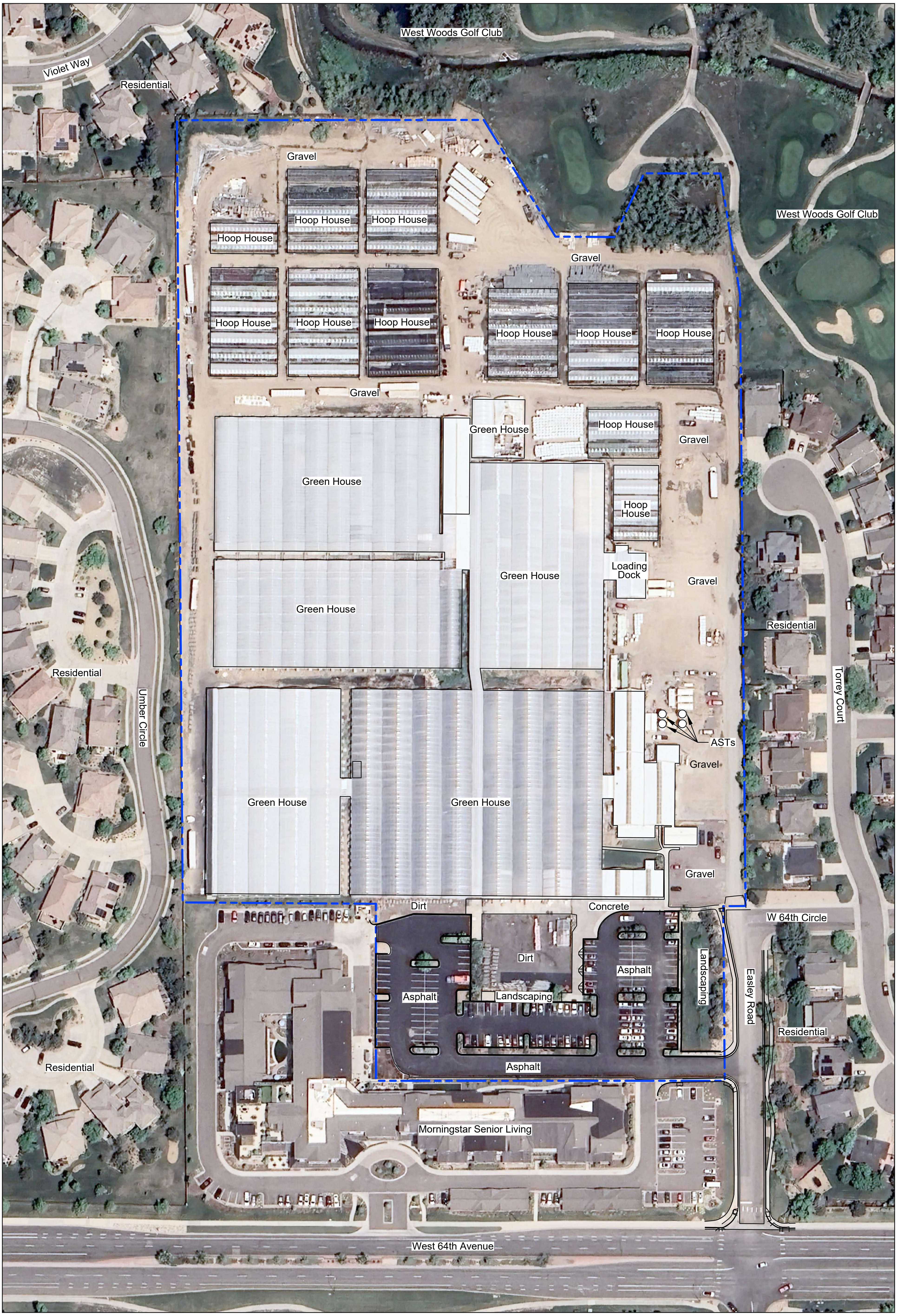
PROJECT: 45033.02
DATE: 12/20/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 2

Facility Map

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007

D:\00SRV\M\CLIENTS\Baseline\Welby Gardens\Welby-Gardens-Site-Surround.dwg 12/20/2024


West Woods Golf Club
Violet Way
Residential
Gravel
Hoop House
Hoop House
Hoop House
West Woods Golf Club
Gravel
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Gravel
Green House
Hoop House
Gravel
Green House
Hoop House
Green House
Loading Dock
Gravel
Green House
Residential
Residential
Umber Circle
Torrey Court
ASTs
Gravel
Green House
Green House
Gravel
Dirt
Concrete
W 64th Circle
Dirt
Asphalt
Landscaping
Easley Road
Asphalt
Landscaping
Asphalt
Residential
Residential
Asphalt
Morningstar Senior Living
West 64th Avenue

BASELINE
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112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

- - - Property Boundary

N

0 60 120

SCALE IN FEET

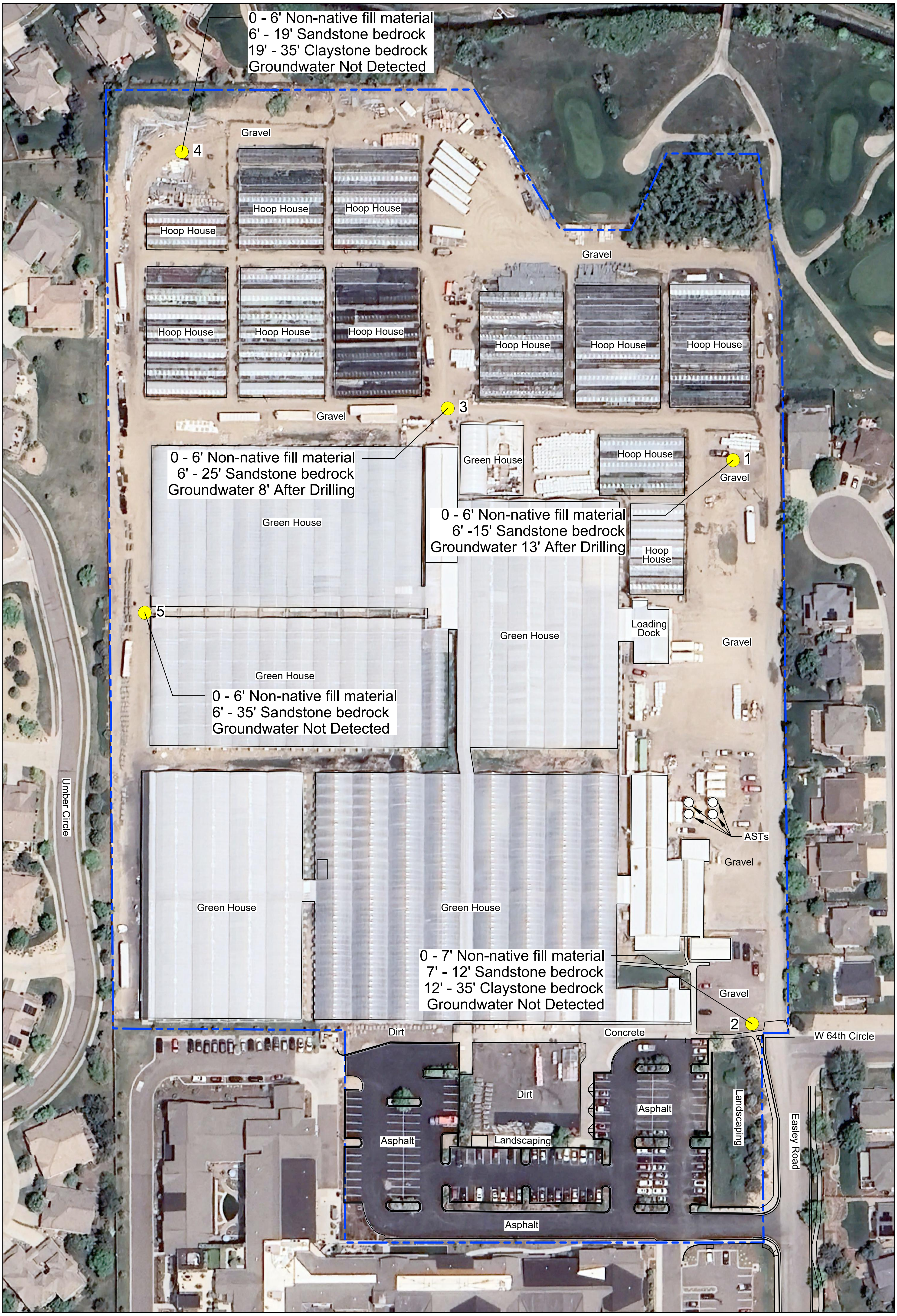
PROJECT:	45033.02
DATE:	12/20/2024
DRAWN:	J.G.M.
CHECKED:	T.O.M.

FIGURE 3

Adjacent Facilities Map

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007

D:\00SRV\M\CLIENTS\Baseline\Welby Gardens\Welby-Gardens-Site-Surround.dwg 12/20/2024


0 - 6' Non-native fill material
6' - 19' Sandstone bedrock
19' - 35' Claystone bedrock
Groundwater Not Detected
Gravel
4
Hoop House
Hoop House
Hoop House
Gravel
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
3
Gravel
0 - 6' Non-native fill material
6' - 25' Sandstone bedrock
Groundwater 8' After Drilling
Green House
Hoop House
1
Gravel
0 - 6' Non-native fill material
6' -15' Sandstone bedrock
Groundwater 13' After Drilling
Green House
Hoop House
5
Green House
Loading Dock
Gravel
Green House
0 - 6' Non-native fill material
6' - 35' Sandstone bedrock
Groundwater Not Detected
ASTs
Gravel
Umber Circle
Green House
Green House
0 - 7' Non-native fill material
7' - 12' Sandstone bedrock
12' - 35' Claystone bedrock
Groundwater Not Detected
Gravel
2
Dirt
Concrete
W 64th Circle
Dirt
Asphalt
Asphalt
Landscaping
Landscaping
Easley Road
Asphalt

D:\00SRV\M\clients\Baseline\Welby Gardens\Welby-Gardens-Boring-Locs.dwg 12/23/2024

BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

- - - Property Boundary
● Approximate Soil Boring Location

NOTE: Soil borings installed by Cole Garner Geotechnical (2024)

N

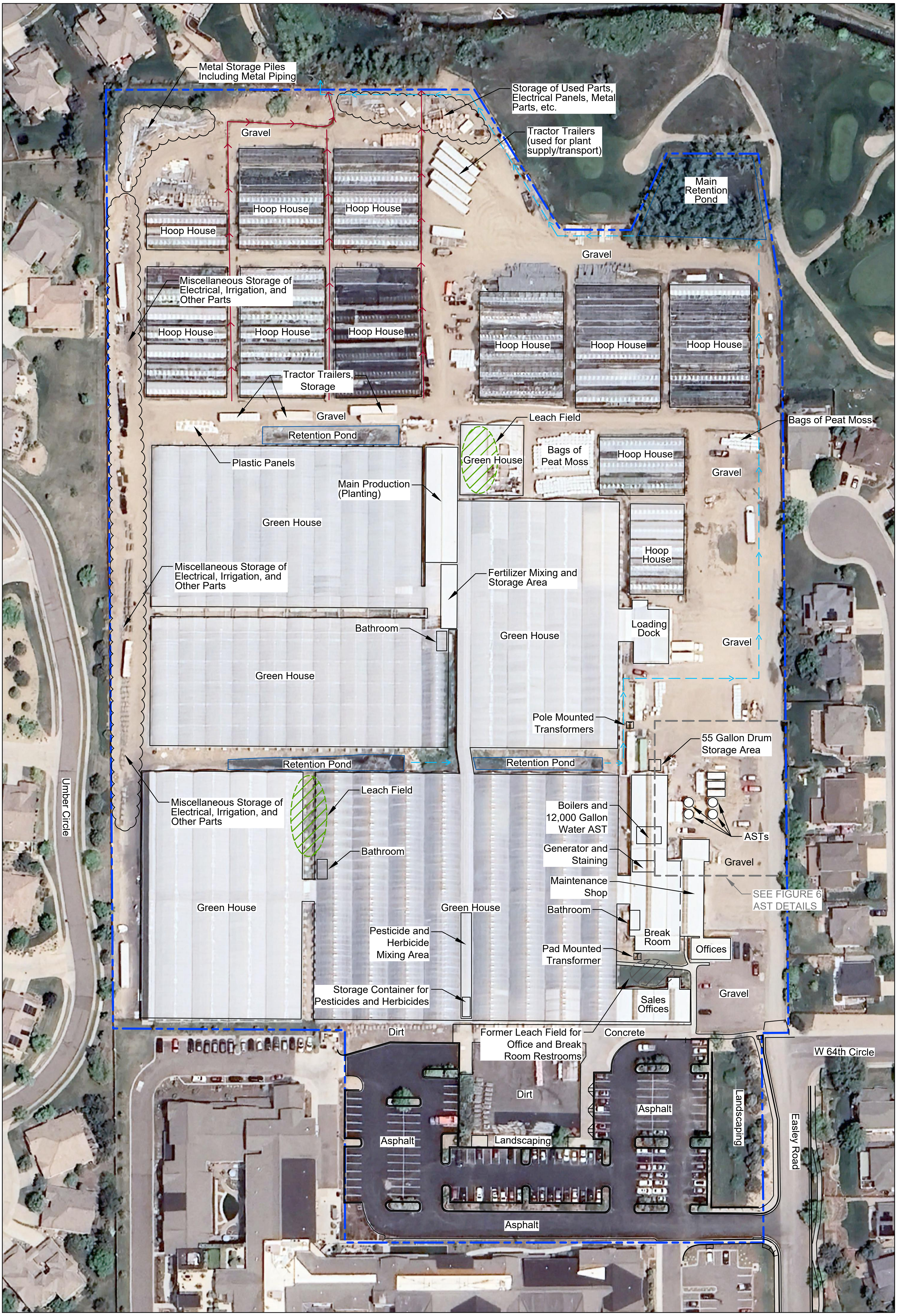
0 50 100
SCALE IN FEET

PROJECT: 45033.02
DATE: 12/20/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 4

Soil Boring Location Map

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007


Metal Storage Piles Including Metal Piping
Storage of Used Parts, Electrical Panels, Metal Parts, etc.
Tractor Trailers (used for plant supply/transport)
Gravel
Main Retention Pond
Hoop House
Hoop House
Hoop House
Gravel
Miscellaneous Storage of Electrical, Irrigation, and Other Parts
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Tractor Trailers, Storage
Gravel
Leach Field
Bags of Peat Moss
Retention Pond
Green House
Bags of Peat Moss
Hoop House
Gravel
Plastic Panels
Main Production (Planting)
Green House
Hoop House
Miscellaneous Storage of Electrical, Irrigation, and Other Parts
Fertilizer Mixing and Storage Area
Loading Dock
Bathroom
Green House
Gravel
Green House
Pole Mounted Transformers
55 Gallon Drum Storage Area
Retention Pond
Retention Pond
Leach Field
Miscellaneous Storage of Electrical, Irrigation, and Other Parts
Boilers and 12,000 Gallon Water AST
ASTs
Bathroom
Generator and Staining
Gravel
Maintenance Shop
SEE FIGURE 6 AST DETAILS
Green House
Green House
Bathroom
Break Room
Pesticide and Herbicide Mixing Area
Pad Mounted Transformer
Offices
Storage Container for Pesticides and Herbicides
Sales Offices
Gravel
Dirt
Former Leach Field for Office and Break Room Restrooms
Concrete
W 64th Circle
Umber Circle
Dirt
Asphalt
Asphalt
Landscaping
Landscaping
Easley Road
Asphalt

D:\00SRV\M\clients\Baseline\Welby Gardens\Welby-Gardens-Site-Observation.dwg 12/23/2024

BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

▬ ▬	Property Boundary
— — —>	Underground Drainage Piping (not all lines are shown)
—>—	Drainage Ditch
>	

N

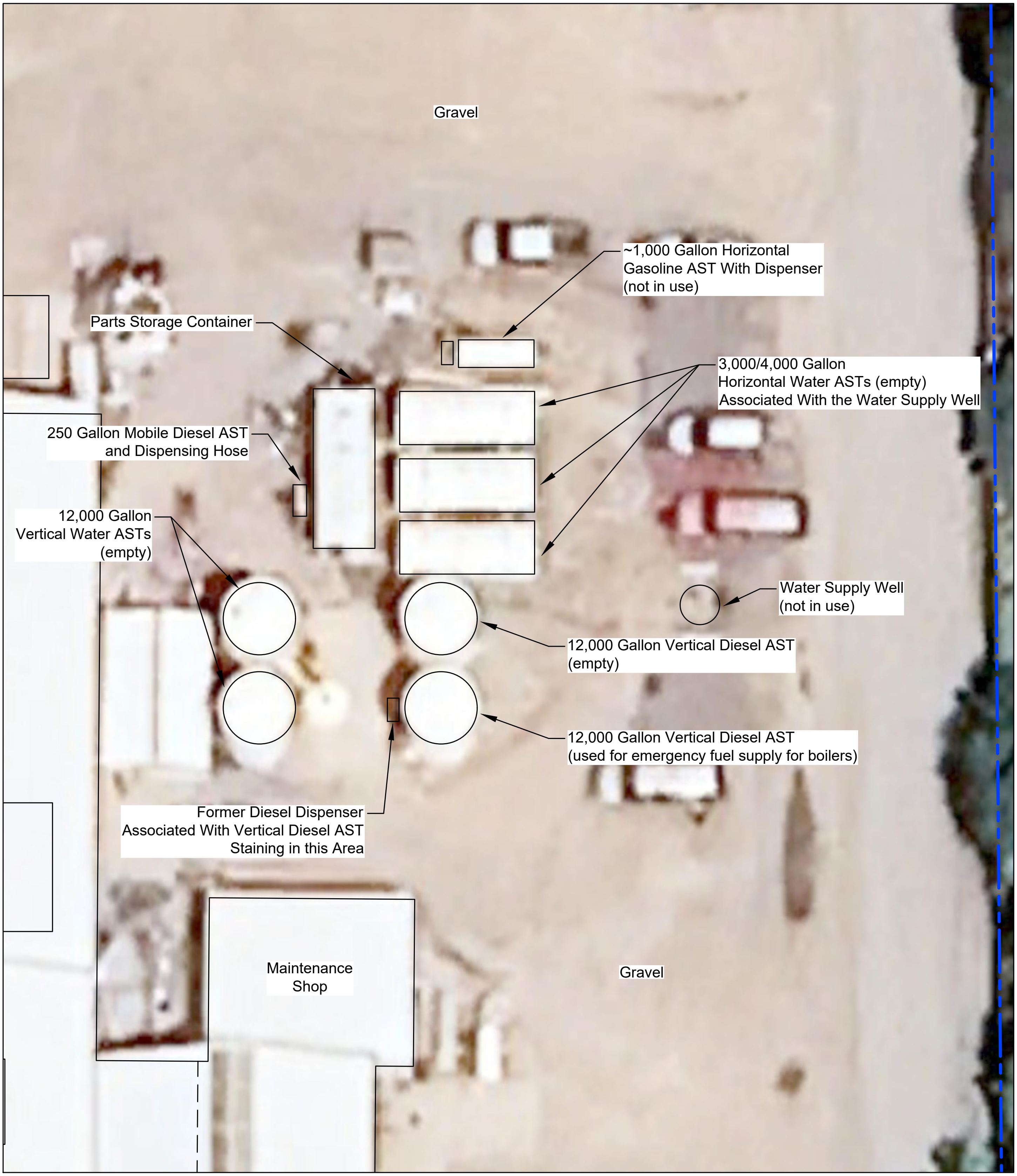
0 50 100
SCALE IN FEET

PROJECT: 45033.02
DATE: 12/20/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 5

Facility Reconnaissance Observations

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007


Gravel
~1,000 Gallon Horizontal Gasoline AST With Dispenser (not in use)
Parts Storage Container
3,000/4,000 Gallon Horizontal Water ASTs (empty) Associated With the Water Supply Well
250 Gallon Mobile Diesel AST and Dispensing Hose
12,000 Gallon Vertical Water ASTs (empty)
Water Supply Well (not in use)
12,000 Gallon Vertical Diesel AST (empty)
12,000 Gallon Vertical Diesel AST (used for emergency fuel supply for boilers)
Former Diesel Dispenser Associated With Vertical Diesel AST Staining in this Area
Maintenance Shop
Gravel

BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

Property Boundary

N

0 10 10
SCALE IN FEET

PROJECT: 45033.02
DATE: 12/20/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 6

Facility Reconnaissance Observations AST Details

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007

D:\00SRV\M\clients\Baseline\Welby Gardens\Welby-Gardens-Site-Observation.dwg 12/23/2024

APPENDICES

Appendices are included in electronic format due to the volume of material contained in the appendices. Appendices included are:

Appendix A - Jefferson County Assessor Records

Appendix B - Records, Communications, and Interviews

Appendix C - FEMA Flood Insurance Rate Map

Appendix D - Environmental Data Resources (EDR) Reports

Appendix E - Water Well Information

Appendix F - Site Photographs

Appendix G - Resumes of Environmental Professionals

APPENDICES

APPENDIX A

Jefferson County Assessor Records

Property Information

Home / Address / **Property Information**

Property Information   Sales   History

Property Information

Help

PIN/Schedule
300215734

Owners
WELBY GARDENS CO LLC

AIN/Parcel ID
30-023-01-083

Property Address
17201 W 64TH AVE
ARVADA, CO 80007

Address and Political
Address Information

Property Class
4280 All Other Agricultural

Mailing Address
17201 W 64TH AVE
ARVADA, CO 80007

Legal Description

Help

Subdivision
774355 VELDKAMP MINOR SUB 1ST AMD

Parcel Map
Map

Interactive Map
Aspin

Interactive Map
jMap

Block	Lot	Tract	Section	Township	Range	QSection	Land SQFT	Land Acres
	0001		02	03	70	SW	762,518	17.505
	0002		02	03	70		110,817	2.544

CAUTION: The above legal description is incomplete and for internal purposes only. DO NOT USE THE ABOVE LEGAL DESCRIPTION FOR DEEDS and other legal conveyances.

Sale History

Help

Sale Date	Sale Amount	Deed Type	Doc/Instr#
11/1/2013	$4,526,700	Special Warranty Deed	2013131219

Property Valuation

S FIND COMPARABLE SALES

Help

******The 2023 payable 2024 property valuation shown for your property reflects an adjustment enacted by the Legislature to reduce your property taxes. Commercial properties were reduced in value by $30,000, and residential properties were reduced by $55,000. This reduction is in effect for one year only. For additional information regarding the legislative change click here.******

Mass Appraisal Valuation Explanation

Tax Year	Actual Land Value	Actual Imp Value	Actual Total Value	Assessed Land Value	Assessed Imp Value	Assessed Total Value	Notice of Valuation
2024 payable 2025	$1,310,001	$370,999	$1,681,000	$365,490	$103,509	$468,999	
2023 payable 2024	$1,310,001	$370,999	$1,681,000	$365,490	$103,509	$468,999	View Notice

Mill Levy Information

Help

Treasurer Tax Information

Tax Year	TAG	Authority	Mill Levy
2024 payable 2025	1022	APEX PARK & REC DIST ARVADA ARVADA FIRE DIST COUNTY REGIONAL TRANSPORTATION DIST SCHOOL URBAN DRAINAGE&FLOOD C SO PLAT URBAN DRAINAGE&FLOOD CONT DIST **Total Mill Levy**	TBD TBD TBD TBD TBD TBD TBD TBD **TBD**
2023 payable 2024	1022	APEX PARK & REC DIST ARVADA ARVADA FIRE DIST COUNTY REGIONAL TRANSPORTATION DIST SCHOOL URBAN DRAINAGE&FLOOD C SO PLAT URBAN DRAINAGE&FLOOD CONT DIST **Total Mill Levy**	4.4540 4.3100 15.7280 26.9780 0.0000 44.5260 0.1000 0.9000 **96.9960**

Property Inventory

Help

Neighborhood
740 AGRIBUSINESS

Market Area
10 CommrMA: North Jeffco

Land

Help

Land Use	State Tax Class	Size	Unit Type	Land Contributor	Contributor Category
Ag Business/29.00-999	4180	873,334	Square Foot		

Improvements

Help

	Impr#	Property Type	Design	Construction Class	Quality	Year Built	Adj Year	Remd Year
Select	1-1	704 Agri-Business	406 Storage Warehouse	S: Metal Frame w/ Metal Siding	Average	1990	1991	
Select	2-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1970	1970	
Select	3-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1986	1986	
Select	4-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1976	1976	
Select	5-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1977	1977	
Select	6-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1977	1977	
Select	7-1	704 Agri-Business	471 Utility Building, Light Commercial	D: Wood or Steel Studs Frame	Fair	1977	1977	
Select	8-1	704 Agri-Business	471 Utility Building, Light Commercial	S: Metal Frame w/ Metal Siding	Average	1991	1991	
Select	9-1	704 Agri-Business	406 Storage Warehouse	S: Metal Frame w/ Metal Siding	Average	1990	1990	

Impr#	Sub-Areas	Area-SQFT
1-1	Gross Building Area	12684

Impr#	Structural Elements by Unit	# Units
1-1	Marshall Swift Quality Rank	2
1-1	Nbr of Dwelling Units	1
1-1	Stories	1

Impr#	Structural Elements by Unit	# Units
1-1	Story Height	12

Impr#	Structural Elements by SQFT	Description	Area-SQFT
1-1	Rentable Area %	Net Rentable Area % (AG)	12,684
1-1	HVAC Systems	None	0

Extra Features

Help

Description	State Tax Class	Quality	Year Built	SQFT/Units	Quantity
Yard Imprs - Paving, Asphalt	4280	Average	2004	65,800	1
Yard Imprs - Paving, Concrete	4280	Average	2004	5,433	1

©2024 Assessor Property Records Search – Jefferson County, CO

Property Recs

Property Report For:

17201 W 64TH AVE
Arvada, CO
80007

Prepared On:

November 4, 2024

Report Link

YOU MAY NOT USE OUR SERVICE OR THE INFORMATION IT PROVIDES TO MAKE DECISIONS ABOUT CONSUMER CREDIT, EMPLOYMENT, INSURANCE OR TENANT SCREENING. BECAUSE ERRORS CAN OCCUR WITH ANY DATA SOURCES, WE CANNOT GUARANTEE THE ACCURACY OF THE DATA WE PROVIDE.

17201 W 64th Ave

Arvada CO 80007 (Jefferson County)

ESTIMATED VALUE

$1.68M

Built in 1990 • Agriculture / Farming • 12,684 sq. ft. Living Area

Satellite View & Map

Owners & Residents

MOST RECENT OWNER OR RESIDENT

Gary Lynn Butters

62 Years Old

DATES AT LOCATION: 06/29/2000 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Stephen Little

DATES AT LOCATION: 02/14/2019 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Isabel Calzada

DATES AT LOCATION: 08/01/1998 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Thomas J Currey

DATES AT LOCATION: 02/01/1997 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

De Vital Ramirez

DATES AT LOCATION: 12/01/1998 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Maria D Ramirezdevital

DATES AT LOCATION: 06/01/2000 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Laura L Mooneyham

DATES AT LOCATION: 08/01/1993 to 10/30/2024

Marty J Gerace

59 Years Old

DATES AT LOCATION: 12/24/2019

Mark D Gerace

61 Years Old

DATES AT LOCATION: 12/14/2019

Stephen John Little

66 Years Old

DATES AT LOCATION: 02/01/2002 to 11/13/2019

Brent Alan Ragsdale

58 Years Old

DATES AT LOCATION: 07/23/2001 to 02/05/2014

Graciela Delrio

50 Years Old

DATES AT LOCATION: 11/01/2000 to 03/17/2005

Noe Delrio

48 Years Old

DATES AT LOCATION: 05/01/2000 to 02/22/2005

Maria Guadalupe Vital

39 Years Old

DATES AT LOCATION: 11/01/1997 to 11/15/2003

Martin Garcia

58 Years Old

DATES AT LOCATION: 04/01/1991 to 01/24/2003

Michael Dean Girten

70 Years Old

DATES AT LOCATION: 02/27/1995 to 01/24/2003

Susan Jeute Tisdale

64 Years Old

DATES AT LOCATION: 11/05/1994 to 01/24/2003

Fred W Grant

69 Years Old

DATES AT LOCATION: 06/23/1995 to 01/24/2003

Elizabeth Ann Grant

63 Years Old

DATES AT LOCATION: 10/24/1995 to 01/24/2003

Jose Luis Mendez

54 Years Old

DATES AT LOCATION: 01/01/1994 to 01/24/2003

Brent Lydell Mooneyham

66 Years Old

DATES AT LOCATION: 01/24/2003

Gracialo Sotalo

50 Years Old

DATES AT LOCATION: 11/01/2000 to 01/24/2003

J R Vitalreina

DATES AT LOCATION: 11/01/1997 to 01/24/2003

Joseph J Demars

48 Years Old (Deceased 2003)

DATES AT LOCATION: 12/01/2001 to 07/01/2002

William J Lavrinc

53 Years Old

DATES AT LOCATION: 03/08/2001 to 11/01/2001

Salomon Guzman

27 Years Old

DATES AT LOCATION: 01/04/2001

Graciela Delrio Sotelo

DATES AT LOCATION: 11/01/2000

Jose Rogelio Vital

62 Years Old

DATES AT LOCATION: 11/01/1997 to 06/01/2000

Juan Hose Ornelas

49 Years Old

DATES AT LOCATION: 08/03/1999

Jose M Vital

61 Years Old

DATES AT LOCATION: 11/11/1997

Donald J Arnold

46 Years Old (Deceased 2003)

DATES AT LOCATION: 08/01/1986 to 02/01/1989

Ownership Timeline

2013 - Present

Welby Gardens Co Llc

DATE OF PURCHASE	PURCHASE PRICE
November 2013	$4,526,650

N/A - 2013

Veldkamps Real Estate Inc

Property Details

Overall Attributes

TOTAL SQUARE FOOTAGE: 324,175 sq. ft.

NUMBER OF UNITS: 1

YEAR BUILT: 1990

Interior Dimensions

TOTAL FINISHED AREAS: 324,175 sq. ft.

Other

AIR CONDITIONING TYPE: Evaporative

EXTERIOR WALL TYPE: Metal

HEATING: None

FIRE SPRINKLERS: No

LEGAL DESCRIPTION:
1, VELDKAMP MINOR 1ST AMENDMENT, 02 03 70, VELDKAMP 01 AMD, VELDKAMP MINOR 01 AMD

Lot Information

Overview

LEGAL DESCRIPTION
1VELDKAMP MINOR 1ST AMENDMENT02 03 701VELDKAMP 01 AMD02 03 701VELDKAMP 01 AMD02 03 701VELDKAMP MINOR 01 AMD02 03 701VELDKAMP MINOR 01 AMD02 03 70102 03 70

LAND USE CODE
Agricultural/Rural (General)

COUNTY LAND USE CODE
08059

COUNTY
Jefferson

SUBDIVISION NAME
Veldkamp Minor 1st Amendment

TYPE OF DEED
Grant Deed

COORDINATES
39.815222, -105.194675

LAND SQFT
873,334 sq. ft.

LAND ACRES
20.05 acres

NUMBER OF BUILDINGS
2

ASSESSED YEAR
2023

ASSESSED VALUE
$468,999

LAND VALUE
$365,490

IMPROVEMENTS VALUE
$103,509

PARCEL NUMBER
30-023-01-083

TRACT NAME
Census Tract 98.38

GEOID
08059009838

QUALIFIED GEOID
1400000US08059009838

Businesses At This Address

Welby Gardens Company Inc

Corporation

FILE #	FILING STATUS
19871288826	19871288826
FILING STATE	MANAGED BY
CO	Mark D Gerace
FILING DATE	COMPANY AGE
June 30, 1975	49 Years, 4 Months

COMPANY CONTACTS

Mark D Gerace
17201 W 64th Ave Arvada, CO 80007

Welby Gardens LLC

Limited Liability Company

FILE #	FILING STATUS
20191829917	20191829917
FILING STATE	MANAGED BY
CO	Marty Gerace
FILING DATE	COMPANY AGE
October 18, 2019	5 Years

COMPANY CONTACTS

Marty Gerace

17201 West 64th Avenue Arvada, CO
80007

HOA Mechanical Liens

OWNER RECORD

PROPERTY DETAILS

PARCEL ID
508712

FIPS CODE
08059

DOCUMENT DETAILS

BATCH SEQUENCE #
372

BATCH DATE
06/13/2019

RECORDING DATE
08/20/2018

FILING DATE
08/20/2018

DOCUMENT #
76463

DOCUMENT TYPE
MR

LIEN INFORMATION

PLAINTIFF NAME
VILLAGOMEZ PEDRO

TAX ACCOUNT #
508712

Sex Offenders

Nearest Sex Offenders

William Alfred Peterson

White,Male

1.8 miles away

Incest/aggravated-relative under 10,
Sex assault/child/postrust-vict under 15

William J Hunsaker

White,Male

3.2 miles away

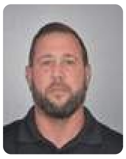
Sex assault/child,
Sex assault/child pattern of abuse f3

Ian Nicholas Dixon

White,Male

3.9 miles away

Sexual assault (includes 1st deg sex assault as it existed prior to 7/1/00)/att



Adrian Jr Sanchez

White,Male

4.3 miles away

Attempt sex assault/child vict less than 15 yoa

Schumannthomas R R Schurmann

White,Male

5.2 miles away

Sexual assault on a child

Ross Edward Maurer

White,Male

6 miles away

Sexual assault on a child

Deeds & Sales Records

November 01, 2013

Grant Deed

AGRICULTURE / FARMING • ARMS-LENGTH

SELLER

Veldkamps Real Estate Inc

BUYER

Welby Gardens Co Llc
2761 E 74th Ave Denver Co 802296617

LENDER DETAILS

TRANSACTION VALUE

$4,526,650

TAX

$453

MORTGAGE

$2,700,000

EQUITY

↑ $1,826,650

COUNTY RECORDS

APN #

30-023-01-083

DOCUMENT TYPE

Grant Deed

COUNTY
Jefferson

DOCUMENT #
0000131219

PURCHASE TYPE
Transfer

TITLE RECORDS

TRANSACTION ID
371020362

COMPANY
Land Title Guarantee

CODE
5661

LOT
1

MORTGAGES RECORDS

LENDER NAME
Veldkamp's Real Estate Inc

LENDER ADDRESS
9501 W Colfax Ave

DOCUMENT NUMBER
131220

BUYER RECORDS

VESTING CHANGES

April 03, 2008

Deed Of Trust

AGRICULTURE / FARMING • LINE OF CREDIT

BUYER

Veldkamps Real Estate Inc
9501 W Colfax Ave Lakewood Co 802153920

LENDER DETAILS

LENDER
Bank

MORTGAGE
$150,000

COUNTY RECORDS

APN #
30-023-01-083

DOCUMENT TYPE
Deed Of Trust

COUNTY
Jefferson

DOCUMENT #
0000036297

PURCHASE TYPE
Mortgage

TITLE RECORDS

TRANSACTION ID

235250654

LOT

1

MORTGAGES RECORDS

RATE TYPE

Adjustable Rate

LENDER NAME

Colorado Busn Bk

DOCUMENT NUMBER

0000036297

BUYER RECORDS

VESTING CHANGES

November 06, 2007

Loan Modification

AGRICULTURE / FARMING

BUYER

Veldkamps Real Estate Inc
9501 W Colfax Ave Lakewood Co 802153920

LENDER DETAILS

MORTGAGE

$569,093

COUNTY RECORDS

APN #
30-023-01-083

DOCUMENT TYPE
Loan Modification

COUNTY
Jefferson

DOCUMENT #
0000074585

PURCHASE TYPE
Mortgage

TITLE RECORDS

TRANSACTION ID
246246694

COMPANY
Attorney Only

CODE
5421

LOT
1

MORTGAGES RECORDS

LENDER NAME
Bernard M Jr Veldkamp

LENDER ADDRESS
12200 W 18th Dr

DOCUMENT NUMBER
0000074585

BUYER RECORDS

VESTING CHANGES

May 18, 2007

Deed Of Trust

AGRICULTURE / FARMING

BUYER

Veldkamps Real Estate Inc
9501 W Colfax Ave Lakewood Co 802153920

LENDER DETAILS

LENDER

Bank

MORTGAGE

$2,250,000

COUNTY RECORDS

APN #

30-023-01-083

DOCUMENT TYPE

Deed Of Trust

COUNTY

Jefferson

DOCUMENT #

0000063850

PURCHASE TYPE

Mortgage

TITLE RECORDS

TRANSACTION ID

220420757

COMPANY

Vanguard Title Company

CODE

21186

LOT

1

MORTGAGES RECORDS

RATE TYPE

Adjustable Rate

LENDER NAME

Colorado Busn Bk

LENDER ADDRESS

15710 W Colfax Ave Golden, CO

DOCUMENT NUMBER

0000063850

BUYER RECORDS

VESTING CHANGES

April 12, 2005

Deed Of Trust

AGRICULTURE / FARMING • LINE OF CREDIT

BUYER

Veldkamps Real Estate Inc
9501 W Colfax Ave Lakewood Co 802153920

LENDER DETAILS

MORTGAGE

$575,000

COUNTY RECORDS

APN #

30-023-01-083

DOCUMENT TYPE

Deed Of Trust

COUNTY

Jefferson

DOCUMENT #

0000012932

PURCHASE TYPE

Mortgage

TITLE RECORDS

TRANSACTION ID

156743312

LOT

1

MORTGAGES RECORDS

RATE TYPE

Adjustable Rate

LENDER NAME

Wells Fargo Bk/tx

LENDER ADDRESS

Denver, CO

DOCUMENT NUMBER

0000012932

BUYER RECORDS

VESTING CHANGES

February 24, 2005

Grant Deed

AGRICULTURE / FARMING

BUYER

Veldkamps Real Estate Inc

COUNTY RECORDS

APN #

30-023-01-083

DOCUMENT TYPE

Grant Deed

COUNTY

Jefferson

DOCUMENT #

00F2176756

PURCHASE TYPE
Transfer

TITLE RECORDS

TRANSACTION ID
261509119

LOT
1

BUYER RECORDS

VESTING CHANGES

Property Taxes

PROPERTY TAX

$45,491

TAX RATE

9.70%

CHANGE FROM LAST YEAR

-49.0%

LAND VALUE

$365,490

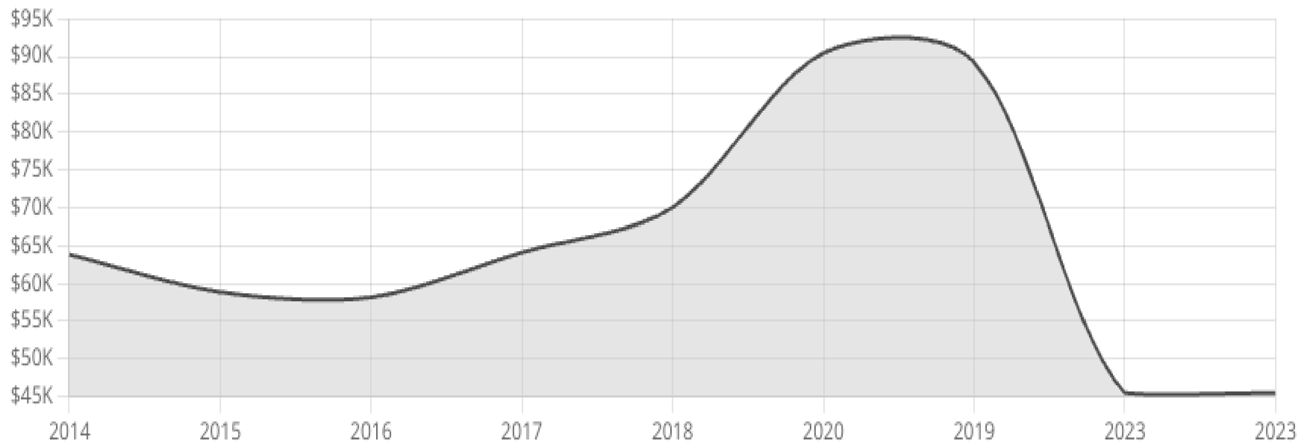
IMPROVEMENT VALUE

$103,509

TOTAL VALUE

$468,999

Property Tax History



YEAR		PROPERTY TAX		CHANGE
2023		$45,491		**-49.0%**
LAND		ADDITIONS		ASSESSMENT
$365,490	+	$103,509	=	$468,999
YEAR		PROPERTY TAX		CHANGE
2020		$89,243		**-1.3%**

LAND		ADDITIONS		ASSESSMENT
$481,207	+	$456,245	=	$937,452
YEAR		PROPERTY TAX		CHANGE
2020		$90,463		**+29.2%**
LAND		ADDITIONS		ASSESSMENT
$481,207	+	$456,245	=	$937,452
YEAR		PROPERTY TAX		CHANGE
2019		$70,015		**+9.2%**
LAND		ADDITIONS		ASSESSMENT
$481,207	+	$456,245	=	$937,452
YEAR		PROPERTY TAX		CHANGE
2018		$64,094		**+10.2%**
LAND		ADDITIONS		ASSESSMENT
$325,596	+	$389,472	=	$715,068
YEAR		PROPERTY TAX		CHANGE
2017		$58,156		**-1.2%**
LAND		ADDITIONS		ASSESSMENT
$325,596	+	$389,472	=	$715,068
YEAR		PROPERTY TAX		CHANGE
2016		$58,842		**-7.8%**
LAND		ADDITIONS		ASSESSMENT
$325,670	+	$285,505	=	$611,175
YEAR		PROPERTY TAX		CHANGE
2015		$63,812		-
LAND		ADDITIONS		ASSESSMENT
$325,670	+	$285,505	=	$611,175

Building Permits

Permits Overview

TOTAL COST OF WORK

$352,251

NUMBER OF PERMITS

20

UNIQUE CONTRACTORS

15

DRY UTILITY

2 PERMITS Total Work: $36,899

COMMERCIAL

6 PERMITS Total Work: $211,871

POST CONSTRUCTION

1 PERMIT

RIGHT OF WAY

6 PERMITS

COMMISC

3 PERMITS Total Work: $5,750

SIGN

1 PERMIT

FENCE

1 PERMIT Total Work: $14,700

08/04/2020

Dry utility

CONTRACTOR

Mainline Construction LLC; Safety Zone Traffic Control LLC; Sefnco Communications INC

APPLICANT

Veldkamps Real Estate Inc
17201 W 64th Ave, Arvada, CO

JOB COST

$25,000

FEES

$2,895

STATUS

Expired

PERMIT #

ROW20-00502

DESCRIPTION

Bore 800' 24 potholes 2 soft surface bore pits -

23/03/2020

Commercial

CONTRACTOR

Kasco; Kenny Davis; Triax Engineering Vinod Ravindran; Weber Services & Construction

APPLICANT

Welby Gardens Co LLC

17201 W 64th Ave, Arvada, CO

JOB COST

$25,671

FEES

$1,248

STATUS

Expired

PERMIT #

COMM20-00009

DESCRIPTION

New boiler and rated room

06/09/2019

Dry utility

CONTRACTOR

Advanced Underground INC; Pauley Construction; Warning Lites INC OF Colorado

APPLICANT

Veldkamps Real Estate Inc
17201 W 64th Ave, Arvada, CO

JOB COST

$11,899

FEES

$1,894

STATUS

Expired

PERMIT #

ROW19-01156

DESCRIPTION

From mh bore to customer

22/07/2017

Post construction

APPLICANT

Welby Gardens Co LLC
17201 W 64th Ave, Arvada, CO

STATUS

Issued

PERMIT #

PCBMP17-00106

DESCRIPTION

Welby gardens

09/09/2014

Right of way

CONTRACTOR

Diamond Contracting Corp

FEES

$50

STATUS

Final

PERMIT #

03-0959

09/09/2014

Right of way

CONTRACTOR

Waterworks Sales CO A Hughes

FEES

$50

STATUS

Final

PERMIT #

04-0239

09/09/2014

Right of way

CONTRACTOR

Colorado Asphalt Services INC

FEES

$50

STATUS

Final

PERMIT #

03-1035

09/09/2014

Right of way

CONTRACTOR

Diamond Excavating INC

FEES

$909

STATUS

Final

PERMIT #

04-0199

09/09/2014

Right of way

CONTRACTOR

Diamond Contracting Corp

FEES

$100

STATUS

Final

PERMIT #

03-1031

09/09/2014

Right of way

CONTRACTOR

A Fast Patch INC

FEES

$50

STATUS

Final

PERMIT #

04-0198

15/04/2005

Commisc

APPLICANT

Al Gerace/Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST

$2,800

FEES

$128

STATUS

Final

PERMIT #

E04-0098

DESCRIPTION

Wire parking lot lights poles

13/10/2004

Commercial

APPLICANT

Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST

$65,000

FEES

$2,478

STATUS

Final

PERMIT #

C04-0069

DESCRIPTION

Convert portion of greenhouse to retail space in accordance

23/04/2004

Commercial

CONTRACTOR

Parker Plumbing & Heating INC; Woodward Electrical Serv INC

APPLICANT

Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST

$21,000

FEES

$68,657

STATUS

Final

PERMIT #

C04-0055

DESCRIPTION

144sf addition for uni-sex accessible bathroom -

16/04/2004

Commisc

APPLICANT

Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST
$2,800

FEES
$128

STATUS
Final

PERMIT #
E04-0118

DESCRIPTION
Installing electrical outlets and exits interior

14/04/2004

Sign

CONTRACTOR
ARENS ELECTRIC INC

APPLICANT
DAVID GREINER
17201 W 64th Ave, Arvada, CO

FEES
$110

STATUS
Issued

PERMIT #

S04-0039

DESCRIPTION

Wall single face alum & vinyl illum sign

12/04/2004

Commercial

CONTRACTOR

CODE FIRE LLC

APPLICANT

Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST

$29,000

FEES

$1,114

STATUS

Issued

PERMIT #

F04-0019

DESCRIPTION

Fire sprinkler for welby gardens

12/04/2004

Commercial

CONTRACTOR
Metroplex Control Systems Inc

APPLICANT
Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST
$8,200

FEES
$382

STATUS
Issued

PERMIT #
F04-0025

DESCRIPTION
Fire alarm system for welby gardens

31/03/2004

Fence

CONTRACTOR
Bryan Miller Co Inc

APPLICANT
Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST

$14,700

FEES

$487

STATUS

Final

PERMIT #

M04-0307

DESCRIPTION

Modular block 4 retaining wall 239 lf

12/07/2000

Commercial

APPLICANT

Veldkamps
17201 W 64th Ave, Arvada, CO

JOB COST

$63,000

FEES

$2,264

STATUS

Final

PERMIT #

C99-0165

DESCRIPTION

Building 15 small bent hoop greenhouses on engineered

08/07/1998

Commisc

CONTRACTOR

Choice Electric Corp

APPLICANT

Veldkamps
17201 W 64th Ave, Arvada, CO

JOB COST

$150

FEES

$37

STATUS

Issued

PERMIT #

E98-0203

DESCRIPTION

Temporary service for well pump. Well will be pumped for wa

Foreclosures

No Foreclosures found

APPENDIX B

Records, Communications, and Interviews

Terry McGowan

From: christina.moraga@state.co.us on behalf of cdphe_apcd_records - CDPHE, CDPHE <cdphe_apcd_records@state.co.us>
Sent: Thursday, November 14, 2024 11:09 AM
To: Terry McGowan
Subject: Re: Welby Gardens - 17201 West 64th Avenue, Arvada, Colorado 80007

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hello,

The Air Pollution Control Division found the following:

Stationary Sources Program
17201 West 64th Avenue in Arvada, Colorado 80007: No records available.

Indoor Environmental Program
Welby Gardens: The asbestos/lead database did not have records responsive to this location. The presence or absence of a record is not an indicator of whether asbestos-containing materials or lead-based paint may or may not be present on the property.

17201 West 64th Avenue in Arvada, Colorado 80007: The asbestos/lead database did not have records responsive to this location. The presence or absence of a record is not an indicator of whether asbestos-containing materials or lead-based paint may or may not be present on the property.

Thank you,
Christina

Effective 1 July 2024 the rate for records requests is $41.37 per hour. Please see the Department's Open Records Policy

Records and Information Unit (RIU)
4300 Cherry Creek Drive South
Denver CO 80246
cdphe_apcd_records@state.co.us
303-692-3220
APCD Map Portal and OnBase Records Search Tool (MaPORS) - click here
Visit the Records web page
You can find the Public Access Viewer (PAV) here.
User guides for the PAV can be found here.

For Phase 1 requests, you will need to contact each Division individually.

Air: cdphe_apcd_records@state.co.us

Haz: cdphe_cora_hmwmd@state.co.us

Water: cdphe.wqrecordscenter@state.co.us

Records pertaining to underground storage tanks (UST) are held by the Office of Oil and Public Safety. https://www.colorado.gov/ops

You can check the status of your stationary source permit here: https://apcdweb.dphe.state.co.us/PermitStatus/

Locate data here: https://cdphe.colorado.gov/colorado-data-and-statistics

Are you curious about ground-level ozone in Colorado? Visit our ozone webpage to learn more.

Under the Colorado Open Records Act (CORA), all messages sent by or to me on this state-owned e-mail account may be subject to public disclosure. If you have received this message in error, please notify the sender by replying to this message and delete the email without disclosure.

On Tue, Nov 12, 2024 at 3:48 PM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> Good afternoon,
>
> Baseline is completing a Phase I Environmental Assessment for the Welby Gardens located at 17201 West 64th Avenue in Arvada, Colorado 80007. We have used the APCD online portal and searched for environmental information for this site; however, no documents were found. We would like to confirm that this is truly the case.
>
> Would you please confirm that there are no APCD environmental documents for this site.
>
> Thank you.
>
> BASELINE
>
> **Terry O. McGowan, P. G.** | Senior Geologist/Hydrogeologist
>
> Environmental Division
>
> 303.940.9966 | 303-229-5496
>
> ESOP
>
> TOP WORK PLACES 2023

112 N. Rubey Drive, #210, Golden, CO 80403

www.baselinecorp.com | Social Media

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and please delete the original message. Thank you.

Arvada Fire Protection District

Fire Marshal's Office
7903 Allison Way - Arvada, CO 80005
Main 303-424-3012 - Fax 303-432-7995
www.arvadafireco.gov

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): Inspected: 12/14/2023 12:58:57 PM
Next Scheduled Reinspection: 1/18/2024

Inspection Type(s): Compliance High-Hazard

General Comments: *none*

Findings:

Insp. Result	Location	Code Set	Code
Open Violation	Fire alarm	2018 International Fire Code SECTION 901 GENERAL	901.4.1 - Required fire protection systems installed, repaired, operated, tested and maintained.
	Inspection Comment: DEFICIENCY: Fire alarm system is not functional. ACTION REQUIRED: Restore fire alarm to operational OR have fire protection engineer submit documentation to AFPD that system is not required.		
Open Violation	Sprinkler Riser	2018 International Fire Code SECTION 901 GENERAL	901.4.1 - Required fire protection systems installed, repaired, operated, tested and maintained.
	Inspection Comment: DEFICIENCY: Fire sprinkler system has Red tag on system from 12/2023 inspection. ACTION REQUIRED: Have deficiencies corrected and system restored to functioning and in compliance OR have fi protection engineer submit documentation stating that system is not required to AFPD.		

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): First Inspected: 1/5/2023 9:04:59 AM; Most recent re-inspected: 12/14/2023 12:56:03 PM

Inspection Type(s): Compliance High-Hazard

General Comments: Re-inspection #1:Open violations to be noted on 12/14/23 inspection.

Findings:

Insp. Result	Location	Code Set	Code
Violation (Cleared 12/14/2023)	Fire alarm	2018 International Fire Code SECTION 901 GENERAL	901.4.1 - Required fire protection systems installed, repaire operated, tested and maintained.
	Inspection Comment: DEFICIENCY: Fire alarm not operational ACTION REQUIRED: Fire alarm must be made operational. Note: Per Josh R., Sentinel Fire is in process of bringing alarm to operational, possibly requiring new fire alarm panel.		

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): First Inspected: 1/11/2022 9:56:44 AM; Most recent re-inspected: 1/5/2023 8:33:43 AM

Inspection Type(s): Compliance High-Hazard

General Comments: Re-inspection #1:Open violations will be noted on 1/5/23 compliance inspection

Findings:

Insp. Result	Location	Code Set	Code
Violation (Cleared 1/5/2023)	Fire alarm	2018 International Fire Code SECTION 901 GENERAL	901.6 - Fire protection systems - inspections, testing anc maintenance.

Inspection Comment:
DEFICIENCY: The fire alarm system has been de-activated
ACTION REQUIRED: Decision is forth coming on whether system is required

---

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): Inspected: 12/9/2020 9:57:39 AM

Inspection Type(s): Compliance High-Hazard

General Comments: *none*

Findings: *No Findings for this inspection.*

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): Inspected: 12/19/2019 10:15:32 AM

Inspection Type(s): Compliance High-Hazard

General Comments: Base inspection:Occupant in process of moving retail out and another location in. Lot of electrical upgrades in process. Greenhouses mostly empty.

Findings: *No Findings for this inspection.*

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): Inspected: 12/18/2018 11:05:14 AM

Inspection Type(s): Compliance High-Hazard

General Comments: *none*

Findings: *No Findings for this inspection.*

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): First Inspected: 10/9/2017 1:14:50 PM; Most recent re-inspected: 11/8/2017 3:51:01 PM

Inspection Type(s): Complaint, Compliance High-Hazard

General Comments: *none*

Findings:

Insp. Result	Location	Code Set	Code
Violation (Cleared 11/8/2017)	Floor 1 Sprinkler Riser	2015 International Fire Code CHAPTER 9 - FIRE PROTECTION SYSTEMS	901.4.1 - Required fire protection systems installed repaired, operated, tested and maintained.

Inspection Comment:
DEFICIENCY: The fire sprinkler riser inspection tag is dated November of 2015.
ACTION REQUIRED: Fire sprinkler systems are required to be tested annually. Have the sprinkler system

inspected and provide a copy of the system inspection report to AFPD.

Violation (Cleared 11/8/2017)	Floor 1 Sprinkler Riser	2015 International Fire Code CHAPTER 9 - FIRE PROTECTION SYSTEMS	901.6.2 - Records of all system ITM required on premises for minimum of 3 years.

Inspection Comment:
DEFICIENCY: There are no current records of sprinkler inspections.
ACTION REQUIRED: After system is inspected in accordance with other violation keep records of inspections on-site.

Violation (Cleared 11/8/2017)	Floor 1 Sprinkler Riser	2015 International Fire Code CHAPTER 9 - FIRE PROTECTION SYSTEMS	901.1 - Other Chapter 9 Violations (Fire Protection Systems)

Inspection Comment:
DEFICIENCY: The required Hydraulic Design Placards on the riser are not completed.
ACTION REQUIRED: During inspection of system have fire protection company complete Hydraulic Design Placards for system.

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): First Inspected: 12/21/2015 9:28:28 AM; Most recent re-inspected: 12/31/2015 6:59:23 AM

Inspection Type(s): Compliance High-Hazard

General Comments: *none*

Findings:

Insp. Result	Location	Code Set	Code
Violation (Cleared 12/31/2015)	Floor 1	2009 International Fire Code CHAPTER 9 - FIRE PROTECTION SYSTEMS	901.6 - Fire protection systems - Inspection, testing and maintenance.

Inspection Comment:
DEFICIENCY: The circuit breaker for the fire alarm is not locked.
ACTION REQUIRED: Lock the breaker in the "on" positioon..
LOCATION: Electrical panel

From: Steven Parker <steven.parker@arvadafireco.gov>
Sent: Friday, November 22, 2024 8:35 AM
To: Terry McGowan
Subject: CORA request - 17201 W 64th Ave
Attachments: 17201 W 64th Ave._Inspection Summary Report.pdf

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Terry,

Attached is the inspection summary report for the requested address. I did not find any incident responses to this address related to hazardous materials.

Steven Parker EFO, FM, MS
Fire Marshal
7903 Allison Way Arvada, CO 80005
Desk:303-403-0477
Mobile:303-263-9778
www.ArvadaFireCO.gov

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sender by reply email and destroy all copies of the original message.

From: Smartsheet Forms <forms@app.smartsheet.com>
Sent: Monday, November 18, 2024 7:36 AM
To: Terry McGowan
Subject: Confirmation - Open Records Request

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Thank you for submitting your entry. A copy is included below for your records.

Open Records Request

Date of Request: 11/18/2024

Specific Information Requested: Baseline is completing a Phase I Environmental Assessment for the Welby Gardens located at 17201 West 64th Avenue in Arvada, Colorado 80007. We are searching for environmental records such as above or below ground tank permits for installation or removal, response to spills or fire, inspection reports specifically to storage of fuels, pesticides, herbicides, or others. Thank you for your time

Request Type Official CORA

Name: Terry O. McGowan

Business Name: Baseline Engineering Corp

Address: 112 N. Rubey Drive
Suite 210, Golden

Phone: 303-229-5496

E-Mail: terry.mcgowan@baselinecorp.com

Inspection at AFPD Headquarters

By USPS mail

By Electronic Transmission

I Understand and Agree to the Retrieval Fee

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NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

ALTA/NSPS LAND TITLE SURVEY

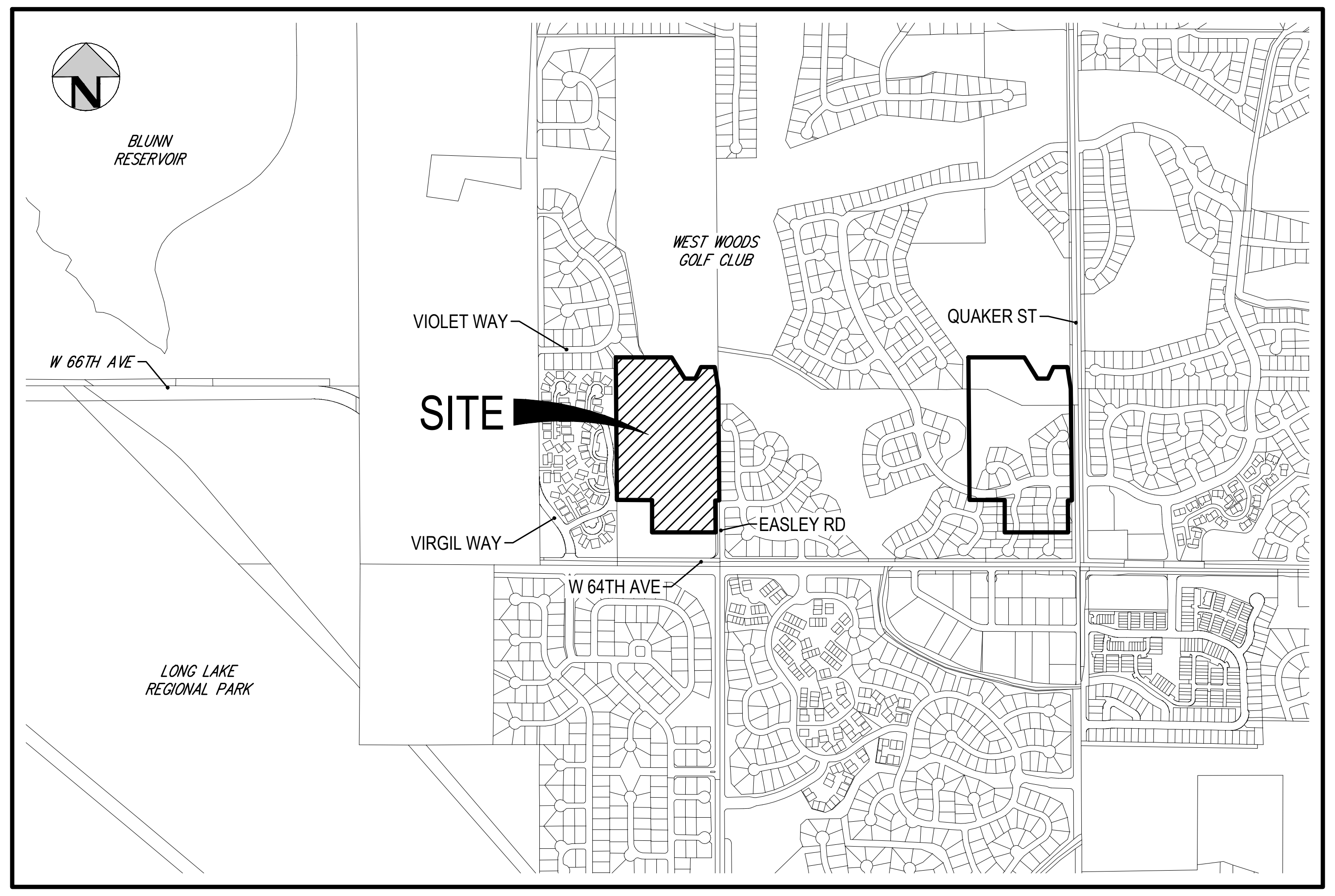
SITUATED IN THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M., CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO

LEGAL DESCRIPTION:

LOTS 1 AND 2, VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT, COUNTY OF JEFFERSON, STATE OF COLORADO.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY HARRIS KOCHER SMITH TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS–OF–WAY AND TITLE OF RECORD, HARRIS KOCHER SMITH RELIED UPON COMMITMENT FOR TITLE INSURANCE, COMMITMENT NUMBER: 3020–1234799 ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES AND HAVING A COMMITMENT DATE OF SEPTEMBER 23, 2024 AT 5:00 P.M.
2. NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.
3. BASIS OF BEARINGS: BEARINGS ARE BASED ON THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH PRINCIPAL MERIDIAN AS BEARING NORTH 89°35'48" WEST AS SHOWN ON VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT RECORDED AT RECEPTION NO. F2176756. SAID LINE BEING MONUMENTED AT THE SOUTH QUARTER CORNER OF SAID SECTION 2 BY AN ILLEGIBLE 1.5" BRASS CAP IN RANGE BOX 0.8' BELOW GRADE, AND AT THE SOUTHWEST CORNER OF SAID SECTION 2 BY A 2" ALUMINUM CAP STAMPED "2002 PLS 5112" 0.3' BELOW GRADE.
4. TABLE A ITEM 2: THE ADDRESS OF THE SURVEYED IS 17201 WEST 64TH AVENUE, ARVADA, CO 80007.
5. TABLE A ITEM 3: SURVEYED PROPERTY FALLS WITHIN ZONE X OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NO. 08059C0179F, LAST REVISED FEBRUARY 5, 2014. ZONE X IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2–PERCENT ANNUAL CHANCE FLOODPLAIN.
6. TABLE A ITEM 4: THE SURVEYED PROPERTY CONTAINS A TOTAL AREA OF 873,296 SQUARE FEET OR 20.05 ACRES, MORE OR LESS.
7. TABLE A ITEM 6: NO ZONING REPORT OR LETTER WAS PROVIDED BY THE CLIENT FOR THIS SURVEY. AS SUCH, THE CURRENT ZONING CLASSIFICATION, SETBACK REQUIREMENTS, HEIGHT AND FLOOR SPACE AREA RESTRICTIONS, AND PARKING REQUIREMENTS WERE NOT ADDRESSED.
8. TABLE A ITEM 9: THE SURVEYED PROPERTY CONTAINS 136 STANDARD STRIPED PARKING SPACES.
9. TABLE A ITEM 10: THE CLIENT DID NOT DESIGNATE ANY WALLS FOR THE DETERMINATION OF THE RELATIONSHIP AND/OR LOCATION OF CERTAIN DIVISION OR PARTY WALLS WITH RESPECT TO ADJOINING PROPERTIES. NOR DID THE CLIENT DESIGNATE ANY WALLS FOR THE DETERMINATION OF PLUMB. NO DIVISION OR PARTY WALLS WITH RESPECT TO ADJOINING PROPERTIES WERE OBSERVED DURING THE FIELDWORK FOR THIS SURVEY.
10. TABLE A ITEM 11: UTILITIES SHOWN HEREON ARE FROM VISIBLE FIELD INFORMATION AND UTILITY LOCATES PROVIDED BY HKS UTILITY SERVICES, LLC. HARRIS KOCHER SMITH DOES NOT GUARANTEE THESE LOCATIONS OR THAT THE UTILITIES SHOWN HEREON COMPRISE ALL UTILITIES IN THIS AREA, EITHER IN SERVICE OR ABANDONED, AND HARRIS KOCHER SMITH FURTHER DISCLAIMS ANY AND ALL LIABILITY RELATED TO INFORMATION FROM UTILITY MAPS AND MARKINGS THAT MAY BE SHOWN ON THIS SURVEY. UTILITIES DEPICTED HEREON DO NOT COMPLY WITH ASCE 38 UNDERGROUND UTILITY LOCATE STANDARDS. THE CLIENT AND CONTRACTOR BEAR ALL RESPONSIBILITY FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF SENATE BILL 18–167.
11. **AREAS OF CONCERN: A.O.C #1** – STORM SEWER AND UNDERGROUND ELECTRIC LINES APPEAR TO BE OUTSIDE OF INTENDED EASEMENT. **A.O.C #2** – ELECTRIC TRANSFORMER AND UNDERGROUND ELECTRIC LINE APPEAR TO BE OUTSIDE OF INTENDED EASEMENT.
12. THE LINEAR UNITS FOR THIS SURVEY ARE U.S. SURVEY FEET.
13. THE SURVEYED PROPERTY IS SUBJECT TO THE TERMS, PROVISIONS, COVENANTS, CONDITIONS, RESTRICTIONS, OBLIGATIONS AND RESERVATIONS CONTAINED IN THE FOLLOWING RECORDED DOCUMENTS IN THE TITLE COMMITMENT AS REFERENCED IN NOTE 1.



VICINITY MAP
SCALE: 1" = 1,000'

SCHEDULE B-2 ITEMS:

△X INDICATES THE EXCEPTION NUMBER WITHIN THE SCHEDULE B–2 OF THE TITLE COMMITMENT REFERENCED IN NOTE 1. (EXCEPTIONS 1–7 ARE STANDARD EXCEPTIONS) (*ITALIC TEXT IS THE SURVEYOR'S PARENTHETICAL NOTE*)

△8 ANY EXISTING LEASES OR TENANCIES.
(*NOT A SURVEY MATTER*)

△9 THE FINAL TITLE INSURANCE POLICY SHALL NOT AND DOES NOT INSURE THE TITLE TO THOSE FIXTURES, STRUCTURES AND LIKE APPURTENANCES WHICH ARE NOT ASSESSED AND TAXED AS REAL PROPERTY BY THE COUNTY. NO EXAMINATION OF THE TITLE TO THE REFERENCED FIXTURES, STRUCTURES AND LIKE APPURTENANCES HAS BEEN MADE.
(*NOT A SURVEY MATTER*)

△10 RIGHT OF WAY FOR CHURCH DITCH, TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS, AND AGREEMENTS AS SET FORTH IN THE QUIT CLAIM DEED RECORDED MARCH 22, 1989 IN BOOK 12 AT PAGE 31.
(*CHURCH DITCH DOES NOT APPEAR TO CROSS THE SURVEYED PROPERTY*)

△11 RESERVATION OF A ONE HALF INTEREST IN OIL, GAS AND OTHER MINERALS AS RESERVED IN DEED RECORDED FEBRUARY 25, 1927 IN BOOK 295 AT PAGE 161, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

△12 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE UTILITY SERVICE AGREEMENT RECORDED JUNE 11, 1969 IN BOOK 2109 AT PAGE 242.
(*AS SHOWN*)

△13 ANY TAX, LIEN, FEE OR ASSESSMENT BY REASON OF INCLUSION OF SUBJECT PROPERTY IN THE FAIRMOUNT FIRE PROTECTION DISTRICT, AS EVIDENCED BY INSTRUMENT RECORDED SEPTEMBER 25, 1970 IN BOOK 2210 AT PAGE 73.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

△14 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE FINDINGS AND RULING RECORDED MARCH 14, 1978 AT RECEPTION NO. 78022299 AND RECORDED JUNE 11, 1981 AT RECEPTION NO. 81041418.
(*AS SHOWN*)

△15 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE FINDINGS OF FACT RECORDED AUGUST 14, 1986 AT RECEPTION NO. 86094408 AND RECORDED SEPTEMBER 29, 1986 AT RECEPTION NO. 86117526.
(*AFFECTS CHURCH DITCH; NOTHING PLOTTED*)

△16 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE AGREEMENT RECORDED AUGUST 16, 1994 AT RECEPTION NO. 94137125.
(*AFFECTS THE SURVEYED PROPERTY; PROPOSED WELL LOCATION DOES NOT LIE WITHIN THE SURVEYED PROPERTY; CANNOT BE PLOTTED*)

△17 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE EASEMENT AGREEMENT RECORDED SEPTEMBER 15, 1994 AT RECEPTION NO. 94151425.
EASEMENT AND RELEASE IN CONNECTION THEREWITH RECORDED MARCH 24, 1997 AT RECEPTION NO. F0388489.
ASSIGNMENT IN CONNECTION THEREWITH RECORDED SEPTEMBER 11, 2008 AT RECEPTION NO. 2008085422.
(*AS SHOWN*)

△18 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE ORDINANCE NO. 3325 RECORDED FEBRUARY 20, 1997 AT RECEPTION NO. F0373570.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

△19 VELDKAMP ANNEXATION MAP RECORDED FEBRUARY 27, 1997 AT RECEPTION NO. F0376577.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

△20 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE WEST WOODS NINE/VELDKAMP ANNEXATION AGREEMENT RECORDED FEBRUARY 27, 1997 AT RECEPTION NO. F0376578, FIRST AMENDMENT RECORDED SEPTEMBER 4, 1997 AT RECEPTION NO. F0471590.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

△21 EASEMENTS, NOTES, COVENANTS, RESTRICTIONS AND RIGHTS–OF–WAY AS SHOWN ON THE PLAT OF VELDKAMP MINOR SUBDIVISION, RECORDED MARCH 13, 1997 AT RECEPTION NO. F0384095.
(*AS SHOWN*)

△22 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE ORDINANCE NO. 3868 RECORDED APRIL 15, 2004 AT RECEPTION NO. F2006064.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

△23 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE WELBY GARDENS NON–RESIDENTIAL DEVELOPMENT AGREEMENT RECORDED JUNE 24, 2004 AT RECEPTION NO. F2049794.
(*AS SHOWN*)

△24 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE WATER LINE EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061153.
(*AS SHOWN*)

△25 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE EMERGENCY ACCESS AND UTILITY EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061154.
(*AS SHOWN*)

△26 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE SIDEWALK EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061155.
(*AS SHOWN*)

△27 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE STORM SEWER AND DETENTION EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061156.
(*AS SHOWN*)

△28 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE UTILITY EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061157.
(*AS SHOWN*)

△29 EASEMENTS, NOTES, COVENANTS, RESTRICTIONS AND RIGHTS–OF–WAY AS SHOWN ON THE PLAT OF VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT, RECORDED FEBRUARY 24, 2005 AT RECEPTION NO. F2176756.
(*AS SHOWN; THIS PLAT DOES NOT CREATE ANY EASEMENTS ON THE SURVEYED PROPERTY*)

△30 TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE RESTRICTIVE USE AND ACCESS EASEMENT AGREEMENT RECORDED MAY 20, 2016 AT RECEPTION NO. 2016047988.
(*AS SHOWN*)

SURVEYOR'S CERTIFICATION:

THIS IS TO CERTIFY TO: FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES;

THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(a,b), 7(a,b1), 8, 9, 10, 11(a), AND 13 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON NOVEMBER 11, 2024.

I, AARON MURPHY, A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THE IMPROVEMENT SURVEY PLAT SHOWN HEREON WAS PREPARED BY ME OR UNDER DIRECT SUPERVISION; THAT IT WAS PREPARED TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF; THAT IT WAS PREPARED IN ACCORDANCE WITH APPLICABLE STANDARDS OF PRACTICE; AND THAT THIS CERTIFICATION IS NOT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

AARON MURPHY, PLS 38162
FOR AND ON BEHALF OF
HARRIS KOCHER SMITH

FILEPATH: P:\2024\241061\SURVEY\ALTA_241061.DWG LAYOUT: COVER
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ISSUE DATE: 11-19-2024

DATE	REVISION COMMENTS

DRAFT

HKS HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

17201 W 64TH AVENUE
ARVADA, CO 80007

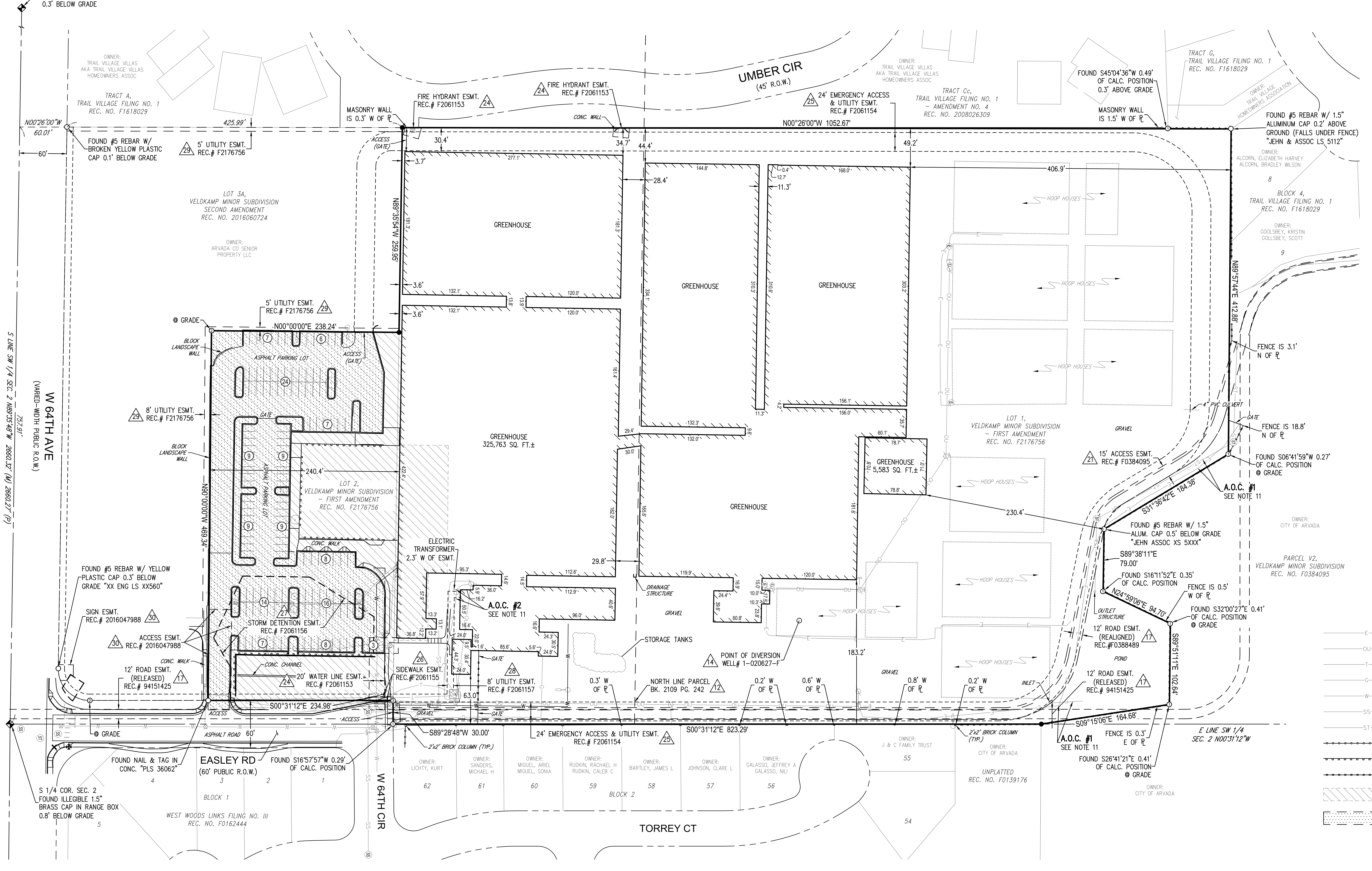
COVER

PROJECT #: 241061
SHEET NUMBER
1
1 OF 2

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

ALTA/NSPS LAND TITLE SURVEY

SITUATED IN THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M.,
CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO


SW COR. SEC. 2
FOUND 2" ALUM. CAP
"2002 PLS 5112"
0.3' BELOW GRADE
TRACT A, TRAIL VILLAGE FILING NO. 1 REC. NO. F1618029
OWNER: TRAIL VILLAGE VILLAS AKA TRAIL VILLAGE VILLAS HOMEOWNERS ASSOC
UMBER CIR (45' R.O.W.)
FIRE HYDRANT ESMT. REC.# F2061153 24
25 24' EMERGENCY ACCESS & UTILITY ESMT. REC.# F2061154
TRACT Cc, TRAIL VILLAGE FILING NO. 1 – AMENDMENT NO. 4 REC. NO. 2008026309
FOUND S45°04'36"W 0.49' OF CALC. POSITION 0.3' ABOVE GRADE
TRACT G, TRAIL VILLAGE FILING NO. 1 REC. NO. F1618029
MASONRY WALL IS 0.3' W OF ℞
MASONRY WALL IS 1.5' W OF ℞
N00°26'00"W 60.01'
425.99'
N00°26'00"W 1052.67'
FOUND #5 REBAR W/ BROKEN YELLOW PLASTIC CAP 0.1' BELOW GRADE
29 5' UTILITY ESMT. REC.# F2176756
FOUND #5 REBAR W/ 1.5" ALUMINUM CAP 0.2' ABOVE GROUND (FALLS UNDER FENCE) "JEHN & ASSOC LS 5112"
OWNER: ALCORN, ELIZABETH HARVEY ALCORN, BRADLEY WILSON
BLOCK 4, TRAIL VILLAGE FILING NO. 1 REC. NO. F1618029
OWNER: GOOLSBEY, KRISTIN GOLLSBEY, SCOTT
LOT 3A, VELDKAMP MINOR SUBDIVISION SECOND AMENDMENT REC. NO. 2016060724
OWNER: ARVADA CO SENIOR PROPERTY LLC
W 64TH AVE (VARIED-WIDTH PUBLIC R.O.W.)
S LINE SW 1/4 SEC. 2 N89°35'48"W 2660.32' (M) 2660.27' (P)
N89°35'54"W 259.95'
GREENHOUSE
GREENHOUSE 325,763 SQ. FT.±
GREENHOUSE 5,583 SQ. FT.±
HOOP HOUSES
406.9'
N89°57'44"E 412.88'
5' UTILITY ESMT. REC.# F2176756 29
N00°00'00"E 238.24'
ASPHALT PARKING LOT
BLOCK LANDSCAPE WALL
29 8' UTILITY ESMT. REC.# F2176756
LOT 2, VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT REC. NO. F2176756
240.4'
N00°00'00"W 469.34'
LOT 1, VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT REC. NO. F2176756
GRAVEL
FENCE IS 3.1' N OF ℞
FENCE IS 18.8' N OF ℞
21 15' ACCESS ESMT. REC.# F0384095
FOUND S06°41'59"W 0.27' OF CALC. POSITION @ GRADE
A.O.C. #1 SEE NOTE 11
S31°36'42"E 184.38'
230.4'
FOUND #5 REBAR W/ 1.5" ALUM. CAP 0.5' BELOW GRADE "JEHN ASSOC XS 5XXX"
S89°38'11"E 79.00'
FOUND S16°11'52"E 0.35' OF CALC. POSITION
N24°59'06"E 94.70'
FENCE IS 0.5' W OF ℞
FOUND S32°00'27"E 0.41' OF CALC. POSITION @ GRADE
OWNER: CITY OF ARVADA
PARCEL V2, VELDKAMP MINOR SUBDIVISION REC. NO. F0384095
S89°51'11"E 102.64'
12' ROAD ESMT. (REALIGNED) REC.#F0388489
12' ROAD ESMT. (RELEASED) REC.# 94151425 17
POND
FOUND #5 REBAR W/ YELLOW PLASTIC CAP 0.3' BELOW GRADE "XX ENG LS XX560"
SIGN ESMT. REC.# 2016047988 30
30 ACCESS ESMT. REC.# 2016047988
12' ROAD ESMT. (RELEASED) REC.# 94151425 17
STORM DETENTION ESMT. REC.# F2061156
ELECTRIC TRANSFORMER 2.3' W OF ESMT.
A.O.C. #2 SEE NOTE 11
20' WATER LINE ESMT. REC.# F2061153 24
SIDEWALK ESMT. REC.#F2061155 26
8' UTILITY ESMT. REC.# F2061157 28
STORAGE TANKS
DRAINAGE STRUCTURE
14 POINT OF DIVERSION WELL# 1-020627-F
183.2'
NORTH LINE PARCEL BK. 2109 PG. 242 12
0.3' W OF ℞
0.2' W OF ℞
0.6' W OF ℞
0.8' W OF ℞
S00°31'12"E 234.98'
S89°28'48"W 30.00'
2'x2' BRICK COLUMN (TYP.)
24' EMERGENCY ACCESS & UTILITY ESMT. REC.# F2061154 25
S00°31'12"E 823.29'
S09°15'06"E 164.68'
A.O.C. #1 SEE NOTE 11
FENCE IS 0.3' E OF ℞
E LINE SW 1/4 SEC. 2 N00°31'12"W
FOUND S26°41'21"E 0.41' OF CALC. POSITION @ GRADE
FOUND NAIL & TAG IN CONC. "PLS 36062"
EASLEY RD (60' PUBLIC R.O.W.)
FOUND S16°57'57"W 0.29' OF CALC. POSITION
W 64TH CIR
S 1/4 COR. SEC. 2 FOUND ILLEGIBLE 1.5" BRASS CAP IN RANGE BOX 0.8' BELOW GRADE
BLOCK 1
WEST WOODS LINKS FILING NO. III REC. NO. F0162444
OWNER: LICHTY, KURT 62
OWNER: SANDERS, MICHAEL H 61
OWNER: MIGUEL, ARIEL MIGUEL, SONIA 60
OWNER: RUDKIN, RACHAEL H RUDKIN, CALEB C 59
OWNER: BARTLEY, JAMES L 58
OWNER: JOHNSON, CLARE L 57
OWNER: GALASSO, JEFFREY A GALASSO, NILI 56
BLOCK 2
OWNER: J & C FAMILY TRUST 55
OWNER: CITY OF ARVADA
UNPLATTED REC. NO. F0139176
TORREY CT
54

LEGEND

●	SET #5x18" REBAR W/ 1.25" BLUE PLASTIC CAP "PLS 38162"
○	FOUND MONUMENT AS DESCRIBED
⊙	FOUND #5 REBAR W/ YELLOW PLASTIC CAP "JEHN & ASSOC LS 36561"
⊙	FOUND #5 REBAR W/ RED PLASTIC CAP "JEHN PLS 36062"
⊙	FOUND ILLEGIBLE 3.25" BRASS CAP 1.0' BELOW GRADE
✕	FOUND CUT CROSS
✠	FOUND CHISELED CROSS
Ⓔ	ELECTRIC METER
	POLE-MOUNT TRANSFORMER
	ELECTRIC OUTLET
T	TELECOM. PEDESTAL
T	TELECOM. VAULT
Ⓖ	NATURAL GAS METER
Ⓦ	WATER MANHOLE
	FIRE HYDRANT
⊠	WATER VALVE
	UTILITY POLE
	GUY WIRE
	LIGHT POLE
Ⓢ	SANITARY SEWER MANHOLE
Ⓢ	STORM SEWER MANHOLE
	CONIFEROUS TREE
	SIGN
Ⓧ	PARKING COUNT
—E—	UNDERGROUND ELECTRIC LINE
—OU—	OVERHEAD UTILITY LINE
—T—	UNDERGROUND TELECOM. LINE
—G—	NATURAL GAS LINE
—W—	WATER LINE
—SS—	SANITARY SEWER
—ST—	STORM SEWER
	WOOD FENCE
	IRON FENCE
	CHAIN-LINK FENCE
▨	WELBY GARDENS AFFECTED AREA REC. NO. F2049794 23
▒	EMERGENCY ACCESS ESMT. REC. NO. F2061154 25
(M)	MEASURED DIMENSION
(P)	DIMENSION PER VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT REC. NO. F2176756

811

Know what's **below.**
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60 0 60 120
SCALE: 1" = 60'

CHECKED BY: AWM
DRAWN BY: TWG

ISSUE DATE: 11-19-2024

DATE	REVISION COMMENTS

DRAFT

HKS HARRIS KOCHER SMITH
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Denver, Colorado 80203
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HarrisKocherSmith.com

17201 W 64TH AVENUE
ARVADA, CO 80007

SITE

PROJECT #: 241061
SHEET NUMBER
2
2 OF 2

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NO XREFs
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Preliminary Geotechnical Engineering Report

Proposed Multi-Family Development
17201 W 64th Avenue
Arvada, Colorado

Prepared for:
AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025
Denver, CO 80237

Prepared by:
Cole Garner Geotechnical
CGG Project No.: 24.22.209

November 20, 2024

Geotechnical Engineering and Materials Testing

Cole Garner Geotechnical
1070 W. 124th Ave, Ste. 300
Westminster, CO 80234
303.996.2999

November 20, 2024

AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025
Denver, CO 80237

Attn: Gregory Himmel
Director of Development
gregory_himmel@avalonbay.com

Re: Preliminary Geotechnical Engineering Report
Proposed Multi-Family Development
17201 W 64th Avenue
Arvada, Colorado
CGG Project No. 24.22.209

Cole Garner Geotechnical (CGG) has completed a preliminary geotechnical engineering investigation for the redevelopment of the subject property for a proposed multi-family residential community in Arvada, Colorado. This geotechnical executive summary should be used in conjunction with the entire report for design and/or construction purposes. It should be recognized that specific details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled General Comments should be read for an understanding of the report limitations.

- **Subsurface Conditions:** Existing man-made fill materials were encountered just below the ground surface in our borings and extended to depths ranging from about 6 to 7 feet. The fill was variable but was mainly comprised of fine to coarse sand and gravels with some silt and clay lenses and cobbles. We assume the fill is related to historic site development, however, we did not encounter debris or other deleterious materials in our boring locations. Native silty sand soils were encountered below the fill in one boring (Boring No. 2) and extended to a depth of about 12 feet below existing site grade. Sedimentary sandstone and claystone bedrock was encountered below the fill and native soils and extended to the full depth of exploration. Groundwater was encountered in Boring Nos. 1 and 3 at depths of about 13 and 8 feet, respectively.

- **Expansive Soils:** The fill and native sand soils are considered non- to low expansive; samples of the sandstone bedrock also exhibited non- to low expansive potential. However, moderately to highly expansive claystone bedrock was encountered at depths of about 6 to 7 feet below existing site grade Boring Nos. 2 and 5 (representing potentially two-thirds to three-quarters of the site). ***Depending on proposed earthen cut and fill depths, this claystone formation (considered Expansive Soils) could be present at or near foundation bearing elevation on much of the site and could cause excessive movement of shallow foundations, floor slabs, etc.***

Where foundations will bear within about 3 to 5 feet of the claystone bedrock, we believe mitigation of this geologic hazard will be warranted. Mitigation is commonly performed in this region through a process of subexcavation, moisture conditioning, and recompaction. Depending on finished site grades, we estimate that subexcavation may need to range up to 8 to 10 feet below foundations. It may be possible to raise site grades and avoid the need for mitigation. We are available to discuss this alternative and help to develop more formal mitigation plans as proposed grading plans are developed, some demolition is completed, and more geotechnical borings can be completed.

- **Existing Fill, Demolition, and Site Preparation:** The presence of existing historic fill across the site along with other elements of past development will impact redevelopment of the property. The existing fill is variable in consistency and strength, and there is inherent risk at historic fills may contain or conceal debris, trash, organic materials, or other unsuitable materials. ***We did not encounter unsuitable materials or debris in our borings. Provided the fill materials do not pose an environmental hazard, these fill soils should be suitable for re-use on the site.*** However, due to the inherent variability of the fill, these materials are not considered suitable for support of foundations and floor slabs in their present state. ***We have recommended removal and recompaction of the existing fill materials below structures.***

  Demolition and site preparation should include removal of all shallow foundation elements, including any crawlspace or basement foundations, if present. Any existing deep foundations, such as drilled piers, should be truncated at least five feet below all new foundations and floor slabs. Demolition should also include removal of any loose backfill found adjacent to existing foundations or in abandoned utility trenches in and adjacent to new building footprint(s).

- **Structure Foundations and Floor Slabs:** Along with the variable fill conditions, demolition of existing structures and facilities will result in substantial variability of the soils at or near foundation bearing elevations across the site. For lightly-loaded residential buildings, the use of shallow foundations bearing on a zone of recompacted on-site soils (or imported fill, if needed) would be appropriate. Such systems include spread footings, reinforced mat foundations, and/or post-tensioned slab foundations. Many residential developers in the area utilize post-tensioned slab-on-grade foundations to limit distress to interior floors and living spaces.

  We believe that removal and recompaction to a depth of about 3 feet below foundations and floor slabs would provide a uniform zone of engineered fill capable of supporting typical residential and light commercial loading conditions. This process is discussed in more detail in the report. Though not currently planned, if the project will include heavily loaded structures, such as parking structures, footing sizes might be large. Soil improvement using rammed-aggregate piers could also be considered. Based on our experience, these systems may provide cost-effective solutions for support of the heavier-loaded structures. Detailed recommendations are presented in the report.

- **Required Additional Geotechnical Studies:** Supplemental geotechnical exploration is required and should be conducted as soon as demolition allows for borings within proposed building areas. These additional services will be used to develop final structural design parameters and to confirm and/or modify the recommendations and conclusions contained in this report. Additional investigation would also be required by the City of Arvada for design of any public roadway improvements.

We appreciate being of service to you in the geotechnical engineering phase of this project and are prepared to assist you during the construction phases as well. Please do not hesitate to contact us if you have any questions concerning this report or any of our testing, inspection, design and consulting services.

Sincerely,
Cole Garner Geotechnical

A.J. Santiago, E.I. Project Engineer	Andrew J. Garner, P.E. Principal, COO

Copies to: Addressee (1 PDF copy)

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APPENDIX A: **BORING LOCATION DIAGRAM, BORING LOGS**
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Cole Garner Geotechnical
1070 W. 124th Ave, Ste. 300
Westminster, CO 80234
303.996.2999

PRELIMINARY GEOTECHNICAL ENGINEERING REPORT

PROPOSED MULTI-FAMILY DEVELOPMENT
17201 W 64TH AVENUE
ARVADA, COLORADO

CGG Project No. 24.22.209
November 20, 2024

INTRODUCTION

This report contains the results of our preliminary geotechnical engineering exploration for the redevelopment of the subject property for a proposed multi-family residential community in Arvada, Colorado. This study was performed in general accordance with our revised proposal number P24.22.220 as referenced in the October 11, 2024 Consulting Services Agreement between the client and our firm (executed November 6, 2024).

The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil and bedrock conditions
- Groundwater conditions
- Demolition, site preparation, and earthwork
- Foundation design and construction
- Below-grade construction
- Lateral earth pressures
- Floor slab design and construction
- Pavement structural sections
- Surface and subsurface drainage

The recommendations contained in this report are based upon the results of field and laboratory testing, engineering analyses, our experience with similar subsurface conditions and structures, and our understanding of the proposed project.

PROJECT INFORMATION

We understand that the project will include the re-development of approximately 20 acres of property located at the subject address in Arvada, Colorado. The property is currently occupied by commercial greenhouses (Welby Gardens) and associated facilities that will be razed as part of new construction.

Conceptual development plans include construction of nine multi-family residential buildings int eh northern property extents, nine townhome-style buildings in the southern site extents, a centrally-located leasing office/clubhouse with a pool, a 2-acre park (green space), and associated private driveways and parking. We assume residential buildings will be wood-frame and supported on at-grade foundations (no basements). Ground floors will include both living areas and at-grade, "tuck-under" garages.

The site appears to slope gently down to the east; therefore, we estimate that maximum earthen cut and fill depths on the order of 5 to 10 feet to bring the site to rough construction grade. Other major site development will include the installation of underground utilities, stormwater detention in the northeastern site extents, construction of trash enclosures, mail kiosks, and typical landscaping. If our assumptions above are not accurate, or if you have additional useful information, please inform us as soon as possible so that we may update this proposal as applicable.

SITE EXPLORATION PROCEDURES

The scope of the services performed for this project included a subsurface exploration program, laboratory testing, and engineering analysis.

Field Exploration: Our scope of services for this study included geotechnical exploration of the subsurface materials at five locations, as shown on the Boring Location Diagram included in Appendix A. Borings were located in accessible areas of the site given existing buildings and other development. Borings were advanced with a track-mounted drilling rig utilizing 4-inch diameter, solid-stem auger.

We planned to advance borings to depths ranging from about 25 to 35 feet below existing site grades; however, we encountered essential refusal to our drilling equipment in one boring (Boring No. 1) at a depth of about 15 feet below existing site grade. We were able to extend borings to their planned depths at the remaining locations.

Our field personnel recorded a lithologic log of each boring during the drilling operations. At selected intervals, samples of the subsurface materials were obtained by driving Modified California samplers. Penetration resistance measurements were obtained by driving the sample barrels into the subsurface materials with a 140-pound automatic hammer falling 30 inches. The penetration resistance value is a useful index to the consistency, relative density or hardness of the materials encountered.

Groundwater measurements were made in each boring at the time of site exploration and a day later. Borings were loosely backfilled with the auger cuttings upon completion of groundwater measurements.

Laboratory Testing: Samples retrieved during the field exploration were returned to the laboratory for observation by the project geotechnical engineer, and were classified in general accordance with the Unified Soil Classification System described in Appendix C. Bedrock was classified according to the

General Notes for Rock Classification. Bedrock was classified according to the notes on Rock Classification. At that time, an applicable laboratory-testing program was formulated to determine engineering properties of the subsurface materials. Following the completion of the laboratory testing, the field descriptions were confirmed or modified as necessary, and Boring Logs were prepared. These logs are presented in Appendix A.

Laboratory test results are presented in Appendix B. These results were used for the geotechnical engineering analyses and the development of foundation and earthwork recommendations. Laboratory tests were performed in general accordance with the applicable local or other accepted standards.

Selected soil and bedrock samples were tested for the following engineering properties:

- Water content
- Dry density
- Swell/Consolidation
- Grain size
- Plasticity Index
- Water-soluble sulfates

SITE CONDITIONS

The site is currently occupied by Welby Gardens, a commercial nursery greenhouse operation that has been on the site since 1948. The site is substantially occupied by several greenhouse buildings, smaller outbuildings, and an office; the remainder of the site includes paved and unpaved drives and outdoor storage areas, with limited concrete flatwork. The southern site extents are occupied by a paved parking lot associated with the adjacent assisted living facility. The site is bound on the north by the natural drainage of Ralston Creek and West Woods Golf Course, on the east and west by existing single-family residential subdivisions, and on the south by MorningStar Senior Living of Arvada.

Topographically, the site appears to slope predominately to the east with estimated topographic relief on the order of 20 feet. Site drainage was generally in the form of sheet surface flow directed generally towards the east and north by existing site features.

SUBSURFACE CONDITIONS

Geology: Surficial geologic conditions at the site, as mapped by the U.S. Geological Survey (USGS) ([1]Van Horn, 1972), consist of Louviers Alluvium of Pleistocene Age. These materials are generally described as silty, fine-grained sand becoming coarser with depth. As mapped in this area, the formation is typically on the order of 10 to 20 feet in thickness.

---

[1] Van Horn, Richard, 1972, ***Surficial and Bedrock Geologic Map of the Golden Quadrangle, Jefferson County, Colorado***, United States Geological Survey, Miscellaneous Geologic Investigations Map I-761-A.

Bedrock underlying the surface units consists of the Arapahoe Formation of Upper Cretaceous Age. Locally, the Arapahoe Formation is described as quartzose sandstone and claystone, which outcrops to the south and east of the site.

Mapping completed by the Colorado Geological Survey ([2]Hart, 1972) indicates the site is located in an area of " Low Swell Potential" associated with the Louviers Alluvium; however, areas of Highly and Very Highly expansive materials are mapped in the southern site extents and where the bedrock formation outcrops to the south and east of the site.

Other geologic hazards were not observed at the site. Seismic activity in the area is anticipated to be low, and the property should be relatively stable from a structural standpoint. With proper site grading around proposed structures, erosional problems at the site should be reduced.

Soil and Bedrock Conditions: Existing man-made fill materials were encountered just below the ground surface in our borings and extended to depths ranging from about 6 to 7 feet. The fill was variable but was mainly comprised of fine to coarse sand and gravels with some silt and clay lenses and cobbles. We assume the fill is related to historic site development. Native silty sand soils were encountered below the fill in one boring (Boring No. 2) and extended to a depth of about 12 feet below existing site grade.

Sedimentary sandstone and claystone bedrock was encountered below the fill and native soils and extended to the full depth of exploration. In general, the sandstone bedrock was predominate in the northern site extents (Boring Nos 1, 3, and 4), while the claystone bedrock was encountered in the two remaining borings (representing about two-thirds to three-quarters of the site). Other specific information regarding the subsurface conditions is shown on the attached boring logs.

Field and Laboratory Test Results: Field test results indicate that the sand soils (both fill and native) are typically medium dense, however, denser gravel and cobble materials were encountered. The bedrock was generally medium hard to very hard based on sampler penetration.

Samples of the fill soils are non- to low-plastic and are considered non- to low expansive. Samples of the sandstone bedrock exhibited non- to low-expansive potential. The claystone bedrock varied from low to highly expansive. Water-soluble sulfate testing of three samples indicated nil concentrations.

Groundwater Conditions: Groundwater was encountered while drilling Boring No. 3 at a depth of about 15 feet below existing site grade and was not encountered while advancing the remaining borings. When checked a day later, groundwater was present in Boring No. 1 at a depth of about 13 feet below existing site grade and in Boring 3 at a depth of about 8 feet; groundwater was not present in the remaining borings (however, Boring No. 2 had been graded over).

---

[2] Hart, Stephen S., 1972, ***Potentially Swelling Soil and Rock in the Front Range Urban Corridor, Colorado***, Colorado Geological Survey, Sheet 2 of 4.

Based upon review of U.S. Geological Survey Maps ([3]Hillier, et al, 1983), regional groundwater beneath the project area is expected to be encountered in unconsolidated alluvial deposits on the site at depths ranging from 10 to 20 feet below present ground surface, however, shallow groundwater conditions are mapped in the eastern half of the site.

The above groundwater observations are only representative of the locations explored at the time(s) of our exploration(s). ***Seasonal fluctuations in groundwater elevation beyond those indicated above should be expected, especially in proximity to Ralston Creek; therefore, the possibility of groundwater fluctuations should be considered when developing design and construction plans for the project.***

ENGINEERING RECOMMENDATIONS

Geotechnical Considerations: Based on the information obtained from our subsurface exploration, laboratory testing, and a cursory review of geologic conditions, it is our opinion that the site should be suitable for development of the proposed project provided the recommendations in this report are followed. ***Proper demolition, reclamation, and site preparation will be critical to the performance of foundations, floor slabs, pavements, etc. Depending on structural loads, some additional ground improvement may be warranted to provide more economical foundation designs.***

- **Expansive Soils:** The fill and native sand soils are considered non- to low expansive; samples of the sandstone bedrock also exhibited non- to low expansive potential. However, moderately to highly expansive claystone bedrock was encountered at depths of about 6 to 7 feet below existing site grade Boring Nos. 2 and 5 (representing potentially two-thirds to three-quarters of the site). ***Depending on proposed earthen cut and fill depths, this claystone formation (considered Expansive Soils) could be present at or near foundation bearing elevation on much of the site and could cause excessive movement of shallow foundations, floor slabs, etc.***

  Where foundations will bear within about 3 to 5 feet of the claystone bedrock, we believe mitigation of this geologic hazard will be warranted. Mitigation is commonly performed in this region through a process of subexcavation, moisture conditioning, and recompaction. Depending on finished site grades, we estimate that subexcavation may need to range up to 8 to 10 feet below foundations. It may be possible to raise site grades and avoid the need for mitigation. We are available to discuss this alternative and help to develop more formal mitigation plans as proposed grading plans are developed, some demolition is complete, and more geotechnical borings can be completed.

---

[3] Hillier, Donald E.; Schneider, Paul A., Jr.; and Hutchinson, E. Carter, 1983, ***Depth to Water Table (1976-1977) in the Greater Denver Area, Front Range Urban Corridor, Colorado***, United States Geological Survey, Map I-856-K.

- **Existing Fill, Demolition, and Site Preparation:** The presence of existing historic fill across the site along with other elements of past development will impact redevelopment of the property. The existing fill is variable in consistency and strength, and there is inherent risk at historic fills may contain or conceal debris, trash, organic materials, or other unsuitable materials. ***We did not encounter unsuitable materials or debris in our borings.***

  Our scope did not include analytical testing of the fill materials for various environmental concerns (to be addressed by others). Provided the fill materials do not pose an environmental hazard, these fill soils should be suitable for re-use on the site. However, due to the inherent variability of the fill, these materials are not considered suitable for support of foundations and floor slabs in their present state. ***We have recommended removal and recompaction of the existing fill materials below structures.***

  Demolition and site preparation should include removal of all shallow foundation elements, including any crawlspace or basement foundations, if present. Any existing deep foundations, such as drilled piers, should be truncated at least five feet below all new foundations and floor slabs. Demolition should also include removal of any loose backfill found adjacent to existing foundations or in abandoned utility trenches in and adjacent to new building footprint(s).

  Any organic or friable materials derived from the demolition of existing structures should be removed from the site and should not be allowed for use in any on-site fills without approval of the engineer. Site concrete and pavement materials may be crushed and re-used within new fill zones, provided they are processed to a maximum size of 4 to 6 inches and blended into the on-site soils***. It may be advantageous to stockpile these materials and use them to stabilize any soft subgrade soils that may be encountered during construction.***

- **Structure Foundations and Floor Slabs:** Along with the variable fill conditions, demolition of existing structures and facilities will result in substantial variability of the soils at or near foundation bearing elevations across the site. For lightly-loaded residential buildings, the use of shallow foundations bearing on a zone of recompacted on-site soils (or imported fill, if needed) would be appropriate. Such systems include spread footings, reinforced mat foundations, and/or post-tensioned slab foundations. Many residential developers in the area utilize post-tensioned slab-on-grade foundations in order to limit distress to interior floors and living spaces.

  We believe that removal and recompaction to a depth of about 3 feet below foundations and floor slabs would provide a uniform zone of engineered fill capable of supporting typical residential and light commercial loading conditions. This process is discussed in more detail in the report. Though not currently planned, if the project will include heavily loaded structures, such as parking structures, footing sizes might be large. Soil improvement using rammed-aggregate piers could also be considered. Based on our experience, these systems may provide cost-effective solutions for support of the heavier-loaded structures. Detailed recommendations are presented herein.

- **Required Additional Geotechnical Studies:** Supplemental geotechnical exploration is required and should be conducted as soon as demolition allows for borings within proposed building areas. These additional services will be used to develop final structural design parameters and to confirm and/or modify the recommendations and conclusions contained in this report. Additional investigation would also be required by the City of Arvada for design of any public roadway improvements.

Earthwork: The following presents recommendations for site preparation, excavation, subgrade preparation, and placement of engineered fills on the project. All earthwork on the project should be observed and evaluated by CGG. The evaluation of earthwork should include observation and testing of engineered fills, subgrade preparation, foundation bearing soils and other geotechnical conditions exposed during the construction of the project.

- **Demolition and Site Preparation:** Strip and remove existing vegetation, fill soils, stockpiles, underground utilities, foundation elements, loose or soft backfill soils, and associated construction debris along with any other deleterious materials from the site. Demolition should include complete removal of foundations, floor slabs, pavements and exterior flatwork, along with any underground utilities below structural areas, and removal of any loose backfill found in utility trenches or adjacent to existing foundations. Any existing deep foundations, such as drilled piers, if present, should be truncated at least five feet below all new foundations and floor slabs. ***Any organic or friable materials derived from the demolition of existing structures should be removed from the site and should not be allowed for use in any on-site fills without approval of the engineer.***

  Site concrete and pavement materials may be re-used on site, provided they are processed to a maximum size of 4 to 6 inches and blended into the on-site soils***. It may be advantageous to stockpile these materials and use them to stabilize any soft subgrade soils that may be encountered during construction.***

  Some loose/soft soil conditions should be anticipated below existing pavements and flatwork and may be prevalent on the site following precipitation events. The stability of the site subgrade may also be affected also by repetitive construction traffic, depth of excavations, or other factors. If unstable conditions are encountered or develop during construction, workability may be improved by scarifying and aeration. Gravel augmentation (using crushed stone, recycled concrete, or other materials) or chemical treatment could also be considered.

While we did not encounter any debris laden or otherwise unsuitable materials within the existing fill soils at the site, ***the fill soils are variable and there is inherent risk associated with undocumented, man-made fills***. Given that a majority of the site is currently covered by buildings and other elements, and demolition activities will result in variable conditions across the site, we recommend removal and recompaction of the bearing soils below each building. Based on our preliminary borings, we recommend this zone extend at least 3 feet below foundation bearing elevation throughout each building footprint and a minimum of 5 feet laterally outside of each building. ***Provided the fill materials do not pose an environmental hazard, these fill soils should be suitable for re-use in this zone or in other areas of the site.***

- **Subgrade Preparation:** Subgrade soils over which new fills are to be placed, including the base of all subexcavations should be scarified to a depth of at least 12-inches, moisture conditioned, and recompacted prior to placement of new fill. The upper 12 inches of subgrade soils beneath the floor slab (if used), exterior PCC flatwork, and pavements should be moisture conditioned and recompacted just prior to concrete placement or pavement construction.

- **Fill Materials:** Clean on-site soils or approved imported materials may be used as fill material upon approval of the geotechnical engineer. Imported soils (if required) should conform to the following:

Gradation	**Percent finer by weight (ASTM C136)**
6"	100
3"	70-100
No. 4 Sieve	50-100
No. 200 Sieve	20 maximum

- Liquid Limit .... 35 (max)
- Plasticity Index .... 15 (max)
- Maximum expansive potential (%)* 0.5

*Measured on a sample compacted to approximately 95 percent of the ASTM D698 maximum dry density near optimum water content. The sample is confined under a 100 psf surcharge and submerged.

- **Fill Placement and Compaction Requirements:** Engineered fills used to bring the site to construction grade and other backfill soils should be placed and compacted according to the recommendation in the following table:

Criteria	Recommended values
Fill Materials	On-site clayey soils
Lift Thickness	8 to 12 inches or less in loose thickness
Moisture Content Range	• Clayey Soils: -1% below to +3% above the optimum moisture content • Non- to low plastic sands: Optimum moisture content +/- 2% • Below Pavements: Optimum to +2% above optimum
Compaction Requirements	• Clayey soils: 95% of standard Proctor dry density (ASTM D698) • Non- to low plastic sands: 95% of modified Proctor (ASTM D1557)

At a minimum, fill soils placed for site grading, utility trench backfill and foundation backfill should be tested to confirm that earthwork is being performed according to our recommendations and project specifications. Subsequent lifts of fill should not be placed on previous lifts if the moisture content or dry density is determined to be less than specified.

- **Excavations and Trench Construction:** It is anticipated that excavations for the proposed construction can be accomplished with conventional heavy-duty earthmoving equipment. The individual contractor(s) is responsible for designing and constructing stable, dry, temporary excavations, as required, maintaining stability of both the excavation sides and bottom.

All excavations should be sloped or shored in the interest of safety following local and federal regulations, including current OSHA excavation and trench safety standards. This will be particularly critical as excavations approach existing infrastructure. While the clay soils on the site may classify as OSHA Type B soils and stand on relatively steep, temporary slopes, the presence of Type C soils should also be anticipated. For these soil types, an excavation side slope configuration of 1-½ to 1 (horizontal to vertical) should be used unless the contractor's OSHA competent personnel allow for steeper side slopes.

Shoring may be required as excavations approach existing improvements or property boundaries. Commonly used shoring methods in the area include soldier piers, soil nails, and/or piles and lagging. We recommend contacting a shoring design-build contractor to develop a shoring plan once excavation depths are determined.

The soils to be penetrated by the proposed excavations may vary significantly across the site. ***Excavations extending below 10 feet may also encounter groundwater, depending on location on the site and seasonal conditions. Temporary dewatering may be required to complete deeper excavations.*** The contractor should verify that similar conditions exist throughout the proposed area of excavation. If different subsurface conditions are encountered at the time of construction, the actual conditions should be evaluated to determine any excavation modifications necessary to maintain safe conditions.

As a safety measure, it is recommended that all vehicles and soil piles be kept to a minimum lateral distance from the crest of the slope equal to no less than the slope height. The exposed slope face should be protected against the elements.

Conceptual Structural Considerations: We assume that demolition of existing structures and facilities will result in substantial variability of the soils at or near foundation bearing elevation. In our opinion, this could lead to excessive movement of shallow foundations. We are available to review specific conditions for particular building locations once building locations and finished-floor elevations are finalized. ***Actual foundation designs should be based on additional geotechnical exploration and evaluation of the soil conditions for each structure.***

- **Foundation Systems:** Provided that mitigation of the existing fill and other elements is performed as described above, the site should be suitable for foundation types commonly used in the region. It is common in this region to support at-grade apartment buildings on post-tensioned slab foundations to minimize distress and damage to interior living spaces due to soil movements. ***Other shallow foundation types*** such as spread footings or mat foundations could also be used at the site for structures without living spaces (retail space, parking structures, detached garages, monument signs, trash enclosures, etc.).

  Shallow foundations bearing on at least 3 feet of recompacted on-site soils may be preliminarily designed for bearing pressures on the order of 1,500 to 2,500 pounds per square foot (psf); however, heavier structural loads may require large footing dimensions, in which case additional mitigation may be needed. In these cases, if warranted, the use of rammed-aggregate piers could be considered to improve bearing capacity to approximately 6,000 to 8,000 psf. We are available to discuss these systems if the design team feels they are warranted.

- **Below-Grade Construction:** Groundwater was measured at depths of about 8 and 13 feet in two of our borings, and depending on grading, could affect the potential use of basement or crawlspace construction on the site (if planned). ***It should be noted that these depths may not reflect seasonal "high groundwater conditions" that typically peak in the late spring and summer months in this region.*** Therefore, the possibility of shallow water should be considered if planning basement construction at the site. ***In general, we recommend that basements bear at least 3 feet above seasonal, high groundwater elevation.*** If groundwater is present at/near basement foundation elevation, permanent dewatering systems could be required (including treatment of the water for environmental concerns and discharge permitting through the State of Colorado). Even if groundwater is not a concern, foundation drain systems will be required around any walls that retain earth. Foundation drainage systems typically include perforated pipe(s), embedded in gravel, placed in trenches that are sloped to discharge flows either into the storm sewer system or to a sump pit inside the building where water could be pumped to a suitable discharge.

- **Seismic Considerations:** Based on the soil conditions encountered in the test holes drilled on the site, we estimate that a Site Class C is appropriate for the site according to the 2015 International Building Code (Section 1613.3.2 referencing Table 20.3-1 of ASCE 7, Chapter 20). This parameter was estimated based on extrapolation of data beyond the deepest depth explored, using methods allowed by the code. Actual shear wave velocity testing/analysis and/or exploration to 100 feet was not performed.

- **Interior, Non-structural Floor Slabs:** For non-habitable structures not supported on post-tensioned slab foundations, we assume that conventional slab-on-grade floors are preferred. Provided that mitigation is performed as described above, interior floor slabs would bear on at least 5 feet of recompacted on-site or imported soil. It is our opinion that slab-on-grade floors bearing on these soils would potentially be subject to movements that are typical in the geologic region (about 1 inch of potential movement).

  Typical precautions used to manage movement of slab-on-grade floors include isolating plumbing and HVAC equipment, providing void space beneath partition walls, proper construction of closely spaced control joints, etc. Cosmetic distress such as drywall cracking, racking of door frames, etc. may result from slab movement in finished spaces (i.e. finished basements).

Conceptual Pavement Thickness Design: The preliminary design of private pavements for the project is based on the procedures outlined in the 1993 *Guideline for Design of Pavement Structures* by the American Association of State Highway and Transportation Officials (AASHTO) and the Colorado Department of Transportation (CDOT). The referenced design methods are is based on the subgrade soil support properties and anticipated traffic values.

- **Existing Fill:** Given the inherent uncertainty associated with the composition and engineering properties of undocumented fills, there is risk of poor pavement performance in isolated areas. To address this risk, we recommend additional subsurface evaluation during construction and a thorough proofroll of the pavement subgrade soils. Soft or suspect areas should be further evaluated with a series of test pits to be observed by CGG. ***Where any unsuitable materials are present, some limited removal and recompaction may be required. At a minimum, the subgrade materials should be scarified, moisture-conditioned and recompacted to a depth of 12 inches***.

- **Subgrade Soil for Pavement Support:** The on-site sand soils are considered to provide fair support for pavements. Based on the properties of the poorer quality subgrade soils, we have estimated a resilient modulus of 4,195 psi for these soils.

- **Assumed Traffic:** We assume that pavements associated with the project will include private drive lanes, driveways, fire lanes, and surface parking for automobiles and light trucks. We assume that private pavements will be surfaced with either asphalt concrete or Portland cement concrete. Any improvements to adjacent public roadways will need to be designed and constructed according to the governing standards.

  Based on our experience with similar projects, the following traffic criteria were used for determining pavement thicknesses using a design life of 20 years:

  - Driveways and parking stalls - maximum daily traffic of 1,000 cars per day (equivalent single-axle loads, ESAL's of 22,000)
  - Main site access drives and fire lanes – up to 5 trips/day by single-axle delivery trucks per day, 1 combined-axle truck per day and 1 trash truck per day, plus maximum daily traffic of 1,000 cars per day (73,000 ESAL's)

  The owner should review these assumptions, and we should be contacted to confirm or modify these resulting pavement sections, if needed.

- **Preliminary Pavement Sections:** Recommended alternatives for flexible and rigid pavements are summarized for each traffic area as follows:

Traffic Area	Alternative	Conceptual Pavement Section Thickness (Inches)		
		Asphalt Concrete Surface	**Aggregate Base Course**	**Portland Cement Concrete**
Light-Duty Automobile and Light Truck Parking Only	A	5-½ to 6	--	--
	B	4 to 4-½	6	--
	C	--	--	5
Heavy-Duty Private Drives, Fire Lanes, Delivery truck access	A	6-½ to 7	--	--
	B	4 to 5	6 to 9	--
	C	--	--	6

Each alternative should be investigated with respect to current material availability and economic conditions. Pavement thicknesses recommended are based on approved subgrade materials being properly moisture conditioned and compacted prior to paving.

For areas subject to concentrated and repetitive loading conditions such as dumpster pads, and ingress/egress aprons, we recommend using a Portland cement concrete pavement with a

thickness of at least 6 inches. For dumpster pads, the concrete pavement area should be large enough to support the container and tipping axle of the refuse truck.

- **Subgrade Preparation:** We recommend that any areas to receive fill be scarified, moisture conditioned, and recompacted to a depth of 12 inches. In addition, the upper 12 inches of pavement subgrade should be scarified, moisture conditioned, and recompacted immediately prior to final proofroll and paving.

  A proofroll of the subgrade soils should also be performed prior to paving and any soft/yielding areas remediated. Paving materials used at the site should meet current CDOT specifications.

- **Pavement Performance:** Future performance of pavements constructed on the subgrade at this site will be dependent upon several factors, including:

  - Maintaining stable moisture content of the subgrade soils.
  - Providing for a planned program of preventative maintenance.

  Minimizing excess moisture, which can reach the subgrade soils, can enhance the performance of all pavements. Preventative maintenance should be planned and provided for an ongoing pavement management program in order to enhance future pavement performance. Preventative maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment.

Additional Design and Construction Considerations:

- **Final Grading, Landscaping, and Surface Drainage:** All grades must be adjusted to provide positive drainage away from structures during construction and maintained throughout the life of the proposed project. Infiltration of water into utility or foundation excavations must be prevented during construction. Landscaped irrigation, if any, should be minimized or eliminated in close proximity to structures.

  Water permitted to pond near or adjacent to the perimeter of structures (either during or post-construction) can result in significantly higher soil movements than those discussed in this report. As a result, any estimations of potential movement described in this report cannot be relied upon if positive drainage is not obtained and maintained, and water is allowed to infiltrate the fill and/or subgrade.

  Exposed ground (unpaved, landscaped areas) should be sloped at a minimum of 10 percent grade for at least 5 feet beyond the perimeter of buildings/structures, wherever possible. Swales sidewalk chases, area drains may be required to facilitate drainage. ***In no case should grades be less***

than 5 percent away from foundations. Backfill against footings, exterior walls and in utility and sprinkler line trenches should be well-compacted and free of all construction debris to reduce the possibility of moisture infiltration. After building construction and prior to project completion, we recommend that verification of final grading be performed to document that positive drainage, as described above, has been achieved.

Flatwork will be subject to post construction movement due to soil heave/settlement and frost action. Maximum grades practical should be used for paving and flatwork to prevent areas where water can pond. In addition, allowances in final grades should take into consideration post-construction movement of flatwork, particularly if such movement would be critical. Where paving or flatwork abut structures, care should be taken that joints are properly sealed and maintained to prevent the infiltration of surface water.

- **Exterior Slab Design and Construction:** Flatwork and pavements will be subject to post-construction movement due to backfill settlement and normal freeze/thaw cycles. Maximum grades practical should be used for paving and flatwork to prevent areas where water can pond. In addition, allowances in final grades should take into consideration post-construction movement of flatwork, particularly if such movement would be critical. Where paving or flatwork abuts structures, care should be taken that joints are properly sealed and slopes maintained to prevent the infiltration of surface water. Portions of the flatwork adjacent to the structures may also bear on foundation backfill that is prone to settlement. In areas where settlement of flatwork cannot be tolerated, slabs should be integrated into foundation or supported structurally by haunches.

  To reduce the potential for damage, we recommend:

  - exterior slabs in critical areas be supported on a zone of recompacted soils.
  - Supporting of flatwork at building entrances and other critical areas on haunches attached by the building foundations.
  - placement of effective control joints on relatively close centers and isolation joints between slabs and other structural elements.
  - provision for adequate drainage in areas adjoining the slabs.
  - use of designs which allow vertical movement between the exterior slabs and adjoining structural elements.

- **Underground Utility Systems:** All underground piping within or near the proposed structures should be designed with flexible couplings, so minor deviations in alignment do not result in breakage or distress. Utility knockouts in foundation walls should be oversized to accommodate differential movements.

It is strongly recommended that a representative of the geotechnical engineer provide full-time observation and compaction testing of trench backfill within building and pavement areas.

- **Concrete Corrosion Protection:** Select samples of the on-site soils were tested for the presence of water-soluble sulfates and testing indicated negligible values. These results indicate the site soils are within the American Concrete Institute (ACI) Sulfate Exposure Class S0 in accordance with Chapter 19 of the ACI design manual, *Building Code Requirements for Structural Concrete (ACI 318-14).* However, we recommend that project concrete could be designed utilizing ACI Sulfate Exposure Class S1, as summarized in the table below.

ACI Sulfate Exposure Class	Portland Cement Type (ASTM C150)	Maximum Water/Cement Ratio	Minimum Concrete Compressive Strength (psi)
S1	II (or equivalent)	0.50	4,000

GENERAL COMMENTS

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

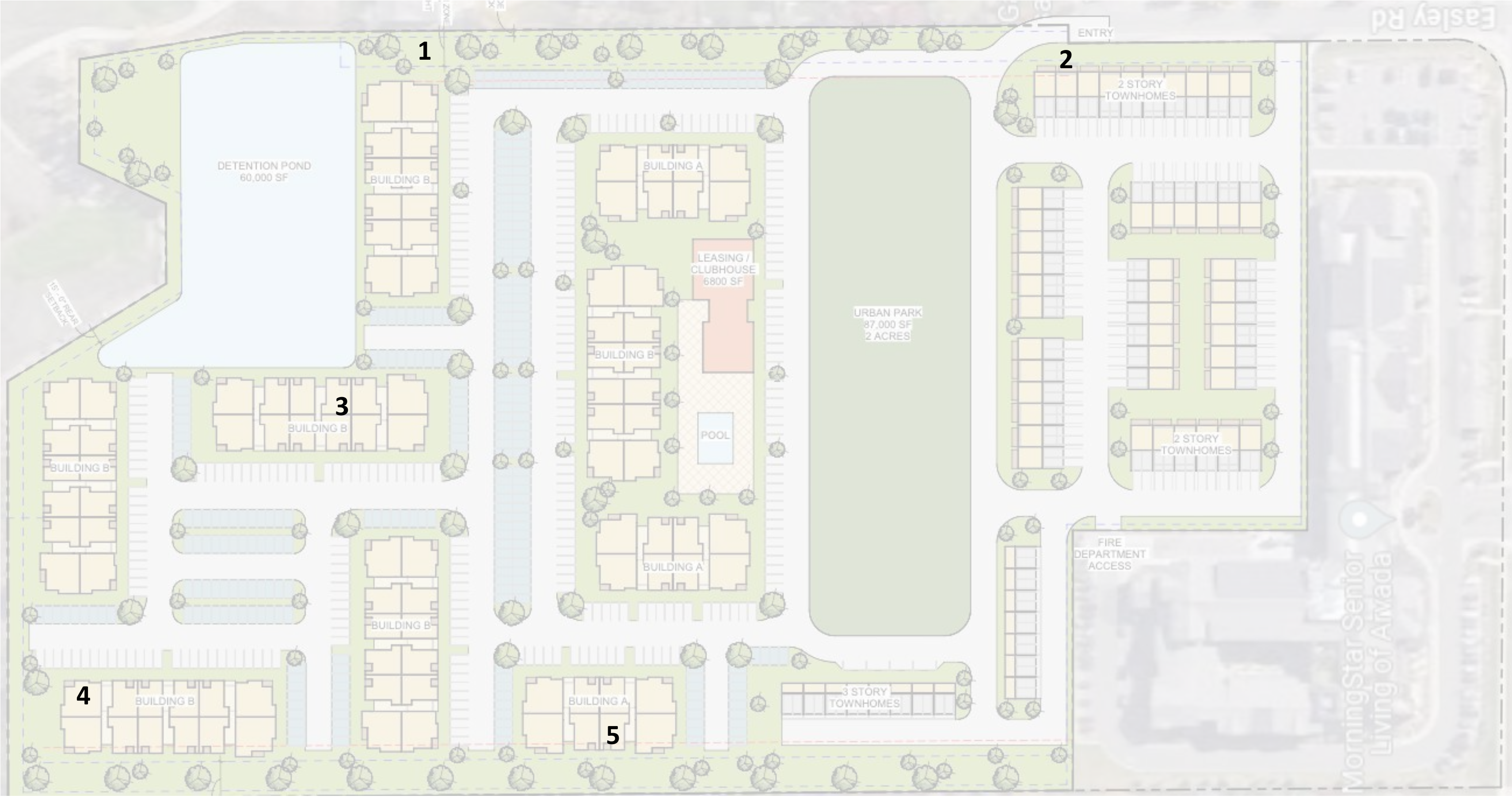
Supplemental geotechnical exploration is required. These additional services will be used to develop final structural design parameters and to confirm and/or modify the recommendations and conclusions contained in this report. Additional investigation may also be required for design of any public improvements required by the City of Littleton or other applicable agencies.

The scope of services for this project does not include, either specifically or by implication, any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes are planned in the nature, design, or location of the project as outlined in this report, the conclusions and recommendations contained in this report shall not be considered valid unless CGG reviews the changes, and either verifies or modifies the conclusions of this report in writing.

APPENDIX A

BORING LOCATION DIAGRAM
BORING LOGS


Easley Rd
ENTRY
1
2
DETENTION POND
60,000 SF
BUILDING B
BUILDING A
2 STORY
TOWNHOMES
LEASING /
CLUBHOUSE
6800 SF
URBAN PARK
87,000 SF
2 ACRES
3
BUILDING B
POOL
BUILDING B
BUILDING A
2 STORY
TOWNHOMES
FIRE
DEPARTMENT
ACCESS
BUILDING B
4
BUILDING B
BUILDING A
5
3 STORY
TOWNHOMES
MorningStar Senior
Living of Arvada

1
APPROXIMATE BORING LOCATIONS

BORING LOCATION DIAGRAM
PROPOSED ARVADA MULTI-FAMILY PRELIM
17201 W64TH AVENUE
ARVADA, COLORADO
CGG PROJECT NO. 24.22.209

Cole Garner Geotechnical
1070 W. 124th Ave., Suite 300
Westminster, CO 80234
(303) 996-2999

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 1

PAGE 1 OF 1

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO
DATE STARTED 10/21/24 **COMPLETED** 10/21/24
GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided
DRILLING CONTRACTOR Vine Laboratories
SURFACE CONDITIONS Gravel
DRILLING METHOD CME-55/Solid Stem Auger
GROUND WATER LEVELS:
HAMMER TYPE Automatic
▽ **DURING DRILLING** None
LOGGED BY AA **CHECKED BY** AG
▼ **AFTER DRILLING** 13.00 ft - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
		0							
▨	**FILL - FINE to COARSE SAND and GRAVEL**, with silt and clay, some cobbles, light brown to brown, red, dry to moist, medium dense	5	GP-GM	CB	100	20 / 12	4.5		
6									
☰	**SANDSTONE BEDROCK**, fine- to medium-grained, brown, tan, moist, hard to very hard	10	-	CB	100	50 / 7	15.0	115	+0.1/500
	▼								
15		15	-	CB	100	50 / 3	14.3	26	

Refusal at 15.0 feet.
Approximate bottom of borehole at 15.0 feet.

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 11/19/24 12:03 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 2

PAGE 1 OF 1

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO

DATE STARTED 10/21/24 **COMPLETED** 10/21/24

GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided

DRILLING CONTRACTOR Vine Laboratories

SURFACE CONDITIONS Gravel

DRILLING METHOD CME-55/Solid Stem Auger

GROUND WATER LEVELS:

HAMMER TYPE Automatic

▽ **DURING DRILLING** None

LOGGED BY AA **CHECKED BY** AG

▼ **AFTER DRILLING** Covered Over - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
		0							
	FILL - FINE to COARSE SAND and GRAVEL, with silt and clay, some cobbles, light brown to brown, moist, medium dense	5	SC	CB	100	15 / 12	9.4		
7									
	SILTY SAND, fine- to medium-grained, light brown to brown, iron-stained, moist, medium dense	10	SM	CB	100	17 / 12	16.9	114	
12									
	CLAYSTONE BEDROCK, light brown to brown, grey, iron-stained, moist, medium hard to very hard	15	-	CB	100	49 / 12	15.0	119	+1.3/1000
		20	-	CB	100	50 / 12	21.7	104	+2.6/1500
		25	-	CB	100	50 / 9	21.0	111	
		30							
35		35	-	CB	100	50 / 3	11.4	131	

Approximate bottom of borehole at 35.0 feet.

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1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 3

PAGE 1 OF 1

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO

DATE STARTED 10/21/24 **COMPLETED** 10/21/24

GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided

DRILLING CONTRACTOR Vine Laboratories

SURFACE CONDITIONS Gravel

DRILLING METHOD CME-55/Solid Stem Auger

GROUND WATER LEVELS:

HAMMER TYPE Automatic

∇ **DURING DRILLING** 15.00 ft

LOGGED BY AA **CHECKED BY** AG

▼ **AFTER DRILLING** 8.00 ft - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
		0							
	FILL - FINE to COARSE SAND and GRAVEL, with silt and clay, some cobbles, light brown to brown, red, dry to moist, very dense	5	GP-GM	CB	100	50 / 7	3.7		
6	**SANDSTONE BEDROCK**, fine- to medium-grained, light brown to brown, moist to wet, very hard ▼	10	-	CB	100	50 / 6	11.3	110	+0.2/500
	∇	15	-	CB	0	50 / 3			
		20	-	CB	0	50 / 1			
25		25	-	CB	0	50 / 2			

Approximate bottom of borehole at 25.0 feet.

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1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 4

PAGE 1 OF 1

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO

DATE STARTED 10/21/24 **COMPLETED** 10/21/24

GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided

DRILLING CONTRACTOR Vine Laboratories

SURFACE CONDITIONS Gravel

DRILLING METHOD CME-55/Solid Stem Auger

GROUND WATER LEVELS:

HAMMER TYPE Automatic

▽ **DURING DRILLING** None

LOGGED BY AA **CHECKED BY** AG

▼ **AFTER DRILLING** None - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
▨	**FILL - FINE to COARSE SAND and GRAVEL**, with silt and clay, some cobbles, light brown to brown, red, dry to moist, medium dense	0							
		5	SC	CB	100	16 / 12	5.2		
6	**SANDSTONE BEDROCK**, fine- to medium-grained, tan, iron-stained, moist, very hard								
		10	-	CB	100	50 / 5	9.4	116	-0.3/500
		15	-	CB	100	50 / 3	8.1	115	
19	**CLAYSTONE BEDROCK**, light brown to brown, grey to dark grey, iron-stained, dry to moist, very hard								
		20	-	CB	100	50 / 6	12.4	119	+0.4/1500
		25	-	CB	100	50 / 6	16.3	114	
		30							
35		35	-	CB	100	50 / 2	12.9	125	

Approximate bottom of borehole at 35.0 feet.

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 5

PAGE 1 OF 1

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO

DATE STARTED 10/21/24 **COMPLETED** 10/21/24

GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided

DRILLING CONTRACTOR Vine Laboratories

SURFACE CONDITIONS Gravel

DRILLING METHOD CME-55/Solid Stem Auger

GROUND WATER LEVELS:

HAMMER TYPE Automatic

▽ **DURING DRILLING** None

LOGGED BY AA **CHECKED BY** AG

▼ **AFTER DRILLING** None - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
	FILL - FINE to COARSE SAND and GRAVEL, with silt and clay, some cobbles, light brown to brown, red, dry to moist, very dense	0							
		5	GP-GM	CB	100	50 / 11	3.8		
6	**CLAYSTONE BEDROCK**, grey, brown, iron-stained, moist, firm to hard								
		10	-	CB	100	35 / 12	22.6	105	+7.3/500
		15	-	CB	100	50 / 11	15.4	117	+7.8/1000
		20	-	CB	100	50 / 7	16.6	119	
		25	-	CB	100	50 / 9	18.5	115	
		30							
35		35	-	CB	100	50 / 8	19.7	119	

Approximate bottom of borehole at 35.0 feet.

APPENDIX B

LABORATORY TEST RESULTS

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

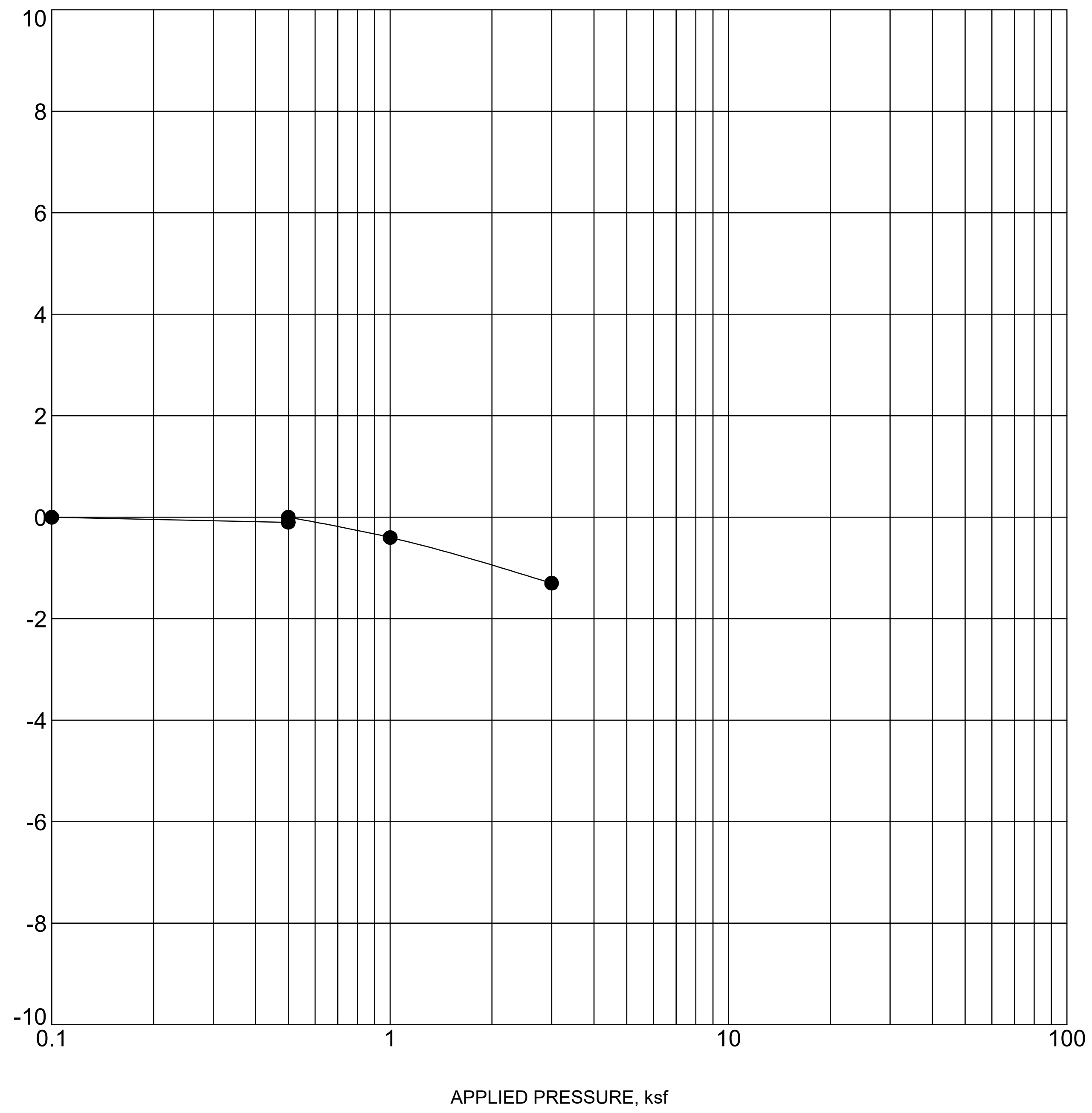
SWELL/CONSOLIDATION TEST

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● 1	9.0	**SANDSTONE BEDROCK**	**115**	**15**

Note: Water Added to Sample at 500 psf.

Date: 10/29/24

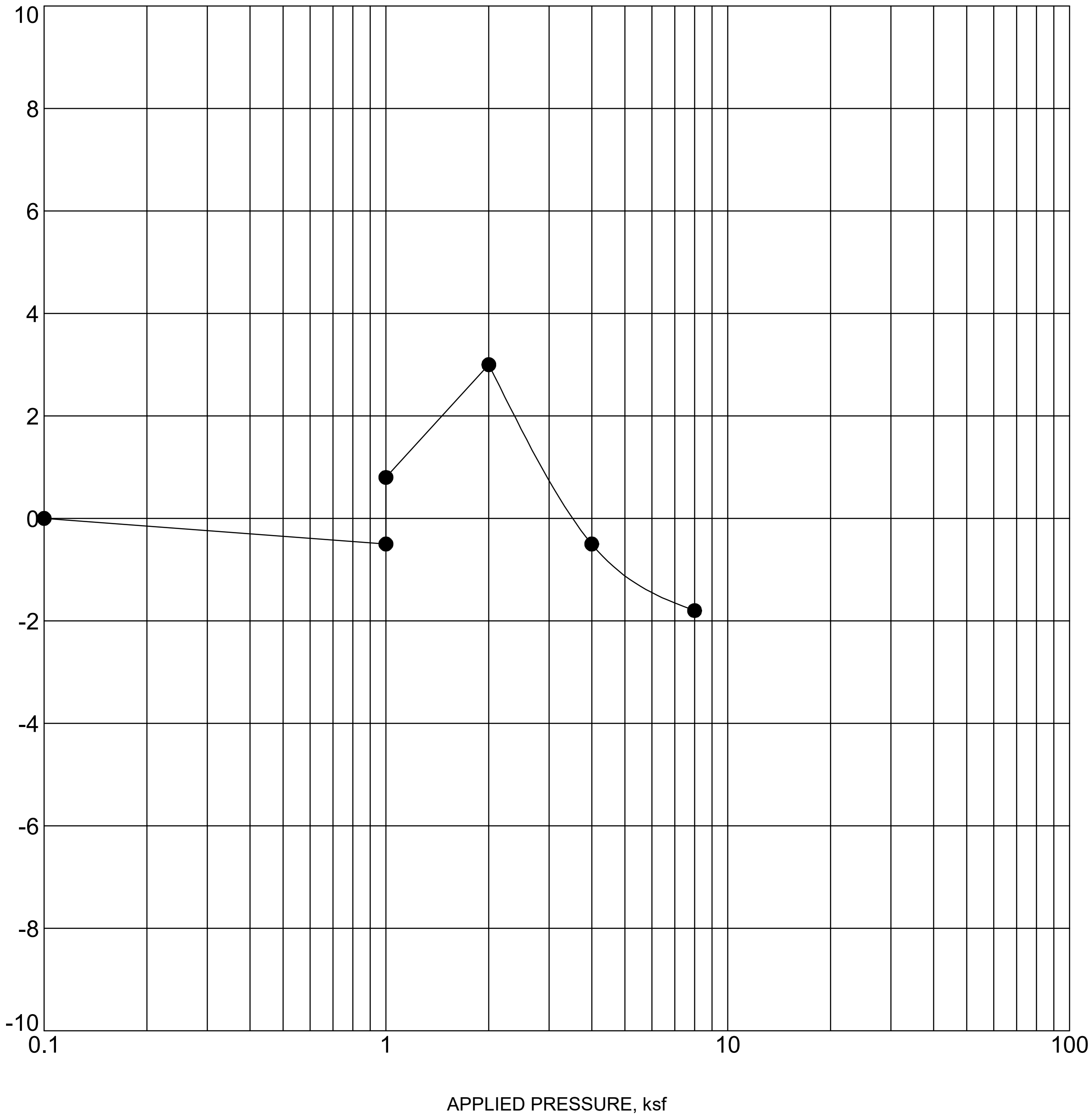
SWELL/CONSOLIDATION TEST

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● **2**	**14.0**	**CLAYSTONE BEDROCK**	**119**	**15**

Note: Water Added to Sample at 1000 psf.

Date: 10/29/24

Cole Garner Geotechnical
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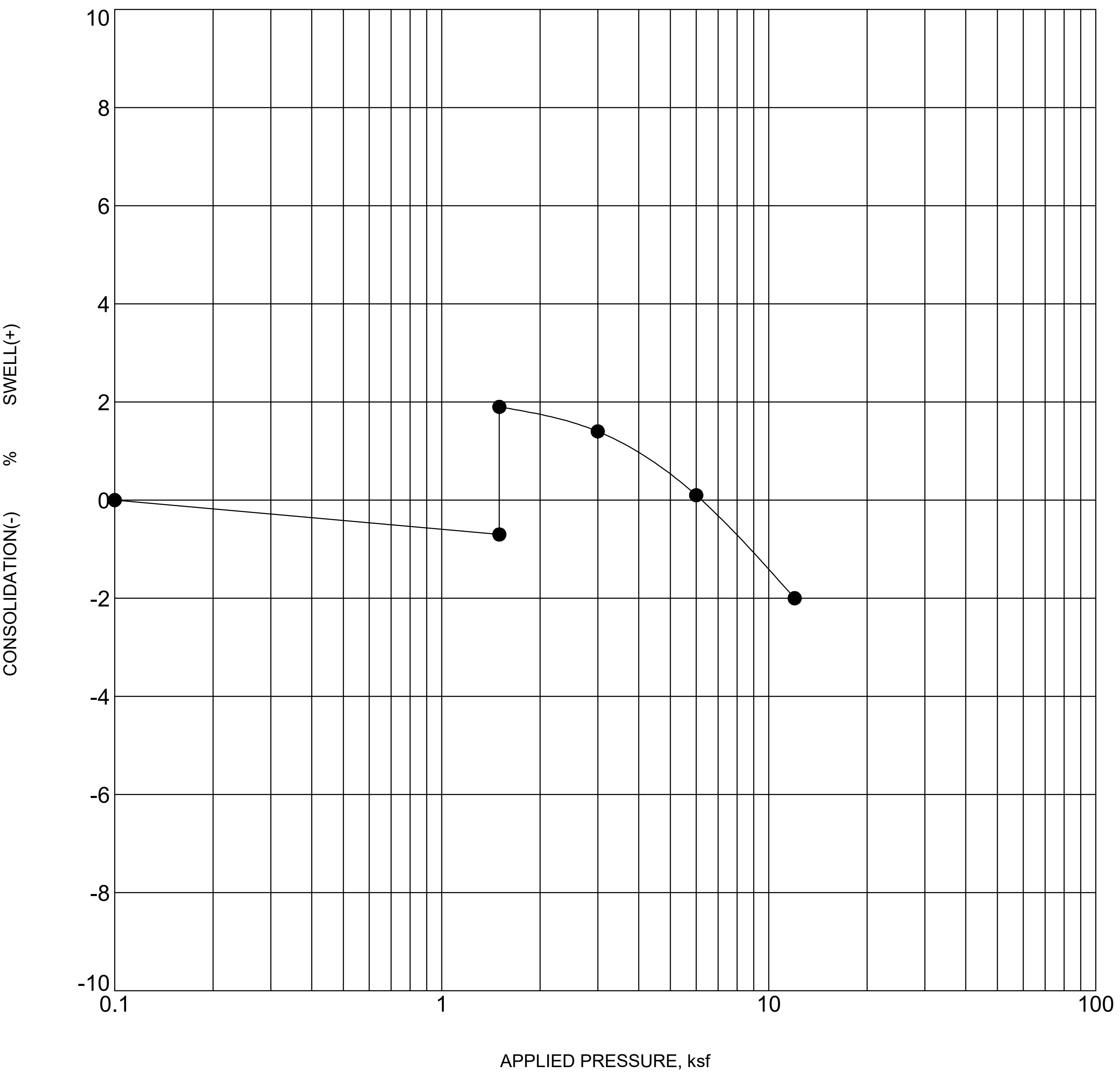
SWELL/CONSOLIDATION TEST

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



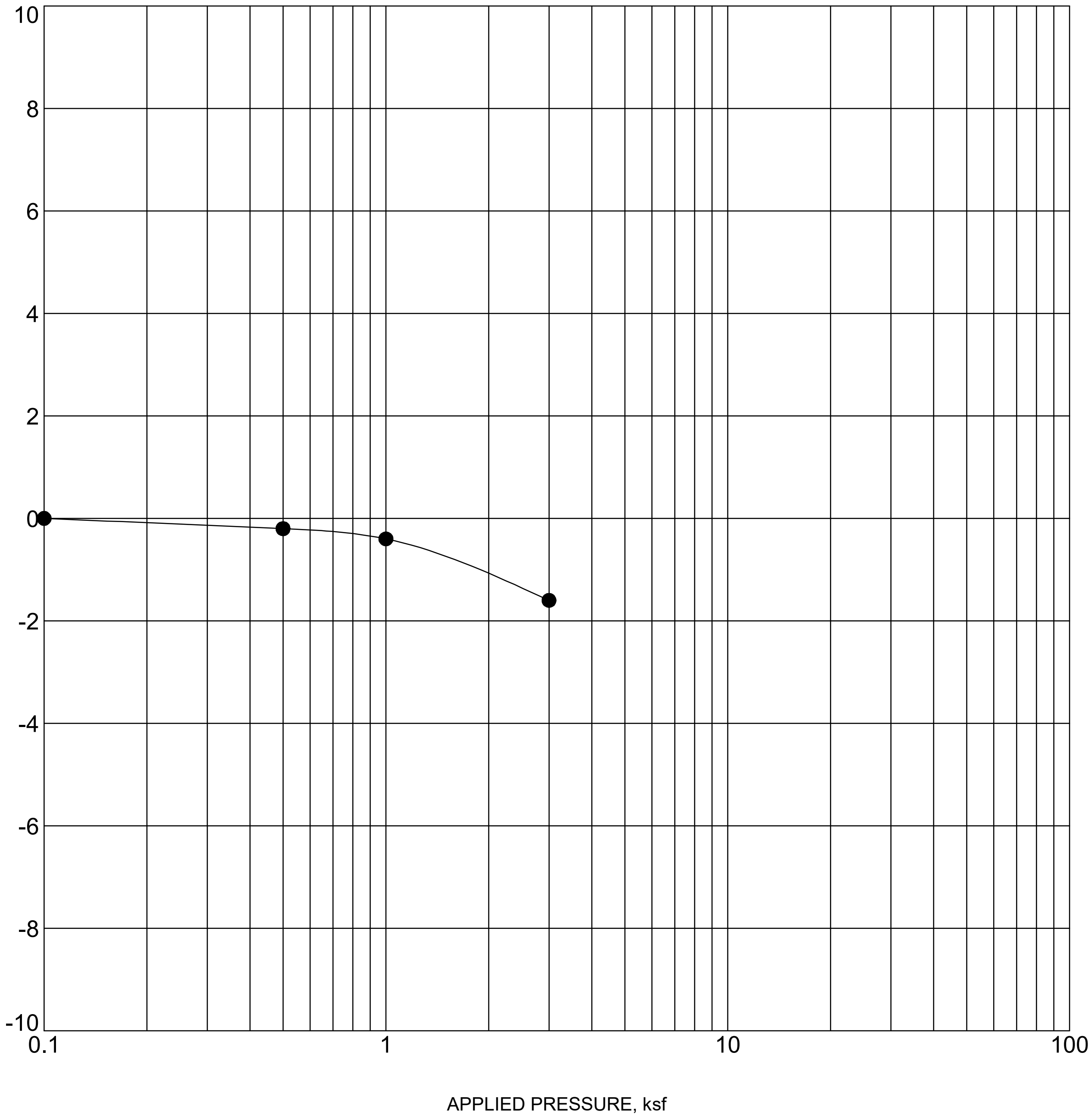
BOREHOLE	DEPTH	Classification	γ_d	MC%
● **2**	**19.0**	**CLAYSTONE BEDROCK**	**104**	**22**

Note: Water Added to Sample at 1500 psf.

Date: 10/29/24

SWELL/CONSOLIDATION TEST

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● 3	9.0	**SANDSTONE BEDROCK**	**110**	**11**

Note: Water Added to Sample at 500 psf.

Date: 10/29/24

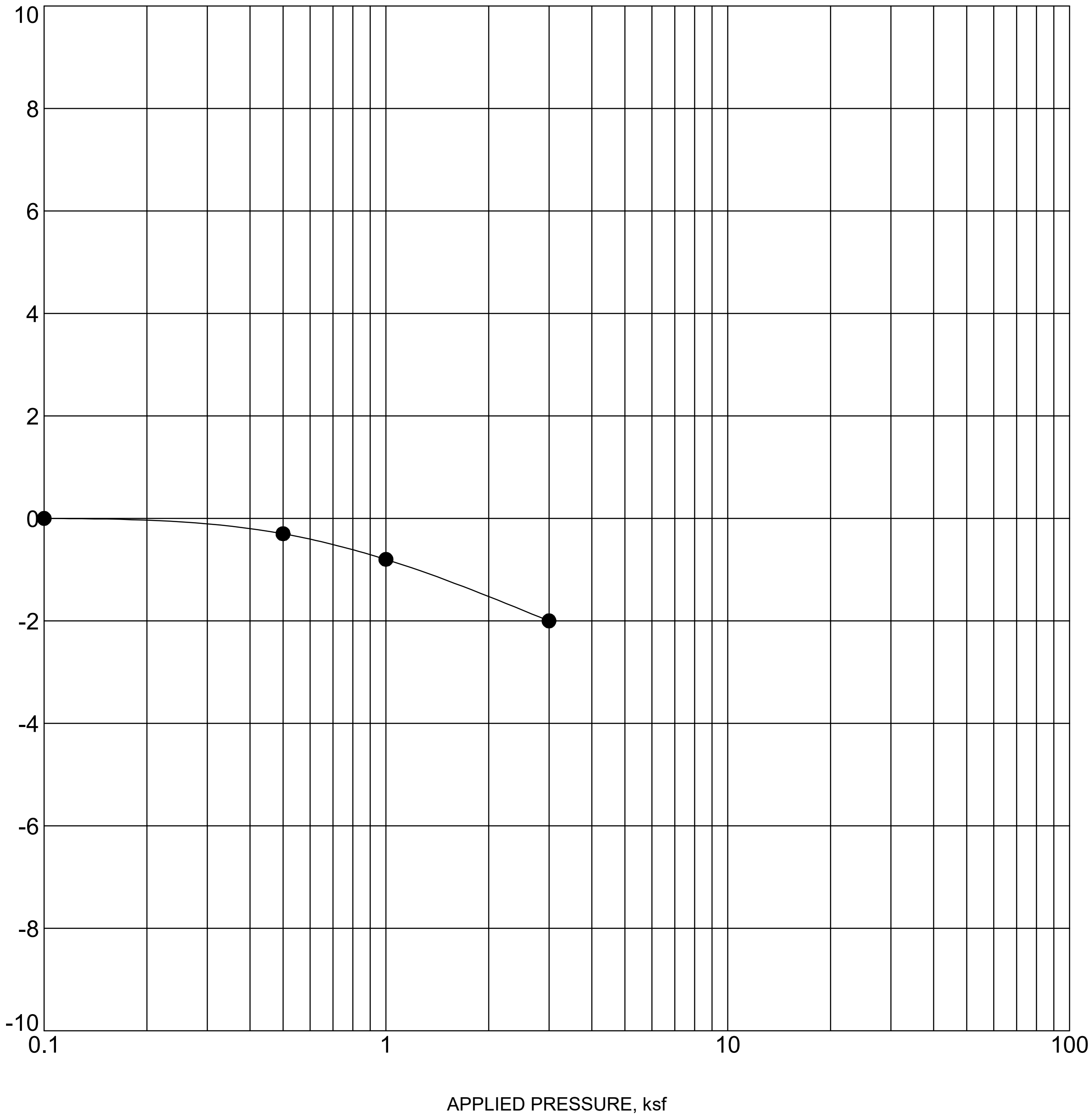
SWELL/CONSOLIDATION TEST

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● **4**	**9.0**	**SANDSTONE BEDROCK**	**116**	**9**

Note: Water Added to Sample at 500 psf.

Date: 10/29/24

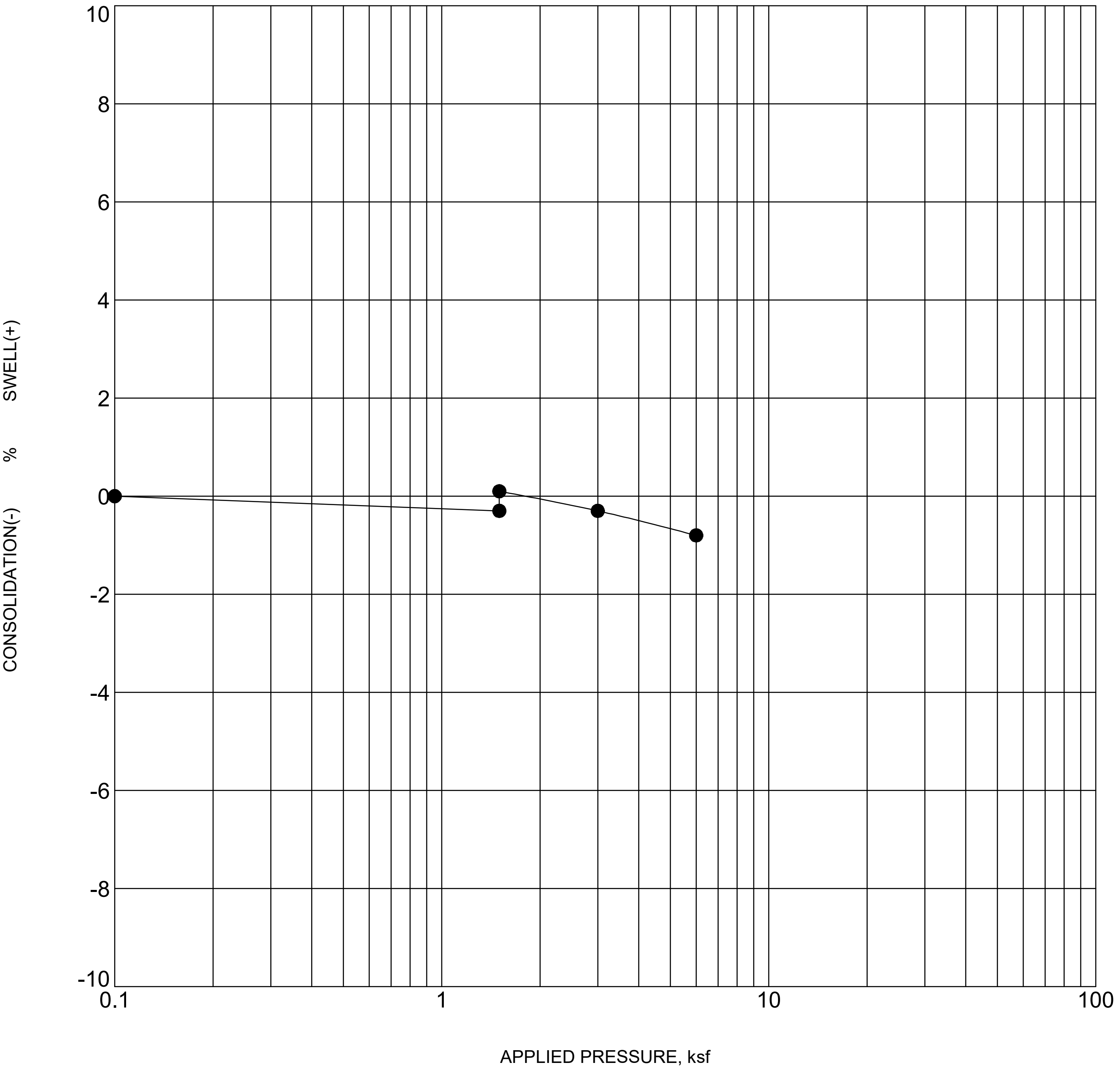
SWELL/CONSOLIDATION TEST

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● **4**	**19.0**	**CLAYSTONE BEDROCK**	**119**	**12**

Note: Water Added to Sample at 1500 psf.

Date: 10/29/24

SWELL/CONSOLIDATION TEST

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

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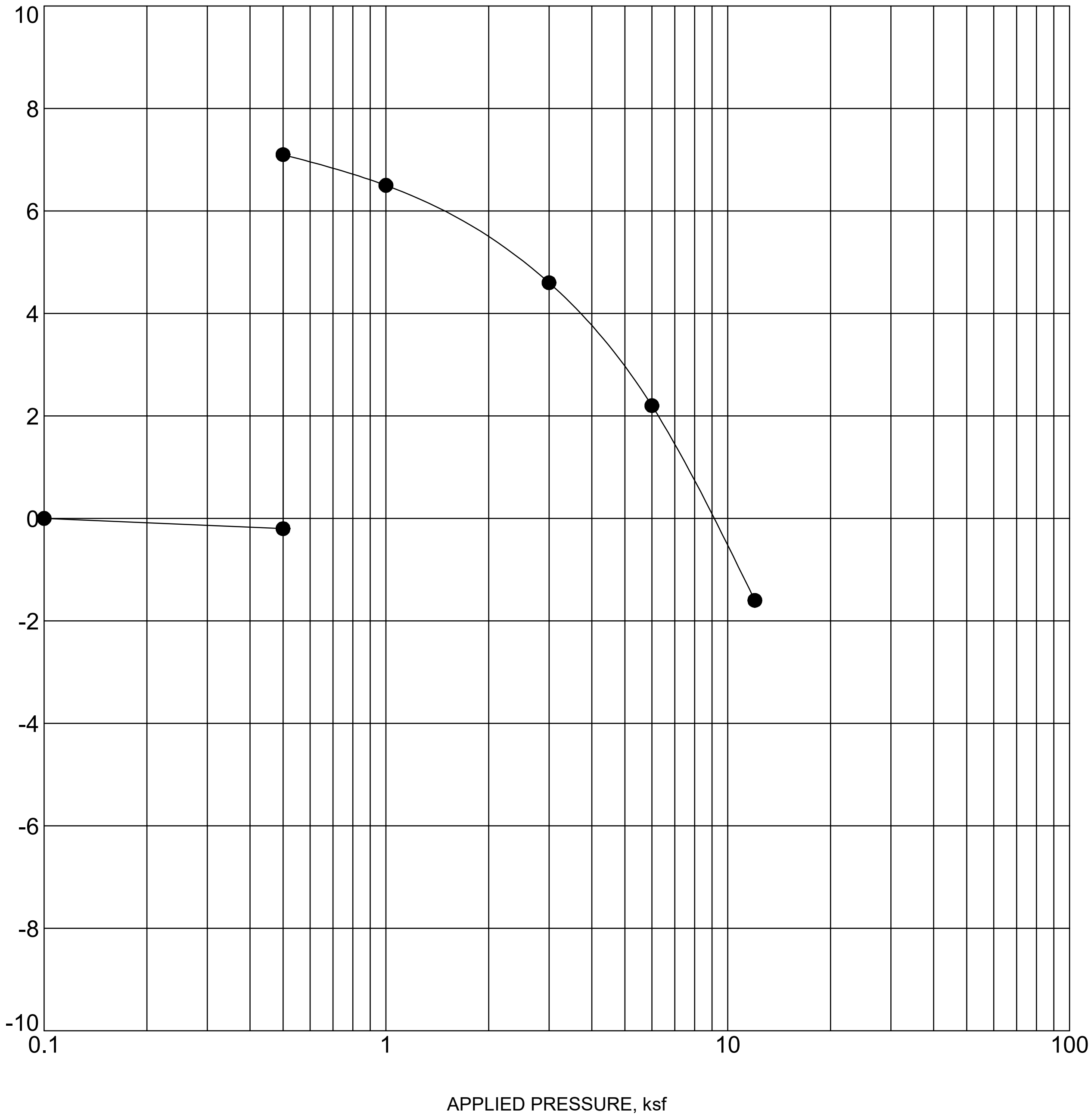
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● **5**	**9.0**	**CLAYSTONE BEDROCK**	**105**	**23**

Note: Water Added to Sample at 500 psf.

Date: 10/29/24

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SWELL/CONSOLIDATION TEST

CLIENT AvalonBay Communities, Inc

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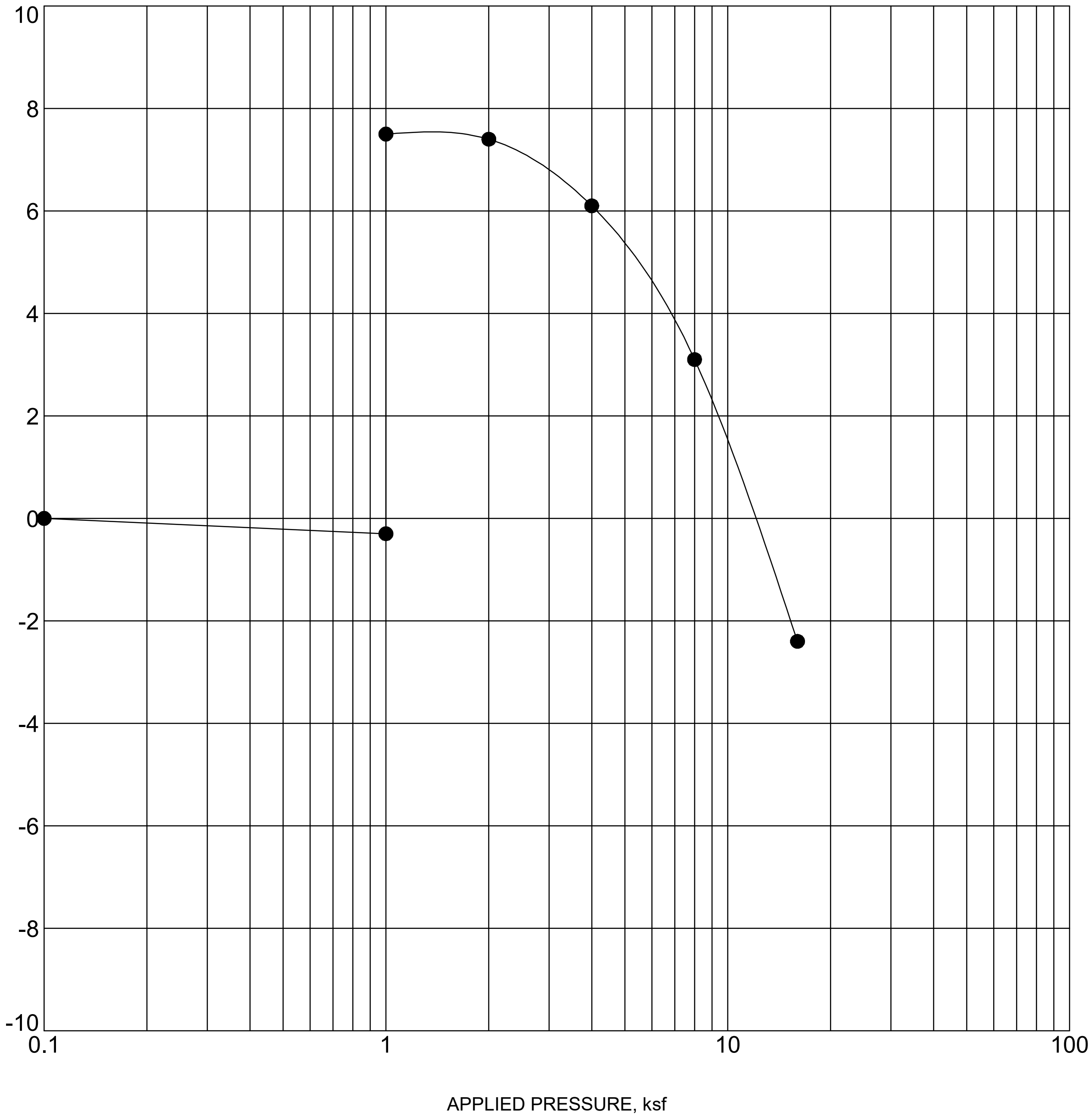

BOREHOLE	DEPTH	Classification	γ_d	MC%
● **5**	**14.0**	**CLAYSTONE BEDROCK**	**117**	**15**

Note: Water Added to Sample at 1000 psf.

Date: 10/29/24

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Westminster, CO 80234

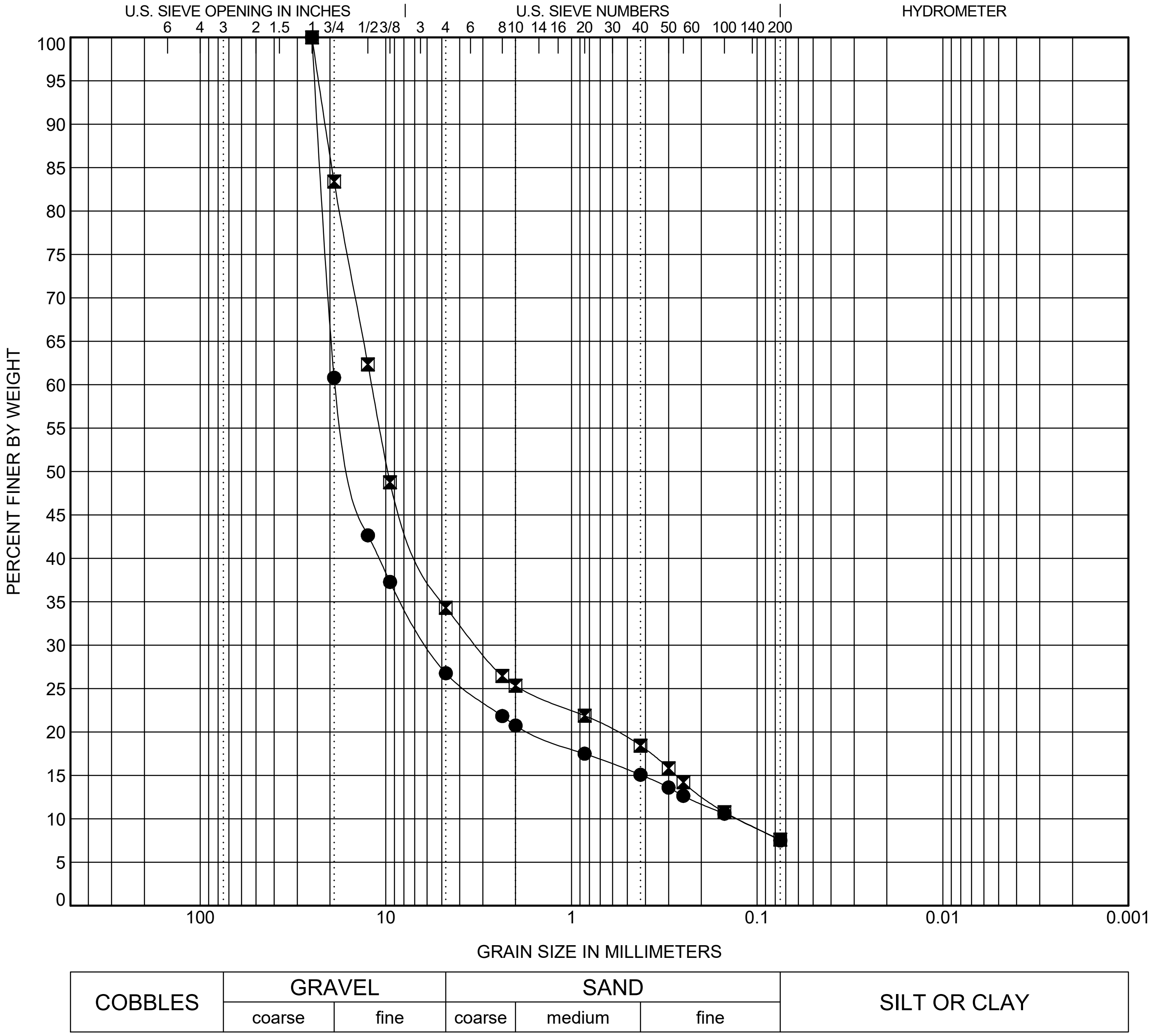
GRAIN SIZE DISTRIBUTION

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	1	4.0	**POORLY GRADED GRAVEL with SILT and SAND(GP-GM)**	NP	NP	NP	14.10	141.87
☒	3	4.0	**POORLY GRADED GRAVEL with SILT and SAND(GP-GM)**	NP	NP	NP	6.93	94.11

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	1	4.0	25	18.649	5.879	0.131	73.2	19.3	7.5	
☒	3	4.0	25	11.922	3.236	0.127	65.7	26.7	7.6	

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Westminster, CO 80234

SUMMARY OF LABORATORY RESULTS

PAGE 1 OF 1

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO

Borehole	Depth	Soil Description	Water Content (%)	Dry Density (pcf)	Swell (+) or Consolidation (-)/ Surcharge (%/psf)	Water Soluble Sulfates (ppm)	Passing #200 Sieve (%)	Atterberg Limits		
								Liquid Limit	Plastic Limit	Plasticity Index
1	4	FILL - FINE to COARSE SAND and GRAVEL	4.5			0	8	NP	NP	NP
1	9	SANDSTONE BEDROCK	15.0	115.3	+0.1/500					
1	14	SANDSTONE BEDROCK	14.3	25.7						
2	4	FILL - CLAYEY SAND with GRAVEL	9.4							
2	9	SILTY SAND	16.9	114.2						
2	14	CLAYSTONE BEDROCK	15.0	118.8	+1.3/1000	0				
2	19	CLAYSTONE BEDROCK	21.7	103.6	+2.6/1500					
2	24	CLAYSTONE BEDROCK	21.0	110.6						
2	34	CLAYSTONE BEDROCK	11.4	130.7						
3	4	FILL - FINE to COARSE SAND and GRAVEL	3.7				8	NP	NP	NP
3	9	SANDSTONE BEDROCK	11.3	110.1	+0.2/500					
4	4	FILL - FINE to COARSE SAND and GRAVEL	5.2							
4	9	SANDSTONE BEDROCK	9.4	116.3	-0.3/500					
4	14	SANDSTONE BEDROCK	8.1	115.4						
4	19	CLAYSTONE BEDROCK	12.4	119.2	+0.4/1500					
4	24	CLAYSTONE BEDROCK	16.3	113.8						
4	34	CLAYSTONE BEDROCK	12.9	125.0						
5	4	FILL - FINE to COARSE SAND and GRAVEL	3.8							
5	9	CLAYSTONE BEDROCK	22.6	105.4	+7.3/500					
5	14	CLAYSTONE BEDROCK	15.4	117.2	+7.8/1000					
5	19	CLAYSTONE BEDROCK	16.6	119.4		0	93	40	24	16
5	24	CLAYSTONE BEDROCK	18.5	115.3						
5	34	CLAYSTONE BEDROCK	19.7	118.7						

APPENDIX C

GENERAL NOTES

GENERAL NOTES

DRILLING & SAMPLING SYMBOLS:

SS: Split Spoon - 1⅜" I.D., 2" O.D., unless otherwise noted
ST: Thin-Walled Tube – 2.5" O.D., unless otherwise noted
RS: Ring Sampler - 2.42" I.D., 3" O.D., unless otherwise noted
CB: California Barrel - 1.92" I.D., 2.5" O.D., unless otherwise noted
BS: Bulk Sample or Auger Sample

HS: Hollow Stem Auger
PA: Power Auger
HA: Hand Auger
RB: Rock Bit
WB: Wash Boring or Mud Rotary

The number of blows required to advance a standard 2-inch O.D. split-spoon sampler (SS) the last 12 inches of the total 18-inch penetration with a 140-pound hammer falling 30 inches is considered the “Standard Penetration” or “N-value”. For 2.5” O.D. California Barrel samplers (CB) the penetration value is reported as the number of blows required to advance the sampler 12 inches using a 140-pound hammer falling 30 inches, reported as “blows per inch,” and is not considered equivalent to the “Standard Penetration” or “N-value”.

WATER LEVEL MEASUREMENT SYMBOLS:

WL: Water Level
WCI: Wet Cave in
DCI: Dry Cave in
AB: After Boring

WS: While Sampling
WD: While Drilling
BCR: Before Casing Removal
ACR: After Casing Removal

Water levels indicated on the boring logs are the levels measured in the borings at the times indicated. Groundwater levels at other times and other locations across the site could vary. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels may not be possible with only short-term observations.

DESCRIPTIVE SOIL CLASSIFICATION: Soil classification is based on the Unified Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

FINE-GRAINED SOILS

(CB) Blows/Ft.	(SS) Blows/Ft.	Consistency
< 3	0-2	Very Soft
3-5	3-4	Soft
6-10	5-8	Medium Stiff
11-18	9-15	Stiff
19-36	16-30	Very Stiff
> 36	> 30	Hard

COARSE-GRAINED SOILS

(CB) Blows/Ft.	(SS) Blows/Ft.	Relative Density
0-5	< 3	Very Loose
6-14	4-9	Loose
15-46	10-29	Medium Dense
47-79	30-50	Dense
> 79	> 50	Very Dense

BEDROCK

(CB) Blows/Ft.	(SS) Blows/Ft.	Consistency
< 24	< 20	Weathered
24-35	20-29	Firm
36-60	30-49	Medium Hard
61-96	50-79	Hard
> 96	> 79	Very Hard

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Terms of Other Constituents	Percent of Dry Weight
Trace	< 15
With	15 – 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75 mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 Sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Terms of Other Constituents	Percent of Dry Weight
Trace	< 5
With	5 – 12
Modifiers	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1-10
Medium	11-30
High	30+

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]				Soil Classification	
				Group Symbol	Group Name[B]
Coarse Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines[C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$[E]	GW	Well graded gravel[F]
			$Cu < 4$ and/or $1 > Cc > 3$[E]	GP	Poorly graded gravel[F]
		Gravels with Fines More than 12% fines[C]	Fines classify as ML or MH	GM	Silty gravel[F,G, H]
			Fines classify as CL or CH	GC	Clayey gravel[F,G,H]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines[D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$[E]	SW	Well graded sand[I]
			$Cu < 6$ and/or $1 > Cc > 3$[E]	SP	Poorly graded sand[I]
		Sands with Fines More than 12% fines[D]	Fines classify as ML or MH	SM	Silty sand[G,H,I]
			Fines classify as CL or CH	SC	Clayey sand[G,H,I]
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI > 7 and plots on or above "A" line[J]	CL	Lean clay[K,L,M]
			PI < 4 or plots below "A" line[J]	ML	Silt[K,L,M]
		Organic	$\frac{\text{Liquid limit - oven dried}}{\text{Liquid limit - not dried}} < 0.75$	OL	Organic clay[K,L,M,N]
					Organic silt[K,L,M,O]
	Silts and Clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line	CH	Fat clay[K,L,M]
			PI plots below "A" line	MH	Elastic silt[K,L,M]
		Organic	$\frac{\text{Liquid limit - oven dried}}{\text{Liquid limit - not dried}} < 0.75$	OH	Organic clay[K,L,M,P]
					Organic silt[K,L,M,Q]
Highly organic soils	Primarily organic matter, dark in color, and organic odor			PT	Peat

[A] Based on the material passing the 3-in. (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well graded gravel with silt, GW-GC well graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well graded sand with silt, SW-SC well graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

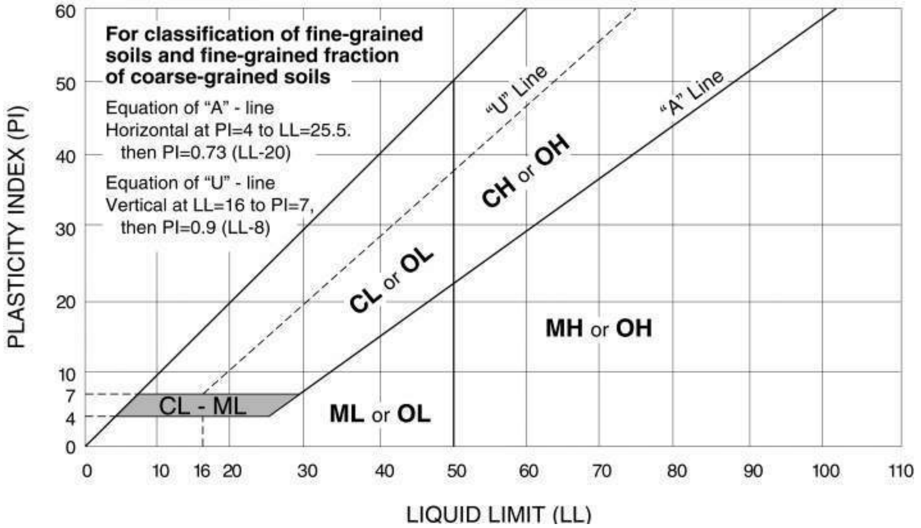
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



ROCK CLASSIFICATION

(Based on ASTM C-294)

Sedimentary Rocks

Sedimentary rocks are stratified materials laid down by water or wind. The sediments may be composed of particles or pre-existing rocks derived by mechanical weathering, evaporation or by chemical or organic origin. The sediments are usually indurated by cementation or compaction.

Chert	Very fine-grained siliceous rock composed of micro-crystalline or cyrptocrystalline quartz, chalcedony or opal. Chert is various colored, porous to dense, hard and has a conchoidal to splintery fracture.
Claystone	Fine-grained rock composed of or derived by erosion of silts and clays or any rock containing clay. Soft massive and may contain carbonate minerals.
Conglomerate	Rock consisting of a considerable amount of rounded gravel, sand and cobbles with or without interstitial or cementing material. The cementing or interstitial material may be quartz, opal, calcite, dolomite, clay, iron oxides or other materials.
Dolomite	A fine-grained carbonate rock consisting of the mineral dolomite [$CaMg(CO_3)_2$]. May contain noncarbonate impurities such as quartz, chert, clay minerals, organic matter, gypsum and sulfides. Reacts with hydrochloric acid (HCL).
Limestone	A fine-grained carbonate rock consisting of the mineral calcite ($CaCO_3$). May contain noncarbonate impurities such as quartz, chert, clay minerals, organic matter, gypsum and sulfides. Reacts with hydrochloric acid (HCL).
Sandstone	Rock consisting of particles of sand with or without interstitial and cementing materials. The cementing or interstitial material may be quartz, opal, calcite, dolomite, clay, iron oxides or other material.
Shale	Fine-grained rock composed of or derived by erosion of silts and clays or any rock containing clay. Shale is hard, platy, of fissile may be gray, black, reddish or green and may contain some carbonate minerals (calcareous shale).
Siltstone	Fine grained rock composed of or derived by erosion of silts or rock containing silt. Siltstones consist predominantly of silt sized particles (0.0625 to 0.002 mm in diameter) and are intermediate rocks between claystones and sandstones and may contain carbonate minerals.

LABORATORY TEST
SIGNIFICANCE AND PURPOSE

TEST	SIGNIFICANCE	PURPOSE
California Bearing Ratio	Used to evaluate the potential strength of subgrade soil, subbase, and base course material, including recycled materials for use in road and airfield pavements.	***Pavement Thickness Design***
Consolidation	Used to develop an estimate of both the rate and amount of both differential and total settlement of a structure.	***Foundation Design***
Direct Shear	Used to determine the consolidated drained shear strength of soil or rock.	***Bearing Capacity, Foundation Design, and Slope Stability***
Dry Density	Used to determine the in-place density of natural, inorganic, fine-grained soils.	***Index Property Soil Behavior***
Expansion	Used to measure the expansive potential of fine-grained soil and to provide a basis for swell potential classification.	***Foundation and Slab Design***
Gradation	Used for the quantitative determination of the distribution of particle sizes in soil.	***Soil Classification***
Liquid & Plastic Limit, Plasticity Index	Used as an integral part of engineering classification systems to characterize the fine-grained fraction of soils, and to specify the fine-grained fraction of construction materials.	***Soil Classification***
Permeability	Used to determine the capacity of soil or rock to conduct a liquid or gas.	***Groundwater Flow Analysis***
pH	Used to determine the degree of acidity or alkalinity of a soil.	***Corrosion Potential***
Resistivity	Used to indicate the relative ability of a soil medium to carry electrical currents.	***Corrosion Potential***
R-Value	Used to evaluate the potential strength of subgrade soil, subbase, and base course material, including recycled materials for use in road and airfield pavements.	***Pavement Thickness Design***
Soluble Sulfate	Used to determine the quantitative amount of soluble sulfates within a soil mass.	***Corrosion Potential***
Unconfined Compression	To obtain the approximate compressive strength of soils that possess sufficient cohesion to permit testing in the unconfined state.	***Bearing Capacity Analysis for Foundations***
Water Content	Used to determine the quantitative amount of water in a soil mass.	***Index Property Soil Behavior***

REPORT TERMINOLOGY
(Based on ASTM D653)

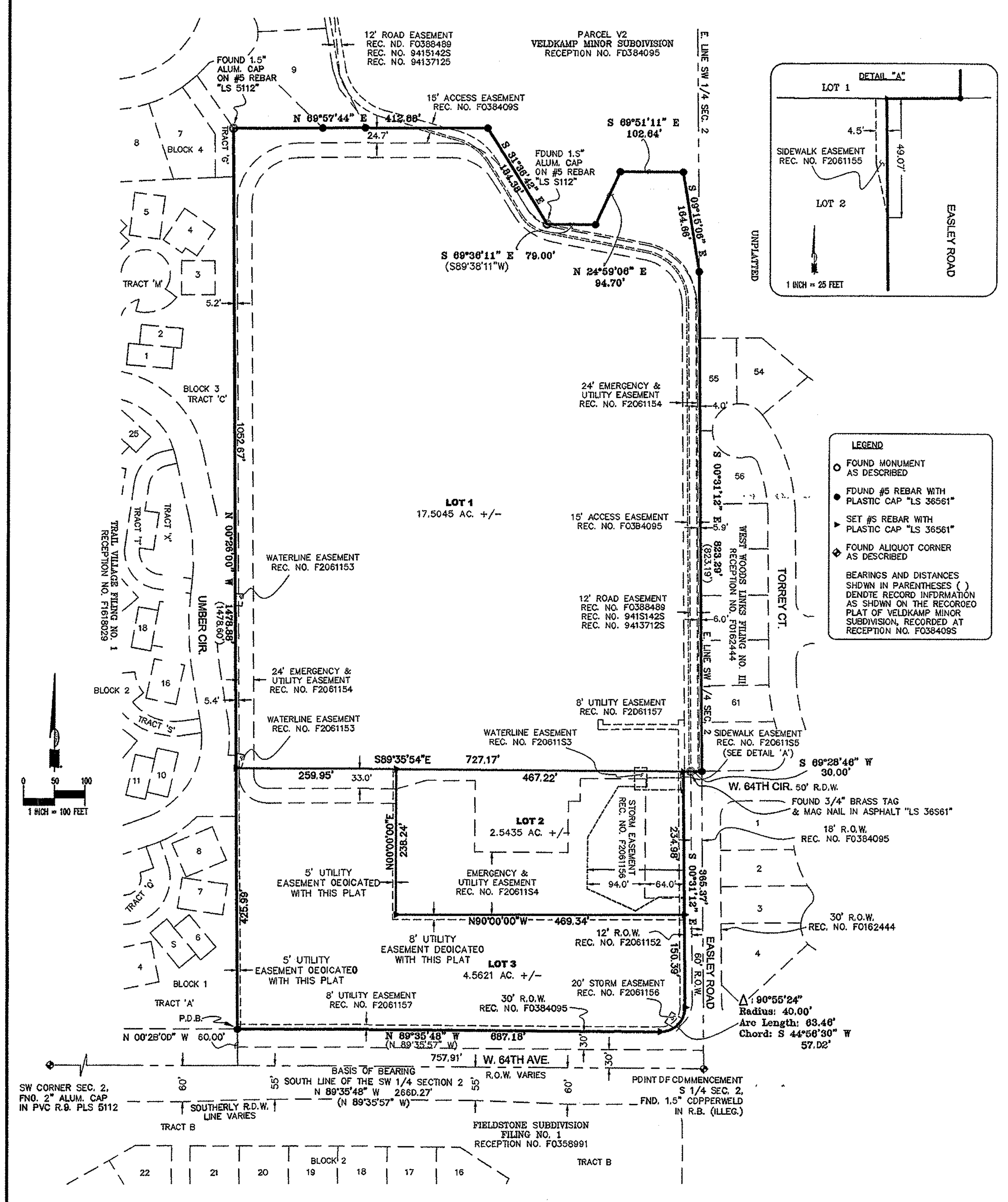
Allowable Soil Bearing Capacity	The recommended maximum contact stress developed at the interface of the foundation element and the supporting material.
Alluvium	Soil, the constituents of which have been transported in suspension by flowing water and subsequently deposited by sedimentation.
Aggregate Base Course	A layer of specified material placed on a subgrade or subbase usually beneath slabs or pavements.
Backfill	A specified material placed and compacted in a confined area.
Bedrock	A natural aggregate of mineral grains connected by strong and permanent cohesive forces. Usually requires drilling, wedging, blasting or other methods of extraordinary force for excavation.
Bench	A horizontal surface in a sloped deposit.
Caisson (Drilled Pier or Shaft)	A concrete foundation element cast in a circular excavation which may have an enlarged base. Sometimes referred to as a cast-in-place pier or drilled shaft.
Coefficient of Friction	A constant proportionality factor relating normal stress and the corresponding shear stress at which sliding starts between the two surfaces.
Colluvium	Soil, the constituents of which have been deposited chiefly by gravity such as at the foot of a slope or cliff.
Compaction	The densification of a soil by means of mechanical manipulation
Concrete Slab-on-Grade	A concrete surface layer cast directly upon a base, subbase or subgrade, and typically used as a floor system.
Differential Movement	Unequal settlement or heave between, or within foundation elements of structure.
Earth Pressure	The pressure exerted by soil on any boundary such as a foundation wall.
ESAL	Equivalent Single Axle Load, a criteria used to convert traffic to a uniform standard, (18,000 pound axle loads).
Engineered Fill	Specified material placed and compacted to specified density and/or moisture conditions under observations of a representative of a geotechnical engineer.
Equivalent Fluid	A hypothetical fluid having a unit weight such that it will produce a pressure against a lateral support presumed to be equivalent to that produced by the actual soil. This simplified approach is valid only when deformation conditions are such that the pressure increases linearly with depth and the wall friction is neglected.
Existing Fill (or Man-Made Fill)	Materials deposited throughout the action of man prior to exploration of the site.
Existing Grade	The ground surface at the time of field exploration.

REPORT TERMINOLOGY
(Based on ASTM D653)

Expansive Potential	The potential of a soil to expand (increase in volume) due to absorption of moisture.
Finished Grade	The final grade created as a part of the project.
Footing	A portion of the foundation of a structure that transmits loads directly to the soil.
Foundation	The lower part of a structure that transmits the loads to the soil or bedrock.
Frost Depth	The depth at which the ground becomes frozen during the winter season.
Grade Beam	A foundation element or wall, typically constructed of reinforced concrete, used to span between other foundation elements such as drilled piers.
Groundwater	Subsurface water found in the zone of saturation of soils or within fractures in bedrock.
Heave	Upward movement.
Lithologic	The characteristics which describe the composition and texture of soil and rock by observation.
Native Grade	The naturally occurring ground surface.
Native Soil	Naturally occurring on-site soil, sometimes referred to as natural soil.
Optimum Moisture Content	The water content at which a soil can be compacted to a maximum dry unit weight by a given compactive effort.
Perched Water	Groundwater, usually of limited area maintained above a normal water elevation by the presence of an intervening relatively impervious continuous stratum.
Scarify	To mechanically loosen soil or break down existing soil structure.
Settlement	Downward movement.
Skin Friction (Side Shear)	The frictional resistance developed between soil and an element of the structure such as a drilled pier.
Soil (Earth)	Sediments or other unconsolidated accumulations of solid particles produced by the physical and chemical disintegration of rocks, and which may or may not contain organic matter.
Strain	The change in length per unit of length in a given direction.
Stress	The force per unit area acting within a soil mass.
Strip	To remove from present location.
Subbase	A layer of specified material in a pavement system between the subgrade and base course.
Subgrade	The soil prepared and compacted to support a structure, slab or pavement system.

BK 181 Pg. 23 Rec# F2176756 2-24-2005 12:41:52 pm County of Jefferson State of Colorado $11.00

VELDKAMP MINOR SUBDIVISION - FIRST AMENDMENT
A REPLAT OF A PORTION PARCEL V1, VELDKAMP MINOR SUBDIVISION
LOCATED IN THE SOUTHWEST QUARTER OF SECTION 2
TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M.,
CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO
SHEET 1 OF 1


12' ROAD EASEMENT
REC. NO. F0388489
REC. NO. 94151425
REC. NO. 94137125
PARCEL V2
VELDKAMP MINOR SUBDIVISION
RECEPTION NO. F0384095
E. LINE SW 1/4 SEC. 2
FOUND 1.5"
ALUM. CAP
ON #5 REBAR
"LS 5112"
9
8
7
BLOCK 4
TRACT 'G'
N 89°57'44" E 412.88'
24.7'
15' ACCESS EASEMENT
REC. NO. F0384095
S 31°36'42" E 184.38'
FOUND 1.5"
ALUM. CAP
ON #5 REBAR
"LS 5112"
S 89°51'11" E
102.64'
S 09°15'06" E
164.68'
S 89°38'11" E 79.00'
(S89°38'11"W)
N 24°59'06" E
94.70'
UNPLATTED
5
4
3
TRACT 'M'
5.2'
2
1
BLOCK 3
TRACT 'C'
25
1052.67'
55
54
24' EMERGENCY &
UTILITY EASEMENT
REC. NO. F2061154
4.0'
56
S 00°31'12" E
823.29'
(823.19')
5.9'
6.0'
LOT 1
17.5045 AC. +/-
15' ACCESS EASEMENT
REC. NO. F0384095
WEST WOODS LINKS FILING NO. III
RECEPTION NO. F0162444
TORREY CT.
12' ROAD EASEMENT
REC. NO. F0388489
REC. NO. 94151425
REC. NO. 94137125
TRAIL VILLAGE FILING NO. 1
RECEPTION NO. F1618029
TRACT 'T'
TRACT 'X'
UMBER CIR.
N 00°26'00" W
1478.88'
(1478.60')
WATERLINE EASEMENT
REC. NO. F2061153
18
16
BLOCK 2
24' EMERGENCY &
UTILITY EASEMENT
REC. NO. F2061154
5.4'
TRACT 'S'
WATERLINE EASEMENT
REC. NO. F2061153
11
10
8' UTILITY EASEMENT
REC. NO. F2061157
61
SIDEWALK EASEMENT
REC. NO. F2061155
(SEE DETAIL 'A')
WATERLINE EASEMENT
REC. NO. F2061153
S89°35'54"E 727.17'
259.95'
33.0'
467.22'
S 89°28'48" W
30.00'
W. 64TH CIR. 50' R.O.W.
FOUND 3/4" BRASS TAG
& MAG NAIL IN ASPHALT "LS 36561"
0 50 100
1 INCH = 100 FEET
LOT 2
2.5435 AC. +/-
N00°00'00"E
238.24'
STORM EASEMENT
REC. NO. F2061156
234.98'
1
18' R.O.W.
REC. NO. F0384095
8
5' UTILITY
EASEMENT DEDICATED
WITH THIS PLAT
EMERGENCY &
UTILITY EASEMENT
REC. NO. F2061154
94.0'
64.0'
S 00°31'12" E
365.37'
2
7
TRACT 'G'
3
30' R.O.W.
REC. NO. F0162444
425.99'
N90°00'00"W 469.34'
12' R.O.W.
REC. NO. F2061152
6
5
8' UTILITY
EASEMENT DEDICATED
WITH THIS PLAT
LOT 3
4.5621 AC. +/-
150.39'
EASLEY ROAD
60' R.O.W.
4
4
5' UTILITY
EASEMENT DEDICATED
WITH THIS PLAT
BLOCK 1
20' STORM EASEMENT
REC. NO. F2061156
TRACT 'A'
8' UTILITY EASEMENT
REC. NO. F2061157
30' R.O.W.
REC. NO. F0384095
Δ: 90°55'24"
Radius: 40.00'
Arc Length: 63.46'
Chord: S 44°56'30" W
57.02'
P.O.B.
N 00°28'00" W 60.00'
N 89°35'48" W 687.18'
(N 89°35'57" W)
757.91'
W. 64TH AVE.
R.O.W. VARIES
30'
30'
60'
55'
55'
60'
BASIS OF BEARING
SOUTH LINE OF THE SW 1/4 SECTION 2
N 89°35'48" W 2660.27'
(N 89°35'57" W)
SW CORNER SEC. 2,
FND. 2" ALUM. CAP
IN PVC R.9. PLS 5112
SOUTHERLY R.O.W.
LINE VARIES
POINT OF COMMENCEMENT
S 1/4 SEC. 2,
FND. 1.5" COPPERWELD
IN R.B. (ILLEG.)
TRACT B
FIELDSTONE SUBDIVISION
FILING NO. 1
RECEPTION NO. F0358991
TRACT B
BLOCK 2
22
21
20
19
18
17
16
DETAIL "A"
LOT 1
4.5'
49.07'
SIDEWALK EASEMENT
REC. NO. F2061155
LOT 2
EASLEY ROAD
1 INCH = 25 FEET
LEGEND
○ FOUND MONUMENT AS DESCRIBED
● FOUND #5 REBAR WITH PLASTIC CAP "LS 36561"
► SET #5 REBAR WITH PLASTIC CAP "LS 36561"
◈ FOUND ALIQUOT CORNER AS DESCRIBED
BEARINGS AND DISTANCES SHOWN IN PARENTHESES ( ) DENOTE RECORD INFORMATION AS SHOWN ON THE RECORDED PLAT OF VELDKAMP MINOR SUBDIVISION, RECORDED AT RECEPTION NO. F0384095

LEGAL DESCRIPTION AND DEDICATION:

THE UNDERSIGNED, BEING THE OWNERS OF A PARCEL OF LAND LOCATED IN THE SOUTHWEST QUARTER OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PROVIDED LEGAL DESCRIPTION
(BY FIRST AMERICAN HERITAGE TITLE COMPANY, #272-H0000242-210-DT, AMENDMENT NO. 5)
PARCEL V1, VELDKAMP MINOR SUBDIVISION, FILED UNDER RECEPTION NUMBER F0384095, JEFFERSON COUNTY PUBLIC RECORDS AND CONSIDERING THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M. AS BEARING N 89°35'57" W AND WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHWEST 1/4 OF SAID SECTION 2,
THENCE N 89°35'57" W, ALONG THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SAID SECTION 2, A DISTANCE OF 757.91 FEET;
THENCE N 00°26'00" W, A DISTANCE OF 60.00 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF WEST 64TH AVENUE, AND THE TRUE POINT OF BEGINNING OF SAID PARCEL V1;
THENCE N 00°26'00" W, A DISTANCE OF 1478.60 FEET;
THENCE N 89°57'44" E, A DISTANCE OF 412.88 FEET;
THENCE S 31°36'42" E, A DISTANCE OF 184.38 FEET;
THENCE N 89°38'11" E, A DISTANCE OF 79.00 FEET;
THENCE N 24°59'06" E, A DISTANCE OF 94.70 FEET;
THENCE S 89°51'11" E, A DISTANCE OF 102.64 FEET;
THENCE S 09°15'06" E, A DISTANCE OF 164.68 FEET TO A POINT ON THE EAST LINE OF THE WEST 1/2 OF SAID SECTION 2;
THENCE ALONG SAID EAST LINE S 00°31'12" E, A DISTANCE OF 823.19 FEET;
THENCE S 89°28'48" W, A DISTANCE OF 18.00 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF EASLEY ROAD;
THENCE S 00°31'12" E, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 375.39 FEET; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WITH A RADIUS OF 50.00 FEET AND A CENTRAL ANGLE OF 90°56'40" A DISTANCE OF 79.36 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF WEST 64TH AVENUE;
THENCE N 89°35'57" W, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 688.98 FEET TO THE TRUE POINT OF BEGINNING,
EXCEPTING THEREFROM THAT PORTION DEDICATED TO THE CITY OF ARVADA IN INSTRUMENT RECORDED JULY 15, 2004 AT RECEPTION NUMBER F2061152.
JEFFERSON COUNTY, STATE OF COLORADO.

REVISED LEGAL DESCRIPTION
A PORTION OF PARCEL V1, VELDKAMP MINOR SUBDIVISION, RECORDED AT RECEPTION NUMBER F0384095, JEFFERSON COUNTY PUBLIC RECORDS AND CONSIDERING THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M. AS BEARING N 89°35'48" W AND WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHWEST 1/4 OF SAID SECTION 2;
THENCE N 89°35'48" W, ALONG THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SAID SECTION 2, A DISTANCE OF 757.91 FEET;
THENCE N 00°26'00" W, A DISTANCE OF 60.00 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF WEST 64TH AVENUE, SAID POINT ALSO BEING THE POINT OF BEGINNING;
THENCE N 00°26'00" W, A DISTANCE OF 1478.66 FEET;
THENCE N 89°57'44" E, A DISTANCE OF 412.88 FEET;
THENCE S 31°36'42" E, A DISTANCE OF 184.38 FEET;
THENCE S 89°38'11" E, A DISTANCE OF 79.00 FEET;
THENCE N 24°59'06" E, A DISTANCE OF 94.70 FEET;
THENCE S 89°51'11" E, A DISTANCE OF 102.64 FEET;
THENCE S 09°15'06" E, A DISTANCE OF 164.68 FEET TO A POINT ON THE EAST LINE OF THE WEST 1/2 OF SAID SECTION 2;
THENCE ALONG SAID EAST LINE S 00°31'12" E, A DISTANCE OF 823.29 FEET;
THENCE S 89°28'48" W, A DISTANCE OF 30.00 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF EASLEY ROAD AS DESCRIBED AT RECEPTION NUMBER F2061152, JEFFERSON COUNTY PUBLIC RECORDS;
THENCE S 00°31'12" E, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 385.37 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WITH A RADIUS OF 40.00 FEET AND A CENTRAL ANGLE OF 90°55'24" A DISTANCE OF 63.48 FEET, WHOSE CHORD BEARS S 44°56'30" W, A DISTANCE OF 57.02 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF WEST 64TH AVENUE;
THENCE N 89°35'48" W, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 687.16 FEET TO THE POINT OF BEGINNING.
CONTAINING 24.6101 ACRES MORE OR LESS.

HAVE LAID OUT, PLATTED, AND SUBDIVIDED THE ABOVE DESCRIBED LAND, UNDER THE NAME AND STYLE OF VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT, AND HEREBY GRANTS TO THE CITY OF ARVADA SUCH EASEMENTS AS ARE CREATED HEREBY AND DEPICTED OR, BY NOTE, REFERENCED HEREON, ALONG WITH THE RIGHT TO INSTALL, MAINTAIN, AND OPERATE MAINS, TRANSMISSION LINES, SERVICE LINES, AND APPURTENANCES, EITHER DIRECTLY OR THROUGH THE VARIOUS APPLICABLE SERVICE PROVIDERS AS MAY BE NECESSARY TO ACCOMPLISH THE INTENDED PURPOSES OF SUCH EASEMENT. UNLESS MORE NARROWLY DEFINED BY NOTE HEREON, UTILITY SHALL MEAN SEWER, WATER, DRAINAGE, ELECTRICITY, GAS, TELEPHONE, CABLE AND OTHER TELECOMMUNICATION FACILITIES.

OWNERS:

VELDKAMP'S REAL ESTATE, INC.
A COLORADO CORPORATION

BY: ______________________
BERNARD M. VELDKAMP, III, PRESIDENT

NOTARY:

STATE OF COLORADO)
} SS
COUNTY OF JEFFERSON)

CHERYL J. DZIELAK NOTARY PUBLIC STATE OF COLORADO
My Commission Expires Jan 27 2008

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 10th DAY OF February 2005.

BY: BERNARD M. VELDKAMP, III AS PRESIDENT OF

COMPANY: VELDKAMP'S REAL ESTATE, INC., A COLORADO CORPORATION

WITNESS MY HAND AND SEAL ______________________

MY COMMISSION EXPIRES: Jan 27, 2008

DEED OF TRUST HOLDER'S ACKNOWLEDGMENT

THE INTEREST OF THE UNDERSIGNED LIEN HOLDER IN THE PROPERTY PLATTED HEREBY IS SUBORDINATED TO SUCH FEE SIMPLE DEDICATIONS AND GRANTS OF EASEMENTS TO THE CITY OF ARVADA, IF ANY, AS ARE DEPICTED OR REFERENCED HEREON.

______________________ 1/31/05
BERNARD M. VELDKAMP, JR. DATE

NOTARY: Arizona
STATE OF ~~COLORADO~~)
Maricopa } SS
COUNTY OF ~~JEFFERSON~~)

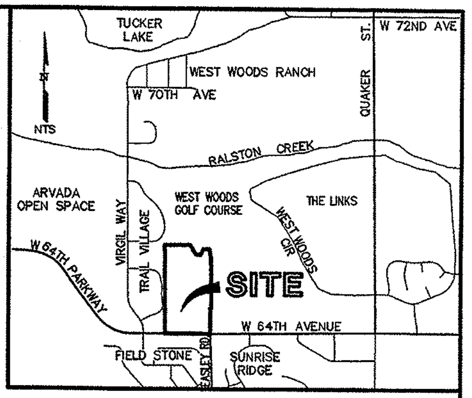
OFFICIAL SEAL
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires June 26, 2007

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 31st DAY OF JAN 2005

BY: BERNARD M. VELDKAMP, JR.

WITNESS MY HAND AND SEAL ______________________

MY COMMISSION EXPIRES: 6/26/07


TUCKER LAKE
W 72ND AVE
WEST WOODS RANCH
W 70TH AVE
QUAKER ST.
N
NTS
RALSTON CREEK
ARVADA OPEN SPACE
WEST WOODS GOLF COURSE
THE LINKS
VIRGIL WAY
TRAIL VILLAGE
WEST WOODS CIR
W 64TH PARKWAY
SITE
W 64TH AVENUE
FIELD STONE
EASLEY RD
SUNRISE RIDGE

VICINITY MAP
N.T.S.

DEED OF TRUST HOLDER'S ACKNOWLEDGMENT

THE INTEREST OF THE UNDERSIGNED LIEN HOLDER IN THE PROPERTY PLATTED HEREBY IS SUBORDINATED TO SUCH FEE SIMPLE DEDICATIONS AND GRANTS OF EASEMENTS TO THE CITY OF ARVADA, IF ANY, AS ARE DEPICTED OR REFERENCED HEREON.

Cora L. Veldkamp 1/31/05
CORA L. VELDKAMP DATE

NOTARY: Arizona
STATE OF ~~COLORADO~~)
Maricopa } SS
COUNTY OF ~~JEFFERSON~~)

OFFICIAL SEAL
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires June 26, 2007

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 31st DAY OF JAN 2005

BY: CORA L. VELDKAMP

WITNESS MY HAND AND SEAL ______________________

MY COMMISSION EXPIRES: 6/26/07

SURVEYOR'S CERTIFICATE:

I, CHRISTOPHER H. McELVAIN, A REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY OF VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT WAS MADE UNDER MY SUPERVISION AND THE ACCOMPANYING PLAT ACCURATELY AND PROPERLY SHOWS SAID MINOR SUBDIVISION.

CHRISTOPHER H. McELVAIN 36561 1/27/05

____
CHRISTOPHER H. McELVAIN, P.L.S. 36561
FOR AND ON BEHALF OF JEHN ENGINEERING, INC.

TITLE VERIFICATION STATEMENT:

I, Phillip Van Horn OF FIRST AMERICAN HERITAGE TITLE COMPANY, A QUALIFIED TITLE INSURANCE COMPANY, DO HEREBY CERTIFY THAT I/WE HAVE EXAMINED THE TITLE OF ALL LAND PLATTED HEREON AND THAT TITLE TO SUCH LAND IS IN THE DEDICATOR'S FREE AND CLEAR OF ALL LIENS, TAXES AND ENCUMBRANCES, EXCEPT AS FOLLOWS:

FIRST AMERICAN HERITAGE TITLE COMPANY

BY: ______________________ DATE: 2-14-05

AS: Commercial Title Officer

NOTES:

1. ALL BEARINGS CONTAINED HEREIN ARE BASED UPON THE ASSUMPTION THAT THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SECTION 2 BEARS N 89°35'48" W BETWEEN THE MONUMENTS SHOWN HEREON

2. ALL DIMENSIONS SHOWN HEREON ARE IN FEET. ALL BEARINGS SHOWN HERE ON ARE IN DEGREE-MINUTES-SECONDS.

3. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND SURVEY BOUNDARY MONUMENT OR ACCESSORY COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUE 18-4-508, C.R.S.

4. NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF CERTIFICATION SHOWN HEREON.

5. THIS DOES NOT CONSTITUTE A TITLE SEARCH BY JEHN ENGINEERING, INC. TO DETERMINE TITLE OR EASEMENTS OF RECORD. RESEARCH FOR THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH CRS 38-51-106 AND THE RULES OF PROCEDURE AND BOARD POLICY STATEMENTS OF THE STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND SURVEYORS, SPECIFICALLY THOSE BOARD RULES AND POLICY STATEMENTS RELATING TO THE DEPICTION OF EASEMENTS AND RIGHTS OF WAY ON SUBDIVISION PLATS. TITLE COMMITMENT NUMBER 272-H0000242-210-DT, AMENDMENT NO. 4 DATED AUGUST 08, 2004, AT 8:00 AM PREPARED BY FIRST AMERICAN HERITAGE TITLE CO. WAS RELIED UPON FOR ALL INFORMATION REGARDING EASEMENTS OF RECORD, RIGHTS OF WAY, TITLE OF RECORD AND CIVIL COURT ACTIONS OF RECORD.

APPROVAL CERTIFICATES:

APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR OF THE CITY OF ARVADA, COLORADO, THIS 24 DAY OF February, 2005

______________________ ATTEST: Janet Newman
COMMUNITY DEVELOPMENT DIRECTOR for CITY CLERK

CLERK AND RECORDERS CERTIFICATE:

F2176756
RECEPTION NUMBER

ACCEPTED FOR FILING IN THE OFFICE OF THE COUNTY CLERK AND RECORDER OF JEFFERSON COUNTY, AT GOLDEN COLORADO, ON THIS 24th DAY OF February 2005, AT 12:41:52 O'CLOCK.

BY: Faye Griffin ______________________
JEFFERSON COUNTY CLERK AND RECORDER DEPUTY CLERK

JEFFERSON COUNTY COLORADO

REVISIONS

12.16.04 – PER CITY COMMENTS
01.13.05 – PER CITY COMMENTS
01.24.05 – PER CITY COMMENTS

SHEET 1 OF 1

JēHN ENGINEERING
5855 WADSWORTH BYPASS, A-100
ARVADA, CO 80003
PH. (303) 423-6036 FAX (303) 467-9438
WWW.JEHNENGINEERING.COM

J/0359/203-166.02/survey/3166.02MSP.dwg – tlm

Terry McGowan

From: robb.farquhar@state.co.us on behalf of cdphe_cora_hmwmd - CDPHE, CDPHE <cdphe_cora_hmwmd@state.co.us>
Sent: Tuesday, November 12, 2024 3:53 PM
To: Terry McGowan
Subject: Re: Welby Gardens - 17201 West 64th Avenue, Arvada, Colorado 80007

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Terry,

17201 W 64th Ave, Arvada, 80007: No records found

Robb

On Tue, Nov 12, 2024 at 3:48 PM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> Good afternoon,
>
> Baseline is completing a Phase I Environmental Assessment for the Welby Gardens located at 17201 West 64th Avenue in Arvada, Colorado 80007. We have used the HMWMD online portal and searched for environmental information for this site; however, no documents were found. We would like to confirm that this is truly the case.
>
> Would you please confirm that there are no HMWMD environmental documents for this site.
>
> Thank you.

BASELINE

Terry O. McGowan, P. G. | Senior Geologist/Hydrogeologist

Environmental Division

303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

www.baselinecorp.com | Social Media

> **Confidential and Privileged** - This message and all attachments are intended
>
> only for the use of the individual or entity to which it is addressed, and may contain information that is privileged or confidential. If the reader of this message is not the intended recipient, or the employee, or an agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by return e-mail
>
> and please delete the original message. Thank you.

--
You can search records via the OnBase Public Access Viewer. See User Guides for tips on searching here: HMWMD User Guides

Or, use our interactive map

Visit the HMWMD Records page for additional information on HMWMD programs and records procedures.

Baseline Engineering Corporation

Environmental Site Assessment Questionnaire

Baseline Engineering Corporation (Baseline) utilizes the following questionnaire as a tool to facilitate the Environmental Site Assessment (ESA) process. Please answer the following questions to the best of your knowledge. You have been selected to answer this questionnaire because you are (1) a current or past owner of the subject property, (2) a current or past occupant of the subject property, (3) a key site manager with respect to the subject property, or (4) a person that may have specific knowledge regarding current or historical operations at the subject property and adjoining properties. If you do not know an answer, please select "unknown". If possible and if applicable, please provide additional detail in the "Comments" section.

Baseline requests that the respondent sign the last page of the form which affirms that the respondent has answered all questions to the best of the respondent's actual knowledge and in good faith. Baseline would like to take this opportunity to thank you for your time and effort in assisting us with this task.

SUBJECT PROPERTY DATA **Date Completed:** 11/12/2024
Subject Property Address: 17201 W 64th Ave
City: Arvada **County:** Jefferson **State:** CO **Zip:** 80007
Subject Property is: Operating **Vacant Land, or** **Improved**
Respondent's Name: Nickolas Gerace **Relationship to the Subject Property:** Owner
Company: Welby Gardens LLC **Title:** Owner
Address: 17201 W 64th Ave
City: Arvada **County:** Jefferson **State:** CO **Zip:** 80007
Phone: 303-489-0389 **Fax:**

1. To the best of your knowledge is the *subject property* currently used for an industrial use? If yes, describe the current operations.

YES ☐ NO ☑ Unknown ☐

Comments:

2. To the best of your knowledge, is any adjoining property currently used for an industrial use? If yes, describe the current operations.

YES ☐ NO ☑ Unknown ☐

Comments:

3. To the best of your knowledge, has the subject property been used for an industrial use in the past? If yes, describe past operations.

YES ☐ NO ☑ Unknown ☐

Comments:

4. To the best of your knowledge, has any adjoining property been used for an industrial use in the past? If yes, describe past operations.

YES ☐ NO ☑ Unknown ☐

Comments:

5. To the best of your knowledge, is the subject property currently used or has formerly been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility?

YES ☐ NO ☑ Unknown ☐

Comments:

If yes, please indicate which type of use and time period:

6. To the best of your knowledge, is any adjoining property currently used or has been formerly used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility?

YES ☐ NO ☑ Unknown ☐

Comments:

If yes, please indicate which type of use and time period:

7. To the best of your knowledge, are there currently, or have there been previously, any damaged or discarded batteries, or pesticides, paints, or other chemicals in containers of greater than 5 gal (19L) in volume or 50 gal (190L) in the aggregate, stored on or used at the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

8. To the best of your knowledge, are there currently, or have there been previously, any drums (typically 55 gal (208L)) or sacks of chemicals located on the subject property?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Boiler cleaner and hydrogen peroxcide

9. Did you observe evidence or do you have prior knowledge of fill dirt has been brought onto the subject property? If yes, where did the fill dirt originate?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

10. To the best of your knowledge, are there currently, or have there been previously, any pits, ponds, or lagoons located on the subject property?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Yes on the northeast corner of the property

11. To the best of your knowledge, are there currently, or has there been previously, any stained soil on the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

12. To the best of your knowledge, are there currently, or have there been previously, any registered or unregistered storage tanks (above ground or underground) located on the subject property?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Yes water and diesel tanks

13. To the best of your knowledge, are there currently, or have there been previously, any vent pipes, fill pipes, or access ways protruding from the ground on the subject property or adjacent to any structure located on the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

14. To the best of your knowledge, Is there currently, or have there been previously, any evidence of leaks, spills, or staining by substances other than water, or foul odors, associated with any flooring, drains, walls, ceilings, or exposed grounds on the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

15. To the best of your knowledge, is the property currently, or has the subject property been previously served by a private well or non-public water system?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Yes private well on premise used for augmentation for a subdivision not owned by Welby Gardens.

16. To the best of your knowledge, is the subject property currently, or has the subject property been previously served by a septic system?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

3 known sepetic systems

17. Do you have any knowledge of environmental liens or governmental notifications relating to past or recurrent violations of environmental laws with respect to the subject property or know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substance or petroleum products involving the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

18. To the best of your knowledge, does the subject property discharge waste water (not including sanitary waste or stormwater) on or adjacent to the subject property and/or into a stormwater or sanitary sewer system?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

19. To the best of your knowledge, have any hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials been dumped above grade, buried and/or burned on the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

20. To the best of your knowledge, is there a transformer, capacitor, or any hydraulic equipment on the subject property? If yes, do you have any knowledge of records indicating the presence of PCBs?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Yes Xcel has a transformer

21. To the best of your knowledge, can you list any and all known past owners of the subject property including the time period of ownership and use of the subject property during ownership. Please include any contact information that you may have.

Ben Veldkamp owned property before us.

22. To the best of your knowledge, can you list any and all known past occupants of the subject property including time period of occupancy and use of the subject property during occupancy. Please include any contact information that you may have.

Ben Veldkamp

23. To the best of your knowledge, can you list the structures currently present on the subject property including age, dates of renovations (if any), size and building materials.

About 8 acres of greenhouse where built in the late 60's.

24. To the best of your knowledge, can you list the structures formerly present on the subject property (if any) including age, dates of renovations (if any), size and building materials.

We upgraded our water system in 2004 and upgraded the boiler system in 2019

25. To the best of your knowledge, can you list the current providers of the following utilities at the subject property (if applicable): drinking water, sanitary sewer, stormwater run-off, electricity, heat source, and telephone.

We have Xcel for water, sewer, power, and (transported) natural gas.

26. To the best of your knowledge, do you know if any of the environmental documents noted below exist for the subject property:

*Prior environmental assessment or audit reports
YES ☐ **NO** ☑ **Unknown** ☐

*Hazardous waste generator notices or reports
YES ☐ **NO** ☑ **Unknown** ☐

*Environmental permits
YES ☐ **NO** ☑ **Unknown** ☐

*Geotechnical studies
YES ☑ **NO** ☐ **Unknown** ☐

*Safety Data Sheets
YES ☑ **NO** ☐ **Unknown** ☐

*The subject property's community right-to-know plan
YES ☑ **NO** ☐ **Unknown** ☐

*Spill prevention and other safety/preparedness plans
YES ☑ **NO** ☐ **Unknown** ☐

*Reports regarding hydrogeologic conditions on the subject property and/ or the surrounding area
YES ☐ **NO** ☑ **Unknown** ☐

I believe that the above statements and facts are true and correct to the best of my actual knowledge and that no material facts have been suppressed or misstated.

Completed By:
(Print Name) Nickolas Gerace

Signature: ______________________________ Date: 11/13/2024
(User)

BASELINE ENGINEERING CORPORATION

Additional Questions To The Environmental Site Assessment Questionnaire Completed On November 12,2024 By Mr. Nickolas Gerace
Welby Gardens Property (Subject Property)
17201 West 64th Avenue, Arvada, Colorado

DATE: November 22, 2024

TO: Mr. Nickolas Gerace – Owner of Welby Gardens, LLC

Cc: Mr. Gregory Himmel – AvalonBay Communities, Inc.

FROM: Terry O. McGowan – Baseline Engineering Corporation

Mr. Gerace, as noted in the title of this document, Baseline Engineering Corporation (Baseline) has some addition questions with regard to the responses you provided in the Environmental Site Assessment Questionnaire Completed on November 12, 2024. We have a lot of questions, and you may not what to have to type up all your answers. If so, we can have a sit down meeting and we can take notes. We would request that we could record your answers.

The questionnaire unfortunately does not always present all the necessary questions. One major question is missing. We assume that the greenhouse operations had to use pesticides, herbicides, and fertilizers, and possibly other chemicals. Assuming this is correct, can you define what was use and where were these items were stored (indoor or outdoor, and location)? What type of containers did they come in? How were they applied? Was there ever a large spill during use? Was there required training for the application of these chemicals?

1. At the end of the questionnaire (page 7), you noted that Material Safety Data Sheets (MSDS), a Community Right-to-Know Plan, Spill Prevention or other safety/preparedness plans, and geotechnical studies documents exist for the Subject Property. Are these available for review and copying? In addition, is there a Property Site Plan available? This could be part of the Spill Prevention Plan.

2. On page 3, question #8, you note that boiler cleaner and hydrogen peroxide are contained in 55-gallon drums or sacks. Can you be more specific on the type of container, where they are stored, and purpose or use.

3. On page 3, question #10, you note the existence of a current or historic pit, pond, or lagoon on the northeast corner of the Subject Property. Was this a pond? What was the purpose (stormwater retention?)? What was the water source (stormwater?)? Review of aerial photographs suggest that area is currently heavily vegetated and may no longer be a pond. The aerial photographs do not show standing water. It looks like the area may have constructed berms starting in about 1999. Can you provide additional information please.

4. On page 4, question #12, you note the existence of current and historical storage tanks for water and diesel tanks. Can you please provide more information on size (volume), location, and if secondary containment is present. All this information may be in the Spill Prevention Plan.

---

5. On page 4, question #15, you note the existence of a water well on the Subject Property "*used for augmentation for a subdivision not owned by Welby Gardens*". Based on review of the Colorado Division of Water Resources, the well installation applicant was a Peter Warren for the YWAM Foundation. This implies the well owner is the YWAM Foundation. Is this correct? How is the water used (yard irrigation or drinking water?). Does Welby Gardens, LLC receive a rent for this well and are you responsibly in any way, other than protecting the surface expression of the well? Are there any water quality data for this water? Can you provide any history on this well. I have found an original permit in 1976 (expired) followed by several others in 1994, 1997, and 2020 (all expired) with the well constructed in November 2020 (permit #84879-F), which would be when you owned the Subject Property.

6. On page 5, question #16, you note three known septic systems. Can you provide their locations, approximate size of the tanks, the size of the leach areas, and the history of use? Are the systems still in place or have they been removed?

7. On page 5, question #20, regarding the Xcel transformer. Is it pad mounted. I can confirm this on the site visit.

8. On page 6, question #24, you note that you upgraded the water system in 2004 and upgraded the boiler system in 2019. How was the water system upgraded? We assume the boiler system is/was used for overall water baseboard type heating of the greenhouses and offices/sales area. Is this correct?

9. On page 6, question #25, you may have a misprint. You note Xcel provides water and sewer. Is this actually the City of Arvada?

Thank you in advance for your assistance in answering these questions.

From:	Nick Gerace <nickg@hardyboyplant.com>
Sent:	Monday, December 2, 2024 4:30 PM
To:	Terry McGowan; Marty Gerace; Gregory Himmel
Cc:	Todd Nicotra; Vincent Barlock
Subject:	RE: Environmental (additional) Site Visit & Questions

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Hi Terry,
I am going to try to answer your questions to best of my ability.

1. We store the MSDS's in several locations across all of our properties. The right to know board is visible for the facility next to the break room. I have a facility map, but it is more for our production purposes. The spill prevention is a kit we keep on hand for cleaning up any agricultural chemical spills.
2. They are stored in 55-gallon drums either metal or plastic depending on the supplier. They are stored in our boiler room. They are used to treat the boiler water to keep our steam system clean and operating correctly.
3. It is storm water runoff/retention, it is dry most of the year depending on weather. It collects water after the other retention areas are full. It does have a lot of trees and grass growing in it. I don't have any knowledge of berms being built it the area; we didn't take over operations of the facility until 2003.
4. The storage tanks are centralized around our shop/ boiler area on the East side of the property. Our main water storage tank in located inside the shop it is 12,000 gallons. We use city water for irrigation. There are 3 horizontal tanks by the well that were used for the augmentation basically the well would fill them then a water truck would fill from them. I would guess they are between 3,000 and 4,000 gallons. We have two old vertical water tanks that haven't been used since we took over the property. They won't even hold water but they are 12,000 gallons. The two diesel tanks are 12,000 gallons we only use one of them for emergency backup for our boilers. The are contained with berms but don't know much about the system.
5. The well has been in place before 2020. YWAM does own the water rights. As far as we know they collected the water in the past and added back to a ditch in the area. We are not aware of anything wrong with the water quality or any testing that has been done. We don't receive rent for the well and we are not responsible for anything.
6. The septic systems are still in place. There is one right buy the offices up front on the Southeast corner of the property. We hooked up the city in 2003 for this system and it isn't currently used. There is on westside of the property that is currently in use. Also one on the northside of the property that is also in use. We don't have any information on the size or leach fields. We were not involved in the property when they were installed.
7. It is pad mounted.
8. The water system upgrade included the installation of a new storage tank, water tempering system, and new pumps. The boiler system upgrade was the addition of a new boiler. The boiler system is a medium pressure steam system that we use pipes with steam traps and unit heaters to control the temperatures in the greenhouse. Our offices run off a traditional HVAC system.
9. Yes it is the city sorry for the confusion.

I hope this helps!
Thanks,
Nick

Nick Gerace

Welby Gardens Co.
Director of Wholesale Operations
(303)-288-3398
Cell: (303)-489-0389

From: Terry McGowan <terry.mcgowan@baselinecorp.com>
Sent: Friday, November 22, 2024 1:39 PM
To: Marty Gerace <MartyG@hardyboyplant.com>; Gregory Himmel <Gregory_Himmel@avalonbay.com>; Nick Gerace <nickg@hardyboyplant.com>
Cc: Todd Nicotra <Todd_Nicotra@avalonbay.com>; Vincent Barlock <vincent.barlock@baselinecorp.com>
Subject: RE: Environmental (additional) Site Visit & Questions

Hi Marty, thank you for the quick response. We figured the site visit would have to work around Thanksgiving. Let's plan on the week that you are back, and whatever day is best for you. I am sending you the questions with this email, so you can have an idea what we need. If you don't get it in time, oh well! There are quite a few questions so it may be best to deal with these in a sit-down meeting during the sit visit. However, if you can answer some of them by email that would help with the report preparation, but is not critical as you are on vacation.

Thank you for your time and we look forward to meeting you in December.

BASELINE

Terry O. McGowan, P. G. | Senior Geologist/Hydrogeologist
Environmental Division
303.940.9966 | 303-229-5496
112 N. Rubey Drive, #210, Golden, CO 80403
www.baselinecorp.com | Social Media

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From: Marty Gerace <MartyG@hardyboyplant.com>
Sent: Friday, November 22, 2024 12:42 PM
To: Gregory Himmel <Gregory_Himmel@avalonbay.com>; Nick Gerace <nickg@hardyboyplant.com>
Cc: Todd Nicotra <Todd_Nicotra@avalonbay.com>; Terry McGowan <terry.mcgowan@baselinecorp.com>; Vincent Barlock <vincent.barlock@baselinecorp.com>
Subject: Re: Environmental (additional) Site Visit & Questions

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We are traveling out of town today and won't return until December 2 but we are available by phone during this time. If you are looking to be onsite next week you will need to notify us with enough time to coordinate with others. Friday visits are always best.
Thanks
Marty & Nick

Get Outlook for iOS

From: Gregory Himmel <Gregory_Himmel@avalonbay.com>
Sent: Friday, November 22, 2024 9:10:41 AM
To: Marty Gerace <MartyG@hardyboyplant.com>; Nick Gerace <nickg@hardyboyplant.com>
Cc: Todd Nicotra <Todd_Nicotra@avalonbay.com>; Terry McGowan <terry.mcgowan@baselinecorp.com>; Vincent Barlock <vincent.barlock@baselinecorp.com>
Subject: Environmental (additional) Site Visit & Questions

Marty and Nick,

Baseline, our environmental consultant, would like to schedule another site visit for their report. They also have a few more questions they'd like to ask that have come up in their research. I've included Terry and Vince from Baseline on this email for you all to coordinate the visit and discuss the outstanding questions.

Please let me know if I can be of any more help in coordinating this visit or answering any of these questions.

Thanks!
Greg

Greg Himmel
Director - Development

AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025
Denver, CO 80237
Phone: 720-245-6940
Cell: 724-344-1354
gregory_himmel@avalonbay.com

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Baseline Engineering Corporation

Phase I ESA User Questionnaire

To qualify for one of the *Landowner Liability Protections* ("LLPs") offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the *User* must conduct the following inquiries required by 40 C.F.R. §§ 312.25, 312.28, 312.29, 312.30, and 312.31. The User should provide the following information to the *Environmental Professional*. Failure to conduct these inquiries could result in a determination that "*All Appropriate Inquiries*" ("AAI") is not complete.

1. **Environmental cleanup liens that are filed or recorded against the *subject property* (40 CFR 312.25).**
   Did a search of land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the *subject property* under federal, tribal, state, and/or local law? Please provide a listing of the environmental liens and any associated documentation.

No.

*Please attach additional pages as necessary

2. **Activity and land use limitations that are in place on the subject property or that have been filed or recorded against the subject property (40 CFR 312.26).**
   Did a search of *land title records* (or judicial records where appropriate) identify any "*Activity and Use Limitations*" ("AULs"), such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the *subject property* and/or have been filed or recorded against the *subject property* under federal, tribal, state, and/or local law? Please provide a listing of the *AULs* and any associated documentation.

None, other than typical zoning restrictions.

*Please attach additional pages as necessary

3. Specialized knowledge or experience of the person seeking to qualify for the Landowner Liability Protection (40 CFR 312.28).

As the *User* of this *Environmental Site Assessment* ("ESA"), do you have any specialized knowledge or experience related to the *subject property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *subject property*, or an adjoining property, such that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

*Please attach additional pages as necessary

4. Relationship of the purchase price to the fair market value of the *subject property* if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for the *subject property* reasonably reflect the fair market value of the *subject property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *subject property*?

Yes, the purchase price reflects a fair market value for land intended for multifamily residential development.

*Please attach additional pages as necessary

5. Commonly known or reasonably ascertainable information about the *subject property* (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the *subject property* that would help the *Environmental Professional* to identify conditions indicative of releases or threatened releases? For example, as the *User*:

(a.) Do you know the past uses of the *subject property*?

Property has been used as as a wholesale nursery and greenhouse for approximately 30 years.

(b.) Do you know of specific chemicals that are present or once were present at the *subject property*?

Observed several pesticide and fertilizer tanks. Also observed a waste oil above ground tank and at least one above ground diesel storage tank.

(c.) Do you know of spills or other chemical releases that have taken place at the *subject property*?

Observed soil staining below the waste oil storage tank.

(d.) Do you know of any environmental cleanups that have taken place at the subject property?

No.

6. The degree of obviousness of the presence or likely presence of contamination at the *subject property* and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

As the *User* of this *ESA,* based on your knowledge and experience related to the *subject property*, are there any obvious indicators that point to the presence or likely presence of contamination at the *subject property*?

Oil staining below the above ground waste oil tank.

*Please attach additional pages as necessary

In addition, certain information should be collected, if available, and provided to the *Environmental Professional* selected to conduct this Phase I ESA. This information is intended to assist the *Environmental Professional*, but is not necessarily required to qualify for one of the *LLPs.* This information includes:

(a.) The reason why this Phase I ESA is being conducted for the *User.*

Purchase of the property for redevelopment as multifamily apartments.

(b.) The type of *Property* (current use, proposed use) and type of *Property* transaction; for example sale, purpose, exchange;

Current use is a wholesale nursery and greenhouse. Proposed use is 350-450 multifamily apartments. The type of transaction is fee-simple.

(c.) The complete and correct address for the subject property (a map or other documentation showing the subject property location and boundaries is helpful).

17201 W 64th Ave, Arvada CO 80007

(d.) The scope of services for this desired Phase I ESA (including whether any parties to the *subject property transaction may have a required standard scope of services on whether any considerations beyond the requirements of American Society for Testing and Materials ("ASTM") Practice E 1527 are to be considered).*

Standard scope for Phase I ESA.

(e.) Identification of all parties (*Users*) who are requesting to rely on this Phase I ESA report **(note: *all Users* must complete this questionnaire).**

AvalonBay Communities, Inc.

(f.) Identification of the current Owner, past owners, current/past tenants, *subject property* contact, and how they can be reached.

Marty Gerace & Nick Gerace
Welby Gardens LLC
17201 W 64th Ave
Arvada, CO 80007
303-288-3398
martyg@hardyboyplant.com

(g.) Any special terms and conditions that must be agreed upon by the *Environmental Professional*.

No.

(h.) Any other knowledge or experience with the subject property that may be pertinent to the Environmental Professional (for example, copies of any available prior ESA reports, geotechnical reports, documents, surveys, correspondence, etc., concerning the subject property and its environmental condition).

No.

Land Title Records (title search) including a Chain of Title is generally completed by the *User* prior to purchase. If a Title Search has been completed, this information should also be provided to the *Environmental Professional.*

Completed By: Gregory Himmel
(Print Name)

Signature: ______________________ Date: 11/12/24
(User)

Terry McGowan

From: WQ Records Center - CDPHE, CDPHE <cdphe.wqrecordscenter@state.co.us>
Sent: Wednesday, November 13, 2024 9:32 AM
To: Terry McGowan
Subject: Re: Welby Gardens - 17201 West 64th Avenue, Arvada, Colorado 80007

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Terry,

Since this is available to the public, we generally don't do the search for you. I did look at this one, and I did not see anything.

Records containing confidential information or that are exempt from public release under open records laws may not be displayed. If there is a specific record you believe is missing, such as a hard copy document, from a search result, please send a request to cdphe.wqrecordscenter@state.co.us and provide the document type you are seeking. There is also a searchable map. It is for searching permitted sites, Permits Record Search Map.

The Colorado Department of Public Health and Environment is committed to ensuring digital accessibility for people with disabilities. If you are having issues viewing these files with assistive technology, please let us know.

Thanks,

Frank Dale
Records Manager
Business Services Unit

P 303.692.3565 | F 303.782.0390
4300 Cherry Creek Drive South, Denver, CO 80246
cdphe.wqrecordscenter@state.co.us | www.colorado.gov/cdphe/wqcd

On Tue, Nov 12, 2024 at 3:50 PM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> Good afternoon,
>
> Baseline is completing a Phase I Environmental Assessment for the Welby Gardens located at 17201 West 64th Avenue in Arvada, Colorado 80007. We have used the Water Quality (WTR) online portal and searched for environmental information for this site; however, no documents were found. We would like to confirm that this is truly the case.

Would you please confirm that there are no Water Quality environmental documents for this site.

Thank you.

Terry O. McGowan, P. G. | Senior Geologist/Hydrogeologist

Environmental Division

303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

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and please delete the original message. Thank you.

APPENDIX C

FEMA Flood Insurance Rate Map

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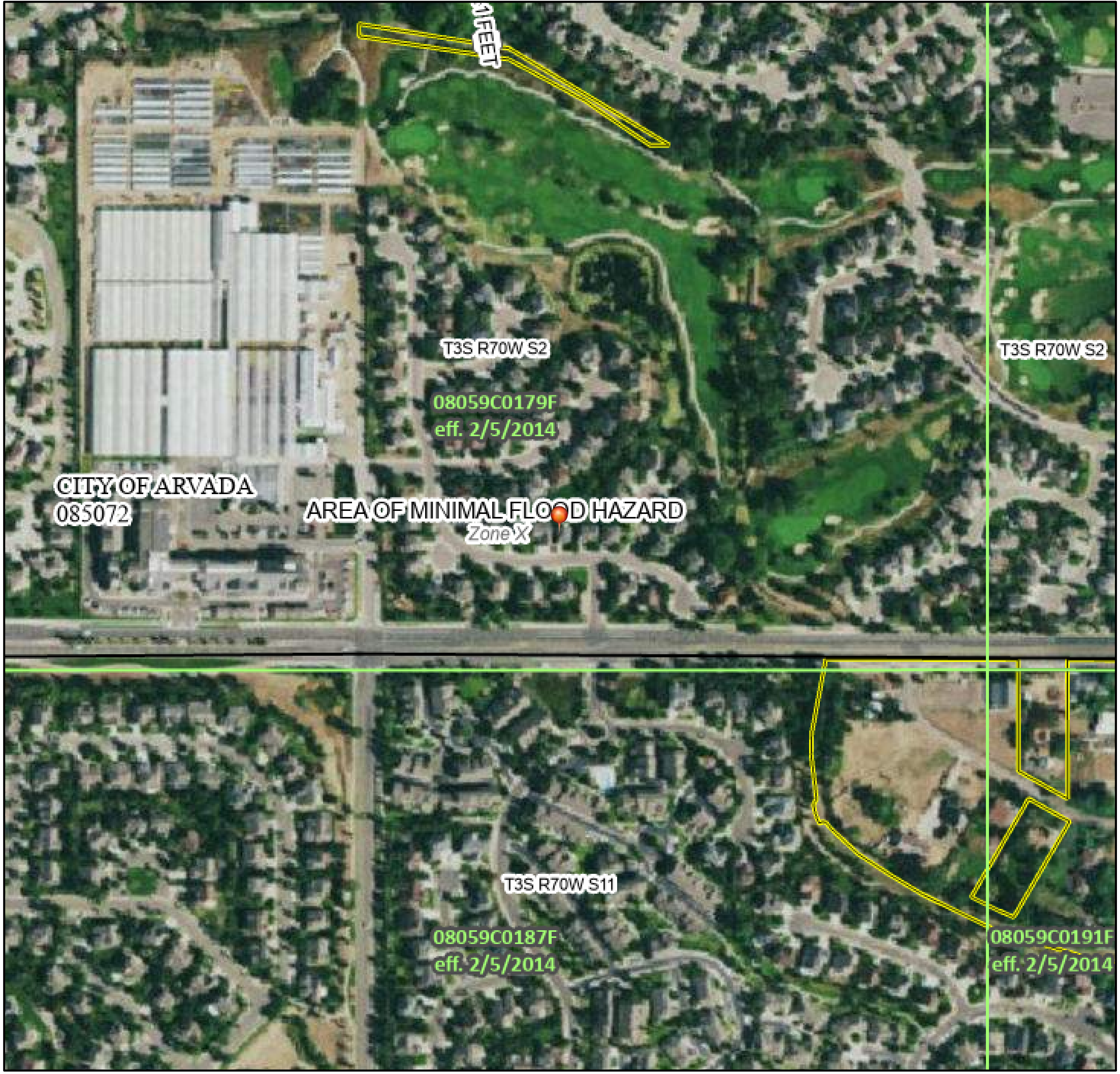
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APPENDIX D

Environmental Data Resources (EDR) Summary and Electronic File Containing All EDR Reports

Welby Gardens Phase I ESA,

17201 West 64th Avenue
Arvada, CO 80007

Inquiry Number: 7809324.8
October 31, 2024

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

10/31/24

Site Name:

Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007
EDR Inquiry # 7809324.8

Client Name:

Baseline Engineering Corporation
112 North Rubey Dr Unit 210
Golden, CO 80403
Contact: Taylor Culp

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2019	1"=500'	Flight Year: 2019	USDA/NAIP
2015	1"=500'	Flight Year: 2015	USDA/NAIP
2011	1"=500'	Flight Year: 2011	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1999	1"=500'	Acquisition Date: October 04, 1999	USGS/DOQQ
1994	1"=500'	Flight Date: September 25, 1994	EDR Proprietary Landiscor
1983	1"=500'	Flight Date: October 05, 1983	USDA
1979	1"=500'	Flight Date: June 21, 1979	EDR Proprietary Landiscor
1971	1"=500'	Flight Date: August 06, 1971	USGS
1963	1"=500'	Flight Date: May 13, 1963	USGS
1955	1"=500'	Flight Date: July 02, 1955	USDA
1937	1"=500'	Flight Date: July 23, 1937	USDA

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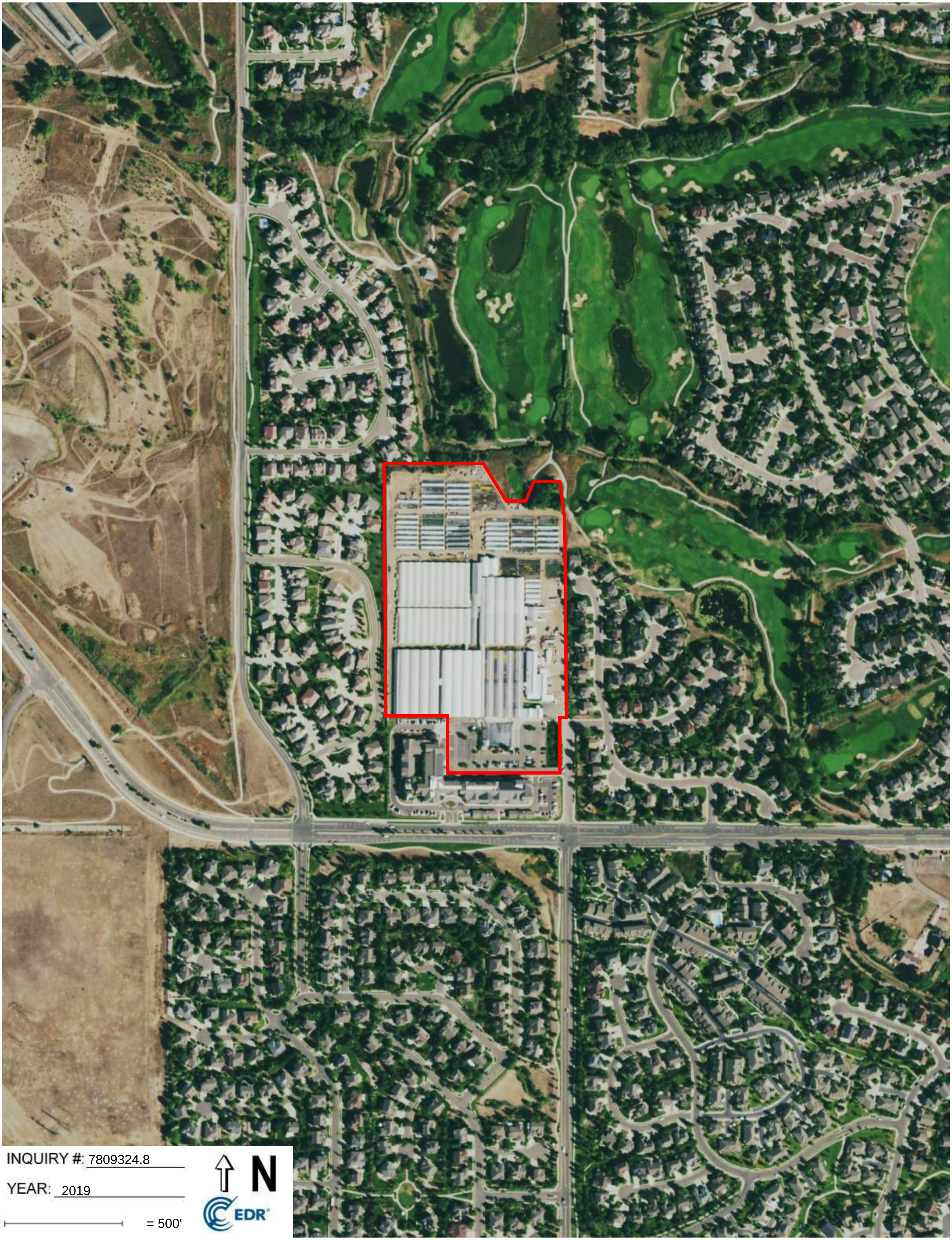
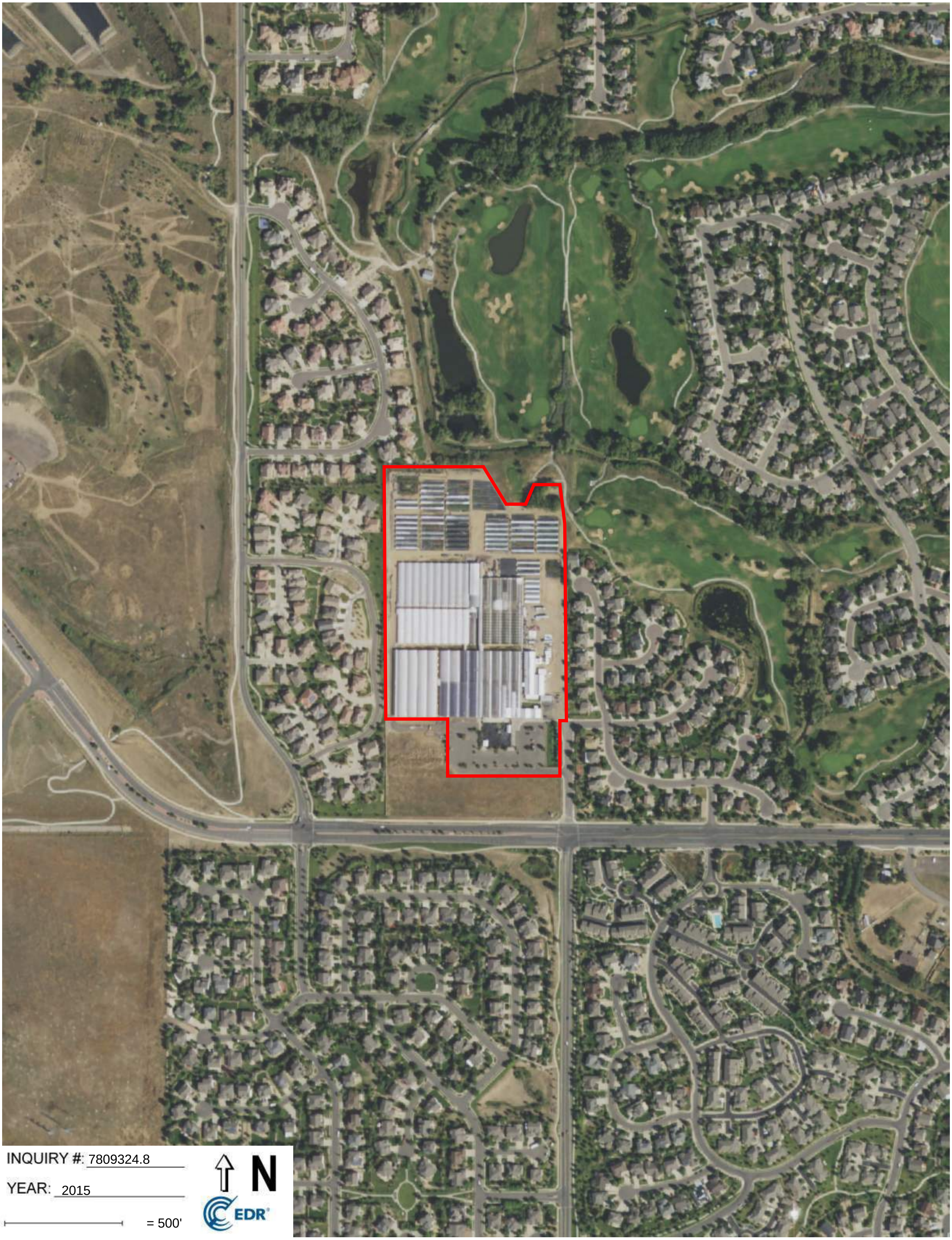


INQUIRY #: 7809324.8

YEAR: 2019

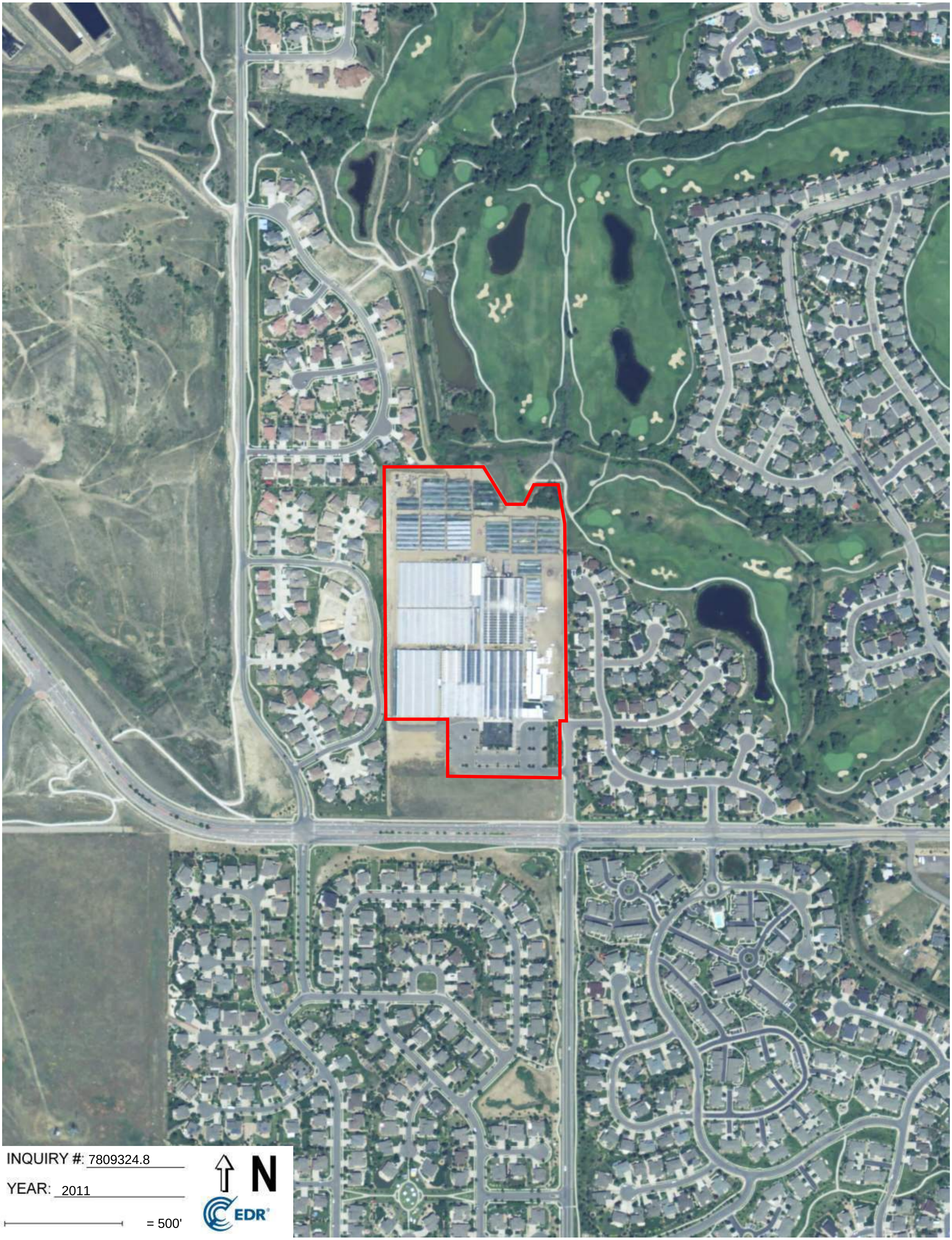
= 500'



INQUIRY #: 7809324.8

YEAR: 2015

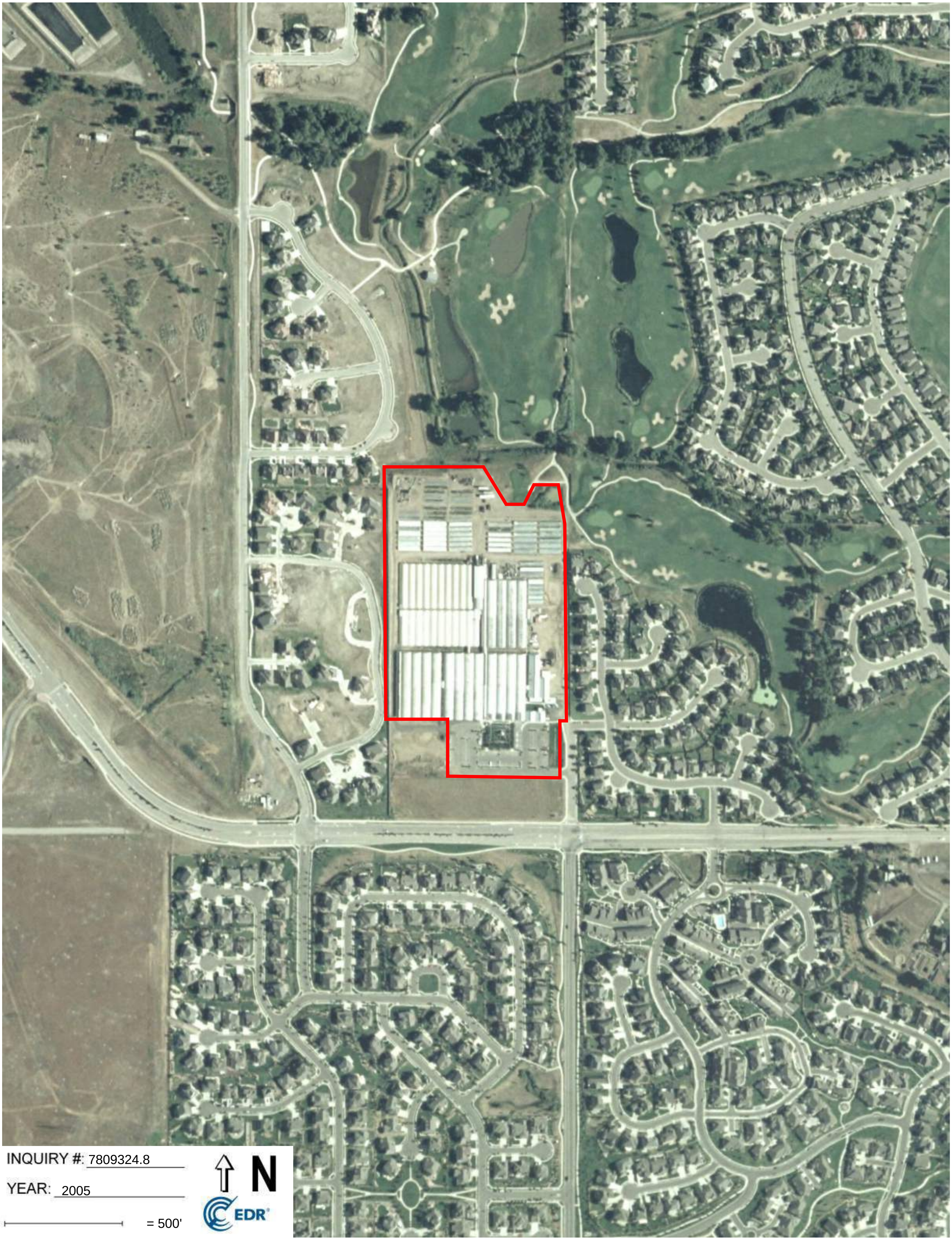
= 500'



INQUIRY #: 7809324.8

YEAR: 2011

= 500'

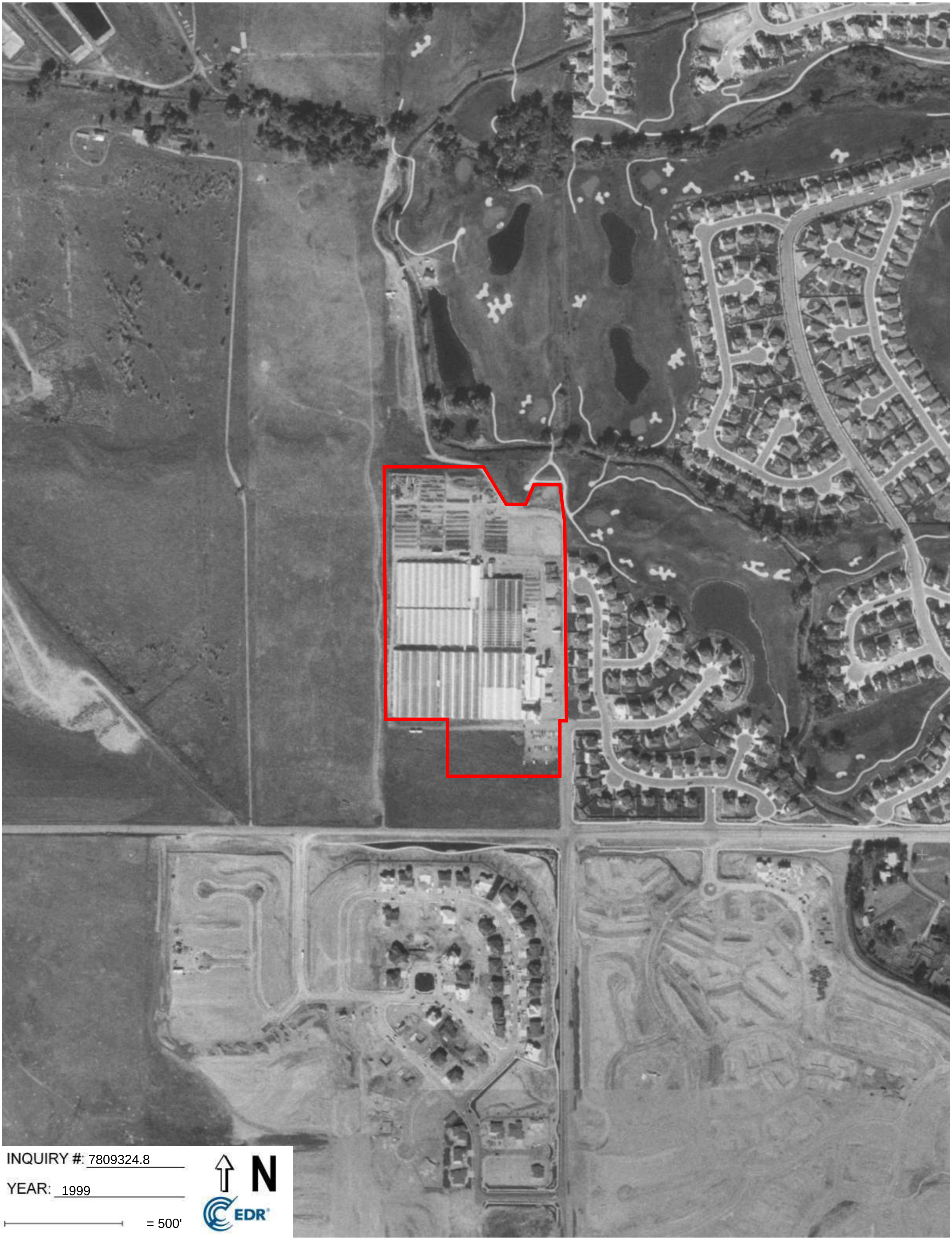


INQUIRY #: 7809324.8

YEAR: 2005

= 500'

N



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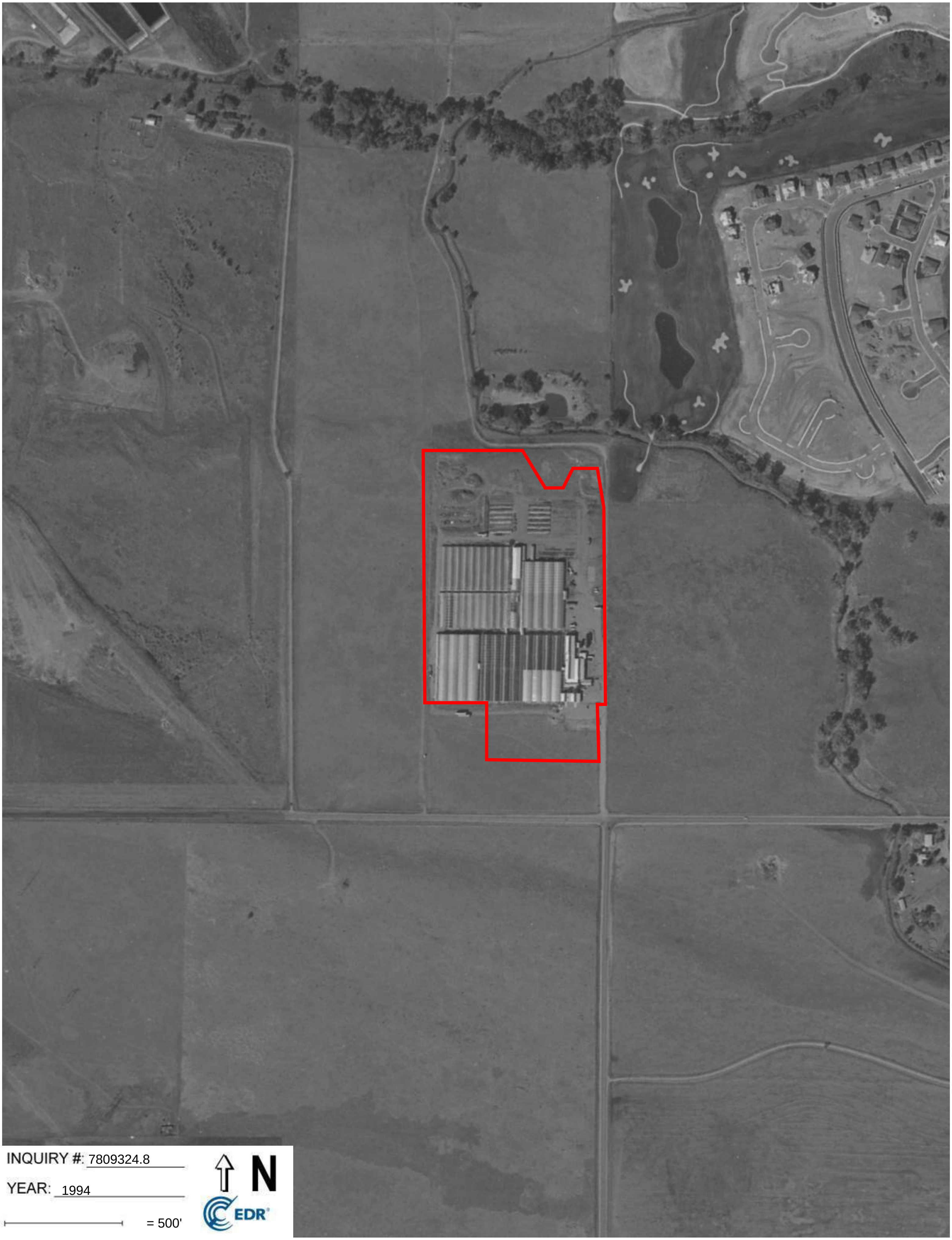
YEAR: 1999

= 500'



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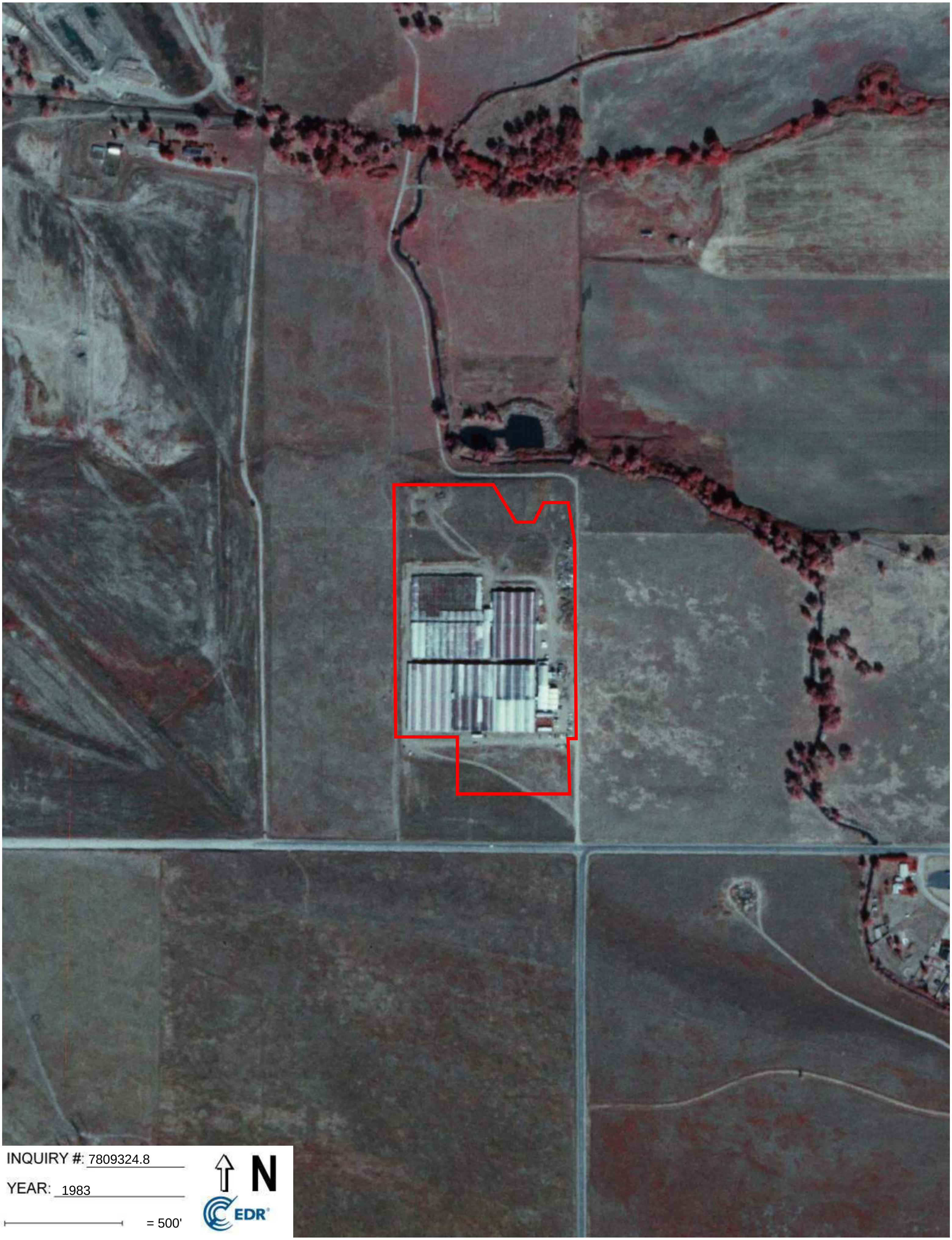

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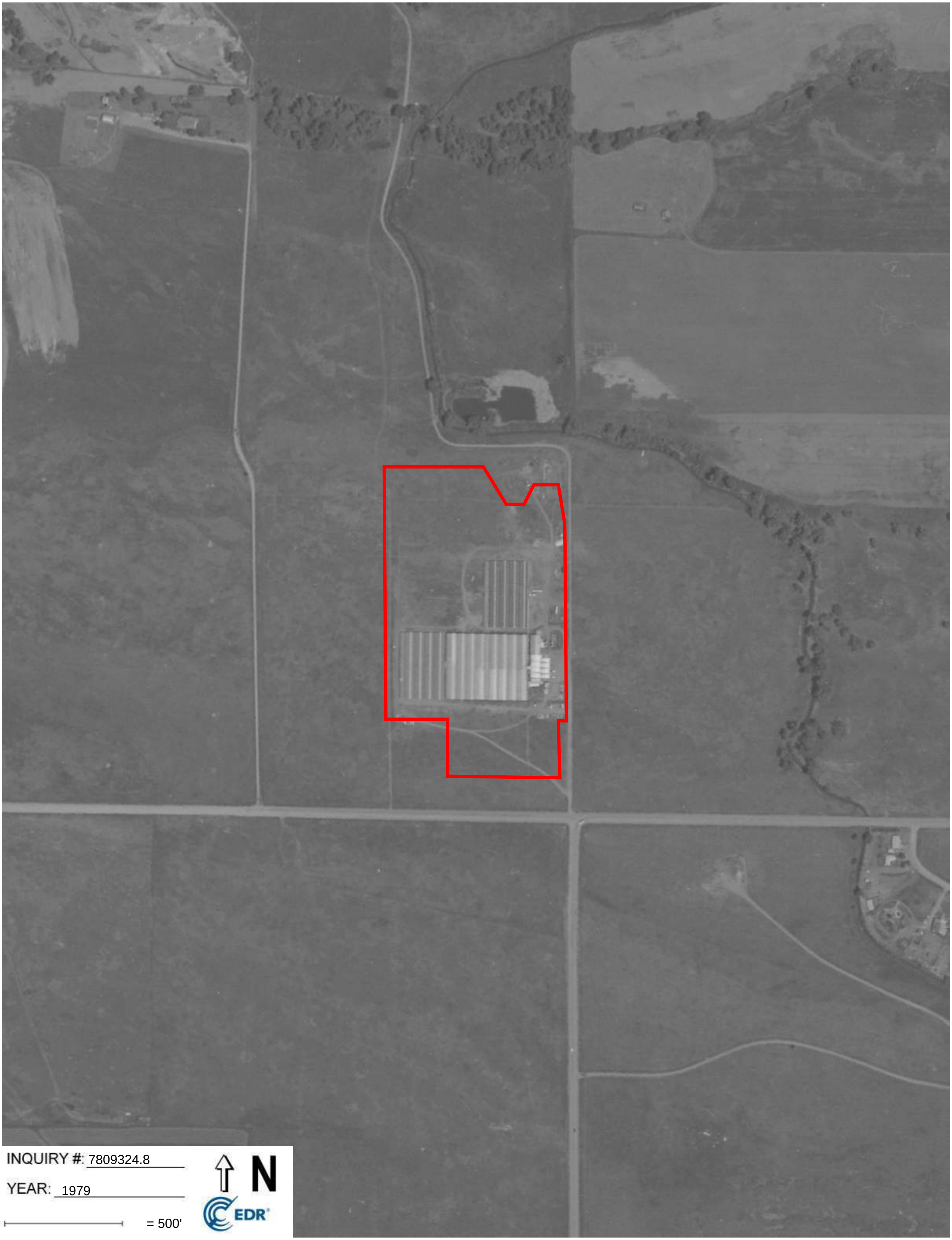
YEAR: 1983

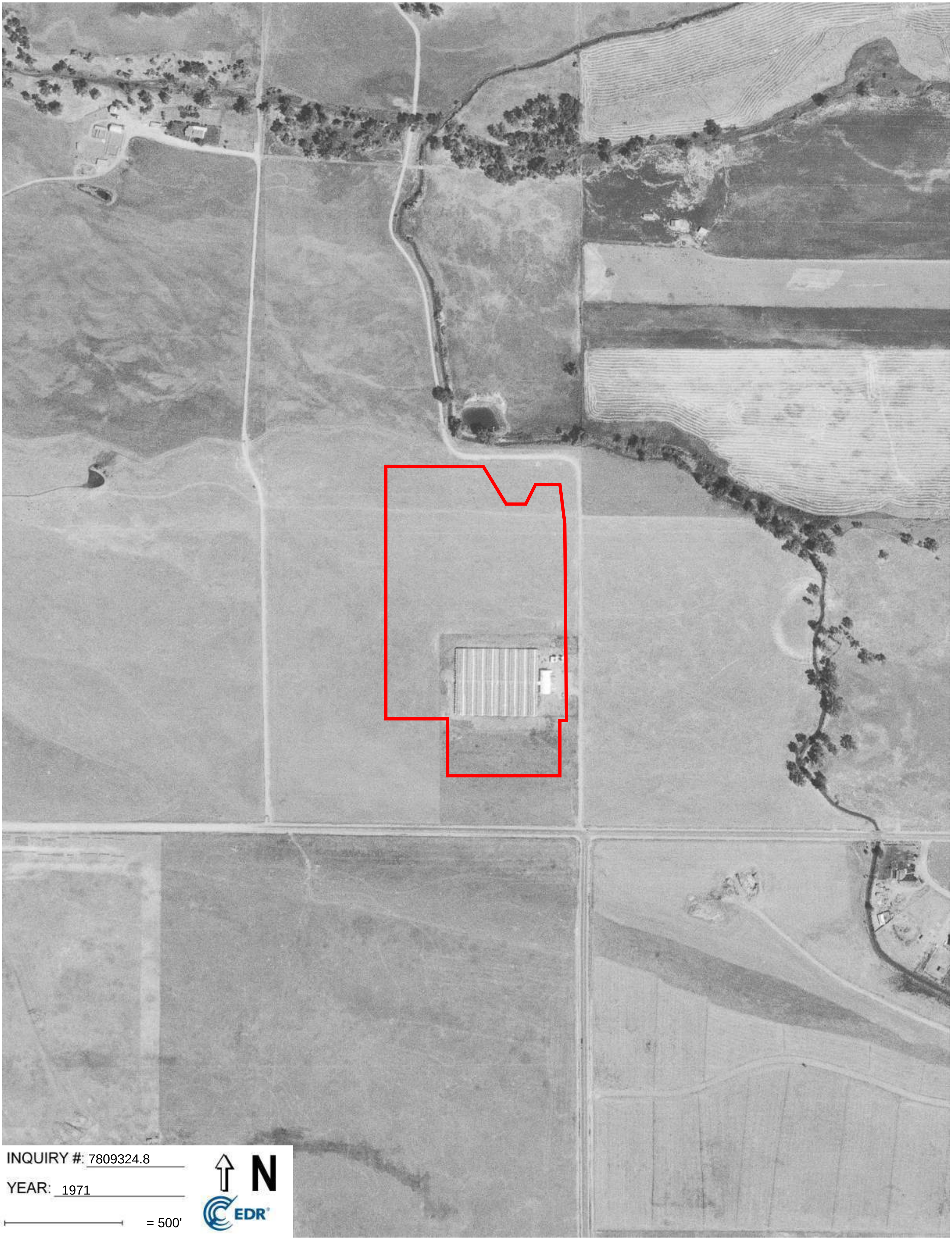
= 500'



INQUIRY #: 7809324.8

YEAR: 1979

= 500'



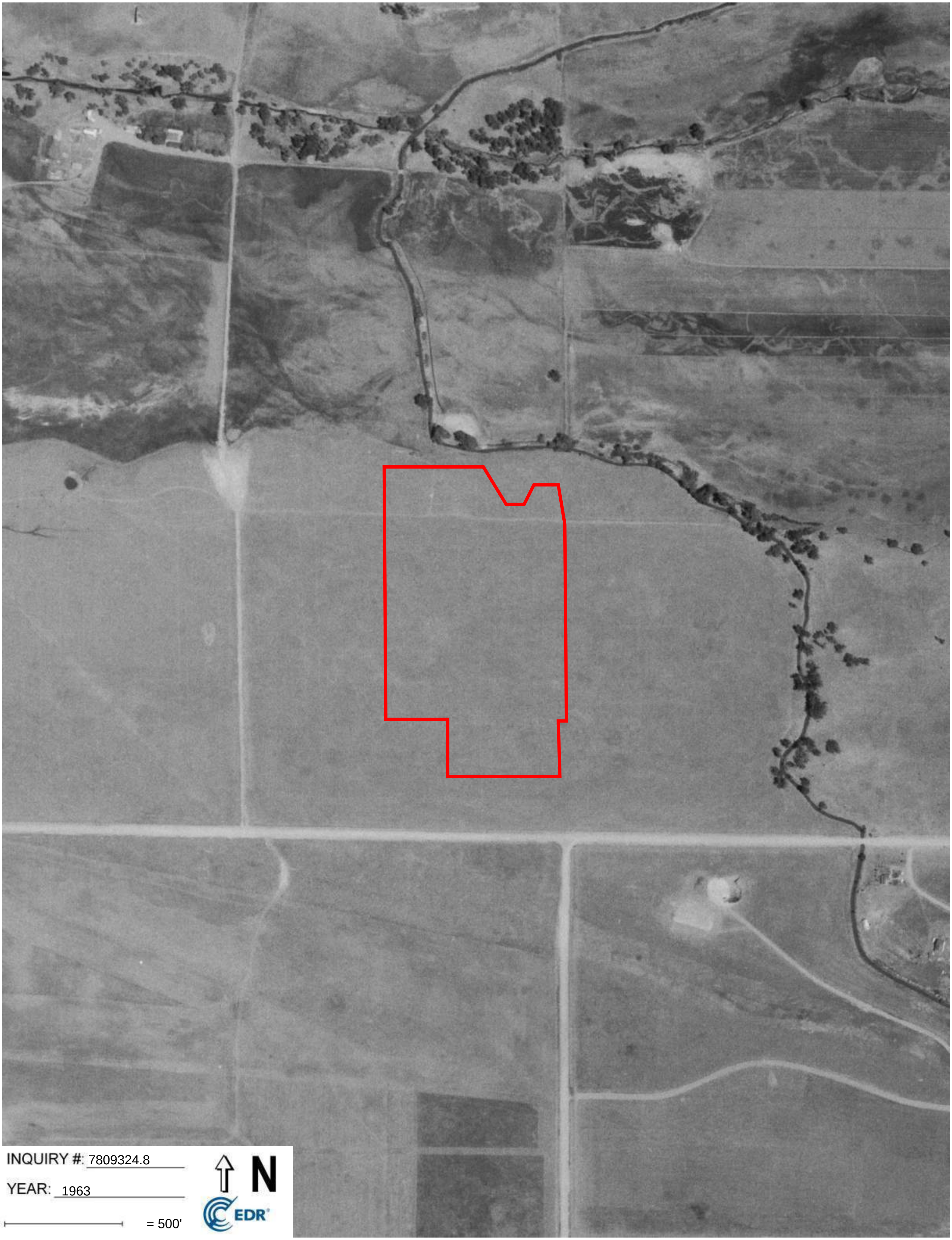
INQUIRY #: 7809324.8

YEAR: 1971

= 500'

N

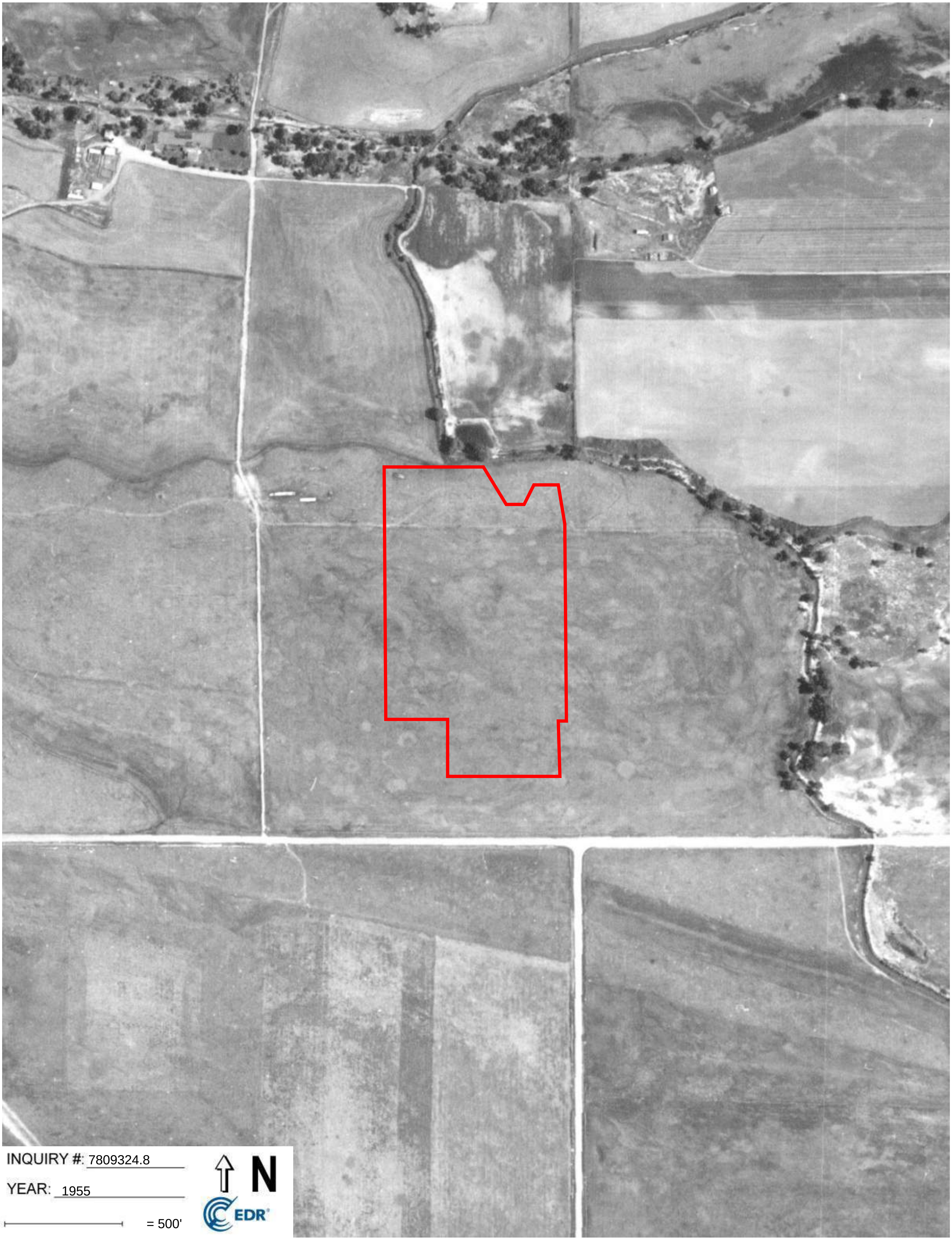
EDR



INQUIRY #: 7809324.8

YEAR: 1963

= 500'

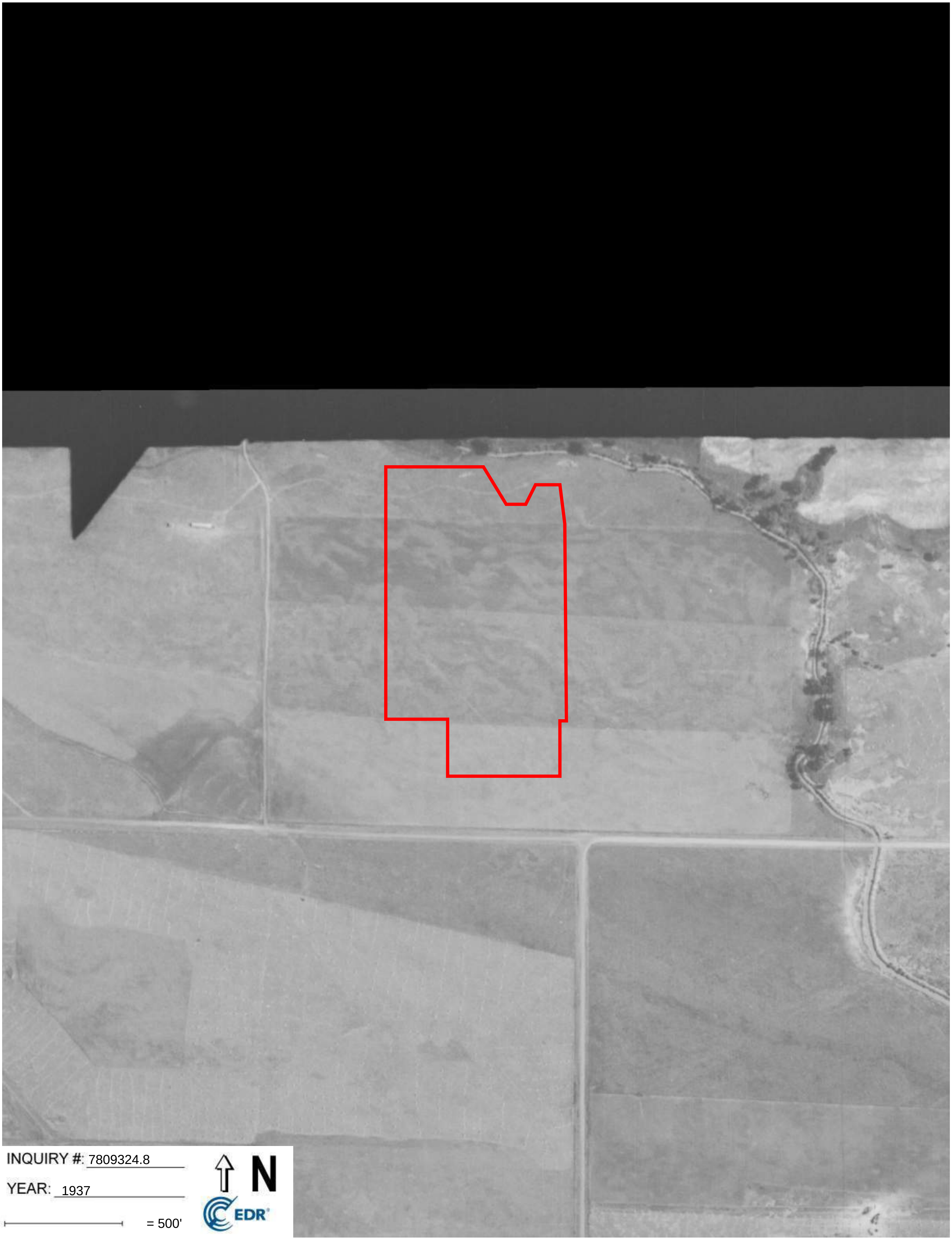


INQUIRY #: 7809324.8

YEAR: 1955

= 500'

EDR



INQUIRY #: 7809324.8

YEAR: 1937

= 500'

Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007

Inquiry Number: 7809324.5
November 04, 2024

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	***Target Street***	***Cross Street***	***Source***
2020	☑	☐	EDR Digital Archive
2017	☑	☐	Cole Information
2014	☐	☐	Cole Information
2010	☑	☐	Cole Information
2005	☑	☐	Cole Information
2000	☑	☐	Cole Information
1995	☑	☐	Cole Information
1992	☑	☐	Cole Information
1986	☑	☐	Cole Criss-Cross Directory
1982	☑	☐	Cole Criss-Cross Directory
1977	☑	☐	Cole Criss-Cross Directory
1972	☑	☐	Bresser's Cross-Index Directory Company
1967	☐	☐	Bresser's Cross-Index Directory Company
1962	☐	☐	Bresser's Cross-Index Directory Company

FINDINGS

TARGET PROPERTY STREET

17201 West 64th Avenue
Arvada, CO 80007

Year	*CD Image*	*Source*	
W 64TH AVE			
2020	pg A2	EDR Digital Archive	
2017	pg A4	Cole Information	
2014	-	Cole Information	Target and Adjoining not listed in Source
2010	pg A5	Cole Information	
2005	pg A6	Cole Information	
2000	pg A7	Cole Information	
1995	pg A8	Cole Information	
1992	pg A9	Cole Information	
1986	pg A10	Cole Criss-Cross Directory	
1982	pg A11	Cole Criss-Cross Directory	
1977	pg A12	Cole Criss-Cross Directory	
1972	pg A13	Bresser's Cross-Index Directory Company	
1967	-	Bresser's Cross-Index Directory Company	Target and Adjoining not listed in Source
1962	-	Bresser's Cross-Index Directory Company	Target and Adjoining not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

W 64TH AVE 2020

17201	COUNTY FAIR GARDEN CTR ARVADA
	HARDY BOY BEDDING PLANTS
	WELBY GARDENS
17351	BERNICE DANIELS
	CAROL SMITH
	CATHERINE OLSON
	DELORES BROWN
	DIANA HILL
	DOLORES BENALLO
	DONALD BERRIDGE
	DONNA BROWN
	EDWIN HEMINGWAY
	EVELYN SCHURWONN
	FRANCES HOMSHER
	GORDON SMITH
	HELEN LOWE
	JACK LOWE
	JAMES BEERY
	JANET CLIFTON
	JANET MAVIS
	JAVONNE HARWARD
	JOSEPH SCHURWONN
	JUDY FARLEY
	JUDY PFLUM
	KAY HEMINGWAY
	LAURA BROWN
	LINDA REED
	LOUISE RUTHERFORD
	LOUISE WEBBER
	LOWELL OLSON
	LYNN BROWN
	MARGE NORTH
	MARION CLIFTON
	MARJORIE HAGIST
	MARJORIE LADUKE
	MARK CLIFTON
	MARTHA RAWLES
	NELVA ARCHER
	NEVA APPELHANS
	NORMA DELVO
	PEGGY FRANCIS
	PHIL NORTH
	PHYLLIS PUNSHON
	RICHARD SUGG
	RICHARD WEBER
	ROBERT ARCHER
	ROBERT FARLEY
	ROBERT FEAVEL
	ROBERTA MATSON
	ROSEMARIE OSBORN

W 64TH AVE 2020 (Cont'd)

17351	SALLIE FEAVEL
	SANDRA QUICKENDEN
	SHARON BEERY
	SHIRLEY PETERSON
	VIRGINIA SUGG
	VIRGINIA WEINBERGER

Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 2017

17201	COUNTRY FAIR AT WESTWOODS WELBY GARDENS

Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 2010

17201	COUNTRY FAIR AT WESTWOODS
17491	KARAS, MICHAEL

Target Street	**Cross Street**	**Source**
✓	-	Cole Information

W 64TH AVE 2005

17201 COUNTRY FAIR GARDEN CENTERS
LITTLE, S
RAGSDALE, BRENT

Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 2000

17021	OCCUPANT UNKNOWN,
17060	OCCUPANT UNKNOWN,
17120	OCCUPANT UNKNOWN,
17201	GIRTEN, MICHAEL
	VELDKAMPS WHOLESALE GREENHOUSES

Target Street	**Cross Street**	**Source**
✓	-	Cole Information

W 64TH AVE 1995

17201 FLORAWEST WHOLESALE GREENHOUSE
GRANT, L
TISDALE, S

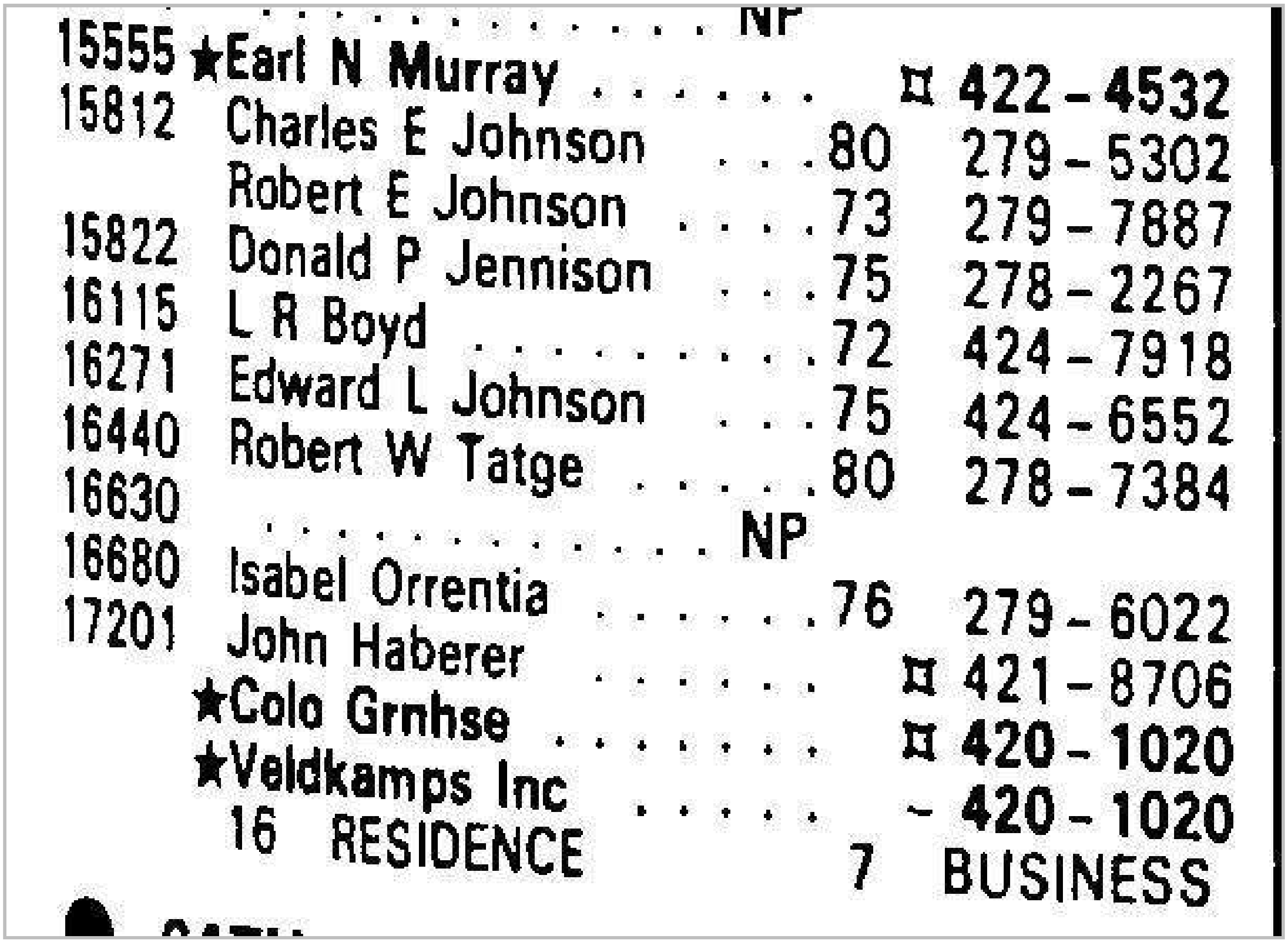
Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 1992

17201 FLORA WEST WHLSL
GRANT, L
HOSTETLER, ERICH
VELDKAMPS FLOWERS

Target Street	Cross Street	Source
✓	-	Cole Criss-Cross Directory

W 64TH AVE 1986



	NP		
15555	★Earl N Murray		¤ 422-4532
15812	Charles E Johnson	80	279-5302
	Robert E Johnson	73	279-7887
15822	Donald P Jennison	75	278-2267
16115	L R Boyd	72	424-7918
16271	Edward L Johnson	75	424-6552
16440	Robert W Tatge	80	278-7384
16630	NP		
16680	Isabel Orrentia	76	279-6022
17201	John Haberer		¤ 421-8706
	★Colo Grnhse		¤ 420-1020
	★Veldkamps Inc		~ 420-1020

16 RESIDENCE 7 BUSINESS

Target Street	Cross Street	Source
✓	-	Cole Criss-Cross Directory

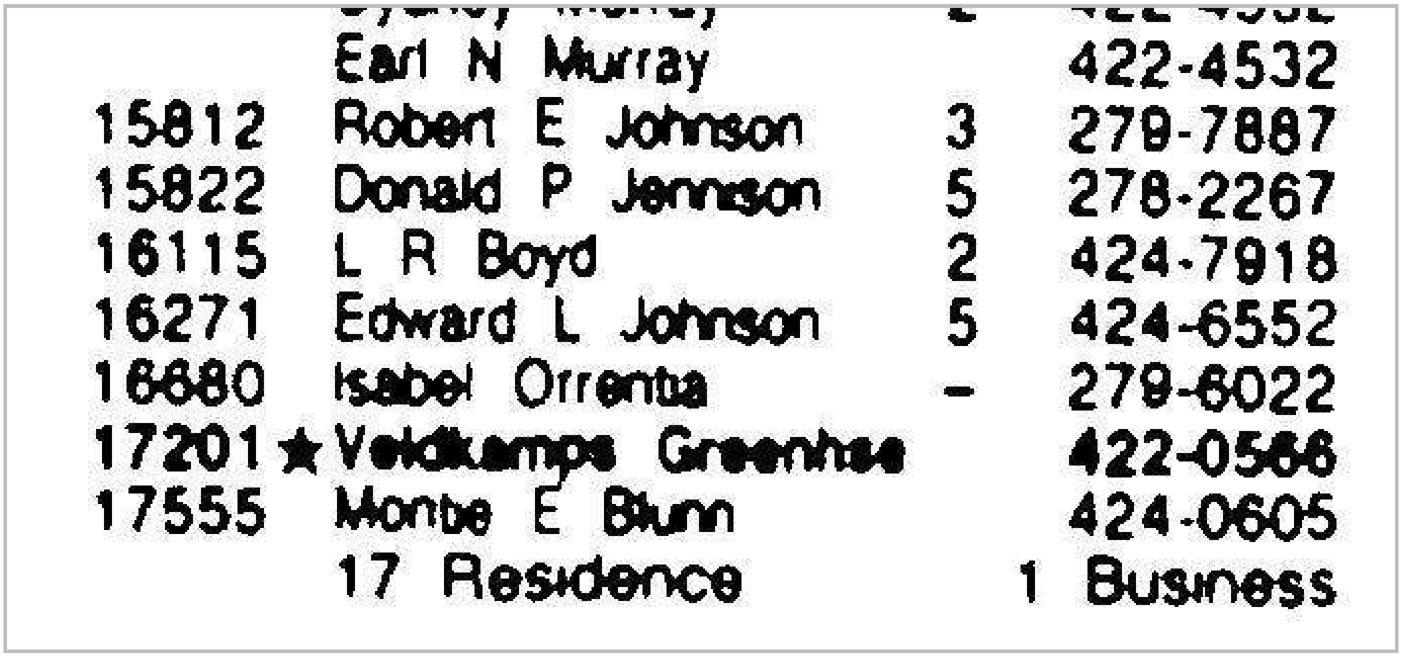
W 64TH AVE 1982

15022	Donald F Jennison	.75	278-2207
16115	L R Boyd	.72	424-7918
16271	Edward L Johnson	.75	424-6552
16440	Robert W Tatge	.80	278-7384
16630	Steve Schmidt	¤	279-9328
16680	Isabel Orrentia	.76	279-6022
17201	★**Veldkamps Greenhse** . . .		**420-1251**
	★**Veldkamps Greenhse** . . .		**420-2688**
	★**Veldkamps Whlsl**		**420-1020**
17555	Montie E Blunn		424-0605

19 Residence 6 Business

Target Street	Cross Street	Source
✓	-	Cole Criss-Cross Directory

W 64TH AVE 1977

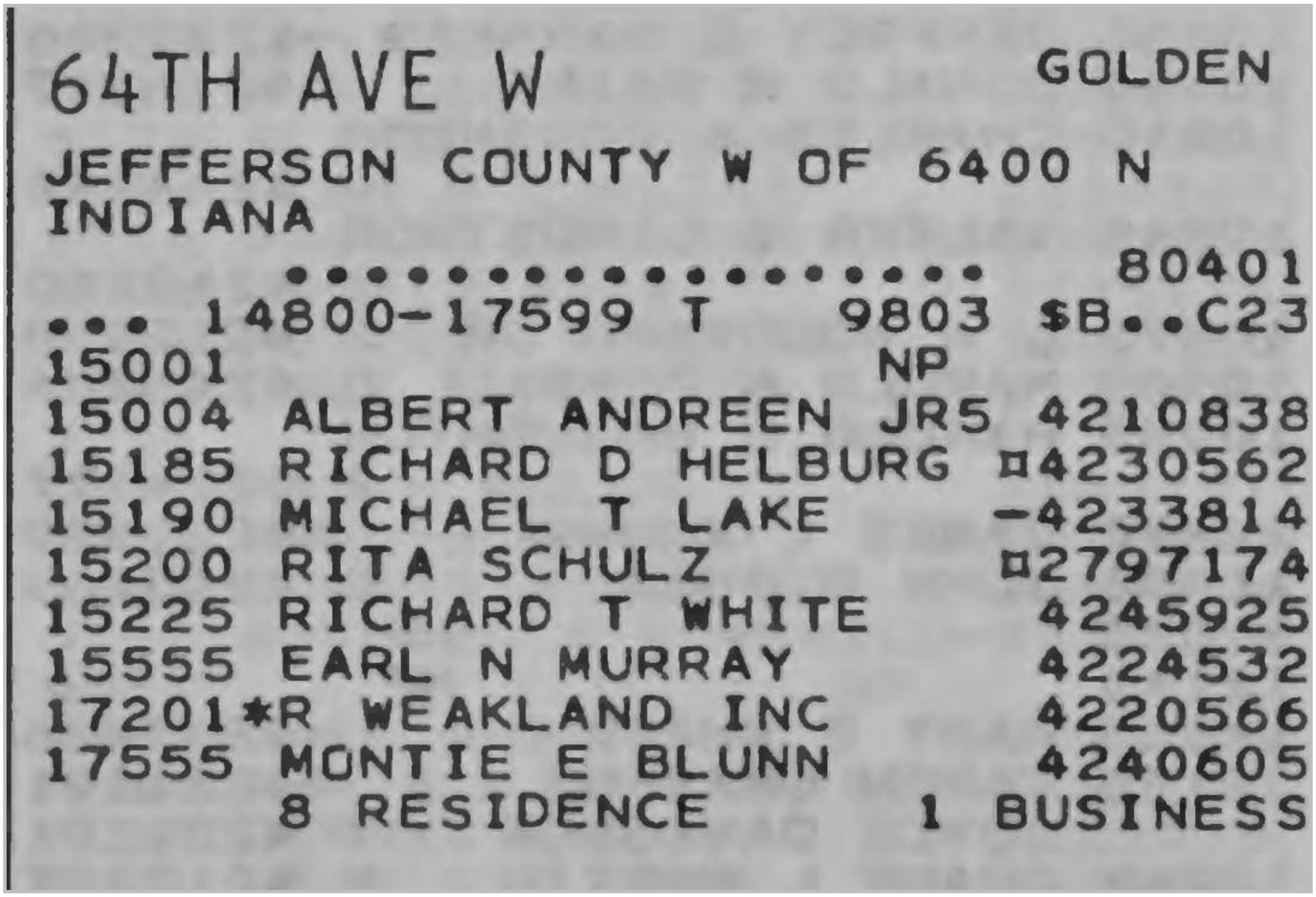


	Earl N Murray		422-4532
15812	Robert E Johnson	3	279-7887
15822	Donald P Jennson	5	278-2267
16115	L R Boyd	2	424-7918
16271	Edward L Johnson	5	424-6552
16680	Isabel Orrenta	-	279-6022
17201	★ Veldkamps Greenhse		422-0566
17555	Monte E Blunn		424-0605

17 Residence 1 Business

Target Street	Cross Street	Source
✓	-	Bresser's Cross-Index Directory

W 64TH AVE 1972



64TH AVE W GOLDEN

JEFFERSON COUNTY W OF 6400 N INDIANA

•••••••••••••••••• 80401

••• 14800-17599 T 9803 $B••C23

15001 NP

15004 ALBERT ANDREEN JR5 4210838

15185 RICHARD D HELBURG ¤4230562

15190 MICHAEL T LAKE -4233814

15200 RITA SCHULZ ¤2797174

15225 RICHARD T WHITE 4245925

15555 EARL N MURRAY 4224532

17201*R WEAKLAND INC 4220566

17555 MONTIE E BLUNN 4240605

8 RESIDENCE 1 BUSINESS

Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007

Inquiry Number: 7809324.2s
October 31, 2024

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA’s Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

17201 WEST 64TH AVENUE
ARVADA, CO 80007

COORDINATES

Latitude (North):	39.8152220 - 39˚ 48’ 54.79’’
Longitude (West):	105.1946750 - 105˚ 11’ 40.83’’
Universal Tranverse Mercator:	Zone 13
UTM X (Meters):	483337.5
UTM Y (Meters):	4407057.5
Elevation:	5680 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50012209 GOLDEN, CO
Version Date:	2022

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20190919
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
17201 WEST 64TH AVENUE
ARVADA, CO 80007

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	WELBY GARDENS	17201 WEST 64TH AVEN	FTTS, HIST FTTS		TP
A2	VELDKAMPS GREENHOUSE	17201 WEST 64TH AVEN	FTTS, HIST FTTS		TP
A3	WELBY GARDENS	17201 WEST 64TH AVEN	FINDS		TP
4	ROCKY FLATS INDUSTRI	17100 - 17400 W HWY	SEMS, LIENS 2, PRP	Higher	549, 0.104, WSW
5	CITY OF ARVADA (WATE	18001 W 66TH AVE	RCRA-VSQG, FINDS, ECHO	Higher	792, 0.150, SW
6	THORO PRODUCTS COMPA	9091 UMBER CT	CORRACTS, RCRA-TSDF, RCRA NonGen / NLR, US FIN...	Higher	1194, 0.226, South
7	JEFFERSON COUNTY-CEN	701 WIER ST	RCRA NonGen / NLR, FINDS, ECHO	Higher	1257, 0.238, SSW
8	CITY OF ARVADA WATER	18001 W 66TH AVE	SHWF	Higher	2538, 0.481, West

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
WELBY GARDENS 17201 WEST 64TH AVEN ARVADA, CO 80007	FTTS Database: FTTS INSP, Date of Government Version: 04/09/2009 HIST FTTS Database: HIST FTTS INSP, Date of Government Version: 10/19/2006	N/A
VELDKAMPS GREENHOUSE 17201 WEST 64TH AVEN ARVADA, CO 80401	FTTS Database: FTTS INSP, Date of Government Version: 04/09/2009 HIST FTTS Database: HIST FTTS INSP, Date of Government Version: 10/19/2006	N/A
WELBY GARDENS 17201 WEST 64TH AVEN ARVADA, CO 80007	FINDS Registry ID:: 110020505498 Registry ID:: 110011672010	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR’s search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
NPL LIENS	Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL	National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY	Federal Facility Site Information listing

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE	Superfund Enterprise Management System Archive

Lists of Federal RCRA generators

RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS	Land Use Control Information System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROLS	Institutional Controls Sites List

Federal ERNS list

ERNS	Emergency Response Notification System

Lists of state- and tribal hazardous waste facilities

SHWS	This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF	Solid Waste Sites & Facilities

Lists of state and tribal leaking storage tanks

LTANKS	Petroleum Release Events Listing
LAST	Leaking Aboveground Storage Tank Listing
LUST	Leaking Underground Storage Tank List
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
LUST TRUST	RAP Site Listing

Lists of state and tribal registered storage tanks

FEMA UST	Underground Storage Tank Listing
UST	Underground Storage Tank Database
AST	Aboveground Tank List
INDIAN UST	Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

AUL	Environmental Covenants and Environmental Use Restrictions List

Lists of state and tribal voluntary cleanup sites

VCP	Voluntary Cleanup & Redevelopment Act Application Tracking Report
INDIAN VCP	Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

BROWNFIELDS	Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS	A Listing of Brownfields Sites

EXECUTIVE SUMMARY

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY	Registered Recyclers Listing
HIST LF	Historical Landfill List
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS	Open Dumps on Indian Land
DENVER CO HIST FILL	Denver City & County Historic Fill Areas

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
CDL	Meth Lab Locations
US CDL	National Clandestine Laboratory Register

Local Land Records

LIENS 2	CERCLA Lien Information

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
SPILLS	Spills Database
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites

EXECUTIVE SUMMARY

US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
MINES MRDS	Mineral Resources Data System
ABANDONED MINES	Abandoned Mines
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
PFAS NPL	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES	Federal Sites PFAS Information
PFAS TRIS	List of PFAS Added to the TRI
PFAS TSCA	PFAS Manufacture and Imports Information
PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR	PFAS Contamination Site Location Listing
PFAS WQP	Ambient Environmental Sampling for PFAS
PFAS PROJECT	NORTHEASTERN UNIVERSITY PFAS PROJECT
PFAS NPDES	Clean Water Act Discharge Monitoring Information
PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAIN	Facilities in Industries that May Be Handling PFAS Listing
PFAS PT 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing
BIOSOLIDS	ICIS-NPDES Biosolids Facility Data
E MANIFEST	Hazardous Waste Electronic Manifest System
PFAS	PFAS Information Listing
AQUEOUS FOAM	Class B Firefighting Foam Contaminating PFAS Listing
AIRS	Permitted Facility & Emissions Listing
ASBESTOS	Asbestos Abatement & Demolition Projects
METHANE SITE	Methane Site Investigations - Jefferson County 1980
Methane Investig	Methane Gas & Swamp Findings
DRYCLEANERS	Drycleaner Facilities
Financial Assurance	Financial Assurance Information Listing
LEAD	LEAD
MINES	Permitted Mines Listing
NPDES	Permitted Facility Listing
UIC	Underground Injection Control
UMTRA	Uranium Mill Tailings Sites

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List
RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal sites subject to CERCLA removals and CERCLA orders

SEMS: SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the SEMS list, as provided by EDR, and dated 09/25/2024 has revealed that there is 1 SEMS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ROCKY FLATS INDUSTRI Site ID: 0800265 EPA Id: COD980807374	***17100 - 17400 W HWY***	***WSW 0 - 1/8 (0.104 mi.)***	***4***	***9***

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 06/03/2024 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
THORO PRODUCTS COMPA EPA ID:: COD007065576	***9091 UMBER CT***	***S 1/8 - 1/4 (0.226 mi.)***	***6***	***18***

EXECUTIVE SUMMARY

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-TSDF list, as provided by EDR, and dated 06/03/2024 has revealed that there is 1 RCRA-TSDF site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
THORO PRODUCTS COMPA EPA ID:: COD007065576	***9091 UMBER CT***	***S 1/8 - 1/4 (0.226 mi.)***	***6***	***18***

Lists of Federal RCRA generators

RCRA-VSQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 06/03/2024 has revealed that there is 1 RCRA-VSQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY OF ARVADA (WATE EPA ID:: CO0000083865	***18001 W 66TH AVE***	***SW 1/8 - 1/4 (0.150 mi.)***	***5***	***16***

Lists of state and tribal landfills and solid waste disposal facilities

SHWF: A listing from the Solid Waste Information System, which is used to help administer the various programs of our solid waste and materials management program. It includes a wide variety of types of facilities and sites, and includes information obtained over several decades and numerous legacy data systems.

A review of the SHWF list, as provided by EDR, and dated 07/01/2024 has revealed that there is 1 SHWF site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY OF ARVADA WATER	18001 W 66TH AVE	W 1/4 - 1/2 (0.481 mi.)	8	100

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/03/2024 has revealed that there are 2 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

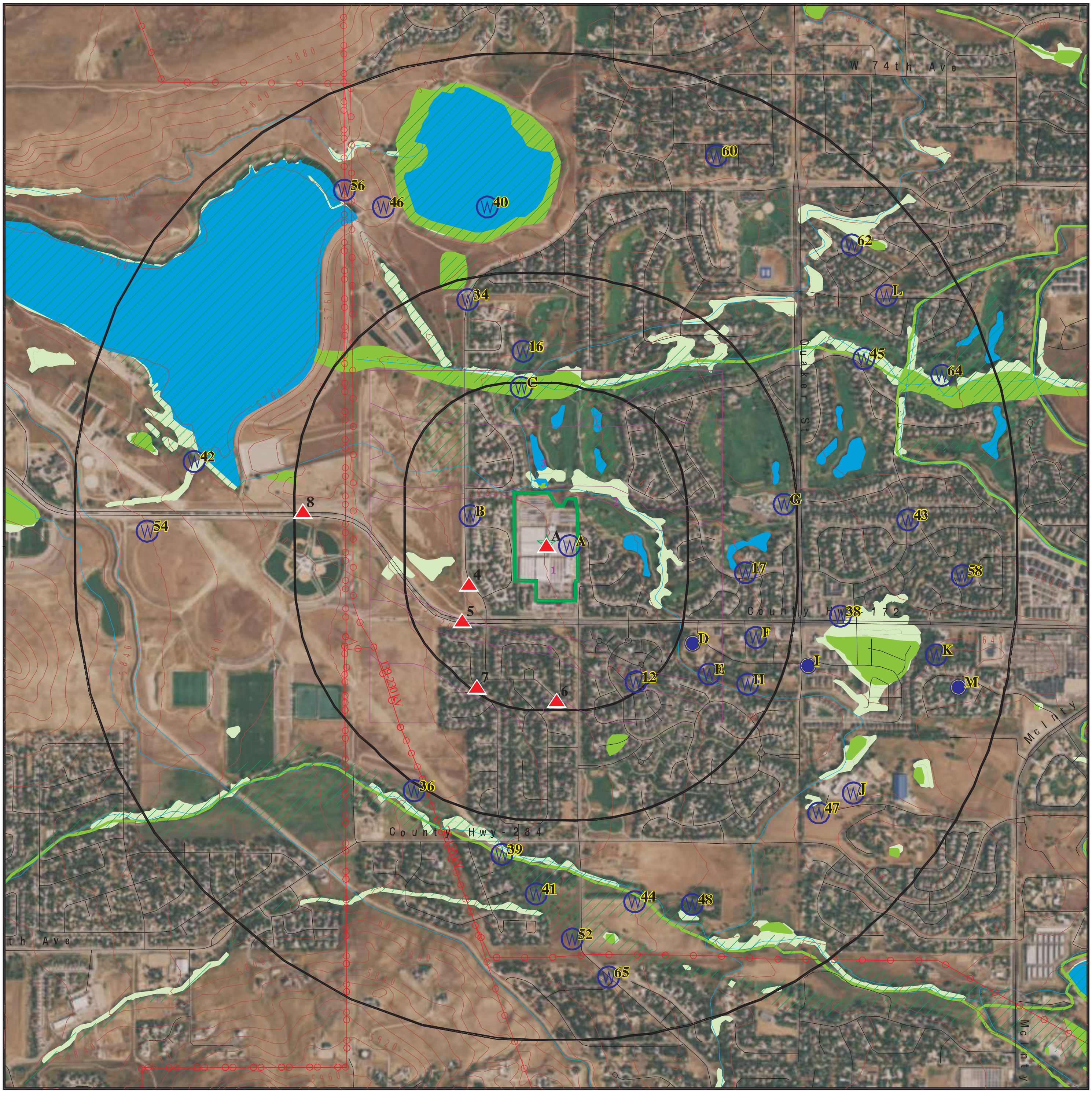
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
THORO PRODUCTS COMPA EPA ID:: COD007065576	***9091 UMBER CT***	***S 1/8 - 1/4 (0.226 mi.)***	***6***	***18***
JEFFERSON COUNTY-CEN EPA ID:: COD981549629	***701 WIER ST***	***SSW 1/8 - 1/4 (0.238 mi.)***	***7***	***96***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 2 records.

Site Name	Database(s)
UMBER COURT ABANDONED DRUMS	SEMS-ARCHIVE
SMITH PROPERTY	VCP

OVERVIEW MAP - 7809324.2S


W 74th Ave
Quaker St
County Hwy 172
County Hwy 284
McInty
th Ave
60
56
46
40
62
L
34
16
45
64
C
42
8
B
A
54
G
43
17
58
4
5
38
D
F
K
I
E
12
H
M
7
6
36
J
47
39
41
44
48
52
65
1

0 1/4 1/2 1 Miles

- Target Property
- 🔺 Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Power transmission lines
- ▨ Special Flood Hazard Area (1%)
- ▨ 0.2% Annual Chance Flood Hazard
- 🟩 National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Welby Gardens Phase I ESA,	CLIENT:	Baseline Engineering Corporation
ADDRESS:	17201 West 64th Avenue Arvada CO 80007	CONTACT:	Taylor Culp
		INQUIRY #:	7809324.2s
LAT/LONG:	39.815222 / 105.194675	DATE:	October 31, 2024 1:25 pm

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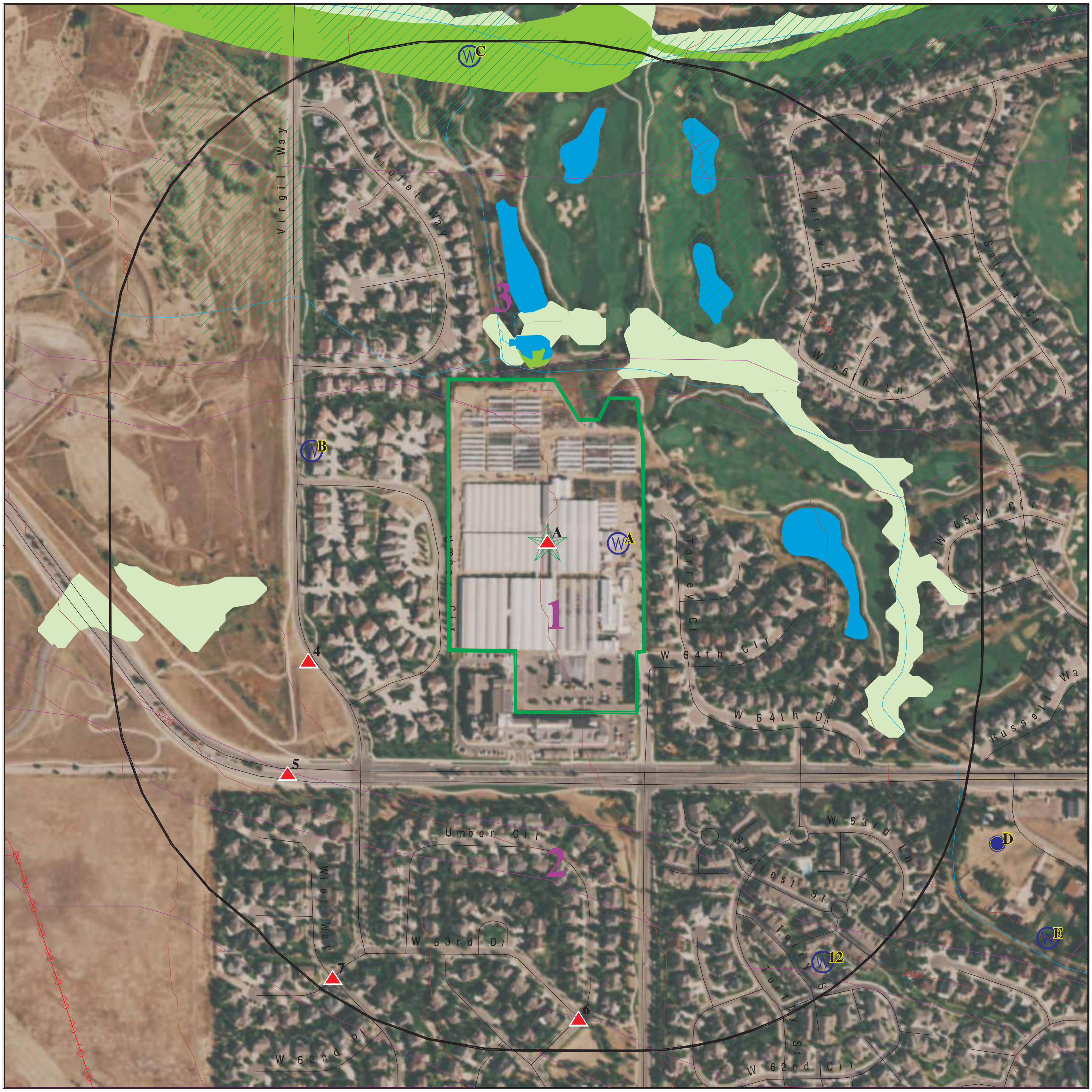
DETAIL MAP - 7809324.2S


Virgil Way
Violet Way
Terry Ct
Salvia Ct
W 66th Ln
W 65th Cir
Umber Cir
Torrey Ct
W 64th Cir
W 64th Dr
Russell Wa
W 63rd Ln
Seacrest St
Terry St
Torrey St
Wier Way
W 63rd Dr
W 62nd Pl
W 62nd Cir
A
B
C
D
E
12
1
2
3
4
5
6
7

- Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Power transmission lines
- ▨ Special Flood Hazard Area (1%)
- ▨ 0.2% Annual Chance Flood Hazard
- 🟩 National Wetland Inventory
- 🟩 State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Welby Gardens Phase I ESA, ADDRESS: 17201 West 64th Avenue Arvada CO 80007 LAT/LONG: 39.815222 / 105.194675	CLIENT: Baseline Engineering Corporation CONTACT: Taylor Culp INQUIRY #: 7809324.2s DATE: October 31, 2024 1:25 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		1	0	0	NR	NR	1
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	1	0	0	NR	1
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	1	0	NR	NR	1
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	1	NR	NR	NR	1
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal hazardous waste facilities								
SHWS	N/A		N/A	N/A	N/A	N/A	N/A	N/A
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0
SHWF	0.500		0	0	1	NR	NR	1
Lists of state and tribal leaking storage tanks								
LTANKS	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LAST	0.500		0	0	0	NR	NR	0
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
LUST TRUST	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
DENVER CO HIST FILL	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
SPILLS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	2	NR	NR	NR	2
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001	2	0	NR	NR	NR	NR	2
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001	2	0	NR	NR	NR	NR	2
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001	1	0	NR	NR	NR	NR	1
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS PROJECT	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0
E MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
ASBESTOS	0.001		0	NR	NR	NR	NR	0
METHANE SITE	0.001		0	NR	NR	NR	NR	0
Methane Investig	0.001		0	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
LEAD	0.001		0	NR	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		5	1	5	1	0	0	12

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

A1 **Target** **Property**	**WELBY GARDENS** **17201 WEST 64TH AVENUE** **ARVADA, CO 80007**	**FTTS** **HIST FTTS**	**1007992297** **N/A**

Site 1 of 3 in cluster A

Actual:
5680 ft.

FTTS INSP:
Inspection Number: 2004030821538 3
Region: 08
Inspection Date: 03/08/04
Inspector: TERRELL, DON
Violation occurred: No
Investigation Type: Use General Agriculture
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: User

HIST FTTS INSP:
Inspection Number: 2004030821538 3
Region: 08
Inspection Date: Not reported
Inspector: TERRELL, DON
Violation occurred: No
Investigation Type: Use General Agriculture
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: User

A2 **Target** **Property**	**VELDKAMPS GREENHOUSES** **17201 WEST 64TH AVENUE** **ARVADA, CO 80401**	**FTTS** **HIST FTTS**	**1009525541** **N/A**

Site 2 of 3 in cluster A

Actual:
5680 ft.

FTTS INSP:
Inspection Number: 199507276921 1
Region: 08
Inspection Date: 07/27/95
Inspector: COOPER
Violation occurred: No
Investigation Type: Use Restricted Non-Agriculture
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: User

HIST FTTS INSP:
Inspection Number: 199507276921 1
Region: 08
Inspection Date: Not reported
Inspector: COOPER
Violation occurred: No
Investigation Type: Use Restricted Non-Agriculture
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: User

A3 **WELBY GARDENS** **FINDS** **1004449082**
Target **17201 WEST 64TH AVENUE** **N/A**
Property **ARVADA, CO 80007**

Site 3 of 3 in cluster A

Actual:
5680 ft.

FINDS:

Registry ID: 110020505498

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

The National Compliance Database (NCDB) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA).
The Integrated Compliance Information System (ICIS) provides a database that, when complete, will contain integrated enforcement and compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions and a subset of the Permit Compliance System (PCS), which supports the National Pollutant Discharge Elimination System (NPDES). This information is maintained in ICIS by EPA in the Regional offices and it at Headquarters. A future release of ICIS will completely replace PCS and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities that support compliance and enforcement programs, including incident tracking, compliance assistance, and compliance monitoring.

Registry ID: 110011672010

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

The National Compliance Database (NCDB) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA).

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

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4 **ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)** **SEMS** **1000855640**
WSW **17100 - 17400 W HWY 72** **LIENS 2** **COD980807374**
< 1/8 **ARVADA, CO 80403** **PRP**
0.104 mi.
549 ft.

Relative:
Higher

Actual:
5698 ft.

SEMS:

Site ID:	0800265
EPA ID:	COD980807374
Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
Address:	17100 - 17400 W HWY 72
Address 2:	Not reported
City,State,Zip:	ARVADA, CO 80403
Cong District:	02
FIPS Code:	08059
Latitude:	+39.858883
Longitude:	-105.194478
FF:	N
NPL:	Not on the NPL
Non NPL Status:	Remedial Activities Under EPA Enforcement

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

SEMS Detail:

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	AR
Action Name:	ADMIN REC
SEQ:	1
Start Date:	1988-08-26 04:00:00
Finish Date:	1988-10-15 04:00:00
Qual:	V
Current Action Lead:	EPA Perf

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	EE
Action Name:	EE/CA
SEQ:	1
Start Date:	1997-09-08 04:00:00
Finish Date:	2000-09-25 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	RV
Action Name:	RMVL
SEQ:	1
Start Date:	1988-08-26 04:00:00
Finish Date:	1992-06-24 04:00:00
Qual:	S
Current Action Lead:	EPA Perf

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	1989-01-09 05:00:00

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

Finish Date: 1989-01-09 05:00:00
Qual: L
Current Action Lead: EPA Perf

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 00
Action Code: BB
Action Name: PRP RV
SEQ: 1
Start Date: 1992-06-24 04:00:00
Finish Date: 1997-01-28 05:00:00
Qual: S
Current Action Lead: EPA Ovrsght

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 00
Action Code: DS
Action Name: DISCVRY
SEQ: 1
Start Date: 1987-10-01 04:00:00
Finish Date: 1987-10-01 04:00:00
Qual: Not reported
Current Action Lead: EPA Perf

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 00
Action Code: SI
Action Name: SI
SEQ: 1
Start Date: 1989-07-21 04:00:00
Finish Date: 1989-07-21 04:00:00
Qual: L
Current Action Lead: EPA Perf

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 00
Action Code: MA

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

Action Name: ST COOP
SEQ: 1
Start Date: 2013-09-03 05:00:00
Finish Date: 2020-12-31 06:00:00
Qual: Not reported
Current Action Lead: EPA Perf

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 00
Action Code: TA
Action Name: TECH ASSIST
SEQ: 1
Start Date: 2006-06-13 04:00:00
Finish Date: 2013-12-31 05:00:00
Qual: Not reported
Current Action Lead: EPA Ovrsght

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 01
Action Code: ED
Action Name: R/H ASMT
SEQ: 1
Start Date: 1999-10-22 04:00:00
Finish Date: 2000-09-20 04:00:00
Qual: Not reported
Current Action Lead: EPA Perf

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 02
Action Code: RV
Action Name: RMVL
SEQ: 3
Start Date: 2001-08-08 04:00:00
Finish Date: 2006-09-26 04:00:00
Qual: C
Current Action Lead: EPA Perf

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

FF:	N
OU:	02
Action Code:	BB
Action Name:	PRP RV
SEQ:	7
Start Date:	2002-03-13 05:00:00
Finish Date:	2011-10-24 04:00:00
Qual:	C
Current Action Lead:	EPA Ovrsght

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	05
Action Code:	RV
Action Name:	RMVL
SEQ:	4
Start Date:	2002-02-21 05:00:00
Finish Date:	2002-03-22 05:00:00
Qual:	C
Current Action Lead:	EPA Perf

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	05
Action Code:	RV
Action Name:	RMVL
SEQ:	5
Start Date:	2005-02-28 05:00:00
Finish Date:	2005-03-19 05:00:00
Qual:	C
Current Action Lead:	EPA Perf

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	05
Action Code:	RS
Action Name:	RV ASSESS
SEQ:	1
Start Date:	2016-06-08 04:00:00
Finish Date:	2016-06-30 04:00:00
Qual:	Not reported
Current Action Lead:	USCG

Region:	08
Site ID:	0800265

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 05
Action Code: BB
Action Name: PRP RV
SEQ: 4
Start Date: 2002-10-18 04:00:00
Finish Date: 2016-02-02 05:00:00
Qual: C
Current Action Lead: EPA Ovrsght

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 06
Action Code: BB
Action Name: PRP RV
SEQ: 6
Start Date: 2002-10-18 04:00:00
Finish Date: 2012-12-18 05:00:00
Qual: C
Current Action Lead: EPA Ovrsght

LIENS 2:
Facility Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
Facility Address: 17100 - 17400 W HWY 72
Facility City: ARVADA
EPA ID: COD980807374
Effective Date: Not reported
Facility State: CO
Lien: LP-1
Facility Zip: 80403
Party Name: Not reported
Reg: 08
Release Date: Not reported
Start Date: 12/14/1990
Complete Date: 07/01/2010
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported

Facility Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
Facility Address: 17100 - 17400 W HWY 72

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

Facility City:	ARVADA
EPA ID:	COD980807374
Effective Date:	Not reported
Facility State:	CO
Lien:	LP-2
Facility Zip:	80403
Party Name:	Not reported
Reg:	08
Release Date:	Not reported
Start Date:	12/14/1990
Complete Date:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported

Facility Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
Facility Address:	17100 - 17400 W HWY 72
Facility City:	ARVADA
EPA ID:	COD980807374
Effective Date:	Not reported
Facility State:	CO
Lien:	LP-3
Facility Zip:	80403
Party Name:	Not reported
Reg:	08
Release Date:	Not reported
Start Date:	11/17/2000
Complete Date:	11/20/2000
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported

PRP:

PRP Name:	$1 CLEANERS $1 CLEANERS (PEPSI COLA BOTTLING CO. OF COLORADO) BOTTLING GROUP A 1 CLEANERS A 1 CLEANERS A 1 STOP CLEANERS A 1 STOP CLEANERS AAD DISPOSAL

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

AAD DISPOSAL
AAD DISPOSAL CO
ABC AUTO BODY INC
ABC AUTO BODY INC
ACCUTRONICS
ACCUTRONICS
ACCUTRONICS
ACME TOOL
ACME TOOL AND MANUFACTURING CO
ACME TOOL AND MANUFACTURING CO
ADCO SIGNS
ADCO SIGNS

Click this hyperlink while viewing on your computer to access
1370 additional PRP: record(s) in the EDR Site Report.

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5 **SW** **1/8-1/4** **0.150 mi.** **792 ft.**	**CITY OF ARVADA (WATER TREATMENT)** **18001 W 66TH AVE** **GOLDEN, CO 80403**	**RCRA-VSQG** **FINDS** **ECHO**	**1004678642** **CO0000083865**

Relative:
Higher

Actual:
5706 ft.

RCRA Listings:

Date Form Received by Agency:	19931223
Handler Name:	City Of Arvada (Water Treatment)
Handler Address:	W 66th Ave
Handler City,State,Zip:	GOLDEN, CO 80403
EPA ID:	CO0000083865
Contact Name:	DON LEONARDO
Contact Address:	W 66TH AVE
Contact City,State,Zip:	GOLDEN, CO 80403
Contact Telephone:	303-279-5746
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	08
Land Type:	Municipal
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	W 66TH AVE
Mailing City,State,Zip:	GOLDEN, CO 80403
Owner Name:	City Of Arvada
Owner Type:	Municipal
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No

CITY OF ARVADA (WATER TREATMENT) (Continued) **1004678642**

Off-Site Waste Receipt: No
Universal Waste Indicator: No
Universal Waste Destination Facility: No
Federal Universal Waste: No
Active Site State-Reg Handler: ---
Federal Facility Indicator: Not reported
Hazardous Secondary Material Indicator: N
Sub-Part K Indicator: Not reported
2018 GPRA Permit Baseline: Not on the Baseline
2018 GPRA Renewals Baseline: Not on the Baseline
202 GPRA Corrective Action Baseline: No
Subject to Corrective Action Universe: No
Non-TSDFs Where RCRA CA has Been Imposed Universe: No
Corrective Action Priority Ranking: No NCAPS ranking
Environmental Control Indicator: No
Institutional Control Indicator: No
Human Exposure Controls Indicator: N/A
Groundwater Controls Indicator: N/A
Significant Non-Complier Universe: No
Unaddressed Significant Non-Complier Universe: No
Addressed Significant Non-Complier Universe: No
Significant Non-Complier With a Compliance Schedule Universe: No
Financial Assurance Required: Not reported
Handler Date of Last Change: 20141024
Recognized Trader-Importer: No
Recognized Trader-Exporter: No
Importer of Spent Lead Acid Batteries: No
Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Hazardous Waste Summary:
Waste Code: D001
Waste Description: Ignitable Waste

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: CITY OF ARVADA
Legal Status: Municipal
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 8001 RALSTON ROAD
Owner/Operator City,State,Zip: ARVADA, CO 80002
Owner/Operator Telephone: 303-431-3042
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19931223
Handler Name: CITY OF ARVADA (WATER TREATMENT)
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No

CITY OF ARVADA (WATER TREATMENT) (Continued) **1004678642**

Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110002958498

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1004678642
Registry ID:	110002958498
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002958498
Name:	CITY OF ARVADA (WATER TREATMENT)
Address:	18001 W 66TH AVE
City,State,Zip:	GOLDEN, CO 80403

6
South
1/8-1/4
0.226 mi.
1194 ft.

Relative:
Higher

Actual:
5704 ft.

THORO PRODUCTS COMPANY
9091 UMBER CT
GOLDEN, CO 80401

CORRACTS
RCRA-TSDF
RCRA NonGen / NLR
US FIN ASSUR
FINDS
ECHO

1000366268
COD007065576

CORRACTS:

Name:	THORO PRODUCTS CO
Address:	9091 UMBER CT
Address 2:	Not reported
EPA ID:	COD007065576
Area Name:	ENTIRE FACILITY
Corrective Action:	OVERALL CA RANK
Actual Date:	19911218

THORO PRODUCTS COMPANY (Continued) **1000366268**

Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: RFA COMPLETED
Actual Date: 19890310
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: CA PRIORITIZATION-LOW CA PRIORITY
Actual Date: 19911218
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: REGULATED UNIT
Actual Date: 19851108
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: OTHER WORKPLAN RECEIVED - OPERATION AND MAINTENANCE
Actual Date: 20060810
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576

THORO PRODUCTS COMPANY (Continued) **1000366268**

Area Name: ENTIRE FACILITY
Corrective Action: OTHER WORKPLAN MODIFICATION REQUESTED
Actual Date: 20060919
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: OTHER REPORT RECEIVED
Actual Date: 20190509
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: OTHER REPORT APPROVED
Actual Date: 20190612
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: RFA COMPLETED
Actual Date: 19920115
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: DETERMINATION OF NEED FOR AN INVESTIGATION-INVESTIGATION IS NECESSARY
Actual Date: 19920115
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO

THORO PRODUCTS COMPANY (Continued) **1000366268**

Address:	9091 UMBER CT
Address 2:	Not reported
EPA ID:	COD007065576
Area Name:	ENTIRE FACILITY
Corrective Action:	INVESTIGATION IMPOSITION
Actual Date:	19851108
Air Release Indicator:	Not reported
Groundwater Release Indicator:	Y
Soil Release Indicator:	Y
Surface Water Release Indicator:	Not reported

Click this hyperlink while viewing on your computer to access
6 additional CORRACTS: record(s) in the EDR Site Report.

RCRA TSDF:

Treatment Storage and Disposal Type:	Storage, Treatment
Full Enforcement Universe:	Not reported
Corrective Action Workload Universe:	No
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Storage, Treatment
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
Operating TSDF Universe:	Not reported
Commercial TSD Indicator:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No

RCRA Listings:

Date Form Received by Agency:	19960301
Handler Name:	Thoro Products Co
Handler Address:	Umber Ct
Handler City,State,Zip:	GOLDEN, CO 80401
EPA ID:	COD007065576
Contact Name:	RICHARD-E NEWMAN
Contact Address:	PO BOX 504
Contact City,State,Zip:	ARVADA, CO 80002
Contact Telephone:	303-422-0335
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	08
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Co
State District:	R
Mailing Address:	PO BOX 504
Mailing City,State,Zip:	ARVADA, CO 80002

THORO PRODUCTS COMPANY (Continued) **1000366268**

Owner Name:	Thoro Products Co.
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	Yes
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not Accomplished
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	Yes
Corrective Action Priority Ranking:	Low
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	No
Groundwater Controls Indicator:	No
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20000915
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D000
Waste Description:	Not Defined

Waste Code:	D001
Waste Description:	Ignitable Waste

Waste Code:	D002
Waste Description:	Corrosive Waste

Waste Code:	F002

THORO PRODUCTS COMPANY (Continued) **1000366268**

Waste Description: The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F005
Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: U213
Waste Description: Furan, Tetrahydro-(I) (Or) Tetrahydrofuran (I)

Waste Code: U226
Waste Description: Ethane, 1,1,1-Trichloro- (Or) Methyl Chloroform

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: RICHARD E NEWMAN
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 9091 UMBER COURT
Owner/Operator City,State,Zip: GOLDEN, CO 80401
Owner/Operator Telephone: 303-422-0335
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: THORO PRODUCTS CO.
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: DATA NOT REQUESTED
Owner/Operator City,State,Zip: DATA NOT REQUESTED, CO 99999
Owner/Operator Telephone: 999-999-9999
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19801117
Handler Name: THORO PRODUCTS CO
Federal Waste Generator Description: Not a generator, verified
State District Owner: Co
Large Quantity Handler of Universal Waste: No

THORO PRODUCTS COMPANY (Continued) **1000366268**

Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19960301
Handler Name:	THORO PRODUCTS CO
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Co
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	325612
NAICS Description:	POLISH AND OTHER SANITATION GOOD MANUFACTURING
NAICS Code:	325998
NAICS Description:	ALL OTHER MISCELLANEOUS CHEMICAL PRODUCT AND PREPARATION MANUFACTURING

Has the Facility Received Notices of Violations:

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19891107
Actual Return to Compliance Date: 19900305
Return to Compliance Qualifier: Unverifiable
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19841121
Actual Return to Compliance Date: 19850321
Return to Compliance Qualifier: Unverifiable
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901211
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19971211

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	001
Date of Enforcement Action:	19901211
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	NOTICE OF VIOLATION
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19831221
Actual Return to Compliance Date:	19840521
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	19840428
Enforcement Identifier:	001
Date of Enforcement Action:	19840328
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Formal Enforcement Agreement or Order
Date Violation was Determined: 19870521
Actual Return to Compliance Date: 19901003
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19880630
Enforcement Identifier: 005
Date of Enforcement Action: 19871202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19850228
Actual Return to Compliance Date: 19850411
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19850425

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: 002
Date of Enforcement Action: 19850405
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19880519
Actual Return to Compliance Date: 19880619
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19880605
Enforcement Identifier: 006
Date of Enforcement Action: 19880519
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Unknown
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19860117
Actual Return to Compliance Date:	19871202
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19860622
Enforcement Identifier:	003
Date of Enforcement Action:	19860422
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19860117
Actual Return to Compliance Date: 19871202
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19860622
Enforcement Identifier: 003
Date of Enforcement Action: 19860422
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901211
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: 000
Date of Enforcement Action: 19890730
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: CO
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: NOTICE OF VIOLATION
Enforcement Responsible Person: CO
Enforcement Responsible Sub-Organization: S
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Closure/Post-Closure
Date Violation was Determined: 20170519
Actual Return to Compliance Date: 20190619
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 2
Date of Enforcement Action: 20170907
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Yes
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: COCBR
Enforcement Responsible Sub-Organization: CA
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 11365
Paid Amount: Not reported
Final Count: 1
Final Amount: 11365

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901211
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19971211
Enforcement Identifier: 001
Date of Enforcement Action: 19901211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: NOTICE OF VIOLATION
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19860117
Actual Return to Compliance Date: 19871202
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19860622

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: 003
Date of Enforcement Action: 19860422
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19900719
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19870521
Actual Return to Compliance Date: 19901003
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19880630
Enforcement Identifier: 005
Date of Enforcement Action: 19871202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Closure/Post-Closure
Date Violation was Determined: 20170519
Actual Return to Compliance Date: 20190619
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: 2
Date of Enforcement Action: 20171120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Yes
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: COCBR
Enforcement Responsible Sub-Organization: CA
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901211
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: 000
Date of Enforcement Action: 19890730
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: CO
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: NOTICE OF VIOLATION
Enforcement Responsible Person: CO
Enforcement Responsible Sub-Organization: S
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901211
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19971211
Enforcement Identifier: 001
Date of Enforcement Action: 19901211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: NOTICE OF VIOLATION
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19890126
Actual Return to Compliance Date: 19891107
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19890315
Enforcement Identifier: 007
Date of Enforcement Action: 19890202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19850328
Actual Return to Compliance Date: 19870419
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19860419
Enforcement Identifier: 010
Date of Enforcement Action: 19860319
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901211
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19890730
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: CO
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: NOTICE OF VIOLATION
Enforcement Responsible Person: CO
Enforcement Responsible Sub-Organization: S
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19860203
Actual Return to Compliance Date: 19860422
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19860330
Enforcement Identifier: 004
Date of Enforcement Action: 19860210
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	19911204
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCAL
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20180924
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	CA
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20140311
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COEFT
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19960523
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	CORBE
Evaluation Responsible Sub-Organization:	S

THORO PRODUCTS COMPANY (Continued) **1000366268**

Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19860519
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COJKI
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20080929
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19891107
Evaluation Responsible Agency: EPA
Found Violation: Yes
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: R8CL
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19900305
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19841121
Evaluation Responsible Agency: EPA
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: Not reported
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19850321
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Former Citation: Not reported

Evaluation Date: 19890825
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier: COMNE
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19971211
Scheduled Compliance Date: 19971211
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19831221
Evaluation Responsible Agency: EPA
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: Not reported
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19840521
Scheduled Compliance Date: 19840428
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19870521
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COJKI
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19901003
Scheduled Compliance Date: 19880630
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19850228
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COWAV
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19850411
Scheduled Compliance Date: 19850425
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20190612
Evaluation Responsible Agency: State
Found Violation: No

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Type Description: NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: CA
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19870618
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COBBO
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20160912
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19910115
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COCAL
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20030805
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COMNE
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20000907
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier: CORBE
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20070205
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COAWI
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19880519
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: CONJA
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19880619
Scheduled Compliance Date: 19880605
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19880126
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier: COJKI
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Date: 20020925
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19881121
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COJKI
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19880624
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: CONKO
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20130514
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COEFT
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19901218
Evaluation Responsible Agency: EPA-Initiated Oversight/Observation/Training Actions
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: R8CL

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19920220
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COMNE
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19980922
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier: CORBE
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20160912
Evaluation Responsible Agency: State
Found Violation: Undetermined
Evaluation Type Description: CORRECTIVE ACTION COMPLIANCE EVALUATION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: HWC
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20100913
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: CORRECTIVE ACTION COMPLIANCE EVALUATION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100913
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930625
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19990401
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	CORBE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19841121
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COWAV
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19850816
Evaluation Responsible Agency:	State

THORO PRODUCTS COMPANY (Continued) **1000366268**

Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COWAV
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19850321
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COWAV
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19860117
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COJKI
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19871202
Scheduled Compliance Date: 19860622
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19860117
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COJKI
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19871202
Scheduled Compliance Date: 19860622
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19891107
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier: COMNE
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19971211

THORO PRODUCTS COMPANY (Continued) **1000366268**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910117
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	COCAL
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20120628
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20061026
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20120404
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COEFT
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Date: 20170519
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: CA
Actual Return to Compliance Date: 20190619
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20150311
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COEVE
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19900305
Evaluation Responsible Agency: EPA-Initiated Oversight/Observation/Training Actions
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: R8KO
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19900328
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: CONJA
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19910701
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COMNE

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19880719
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier: COWAV
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19900719
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COMNE
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19971211
Scheduled Compliance Date: 19971211
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19881018
Evaluation Responsible Agency: EPA-Initiated Oversight/Observation/Training Actions
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: R8CL
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20120628
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: CORRECTIVE ACTION COMPLIANCE EVALUATION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19900330
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: CONJA
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19860117
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COJKI
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19871202
Scheduled Compliance Date: 19860622
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19900719
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COMNE
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19971211
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20190619
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: CA
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20060919
Evaluation Responsible Agency: State

THORO PRODUCTS COMPANY (Continued) **1000366268**

Found Violation: No
Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20040927
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19870521
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COJKI
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19901003
Scheduled Compliance Date: 19880630
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20170519
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: CA
Actual Return to Compliance Date: 20190619
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19870219
Evaluation Responsible Agency: EPA
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: R8CL
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910228
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890825
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19891107
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211
Scheduled Compliance Date:	19971211
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20180924
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	CORRECTIVE ACTION COMPLIANCE EVALUATION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	CA
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Date: 20190619
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: CA
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19890126
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COMNE
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19891107
Scheduled Compliance Date: 19890315
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20090406
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: COAWI
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19921110
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier: COWAV
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19871222
Evaluation Responsible Agency: EPA-Initiated Oversight/Observation/Training Actions
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: R8KO

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19890825
Evaluation Responsible Agency: EPA-Initiated Oversight/Observation/Training Actions
Found Violation: No
Evaluation Type Description: FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: R8CL
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20060926
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: OPERATION AND MAINTENANCE INSPECTION
Evaluation Responsible Person Identifier: COCBR
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19850328
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COWAV
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: 19870419
Scheduled Compliance Date: 19860419
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19940324
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: COKTE
Evaluation Responsible Sub-Organization: S
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20080929
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	OPERATION AND MAINTENANCE INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900719
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19860203
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COBBO
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19860422
Scheduled Compliance Date:	19860330
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20140731
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20040927
Evaluation Responsible Agency:	State

THORO PRODUCTS COMPANY (Continued) **1000366268**

Found Violation:	No
Evaluation Type Description:	COMPLIANCE ASSISTANCE VISIT
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

US FIN ASSUR:
Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
City,State,Zip: GOLDEN, CO 80401
EPA ID: COD007065576
County: Not reported
Mechanism type: T
Mechanism Type Description: TRUST FUND (FULLY FUNDED)
Cost estimate: 49198.53
Face value: 59481.55
Effective date: 2013-03-31 00:00:00
Provider: JPMORGAN CHASE BANK, N.A.
EPA region: 8

FINDS:
Registry ID: 110000610465

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA’s comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000366268
Registry ID: 110000610465
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110000610465
Name: THORO PRODUCTS COMPANY
Address: 9091 UMBER CT
City,State,Zip: GOLDEN, CO 80401

7
SSW
1/8-1/4
0.238 mi.
1257 ft.

JEFFERSON COUNTY-CENTRAL SHOP
701 WIER ST
GOLDEN, CO 80401

RCRA NonGen / NLR
FINDS
ECHO

1000228434
COD981549629

Relative:
Higher

Actual:
5729 ft.

RCRA Listings:
Date Form Received by Agency: 19870618
Handler Name: Jefferson County-Central Shop
Handler Address: Wier St
Handler City,State,Zip: GOLDEN, CO 80401
EPA ID: COD981549629
Contact Name: ART STORY
Contact Address: 701 WIER ST
Contact City,State,Zip: GOLDEN, CO 80401
Contact Telephone: 303-278-5119
Contact Fax: Not reported
Contact Email: Not reported
Contact Title: Not reported
EPA Region: 08

JEFFERSON COUNTY-CENTRAL SHOP (Continued) **1000228434**

Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	WIER ST
Mailing City,State,Zip:	GOLDEN, CO 80401
Owner Name:	Jefferson County
Owner Type:	County
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20000915
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

JEFFERSON COUNTY-CENTRAL SHOP (Continued) **1000228434**

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	F002
Waste Description:	The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F004
Waste Description:	The Following Spent Nonhalogenated Solvents: Cresols, Cresylic Acid, And Nitrobenzene; And The Still Bottoms From The Recovery Of These Solvents; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	JEFFERSON COUNTY
Legal Status:	County
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	DATA NOT REQUESTED
Owner/Operator City,State,Zip:	DATA NOT REQUESTED, CO 99999
Owner/Operator Telephone:	999-999-9999
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19870618
Handler Name:	JEFFERSON COUNTY-CENTRAL SHOP
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Codes:	No NAICS Codes Found

JEFFERSON COUNTY-CENTRAL SHOP (Continued) **1000228434**

Has the Facility Received Notices of Violations:

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	19891129
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	CODMA
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

FINDS:

Registry ID: 110002977182

JEFFERSON COUNTY-CENTRAL SHOP (Continued) **1000228434**

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000228434
Registry ID:	110002977182
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002977182
Name:	JEFFERSON COUNTY-CENTRAL SHOP
Address:	701 WIER ST
City,State,Zip:	GOLDEN, CO 80401

8
West
1/4-1/2
0.481 mi.
2538 ft.

CITY OF ARVADA WATER TREATMENT PLANT
18001 W 66TH AVE
ARVADA, CO 80007

SHWF **S128391581**
N/A

Relative:
Higher

Actual:
5738 ft.

SHWF:

Location ID:	JFR15
Facility ID:	JFR 1826
Name:	CITY OF ARVADA WATER TREATMENT PLANT
Address:	18001 W 66TH AVE
City,State,Zip:	ARVADA, CO 80007
Activity Type:	Alum Sludge
Contact Organization:	City of Arvada Public Works and Utilities
Contact Address:	8101 Ralston Road
Contact City,State,Zip:	Arvada, CO 80001-8101
Contact Phone:	720-898-7765
Activity Status:	Not reported
Facility Status:	Operating
Commercial Status:	False
Government Facility Status:	Municipality
Title:	Not reported
Post Closure Unit:	False
Post Closure Ended:	False
Closure Units:	False
Clean Closed Units:	False
Latitude:	39.816349
Longitude:	-105.205101

Location ID:	JFR15
Facility ID:	JFR 1826
Name:	CITY OF ARVADA WATER TREATMENT PLANT
Address:	18001 W 66TH AVE
City,State,Zip:	ARVADA, CO 80007
Activity Type:	Surface Impoundment
Contact Organization:	City of Arvada Public Works and Utilities
Contact Address:	8101 Ralston Road

CITY OF ARVADA WATER TREATMENT PLANT (Continued) **S128391581**

Contact City,State,Zip:	Arvada, CO 80001-8101
Contact Phone:	720-898-7765
Activity Status:	Operating
Facility Status:	Operating
Commercial Status:	False
Government Facility Status:	Municipality
Title:	Not reported
Post Closure Unit:	False
Post Closure Ended:	False
Closure Units:	False
Clean Closed Units:	False
Latitude:	39.816349
Longitude:	-105.205101

Location ID:	JFR15
Facility ID:	JFR 1826
Name:	CITY OF ARVADA WATER TREATMENT PLANT
Address:	18001 W 66TH AVE
City,State,Zip:	ARVADA, CO 80007
Activity Type:	Surface Impoundment - Type A
Contact Organization:	City of Arvada Public Works and Utilities
Contact Address:	8101 Ralston Road
Contact City,State,Zip:	Arvada, CO 80001-8101
Contact Phone:	720-898-7765
Activity Status:	Operating
Facility Status:	Operating
Commercial Status:	False
Government Facility Status:	Municipality
Title:	Not reported
Post Closure Unit:	False
Post Closure Ended:	False
Closure Units:	False
Clean Closed Units:	False
Latitude:	39.816349
Longitude:	-105.205101

Count: 2 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ARVADA	1015754884	UMBER COURT ABANDONED DRUMS	INTERSECTION OF CO HWY 72 & UM	80007	SEMS-ARCHIVE
ARVADA	S111432349	SMITH PROPERTY	SW OF QUAKER STREET AND WEST 8	80007	VCP

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/07/2024
Date Data Arrived at EDR: 06/25/2024
Date Made Active in Reports: 09/19/2024
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 09/24/2024
Next Scheduled EDR Contact: 01/09/2025
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA’s Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 303-312-6149
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 303-312-6149
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/03/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/07/2024	Telephone: 303-312-6149
Date Made Active in Reports: 06/20/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 13	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/03/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/07/2024	Telephone: 303-312-6149
Date Made Active in Reports: 06/20/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 13	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 07/15/2024	Source: Department of the Navy
Date Data Arrived at EDR: 07/17/2024	Telephone: 843-820-7326
Date Made Active in Reports: 10/09/2024	Last EDR Contact: 10/30/2024
Number of Days to Update: 84	Next Scheduled EDR Contact: 02/17/2025
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/24/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2024	Telephone: 703-603-0695
Date Made Active in Reports: 08/15/2024	Last EDR Contact: 08/08/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 12/02/2024
	Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/24/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2024	Telephone: 703-603-0695
Date Made Active in Reports: 08/15/2024	Last EDR Contact: 08/08/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 12/02/2024
	Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/11/2024	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 06/17/2024	Telephone: 202-267-2180
Date Made Active in Reports: 09/04/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 79	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A	Source: Department of Public Health & Environment
Date Data Arrived at EDR: N/A	Telephone: 303-692-3300
Date Made Active in Reports: N/A	Last EDR Contact: 08/06/2024
Number of Days to Update: N/A	Next Scheduled EDR Contact: 11/18/2024
	Data Release Frequency: N/A

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Solid Waste Sites & Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/15/2024	Source: Department of Public Health & Environment
Date Data Arrived at EDR: 05/16/2024	Telephone: 303-692-3300
Date Made Active in Reports: 08/12/2024	Last EDR Contact: 08/08/2024
Number of Days to Update: 88	Next Scheduled EDR Contact: 11/18/2024
	Data Release Frequency: Varies

SHWF: Solid Waste Information System Listing

A listing from the Solid Waste Information System, which is used to help administer the various programs of our solid waste and materials management program. It includes a wide variety of types of facilities and sites, and includes information obtained over several decades and numerous legacy data systems.

Date of Government Version: 07/01/2024	Source: Department of Public Health & Environment
Date Data Arrived at EDR: 07/25/2024	Telephone: 303-692-6349
Date Made Active in Reports: 08/07/2024	Last EDR Contact: 10/24/2024
Number of Days to Update: 13	Next Scheduled EDR Contact: 02/10/2025
	Data Release Frequency: Varies

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 03/01/2018	Source: Department of Labor and Employment, Oil Inspection Section
Date Data Arrived at EDR: 03/07/2018	Telephone: 303-318-8521
Date Made Active in Reports: 04/03/2018	Last EDR Contact: 03/07/2018
Number of Days to Update: 27	Next Scheduled EDR Contact: 06/18/2018
	Data Release Frequency: Quarterly

LAST: Leaking Aboveground Storage Tank Listing

A listing of leaking aboveground storage tank sites. This list is no longer maintained. For current Leaking AST information, please see LTANKS.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/07/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 27

Source: Department of Labor & Employment
Telephone: 303-318-8525
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

LTANKS: Petroleum Release Events Listing

Active and Closed OPS Petroleum Release Events in Colorado. Includes the OPS Open Event locations, but also shows locations of closed events (releases that have been issued a No Further Action determination).

Date of Government Version: 05/01/2024
Date Data Arrived at EDR: 05/29/2024
Date Made Active in Reports: 08/19/2024
Number of Days to Update: 82

Source: Department of Labor & Employment
Telephone: 303-318-8525
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/11/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/07/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/30/2024	Telephone: 415-972-3372
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 05/07/2024	Source: EPA Region 7
Date Data Arrived at EDR: 05/30/2024	Telephone: 913-551-7003
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/07/2024	Source: EPA Region 8
Date Data Arrived at EDR: 05/30/2024	Telephone: 303-312-6271
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Varies

TRUST: Lust Trust Sites

Reimbursement application package. The 1989 Colorado General Assembly established Colorado’s Petroleum Storage Tank Fund. The Fund reimburses eligible applicants for allowable costs incurred in cleaning up petroleum contamination from underground and aboveground petroleum storage tanks, as well as for third-party liability expenses. Remediation of contamination caused by railroad or aircraft fuel is not eligible for reimbursement. The Fund satisfies federal Environmental Protection Agency financial assurance requirements. Monies in the Fund come from various sources, predominantly the state environmental surcharge imposed on all petroleum products except railroad or aircraft fuel.

Date of Government Version: 09/11/2024	Source: Department of Labor and Employment, Oil Inspection Section
Date Data Arrived at EDR: 09/12/2024	Telephone: 303-318-8521
Date Made Active in Reports: 09/19/2024	Last EDR Contact: 09/10/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Varies

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/15/2024	Source: FEMA
Date Data Arrived at EDR: 03/19/2024	Telephone: 202-646-5797
Date Made Active in Reports: 06/17/2024	Last EDR Contact: 09/25/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST’s are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/23/2024	Source: Department of Labor and Employment, Oil Inspection Section
Date Data Arrived at EDR: 05/24/2024	Telephone: 303-318-8521
Date Made Active in Reports: 05/28/2024	Last EDR Contact: 08/20/2024
Number of Days to Update: 4	Next Scheduled EDR Contact: 12/09/2024
	Data Release Frequency: Quarterly

AST: Aboveground Tank List
Aboveground storage tank locations.

Date of Government Version: 05/23/2024	Source: Department of Labor and Employment, Oil Inspection Section
Date Data Arrived at EDR: 05/24/2024	Telephone: 303-318-8521
Date Made Active in Reports: 05/28/2024	Last EDR Contact: 08/20/2024
Number of Days to Update: 4	Next Scheduled EDR Contact: 12/09/2024
	Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/11/2024	Source: EPA Region 5
Date Data Arrived at EDR: 05/30/2024	Telephone: 312-886-6136
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/14/2024	Source: EPA Region 6
Date Data Arrived at EDR: 05/30/2024	Telephone: 214-665-7591
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/14/2024	Source: EPA Region 10
Date Data Arrived at EDR: 05/30/2024	Telephone: 206-553-2857
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/14/2024	Source: EPA Region 4
Date Data Arrived at EDR: 05/30/2024	Telephone: 404-562-9424
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 07/29/2024
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/14/2024	Source: EPA Region 9
Date Data Arrived at EDR: 05/30/2024	Telephone: 415-972-3368
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Environmental Real Covenants List

Senate Bill 01-145 gave authority to the Colorado Department of Public Health and Environment to approve requests to restrict the future use of a property using an enforceable agreement called an environmental covenant. When a contaminated site is not cleaned up completely, land use restrictions may be used to ensure that the selected cleanup remedy is adequately protective of human health and the environment.

Date of Government Version: 07/18/2024
Date Data Arrived at EDR: 07/19/2024
Date Made Active in Reports: 10/08/2024
Number of Days to Update: 81

Source: Department of Public Health & Environment
Telephone: 303-692-3331
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Varies

VCP: Voluntary Cleanup & Redevelopment Act Application Tracking Report

The Voluntary Cleanup and Redevelopment Act is intended to permit and encourage voluntary cleanups by providing a method to determine clean-up responsibilities in planning the reuse of property. The VCRA was intended for sites which were not covered by existing regulatory programs.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/25/2024
Number of Days to Update: 85

Source: Department of Public Health and Environmental
Telephone: 303-692-3331
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Semi-Annually

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Brownfields Sites Listing
Brownfields Sites Listing

Date of Government Version: 07/15/2024
Date Data Arrived at EDR: 07/16/2024
Date Made Active in Reports: 09/27/2024
Number of Days to Update: 73

Source: Department of Public Health & Environment
Telephone: 303-692-3331
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/10/2024
Date Data Arrived at EDR: 06/11/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/11/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HISTORICAL LANDFILL: Historical Landfill List
Abandoned/Inactive Landfills.

Date of Government Version: 01/31/1993
Date Data Arrived at EDR: 04/24/1994
Date Made Active in Reports: 05/30/1994
Number of Days to Update: 36

Source: Department of Public Health & Environment
Telephone: 303-692-3300
Last EDR Contact: 09/05/1996
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Registered Recyclers Listing
A listing of registered recycler locations in the state of Colorado.

Date of Government Version: 06/12/2024
Date Data Arrived at EDR: 06/12/2024
Date Made Active in Reports: 06/27/2024
Number of Days to Update: 15

Source: Department of Public Health & Environment
Telephone: 303-692-3337
Last EDR Contact: 08/27/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/10/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

DENVER CO HIST FILL: Denver City & County Historic Fill Areas

This dataset denotes the approximate locations of historical fill areas within the City and County of Denver (CCoD) and with within approximately three-quarters of a mile of the CCoD boundaries. The data is of a general nature and obtained from historic and current documents that may not be accurate or precise.

Date of Government Version: 05/22/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/24/2024
Number of Days to Update: 84

Source: City & County of Denver
Telephone: 720-913-5237
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/20/2024	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 08/19/2024	Telephone: 202-307-1000
Date Made Active in Reports: 10/09/2024	Last EDR Contact: 08/19/2024
Number of Days to Update: 51	Next Scheduled EDR Contact: 12/02/2024
	Data Release Frequency: No Update Planned

CDL: Meth Lab Locations

Meth lab locations that were reported to the Department of Public Health & Environment.

Date of Government Version: 06/06/2024	Source: Department of Public Health and Environment
Date Data Arrived at EDR: 06/27/2024	Telephone: 303-692-3023
Date Made Active in Reports: 09/20/2024	Last EDR Contact: 09/18/2024
Number of Days to Update: 85	Next Scheduled EDR Contact: 01/06/2025
	Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/20/2024	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 08/19/2024	Telephone: 202-307-1000
Date Made Active in Reports: 10/09/2024	Last EDR Contact: 08/19/2024
Number of Days to Update: 51	Next Scheduled EDR Contact: 12/02/2024
	Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/25/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/01/2024	Telephone: 202-564-6023
Date Made Active in Reports: 10/23/2024	Last EDR Contact: 10/01/2024
Number of Days to Update: 22	Next Scheduled EDR Contact: 01/06/2025
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/14/2024	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 06/17/2024	Telephone: 202-366-4555
Date Made Active in Reports: 06/24/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

SPILLS 2: Spills

A listing of spills reported to the Oil & Gas Conservation Commission

Date of Government Version: 06/17/2024	Source: Oil & Gas Conservation Commission
Date Data Arrived at EDR: 06/18/2024	Telephone: 303-894-2100
Date Made Active in Reports: 09/10/2024	Last EDR Contact: 09/19/2024
Number of Days to Update: 84	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

CO ERNS: Spills Database

State reported spills.

Date of Government Version: 06/06/2024
Date Data Arrived at EDR: 06/27/2024
Date Made Active in Reports: 09/20/2024
Number of Days to Update: 85

Source: Department of Public Health and Environmental
Telephone: 303-692-2000
Last EDR Contact: 09/18/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 10/15/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/06/2013
Number of Days to Update: 34

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 303-312-6149
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 07/31/2024
Date Data Arrived at EDR: 08/12/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 58

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/12/2024
Next Scheduled EDR Contact: 11/26/2024
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/10/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018	Source: U.S. Geological Survey
Date Data Arrived at EDR: 04/11/2018	Telephone: 888-275-8747
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 10/03/2024
Number of Days to Update: 574	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/03/2023	Telephone: 615-532-8599
Date Made Active in Reports: 02/10/2023	Last EDR Contact: 08/05/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 11/18/2024
	Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/10/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/17/2024	Telephone: 202-566-1917
Date Made Active in Reports: 09/04/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 79	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 10/24/2024
Number of Days to Update: 88	Next Scheduled EDR Contact: 02/10/2025
	Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/08/2018	Telephone: 703-308-4044
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 08/01/2024
Number of Days to Update: 73	Next Scheduled EDR Contact: 11/11/2024
	Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020	Source: EPA
Date Data Arrived at EDR: 06/14/2022	Telephone: 202-260-5521
Date Made Active in Reports: 03/24/2023	Last EDR Contact: 10/03/2024
Number of Days to Update: 283	Next Scheduled EDR Contact: 12/23/2024
	Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2022	Source: EPA
Date Data Arrived at EDR: 11/13/2023	Telephone: 202-566-0250
Date Made Active in Reports: 02/07/2024	Last EDR Contact: 09/25/2024
Number of Days to Update: 86	Next Scheduled EDR Contact: 01/06/2025
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/11/2024	Source: EPA
Date Data Arrived at EDR: 07/11/2024	Telephone: 202-564-4203
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 1	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 08/27/2024	Source: EPA
Date Data Arrived at EDR: 09/03/2024	Telephone: 703-416-0223
Date Made Active in Reports: 09/19/2024	Last EDR Contact: 10/01/2024
Number of Days to Update: 16	Next Scheduled EDR Contact: 12/09/2024
	Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 07/12/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/17/2024	Telephone: 202-564-8600
Date Made Active in Reports: 10/09/2024	Last EDR Contact: 10/09/2024
Number of Days to Update: 84	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB’s who are required to notify the EPA of such activities.

Date of Government Version: 05/23/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/26/2024
Number of Days to Update: 86

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/06/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 89

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/01/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/18/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2024
Date Data Arrived at EDR: 07/08/2024
Date Made Active in Reports: 09/26/2024
Number of Days to Update: 80

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 05/08/2024	Source: Department of Energy
Date Data Arrived at EDR: 08/14/2024	Telephone: 505-845-0011
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 08/08/2024
Number of Days to Update: 14	Next Scheduled EDR Contact: 11/26/2024
	Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 09/25/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/01/2024	Telephone: 703-603-8787
Date Made Active in Reports: 10/23/2024	Last EDR Contact: 10/01/2024
Number of Days to Update: 22	Next Scheduled EDR Contact: 01/06/2025
	Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001	Source: American Journal of Public Health
Date Data Arrived at EDR: 10/27/2010	Telephone: 703-305-6451
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 12/02/2009
Number of Days to Update: 36	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016	Source: EPA
Date Data Arrived at EDR: 10/26/2016	Telephone: 202-564-2496
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 100	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016	Source: EPA
Date Data Arrived at EDR: 10/26/2016	Telephone: 202-564-2496
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 100	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 10/01/2024	Source: DOL, Mine Safety & Health Admi
Date Data Arrived at EDR: 10/02/2024	Telephone: 202-693-9424
Date Made Active in Reports: 10/09/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 12/02/2024
	Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/06/2024
Date Data Arrived at EDR: 08/14/2024
Date Made Active in Reports: 08/15/2024
Number of Days to Update: 1

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/14/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/02/2024
Date Data Arrived at EDR: 08/20/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 50

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/13/2024
Date Data Arrived at EDR: 06/14/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 82

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/13/2024
Date Data Arrived at EDR: 08/20/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 8

Source: EPA
Telephone: (303) 312-6312
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/23/2024
Date Data Arrived at EDR: 06/28/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 89

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/13/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/13/2024
Date Data Arrived at EDR: 08/13/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 57

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/13/2024
Next Scheduled EDR Contact: 11/26/2024
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-566-0250
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020	Source: Department of Health & Human Services
Date Data Arrived at EDR: 03/17/2021	Telephone: 202-741-5770
Date Made Active in Reports: 11/08/2022	Last EDR Contact: 10/17/2024
Number of Days to Update: 601	Next Scheduled EDR Contact: 02/03/2025
	Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS PROJECT: NORTHEASTERN UNIVERSITY PFAS PROJECT

The PFAS Contamination Site Tracker records qualitative and quantitative data from each site in a chart, specifically examining discovery, contamination levels, government response, litigation, health impacts, media coverage, and community characteristics. All data presented in the chart were extracted from government websites, such as state health departments or the Environmental Protection Agency, and news articles.

Date of Government Version: 05/19/2023	Source: Social Science Environmental Health Research Institute
Date Data Arrived at EDR: 04/05/2024	Telephone: N/A
Date Made Active in Reports: 06/06/2024	Last EDR Contact: 09/05/2024
Number of Days to Update: 62	Next Scheduled EDR Contact: 12/16/2024
	Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS ECHO FIRE TRAIN: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS PT 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-267-2675
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016	Source: EPA, Office of Water
Date Data Arrived at EDR: 01/06/2017	Telephone: 202-564-2496
Date Made Active in Reports: 03/10/2017	Last EDR Contact: 09/25/2024
Number of Days to Update: 63	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014	Source: EPA
Date Data Arrived at EDR: 02/05/2015	Telephone: 202-564-2497
Date Made Active in Reports: 03/06/2015	Last EDR Contact: 09/25/2024
Number of Days to Update: 29	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 10/13/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/16/2024	Telephone: 202-564-4700
Date Made Active in Reports: 10/23/2024	Last EDR Contact: 10/16/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 01/27/2025
	Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA’s UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA’s Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023	Source: Environmental Protecton Agency
Date Data Arrived at EDR: 10/31/2023	Telephone: 202-564-0394
Date Made Active in Reports: 01/18/2024	Last EDR Contact: 08/08/2024
Number of Days to Update: 79	Next Scheduled EDR Contact: 11/18/2024
	Data Release Frequency: Semi-Annually

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/04/2023	Telephone: 202-564-0394
Date Made Active in Reports: 01/18/2024	Last EDR Contact: 08/08/2024
Number of Days to Update: 106	Next Scheduled EDR Contact: 11/18/2024
	Data Release Frequency: Varies

E MANIFEST: Hazardous Waste Electronic Manifest System

EPA established a national system for tracking hazardous waste shipments electronically. This system, known as ?e-Manifest,? will modernize the nation?s cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

Date of Government Version: 07/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/18/2024	Telephone: 833-501-6826
Date Made Active in Reports: 06/06/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 49	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Varies

PFAS: PFAS Information Listing

A list of entities that have tested groundwater and have found PFAS chemicals, specifically PFOA and PFOS, levels above the health advisory. Potential sources of these chemicals include military bases, fire stations or training centers, landfills, industrial sites, car racetracks, and ski resorts.

Date of Government Version: 04/30/2024	Source: Department of Public Health & Environment
Date Data Arrived at EDR: 05/02/2024	Telephone: 303-692-3605
Date Made Active in Reports: 07/24/2024	Last EDR Contact: 10/15/2024
Number of Days to Update: 83	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

AQUEOUS FOAM: Class B Firefighting Foam Contaminating PFAS Listing

Class B foams put out fires caused by flammable liquids like gasoline, oil, and jet fuel. They may contain PFAS chemicals. Anyone using or storing Class B firefighting foam containing these chemicals must register through the Certificate of Registration Program.303-692-38

Date of Government Version: 07/01/2024	Source: Department of Public Health & Environment
Date Data Arrived at EDR: 07/02/2024	Telephone: 303-692-3605
Date Made Active in Reports: 09/24/2024	Last EDR Contact: 10/01/2024
Number of Days to Update: 84	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

AIRS: Permitted Facility & Emissions Listing

A listing of Air Pollution Control Division permits and emissions data.

Date of Government Version: 05/23/2024	Source: Department of Public Health & Environment
Date Data Arrived at EDR: 05/23/2024	Telephone: 303-692-3213
Date Made Active in Reports: 08/20/2024	Last EDR Contact: 08/20/2024
Number of Days to Update: 89	Next Scheduled EDR Contact: 12/09/2024
	Data Release Frequency: Varies

ASBESTOS: Asbestos Abatement & Demolition Projects

Asbestos abatement and demolition projects by the contractor.

Date of Government Version: 11/10/2023
Date Data Arrived at EDR: 04/26/2024
Date Made Active in Reports: 07/22/2024
Number of Days to Update: 87

Source: Department of Public Health & Environment
Telephone: 303-692-3100
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Semi-Annually

METHANE SITE: Methane Site Investigations - Jefferson County 1980

The objectives of the study are to define as closely as possible the boundaries of methane producing solid waste landfills.

Date of Government Version: 12/31/1980
Date Data Arrived at EDR: 02/13/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 50

Source: Jefferson County Health Department
Telephone: 303-239-7175
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

METHANE INVESTIG: Methane Gas & Swamp Findings

The primary objective of this study was to assess methane gas related hazards at selected landfill sites in Colorado. These sites were selected by the Colorado Department of Health following evaluation of responses received from County and Municipal agencies about completed and existing landfills within their jurisdiction.

Date of Government Version: 03/15/1979
Date Data Arrived at EDR: 02/13/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 50

Source: Department of Health
Telephone: 303-640-3335
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DRYCLEANERS: Drycleaner Facilities

A listing of drycleaning facilities.

Date of Government Version: 05/23/2024
Date Data Arrived at EDR: 05/23/2024
Date Made Active in Reports: 08/19/2024
Number of Days to Update: 88

Source: Department of Public Health & Environment
Telephone: 303-692-3213
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

FIN ASSURANCE 1: Financial Assurance Information Listing

A listing of financial assurance information for hazardous waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 07/02/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 07/08/2024
Number of Days to Update: 6

Source: Department of Public Health & Environment
Telephone: 303-692-3350
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Varies

FIN ASSURANCE 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 06/30/2024
Date Data Arrived at EDR: 07/08/2024
Date Made Active in Reports: 09/27/2024
Number of Days to Update: 81

Source: Department of Public Health & Environment
Telephone: 303-392-3350
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

LEAD: Lead Abatement Permit Listing

Lead inspection

Date of Government Version: 11/10/2023	Source: Department of Publich Health & Environment
Date Data Arrived at EDR: 04/26/2024	Telephone: 303-692-2000
Date Made Active in Reports: 07/22/2024	Last EDR Contact: 10/24/2024
Number of Days to Update: 87	Next Scheduled EDR Contact: 02/10/2025
	Data Release Frequency: Varies

MINES: Permitted Mines Listing

This dataset represents permitted mines in the State of Colorado

Date of Government Version: 07/08/2024	Source: Division of Reclamation Mining and safety
Date Data Arrived at EDR: 07/09/2024	Telephone: 303-866-3567
Date Made Active in Reports: 09/27/2024	Last EDR Contact: 10/04/2024
Number of Days to Update: 80	Next Scheduled EDR Contact: 01/20/2025
	Data Release Frequency: Semi-Annually

NPDES: Permitted Facility Listing

A listing of permitted facilities from the Water Quality Control Division.

Date of Government Version: 06/10/2024	Source: Department of Public Health & Environment
Date Data Arrived at EDR: 07/23/2024	Telephone: 303-692-3611
Date Made Active in Reports: 10/09/2024	Last EDR Contact: 10/22/2024
Number of Days to Update: 78	Next Scheduled EDR Contact: 02/03/2025
	Data Release Frequency: Varies

UIC: Underground Injection Control

A list of underground injection wells and their locations.

Date of Government Version: 02/05/2024	Source: Oil & Gas Conservation Commission
Date Data Arrived at EDR: 02/06/2024	Telephone: 303-894-2100
Date Made Active in Reports: 02/27/2024	Last EDR Contact: 10/30/2024
Number of Days to Update: 21	Next Scheduled EDR Contact: 02/17/2025
	Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

There were nine uranium mill tailings sites in Colorado designated for cleanup under the federal Uranium Mill Tailings Radiation Control Act. These nine sites, know commonly as UMTRA sites, were remediated jointly by the State of Colorado and the U.S. Department of Energy during the late 1980's and early 1990's. Mill tailings were removed from 8 of the mill sites and relocated in engineered disposal cells. A disposal cell is designed to encapsulate the material, reduce radon emanation, and prevent the movement of water through the material. At one site, Maybell, CO, the tailings were stabilized in-place at the mill site. After remediation of the tailings was completed, the State and DOE began to investigate the residual impacts to groundwater at the mill sites. The groundwater phase of the UMTRA program is on-going.

Date of Government Version: 05/15/2024	Source: Department of Public Health & Environment
Date Data Arrived at EDR: 05/16/2024	Telephone: 970-248-7164
Date Made Active in Reports: 08/13/2024	Last EDR Contact: 08/15/2024
Number of Days to Update: 89	Next Scheduled EDR Contact: 11/26/2024
	Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Public Health & Environment in Colorado.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/15/2014
Number of Days to Update: 198

Source: Department of Public Health & Environment
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Labor and Employment, Oil Inspection Section in Colorado.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/02/2014
Number of Days to Update: 185

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ADAMS COUNTY:

LF ADAMS: Summary Report on Methane Gas Hazards and Surveys Conducted on Domestic and Demolition Landfills in Adams County
As of May 8, 1978, all known landfills or dumping sites in the Adams County area have been surveyed.

Date of Government Version: 05/08/1978	Source: Tri-County Health Department
Date Data Arrived at EDR: 02/16/1995	Telephone: 303-761-1340
Date Made Active in Reports: 04/04/1995	Last EDR Contact: 01/27/1995
Number of Days to Update: 47	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

ARAPAHOE COUNTY:

LF ARAPAHOE: A Survey of Landfills in Arapahoe County
A survey of Arapahoe County was conducted from August through November, 1977, of all open and closed landfills and dumpsites in the county. Each of the sites found was classified as domestic or demolition.

Date of Government Version: 12/31/1978	Source: Tri-County Health Department
Date Data Arrived at EDR: 02/16/1995	Telephone: 303-761-1340
Date Made Active in Reports: 04/04/1995	Last EDR Contact: 01/27/1995
Number of Days to Update: 47	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

BOULDER COUNTY:

LF BOULDER: Old Landfill Sites
Landfill sites in Boulder county.

Date of Government Version: 05/01/1986	Source: Boulder County Health Department
Date Data Arrived at EDR: 11/14/1995	Telephone: 303-441-1182
Date Made Active in Reports: 12/07/1995	Last EDR Contact: 01/30/1998
Number of Days to Update: 23	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

DENVER COUNTY:

LF DENVER: Landfills in Denver County
Landfill sites in the city and county of Denver.

Date of Government Version: 06/23/2017	Source: City and County of Denver
Date Data Arrived at EDR: 06/23/2017	Telephone: 720-913-4839
Date Made Active in Reports: 09/06/2017	Last EDR Contact: 09/11/2024
Number of Days to Update: 75	Next Scheduled EDR Contact: 12/23/2024
	Data Release Frequency: No Update Planned

LF DENVER CO METHANE: Investigation of Methane Gas Hazards
The purpose of this study was to assess the actual and potential generation, migration, explosive and related problem associated with specified old landfills, and to identify existing and potential problems, suggested strategies to prevent, abate, and control such problems and recommend investigative and monitoring functions as may be deemed necessary. Eight sites determined to be priorities due to population density and potential hazards to population and property were selected by the Colorado Department of Health.

Date of Government Version: 01/01/1981	Source: City and County of Denver Department of Environmental Health
Date Data Arrived at EDR: 01/29/2013	Telephone: 720-865-5522
Date Made Active in Reports: 03/08/2013	Last EDR Contact: 01/15/2013
Number of Days to Update: 38	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

DOUGLAS COUNTY:

LF DOUGLAS: Douglas County Landfill Key

Landfill sites in Douglas county.

Date of Government Version: 06/12/1991	Source: Tri-County Health Department
Date Data Arrived at EDR: 02/16/1995	Telephone: 303-761-1340
Date Made Active in Reports: 04/04/1995	Last EDR Contact: 01/27/1995
Number of Days to Update: 47	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

PUEBLO COUNTY:

LF PUEBLO: Designated Disposal & Landfill Sites

Only inert materials. Asphalt, cement, dirt & rock unless otherwise specified. These sites are no longer active.

Date of Government Version: 04/30/1990	Source: Pueblo City-County Health Department
Date Data Arrived at EDR: 11/16/1995	Telephone: 719-583-4300
Date Made Active in Reports: 12/07/1995	Last EDR Contact: 11/13/1995
Number of Days to Update: 21	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

TRI COUNTY:

LF TRI: Tri-County Area Solid Waste Facilities List (Adams, Arapahoe and Douglas Counties)

Closed Domestic Landfills in Adams County, Closed Domestic Landfills in Arapahoe County, Closed Demolition Landfills in Arapahoe County, Closed Domestic Landfills in Douglas County.

Date of Government Version: 10/15/1983	Source: Tri-County Health Department
Date Data Arrived at EDR: 02/16/1995	Telephone: 303-761-1340
Date Made Active in Reports: 04/04/1995	Last EDR Contact: 01/27/1995
Number of Days to Update: 47	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

WELD COUNTY:

LF WELD: Solid Waste Facilities in Weld County

Solid Waste Facilities in Weld County.

Date of Government Version: 01/16/2018	Source: Weld County Department of Public Health
Date Data Arrived at EDR: 02/09/2018	Telephone: 970-304-6415
Date Made Active in Reports: 02/23/2018	Last EDR Contact: 08/01/2024
Number of Days to Update: 14	Next Scheduled EDR Contact: 11/11/2024
	Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/05/2024	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 08/06/2024	Telephone: 860-424-3375
Date Made Active in Reports: 10/25/2024	Last EDR Contact: 08/06/2024
Number of Days to Update: 80	Next Scheduled EDR Contact: 11/18/2024
	Data Release Frequency: No Update Planned

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 11/30/2023	Telephone: 518-402-8651
Date Made Active in Reports: 12/01/2023	Last EDR Contact: 10/24/2024
Number of Days to Update: 1	Next Scheduled EDR Contact: 02/03/2025
	Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/19/2019	Telephone: 717-783-8990
Date Made Active in Reports: 09/10/2019	Last EDR Contact: 10/03/2024
Number of Days to Update: 53	Next Scheduled EDR Contact: 01/20/2025
	Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018	Source: Department of Natural Resources
Date Data Arrived at EDR: 06/19/2019	Telephone: N/A
Date Made Active in Reports: 09/03/2019	Last EDR Contact: 08/28/2024
Number of Days to Update: 76	Next Scheduled EDR Contact: 12/16/2024
	Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association’s annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Daycare Listing
Source: Department of Human Services
Telephone: 303-866-5958

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Riparian Vegetation Data
Source: Division of Wildlife
Telephone: 970-416-3360

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

WELBY GARDENS PHASE I ESA,
17201 WEST 64TH AVENUE
ARVADA, CO 80007

TARGET PROPERTY COORDINATES

Latitude (North):	39.815222 - 39˚ 48' 54.80''
Longitude (West):	105.194675 - 105˚ 11' 40.83''
Universal Tranverse Mercator:	Zone 13
UTM X (Meters):	483337.5
UTM Y (Meters):	4407057.5
Elevation:	5680 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50012209 GOLDEN, CO
Version Date:	2022

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

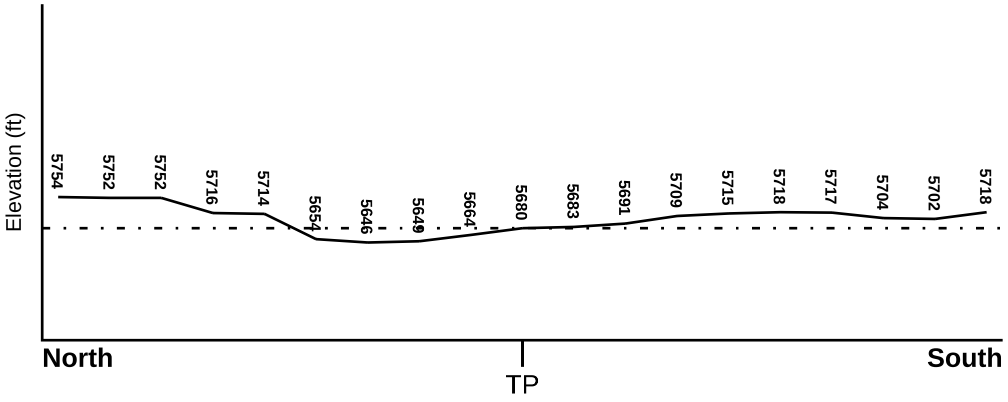
TOPOGRAPHIC INFORMATION

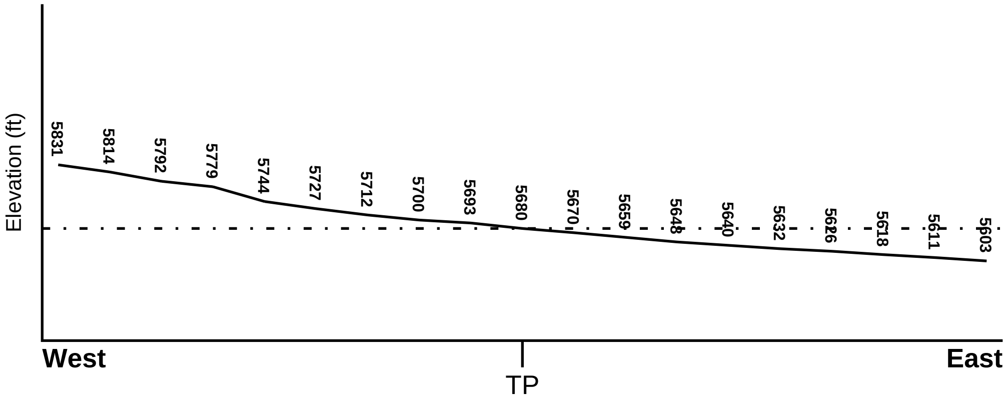
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

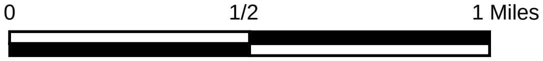
TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES







Target Property Elevation: 5680 ft.

Source: Topography has been determined from the USGS 7.5’ Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
08059C0179F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
08059C0183F	FEMA FIRM Flood data
08059C0187F	FEMA FIRM Flood data
08059C0191F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
GOLDEN	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

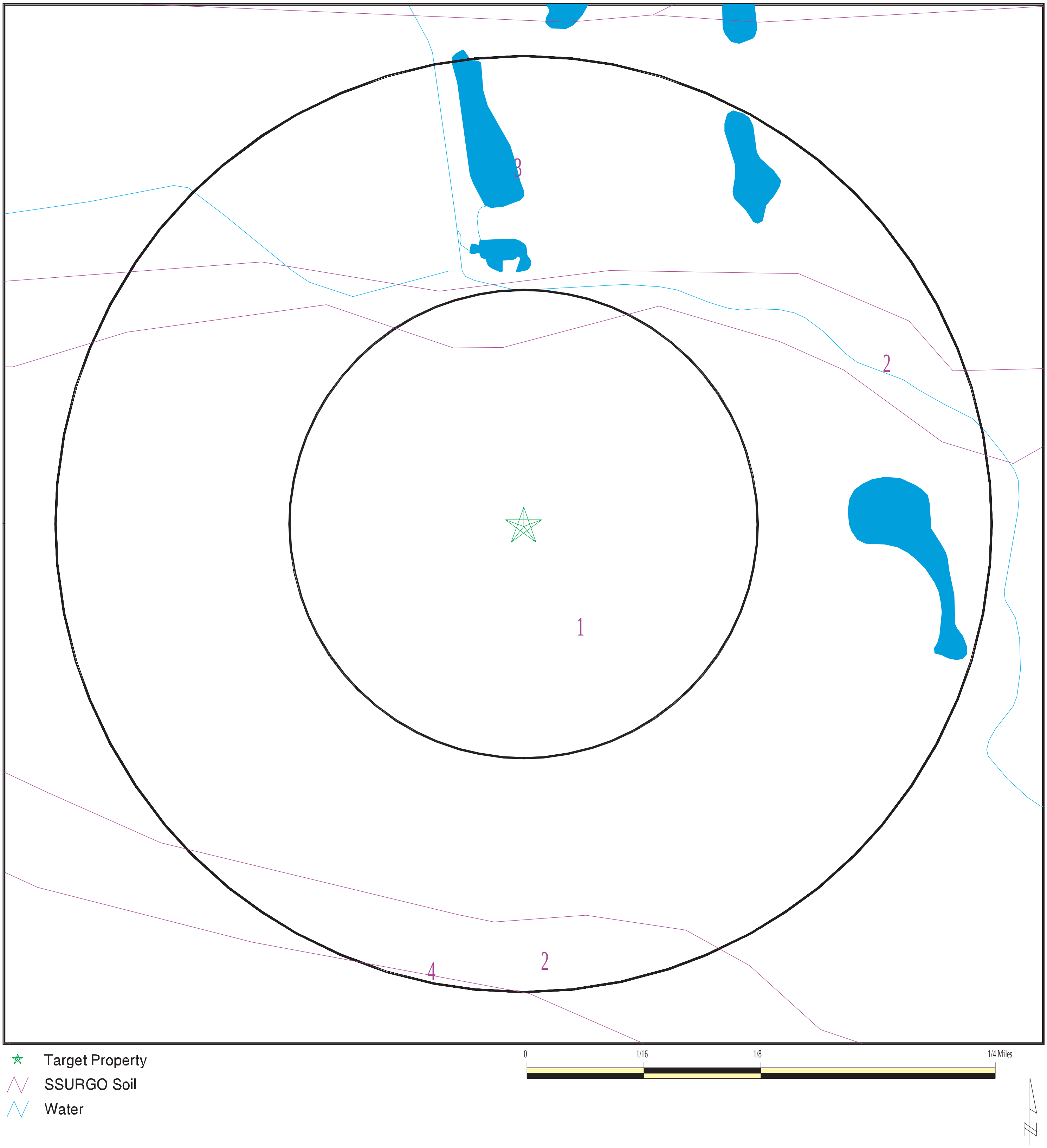
GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT		GEOLOGIC AGE IDENTIFICATION	
Era:	Mesozoic	Category:	Stratified Sequence
System:	Cretaceous		
Series:	Navarro Group		
Code:	uK4 *(decoded above as Era, System & Series)*		

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7809324.2s


3
2
1
2
4
Target Property
SSURGO Soil
Water
0
1/16
1/8
1/4 Miles
N

SITE NAME:	Welby Gardens Phase I ESA,	CLIENT:	Baseline Engineering Corporation
ADDRESS:	17201 West 64th Avenue Arvada CO 80007	CONTACT:	Taylor Culp
		INQUIRY #:	7809324.2s
LAT/LONG:	39.815222 / 105.194675	DATE:	October 31, 2024 1:25 pm

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DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name:	Veldkamp
Soil Surface Texture:	very cobbly sandy loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel:	Moderate
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		**Soil Reaction (pH)**
1	0 inches	3 inches	very cobbly sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 42.34 Min: 4.23	Max: 7.8 Min: 6.6
2	3 inches	20 inches	very cobbly clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 42.34 Min: 4.23	Max: 7.8 Min: 6.6
3	20 inches	59 inches	very cobbly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 42.34 Min: 4.23	Max: 7.8 Min: 6.6

Soil Map ID: 2

Soil Component Name:	Willowman
Soil Surface Texture:	cobbly loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)
1	0 inches	5 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42.34 Min: 14.11	Max: 8.4 Min: 7.9
2	5 inches	9 inches	very gravelly sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42.34 Min: 14.11	Max: 8.4 Min: 7.9
3	9 inches	59 inches	very gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42.34 Min: 14.11	Max: 8.4 Min: 7.9

Soil Map ID: 3

Soil Component Name:	Standley
Soil Surface Texture:	gravelly clay loam
Hydrologic Group:	Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.
Soil Drainage Class:	Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		**Soil Reaction (pH)**
1	0 inches	9 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 0.42	Max: 8.4 Min: 7.9
2	9 inches	22 inches	gravelly clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 0.42	Max: 8.4 Min: 7.9
3	22 inches	59 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 4

Soil Component Name: Valmont

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)
1	0 inches	3 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 42.34 Min: 4.23	Max: 8.4 Min: 7.9
2	3 inches	31 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 42.34 Min: 4.23	Max: 8.4 Min: 7.9
3	31 inches	59 inches	very gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 42.34 Min: 4.23	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D14	USGS40000212255	1/4 - 1/2 Mile ESE
I35	USGS40000212248	1/2 - 1 Mile ESE
40	USGS40000212513	1/2 - 1 Mile North
45	USGS40000212406	1/2 - 1 Mile ENE
46	USGS40000212514	1/2 - 1 Mile NNW
56	USGS40000212536	1/2 - 1 Mile NNW
L59	USGS40000212458	1/2 - 1 Mile NE
L61	USGS40000212454	1/2 - 1 Mile NE
M63	USGS40000212226	1/2 - 1 Mile ESE
64	USGS40000212399	1/2 - 1 Mile ENE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

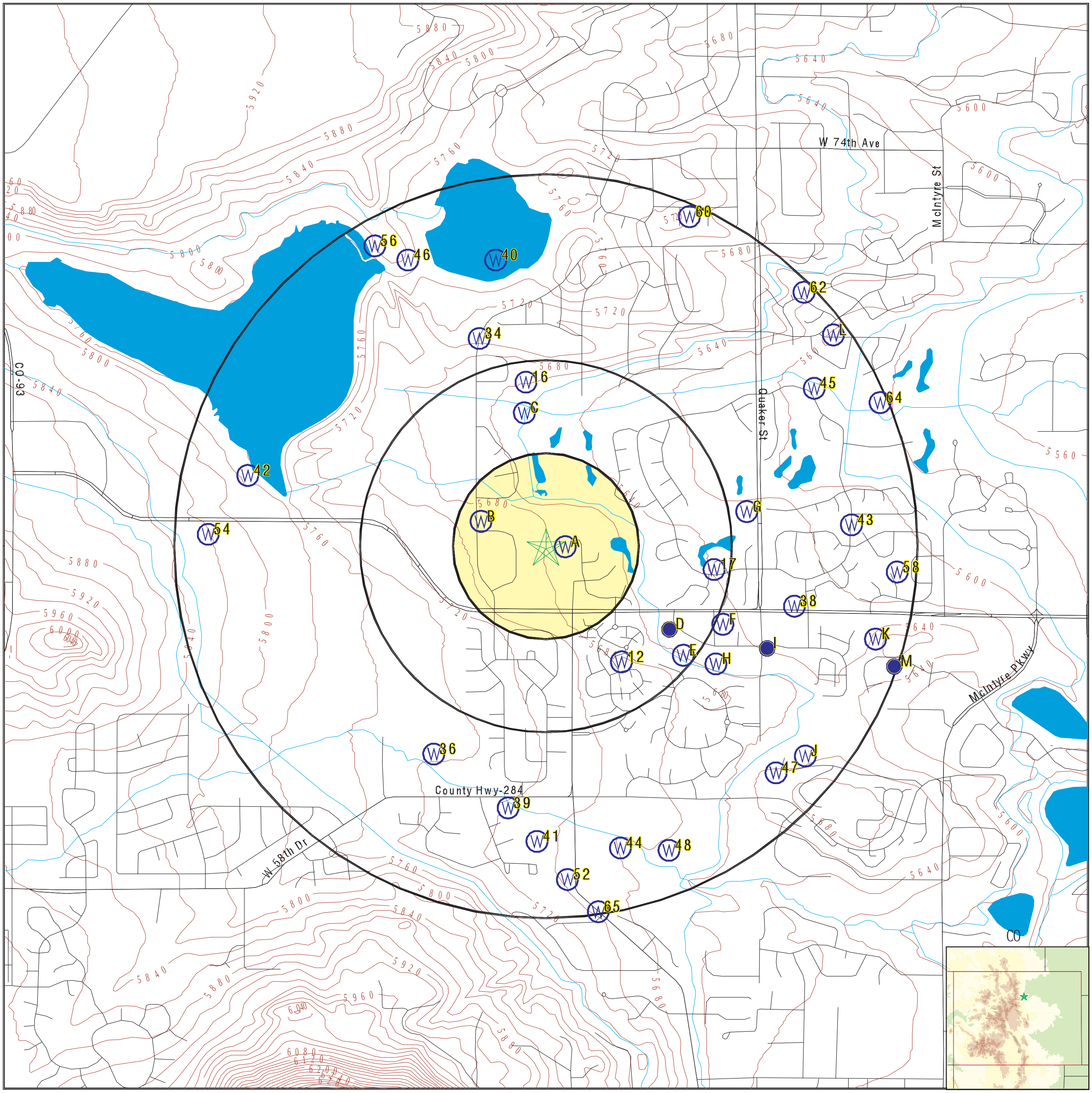
STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	CO9000000400013	0 - 1/8 Mile East
A2	CO9000000579354	0 - 1/8 Mile East
A3	CO9000000021984	0 - 1/8 Mile ESE
B4	CO9000000014239	1/8 - 1/4 Mile WNW
B5	CO9000000018573	1/8 - 1/4 Mile WNW
C6	CO9000000210132	1/4 - 1/2 Mile North
C7	CO9000000181443	1/4 - 1/2 Mile North
C8	CO9000000231316	1/4 - 1/2 Mile North
C9	CO9000000265819	1/4 - 1/2 Mile North
C10	CO9000000253811	1/4 - 1/2 Mile North
C11	CO9000000577929	1/4 - 1/2 Mile North
12	CO9000000402178	1/4 - 1/2 Mile SSE
D13	CO9000000405288	1/4 - 1/2 Mile ESE
D15	CO9000000262546	1/4 - 1/2 Mile SE
16	CO9000000401869	1/4 - 1/2 Mile North
17	CO9000000398676	1/4 - 1/2 Mile East

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
E18	CO9000000572803	1/4 - 1/2 Mile SE
E19	CO9000000572804	1/4 - 1/2 Mile SE
F20	CO9000000577402	1/2 - 1 Mile ESE
F21	CO9000000202294	1/2 - 1 Mile ESE
F22	CO9000000030612	1/2 - 1 Mile ESE
F23	CO9000000202293	1/2 - 1 Mile ESE
G24	CO9000000407599	1/2 - 1 Mile ENE
H25	CO9000000398317	1/2 - 1 Mile SE
H26	CO9000000399364	1/2 - 1 Mile SE
H27	CO9000000400535	1/2 - 1 Mile SE
H28	CO9000000372509	1/2 - 1 Mile SE
H29	CO9000000372510	1/2 - 1 Mile SE
H30	CO9000000372511	1/2 - 1 Mile SE
G31	CO9000000099813	1/2 - 1 Mile East
H32	CO9000000372508	1/2 - 1 Mile ESE
H33	CO9000000404719	1/2 - 1 Mile SE
34	CO9000000018572	1/2 - 1 Mile NNW
36	CO9000000060640	1/2 - 1 Mile SSW
I37	CO9000000186658	1/2 - 1 Mile ESE
38	CO9000000404343	1/2 - 1 Mile ESE
39	CO9000000569901	1/2 - 1 Mile South
41	CO9000000570494	1/2 - 1 Mile South
42	CO9000000060638	1/2 - 1 Mile WNW
43	CO9000000019430	1/2 - 1 Mile East
44	CO9000000060667	1/2 - 1 Mile SSE
47	CO9000000407199	1/2 - 1 Mile SE
48	CO9000000281781	1/2 - 1 Mile SSE
J49	CO9000000297698	1/2 - 1 Mile SE
J50	CO9000000397134	1/2 - 1 Mile SE
J51	CO9000000399533	1/2 - 1 Mile SE
52	CO9000000557124	1/2 - 1 Mile South
K53	CO9000000342784	1/2 - 1 Mile ESE
54	CO9000000039915	1/2 - 1 Mile West
K55	CO9000000309996	1/2 - 1 Mile ESE
K57	CO9000000327916	1/2 - 1 Mile ESE
58	CO9000000108053	1/2 - 1 Mile East
60	CO9000000079706	1/2 - 1 Mile NNE
62	CO9000000397046	1/2 - 1 Mile NE
65	CO9000000558488	1/2 - 1 Mile South
M66	CO9000000085365	1/2 - 1 Mile ESE
M67	CO9000000300534	1/2 - 1 Mile ESE
M68	CO9000000525415	1/2 - 1 Mile ESE

PHYSICAL SETTING SOURCE MAP - 7809324.2s


W 74th Ave
McIntyre St
Quaker St
CO-93
County Hwy-284
W 58th Dr
McIntyre Pkwy
CO
A
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C
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62
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65
5600
5640
5680
5720
5760
5800
5840
5880
5920
5960
6000
6040
6080
6120
6200
6240

0
1/4
1/2
1 Miles

- County Boundary
- Major Roads
- Contour Lines
- ◎ Earthquake epicenter, Richter 5 or greater
- Ⓦ Water Wells
- Ⓟ Public Water Supply Wells
- ● Cluster of Multiple Icons

- ↑ Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- ● Oil, gas or related wells

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada CO 80007
LAT/LONG: 39.815222 / 105.194675

CLIENT: Baseline Engineering Corporation
CONTACT: Taylor Culp
INQUIRY #: 7809324.2s
DATE: October 31, 2024 1:25 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
A1 **East** **0 - 1/8 Mile** **Lower**	**CO WELLS**	**CO9000000400013**

Permit #:	20627-F	CD DWR ID #:	0705732
Well Status:	Permit Canceled	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	60
Yrly Appropriation:	0	Issued Date:	1976-03-03
Expiration Date:	2013-05-22	Construction Date:	1976-05-14
Start Use Date:	1977-08-12	Pump Install Date:	1977-08-12
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	1071	Top of 1st Perf Casing:	850
Bot of Last Perf Casing:	1071	Yield (gpm):	15
Static Water Depth (ft):	340	Applicant:	YWAM, FOUNDATION
OGCC ID:	Not Reported	Comment:	Also See #055438-F
URL:	https://dwr.state.co.us/Tools/WellPermits/9027429		

A2 **East** **0 - 1/8 Mile** **Lower**	**CO WELLS**	**CO9000000579354**

Permit #:	84879-F	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	94CW0164	Parcel Size:	0
Well Use:	Augmentation	Addtl Well Use:	Commercial
Special Use:	Not Reported	Primary Aquifer:	Not Reported
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2020-11-10
Expiration Date:	Not Reported	Construction Date:	1976-05-14
Start Use Date:	Not Reported	Pump Install Date:	1977-08-12
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	1071	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	15
Static Water Depth (ft):	340	Applicant:	YWAM FOUNDATION (WARREN, PETER)
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/10006837		

A3 **ESE** **0 - 1/8 Mile** **Lower**	**CO WELLS**	**CO9000000021984**

Permit #:	9390-AD	CD DWR ID #:	Not Reported
Well Status:	Application Denied	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	VELDKAMP, BEN
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0021234		

B4
WNW
1/8 - 1/4 Mile
Higher

CO WELLS **CO9000000014239**

Permit #:	15511-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1989-10-12
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	ARVADA CITY OF
OGCC ID:	Not Reported	Comment:	No Data
URL:	https://dwr.state.co.us/Tools/WellPermits/0015511		

B5
WNW
1/8 - 1/4 Mile
Higher

CO WELLS **CO9000000018573**

Permit #:	18609-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1992-01-27
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	VELDKAMP, FLOWERS
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0018609B		

Map ID Direction Distance Elevation	Database	EDR ID Number
C6 **North** **1/4 - 1/2 Mile** **Lower**	**CO WELLS**	**CO9000000210132**

Permit #:	47828-F	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	W8366-79	Parcel Size:	80
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1997-01-28
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	BOWES, DOROTHY M
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0410429B		

C7 **North** **1/4 - 1/2 Mile** **Lower**	**CO WELLS**	**CO9000000181443**

Permit #:	44016-F	CD DWR ID #:	0705794
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	W8366-79	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE-FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1994-09-13
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	BOWES, DOROTHY M
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0371390		

C8 **North** **1/4 - 1/2 Mile** **Lower**	**CO WELLS**	**CO9000000231316**

Permit #:	51400-F	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	94CW0164	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1999-03-01
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	WRWC LLC % DOROTHY M BOWES
OGCC ID:	Not Reported	Comment:	Also See #51400-F
URL:	https://dwr.state.co.us/Tools/WellPermits/0440534		

C9
North
1/4 - 1/2 Mile
Lower

CO WELLS CO9000000265819

Permit #:	57785-F	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	W8366	Parcel Size:	80
Well Use:	Augmentation	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2002-07-03
Expiration Date:	2003-07-08	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	WRWC LLC
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0493154		

C10
North
1/4 - 1/2 Mile
Lower

CO WELLS CO9000000253811

Permit #:	55438-F	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	94CW0164	Parcel Size:	80
Well Use:	Augmentation	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2001-03-08
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	WRWC LLC
OGCC ID:	Not Reported	Comment:	Also See 57785-F
URL:	https://dwr.state.co.us/Tools/WellPermits/0472970		

Map ID
Direction
Distance
Elevation

		Database	EDR ID Number
C11 **North** **1/4 - 1/2 Mile** **Lower**		**CO WELLS**	**CO9000000577929**

Permit #:	84878-F	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	94CW0164	Parcel Size:	0
Well Use:	Augmentation	Addtl Well Use:	Commercial
Special Use:	Not Reported	Primary Aquifer:	LARAMIE-FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	14.39999962	Issued Date:	2020-11-10
Expiration Date:	2021-11-09	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	YWAM FOUNDATION (WARREN, PETER)
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/10006836		

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12 **SSE** **1/4 - 1/2 Mile** **Higher**		**CO WELLS**	**CO9000000402178**

Permit #:	43001-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1970-09-13	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	BUER KATHY MISS
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9029575		

D13 **ESE** **1/4 - 1/2 Mile** **Lower**		**CO WELLS**	**CO9000000405288**

Permit #:	83089-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1976-03-09
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1964-05-31	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	TINDELL, SUSAN
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9032464		

D14
ESE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000212255**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307011AAB1 M RICH	Type:	Well
Description:	Not Reported	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Alluvium, Flood Plain
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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D15
SE
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000262546**

Permit #:	240108-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	.75
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	QUATERNARY ALLUVIUM
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2002-04-15
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1956-05-30	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	22	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	ZIMMER FAMILY TRUST
OGCC ID:	Not Reported		
Comment:	Property Address Is 16620 W. 63rd Pl., Golden, Co 80403;		
URL:	https://dwr.state.co.us/Tools/WellPermits/0487624		

Map ID Direction Distance Elevation	Database	EDR ID Number
16 **North** **1/4 - 1/2 Mile** **Lower**	**CO WELLS**	**CO9000000401869**

Permit #:	39340-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1969-10-20
Start Use Date:	1969-10-20	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	60	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	24	Applicant:	WEALAND, R L
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9029274		

17 **East** **1/4 - 1/2 Mile** **Lower**	**CO WELLS**	**CO9000000398676**

Permit #:	9688-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1961-09-20
Start Use Date:	1961-09-20	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	507	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	40	Applicant:	GILKINSON JIM & JIM G
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9026155		

E18 **SE** **1/4 - 1/2 Mile** **Lower**	**CO WELLS**	**CO9000000572803**

Permit #:	318043-	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Fire
Special Use:	Not Reported	Primary Aquifer:	QUATERNARY ALLUVIUM

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	10000
Yrly Appropriation:	1	Issued Date:	2020-07-22
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	CHITIKILA, RAJ
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/10004123		

E19
SE
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000572804**

Permit #:	318043-	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Fire
Special Use:	Not Reported	Primary Aquifer:	QUATERNARY ALLUVIUM
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	10000
Yrly Appropriation:	1	Issued Date:	2020-07-22
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	SEIDMAN, KIMBERLY
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/10004123		

F20
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000577402**

Permit #:	35046-	CD DWR ID #:	Not Reported
Well Status:	Permit Canceled	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1968-08-23
Expiration Date:	Not Reported	Construction Date:	1968-08-15
Start Use Date:	1968-08-10	Pump Install Date:	2020-09-11
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	28	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	11
Static Water Depth (ft):	22	Applicant:	BLAUBHAN, BENNIE
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9028922		

Map ID Direction Distance Elevation	Database	EDR ID Number
F21 **ESE** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000202294**

Permit #:	96145-VE	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1996-05-02
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DUERKSEN, GEROLD
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0399734A		

F22 **ESE** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000030612**

Permit #:	96142-VE	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1996-04-30
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DUERKSEN, JEROLD R
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0028015		

F23 **ESE** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000202293**

Permit #:	196465-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	1
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1996-07-10
Expiration Date:	Not Reported	Construction Date:	1996-05-07
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	5640
Well Depth:	485	Top of 1st Perf Casing:	260
Bot of Last Perf Casing:	485	Yield (gpm):	0
Static Water Depth (ft):	190	Applicant:	DUERKSEN, JERROLD R
OGCC ID:	Not Reported	Comment:	Also Lot 6 96145ve
URL:	https://dwr.state.co.us/Tools/WellPermits/0399734		

G24
ENE
1/2 - 1 Mile
Lower

CO WELLS CO9000000407599

Permit #:	126139-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1978-10-23	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	METZINGER, DON
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9034955		

H25
SE
1/2 - 1 Mile
Lower

CO WELLS CO9000000398317

Permit #:	7172-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1960-10-20	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	ADAMS, MAX
OGCC ID:	Not Reported		
Comment:	Dry Well; Property Address Is 16690 W. 63rd Pl.;		

URL:	https://dwr.state.co.us/Tools/WellPermits/9025797

H26
SE
1/2 - 1 Mile
Lower

CO WELLS CO9000000399364

Permit #:	14791-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1963-05-20
Start Use Date:	1963-05-20	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	1244	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	975	Applicant:	KOUMAN, IDA M
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9026809		

H27
SE
1/2 - 1 Mile
Lower

CO WELLS CO9000000400535

Permit #:	26162-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1965-12-29	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	MCATER, G A
OGCC ID:	Not Reported		
Comment:	Property Address Is 16720 W. 63rd Pl.; Dry Hole/Filled;		
URL:	https://dwr.state.co.us/Tools/WellPermits/9027919		

H28
SE
1/2 - 1 Mile
Lower

CO WELLS CO9000000372509

Permit #:	304039--A	CD DWR ID #:	Not Reported
Well Status:	Permit Extended	Well Name:	0

Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2016-12-28
Expiration Date:	2018-12-24	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	COOK, JARED
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/3677656B		

H29
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000372510**

Permit #:	304039--A	CD DWR ID #:	Not Reported
Well Status:	Permit Extended	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2016-12-28
Expiration Date:	2019-12-30	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	COOK, JARED
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/3677656B		

H30
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000372511**

Permit #:	304039--A	CD DWR ID #:	Not Reported
Well Status:	Permit Extended	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2016-12-28
Expiration Date:	2020-12-28	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0

Static Water Depth (ft):	0	Applicant:	COOK, JARED
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/3677656B		

G31
East
1/2 - 1 Mile
Lower

CO WELLS CO9000000099813

Permit #:	126139--A	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1982-06-23
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	METZINGER, D
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0226606		

H32
ESE
1/2 - 1 Mile
Lower

CO WELLS CO9000000372508

Permit #:	304039-	CD DWR ID #:	Not Reported
Well Status:	Well Abandoned	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2016-12-28
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1970-12-31	Pump Install Date:	Not Reported
Well Plug Date:	2017-04-14	Well Elevation:	0
Well Depth:	100	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	COOK, JARED
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/3677656A		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

H33
SE
1/2 - 1 Mile
Lower
CO WELLS **CO9000000404719**

Permit #:	76233-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	DENVER
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1975-09-04
Start Use Date:	1975-09-04	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	150	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	20	Applicant:	LANGREHR, ERIC
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9031936		

34
NNW
1/2 - 1 Mile
Higher
CO WELLS **CO9000000018572**

Permit #:	18609-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1992-01-27
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	VELDKAMP, FLOWERS
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0018609A		

I35
ESE
1/2 - 1 Mile
Lower
FED USGS **USGS40000212248**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307011AA G-13	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported

Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	1244	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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36
SSW
1/2 - 1 Mile
Higher

CO WELLS **CO9000000060640**

Permit #:	51647-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2013-06-20
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DENVER WATER
OGCC ID:	Not Reported	Comment:	One (1) Hole To Be Constructed
URL:	https://dwr.state.co.us/Tools/WellPermits/0051647		

I37
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000186658**

Permit #:	184293-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1994-12-28
Expiration Date:	Not Reported	Construction Date:	1995-03-21
Start Use Date:	Not Reported	Pump Install Date:	1995-04-07
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	116	Applicant:	BOYD LAURETTA RUTH ESTATE OF
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0378188		

Map ID Direction Distance Elevation	Database	EDR ID Number
38 **ESE** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000404343**

Permit #:	71568-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	DENVER
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1973-09-24
Expiration Date:	Not Reported	Construction Date:	1975-06-11
Start Use Date:	1975-06-11	Pump Install Date:	1975-06-11
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	26	Applicant:	JOHNSON, EDWARD L
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9031590		

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39 **South** **1/2 - 1 Mile** **Higher**	**CO WELLS**	**CO9000000569901**

Permit #:	60489-DW	CD DWR ID #:	Not Reported
Well Status:	Well Abandoned	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Dewatering	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2020-02-12
Expiration Date:	Not Reported	Construction Date:	2020-02-18
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	2020-07-08	Well Elevation:	0
Well Depth:	27	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	SJ LOUIS
OGCC ID:	Not Reported		
Comment:	8/25/2020 Received 8 Well Abandonment Reports.		
URL:	https://dwr.state.co.us/Tools/WellPermits/0060489		

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40 **North** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000212513**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307026BAC1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19590101
Well Depth:	26	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1959-07-13
Feet below surface:	4.00	Feet to sea level:	Not Reported
Note:	Not Reported		

41
South
1/2 - 1 Mile
Higher

CO WELLS **CO9000000570494**

Permit #:	60625-DW	CD DWR ID #:	Not Reported
Well Status:	Well Abandoned	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Dewatering	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	Not Reported
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2020-03-26
Expiration Date:	Not Reported	Construction Date:	2020-04-02
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	2020-05-13	Well Elevation:	5701
Well Depth:	27	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	SJ LOUIS
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0060625		

42
WNW
1/2 - 1 Mile
Higher

CO WELLS **CO9000000060638**

Permit #:	51645-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2013-06-20
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DENVER WATER
OGCC ID:	Not Reported	Comment:	One (1) Hole To Be Constructed
URL:	https://dwr.state.co.us/Tools/WellPermits/0051645		

Map ID Direction Distance Elevation	Database	EDR ID Number
43 **East** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000019430**

Permit #:	19211-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1992-06-02
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	ARVADA CITY OF
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0019211		

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44 **SSE** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000060667**

Permit #:	51688-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2013-07-11
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DENVER WATER
OGCC ID:	Not Reported	Comment:	One (1) Hole To Be Constructed
URL:	https://dwr.state.co.us/Tools/WellPermits/0051688		

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45 **ENE** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000212406**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307025CBA1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported

Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	31.3	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1958-08-15
Feet below surface:	22.50	Feet to sea level:	Not Reported
Note:	Not Reported		

46
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000212514**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307026BCB	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19550101
Well Depth:	56	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1958-08-15
Feet below surface:	36.80	Feet to sea level:	Not Reported
Note:	Not Reported		

47
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000407199**

Permit #:	103998-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Stock
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1978-12-27
Expiration Date:	Not Reported	Construction Date:	1979-05-23
Start Use Date:	Not Reported	Pump Install Date:	1979-05-31
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	1200	Top of 1st Perf Casing:	920
Bot of Last Perf Casing:	1200	Yield (gpm):	14
Static Water Depth (ft):	340	Applicant:	RYAN LEE & SON
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9034572		

Map ID
Direction
Distance
Elevation
Database EDR ID Number

48
SSE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000281781**

Permit #:	Not Reported	CD DWR ID #:	Not Reported
Well Status:	Application Information Requested		
Well Name:	0	Water Court Case #:	Not Reported
Parcel Size:	60.88999939	Well Use:	Irrigation
Addtl Well Use:	Not Reported	Special Use:	Not Reported
Primary Aquifer:	UPPER ARAPAHOE	Addtl Aquifer:	Not Reported
Division:	1	Water District:	7
Mgmt District:	Not Reported	Ground Water Basin:	Not Reported
Irrigation Area:	0	Yrly Appropriation:	14.30000019
Issued Date:	Not Reported	Expiration Date:	Not Reported
Construction Date:	Not Reported	Start Use Date:	Not Reported
Pump Install Date:	Not Reported	Well Plug Date:	Not Reported
Well Elevation:	0	Well Depth:	0
Top of 1st Perf Casing:	0	Bot of Last Perf Casing:	0
Yield (gpm):	0	Static Water Depth (ft):	0
Applicant:	KELLER, WILLIAM J	OGCC ID:	Not Reported
Comment:	Not Reported		
URL:	https://dwr.state.co.us/Tools/WellPermits/0520282		

J49
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000297698**

Permit #:	4529-	CD DWR ID #:	Not Reported
Well Status:	Permit Canceled	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	RYAN, LEE
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0900590		

J50
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000397134**

Permit #:	786-RN	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported

Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1958-04-21
Start Use Date:	1958-04-21	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	535	Top of 1st Perf Casing:	347
Bot of Last Perf Casing:	535	Yield (gpm):	0
Static Water Depth (ft):	110	Applicant:	RYAN LEE & SON
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9024657		

J51
SE
1/2 - 1 Mile
Lower

CO WELLS CO9000000399533

Permit #:	15955-R	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Industrial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1957-04-27
Start Use Date:	1958-04-21	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	350	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	90	Applicant:	RYAN LEE & SON
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9026973		

52
South
1/2 - 1 Mile
Higher

CO WELLS CO9000000557124

Permit #:	59391-MH	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	Not Reported
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2019-03-07
Expiration Date:	Not Reported	Construction Date:	2019-03-22
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	25	Top of 1st Perf Casing:	14
Bot of Last Perf Casing:	25	Yield (gpm):	0
Static Water Depth (ft):	13	Applicant:	SJ LOUIS
OGCC ID:	Not Reported		

Comment:	4/17/2019 Received 3 Well Construction Reports.
URL:	https://dwr.state.co.us/Tools/WellPermits/0059391

K53
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000342784**

Permit #:	69085-F	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	2.17000008
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LOWER ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2010-03-31
Expiration Date:	Not Reported	Construction Date:	2011-01-24
Start Use Date:	Not Reported	Pump Install Date:	2011-03-17
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	402	Top of 1st Perf Casing:	110
Bot of Last Perf Casing:	402	Yield (gpm):	9
Static Water Depth (ft):	141	Applicant:	RICHARDSON, LARK
OGCC ID:	Not Reported		
Comment:	Aquifer Interval To Be Amended To Show 110-350 Feet Below The Ground Surface With Sump To 390 Feet Based On Geophysical Logging Mps 01/24/2011		
URL:	https://dwr.state.co.us/Tools/WellPermits/3642073		

54
West
1/2 - 1 Mile
Higher

CO WELLS **CO9000000039915**

Permit #:	35903-MH	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1999-06-16
Expiration Date:	Not Reported	Construction Date:	1999-04-29
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	385	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	20	Applicant:	GOLDEN PROPERTIES LTD
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0035903		

Map ID Direction Distance Elevation	Database	EDR ID Number
K55 **ESE** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000309996**

Permit #:	110951-	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	1.14999998
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	SCOTT, JON L
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0913637		

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56 **NNW** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000212536**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307027ADA	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19540101
Well Depth:	100	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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K57 **ESE** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000327916**

Permit #:	66100-F	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	2.20000005
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LOWER ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2007-08-08
Expiration Date:	2008-07-28	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	5650
Well Depth:	0	Top of 1st Perf Casing:	0

Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	KITOWSKI, PATRICK
OGCC ID:	Not Reported		
Comment:	Log Waiver Request Denied 7/14/08 Dam.		
URL:	https://dwr.state.co.us/Tools/WellPermits/3610207		

58
East
1/2 - 1 Mile
Lower

CO WELLS **CO9000000108053**

Permit #:	133759-	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1983-11-29
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	MCKEE, ENTERPR
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0240108		

L59
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000212458**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307025BCA1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19180101
Well Depth:	33	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1958-08-01
Feet below surface:	31.00	Feet to sea level:	Not Reported
Note:	Not Reported		

60
NNE
1/2 - 1 Mile
Higher

CO WELLS **CO9000000079706**

Permit #:	106896-	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0

Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1979-05-30
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	THIAVILLE GARY & LURAY
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0102520		

L61
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000212454**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307025BCD2 USGS 394924105104501		
Type:	Well	Description:	Not Reported
HUC:	10190004	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Not Reported
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19530101	Well Depth:	44
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1958-08-01
Feet below surface:	19.00	Feet to sea level:	Not Reported
Note:	Not Reported		

62
NE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000397046**

Permit #:	361-	CD DWR ID #:	0705477
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1957-10-01	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	NEWMAN, R E
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9024570		

Map ID Direction Distance Elevation	Database	EDR ID Number
M63 **ESE** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000212226**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307012BDB1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Laramie Formation
Aquifer Type:	Not Reported	Construction Date:	19690423
Well Depth:	1172	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	2	Level reading date:	1978-06-26
Feet below surface:	431.10	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1969-04-28	Feet below surface:	354.00
Feet to sea level:	Not Reported	Note:	Not Reported

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64 **ENE** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000212399**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307025CAA1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	7	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1958-07-29
Feet below surface:	3.00	Feet to sea level:	Not Reported
Note:	Not Reported		

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65 **South** **1/2 - 1 Mile** **Higher**	**CO WELLS**	**CO9000000558488**

Permit #:	59581-MH	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	Not Reported
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2019-05-02
Expiration Date:	Not Reported	Construction Date:	2019-05-14

Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	5699
Well Depth:	40	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DENVER WATER (HAAS, RYAN)
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0059581		

M66
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000085365**

Permit #:	Not Reported	CD DWR ID #:	Not Reported
Well Status:	Application Information Requested		
Well Name:	0	Water Court Case #:	Not Reported
Parcel Size:	0	Well Use:	Domestic
Addtl Well Use:	Not Reported	Special Use:	Not Reported
Primary Aquifer:	ARAPAHOE	Addtl Aquifer:	Not Reported
Division:	1	Water District:	7
Mgmt District:	Not Reported	Ground Water Basin:	Not Reported
Irrigation Area:	0	Yrly Appropriation:	0
Issued Date:	Not Reported	Expiration Date:	Not Reported
Construction Date:	Not Reported	Start Use Date:	Not Reported
Pump Install Date:	Not Reported	Well Plug Date:	Not Reported
Well Elevation:	0	Well Depth:	0
Top of 1st Perf Casing:	0	Bot of Last Perf Casing:	0
Yield (gpm):	0	Static Water Depth (ft):	0
Applicant:	SCOTT, JON L	OGCC ID:	Not Reported
Comment:	Not Reported		
URL:	https://dwr.state.co.us/Tools/WellPermits/0111101		

M67
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000300534**

Permit #:	42406-	CD DWR ID #:	Not Reported
Well Status:	Permit Canceled	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	BARTLETT, RICHARD S
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0903597		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
M68 **ESE** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000525415**

Permit #:	579-WCB	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1955-06-16
Expiration Date:	Not Reported	Construction Date:	1955-05-24
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	500	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	HAPKE, DONALD
OGCC ID:	Not Reported	Comment:	Dry Hole
URL:	https://dwr.state.co.us/Tools/WellPermits/C300579		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for JEFFERSON County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for JEFFERSON COUNTY, CO

Number of sites tested: 62

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	3.993 pCi/L	64%	36%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	5.565 pCi/L	50%	47%	3%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5’ Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5’ Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Riparian Vegetation Data
Source: Division of Wildlife
Telephone: 970-416-3360

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture’s (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Colorado GIS Well Database
Source: Office of State Engineer, Division of Water Resources
Telephone: 303-866-3581
The GIS Well database includes all wells that the Division of Water Resources permits.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations
Source: Department of Natural Resources
Telephone: 303-894-2100

RADON

State Database: CO Radon
Source: Department of Public Health & Environment
Telephone: 303-692-3090
Radon Study in Colorado

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR’s Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007

Inquiry Number: 7809324.3
October 31, 2024

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/31/24

Site Name:

Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007
EDR Inquiry # 7809324.3

Client Name:

Baseline Engineering Corporation
112 North Rubey Dr Unit 210
Golden, CO 80403
Contact: Taylor Culp

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Baseline Engineering Corporation were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # CB3E-4B9D-B7D0

PO # 45033

Project Phase I ESA, 17201 W 64th Ave

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: CB3E-4B9D-B7D0

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007

Inquiry Number: 7809324.4
October 31, 2024

EDR Historical Topo Map Report

with QuadMatch™

EDR®
6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

10/31/24

Site Name:	Client Name:
Welby Gardens Phase I ESA,	Baseline Engineering Corporation
17201 West 64th Avenue	112 North Rubey Dr Unit 210
Arvada, CO 80007	Golden, CO 80403
EDR Inquiry # 7809324.4	Contact: Taylor Culp

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Baseline Engineering Corporation were identified for the years listed below. EDR’s Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.#	45033
Project:	Phase I ESA, 17201 W 64th Av

Coordinates:

Latitude:	39.815222 39° 48' 55" North
Longitude:	-105.194675 -105° 11' 41" West
UTM Zone:	Zone 13 North
UTM X Meters:	483337.89
UTM Y Meters:	4407267.12
Elevation:	5679.49' above sea level

Maps Provided:

2022
2019
2016
2013
1994
1980
1971
1965
1957
1944
1942
1939
1899

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2022 Source Sheets

Golden
2022
7.5-minute, 24000

2019 Source Sheets

Golden
2019
7.5-minute, 24000

2016 Source Sheets

Golden
2016
7.5-minute, 24000

2013 Source Sheets

Golden
2013
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1994 Source Sheets

Golden
1994
7.5-minute, 24000
Aerial Photo Revised 1990

1980 Source Sheets

Golden
1980
7.5-minute, 24000
Aerial Photo Revised 1978

1971 Source Sheets

Golden
1971
7.5-minute, 24000
Aerial Photo Revised 1971

1965 Source Sheets

Golden
1965
7.5-minute, 24000
Aerial Photo Revised 1964

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1957 Source Sheets

Golden
1957
7.5-minute, 24000
Aerial Photo Revised 1955

1944 Source Sheets

Golden
1944
7.5-minute, 31680

1942 Source Sheets

Golden
1942
7.5-minute, 31680

1939 Source Sheets

Golden
1939
7.5-minute, 24000

Topo Sheet Key

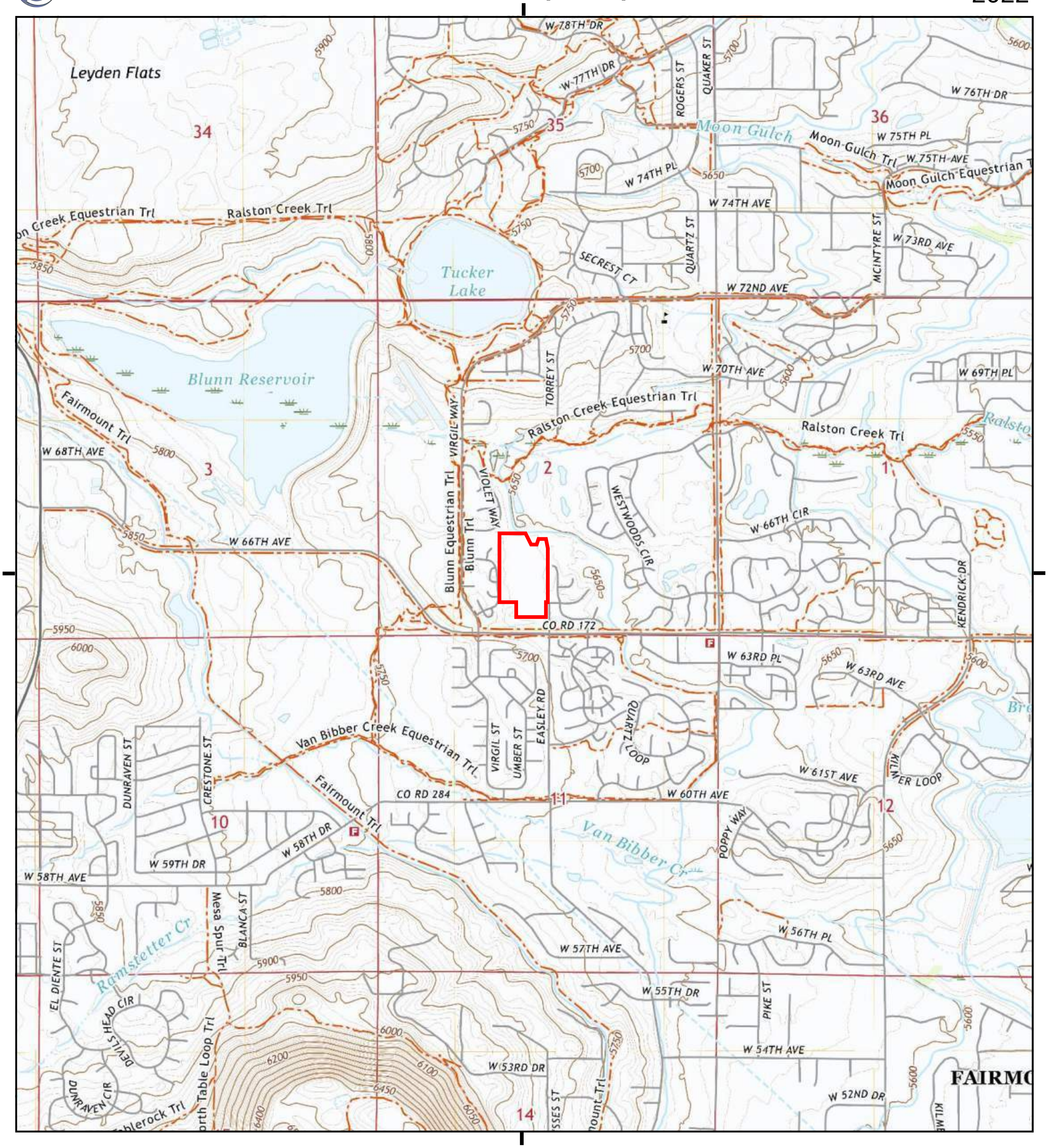
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1899 Source Sheets

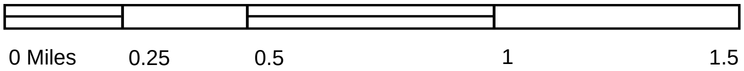
West Denver
1899
30-minute, 125000

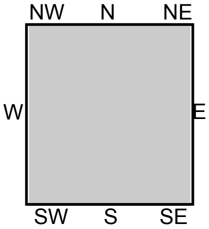
Historical Topo Map

2022


Leyden Flats
34
35
36
Moon Gulch
Moon Gulch Trl
Moon Gulch Equestrian T
Ralston Creek Trl
Ralston Creek Equestrian Trl
Tucker Lake
Blunn Reservoir
Fairmount Trl
W 68TH AVE
W 66TH AVE
3
2
1
10
11
12
14
W 78TH DR
W 77TH DR
W 76TH DR
W 75TH PL
W 75TH AVE
W 74TH PL
W 74TH AVE
W 73RD AVE
W 72ND AVE
W 70TH AVE
W 69TH PL
W 66TH CIR
ROGERS ST
QUAKER ST
QUARTZ ST
MCINTYRE ST
SECREST CT
TORREY ST
VIRGIL WAY
VIOLET WAY
Blunn Equestrian Trl
Blunn Trl
WESTWOODS CIR
KENDRICK DR
CO RD 172
W 63RD PL
W 63RD AVE
Van Bibber Creek Equestrian Trl
VIRGIL ST
UMBER ST
EASLEY RD
QUARTZ LOOP
CO RD 284
W 60TH AVE
W 61ST AVE
KILMER LOOP
Van Bibber Cr
POPPY WAY
DUNRAVEN ST
CRESTONE ST
W 58TH DR
W 59TH DR
W 58TH AVE
Mesa Spur Trl
BLANCA ST
Ramstetter Cr
W 57TH AVE
W 56TH PL
W 55TH DR
PIKE ST
W 54TH AVE
W 53RD DR
W 52ND DR
EL DIENTE ST
DEVILS HEAD CIR
DUNRAVEN CIR
North Table Loop Trl
FAIRMO
5600
5650
5700
5750
5800
5850
5900
5950
6000
6100
6200
6450

This report includes information from the following map sheet(s).


0 Miles
0.25
0.5
1
1.5

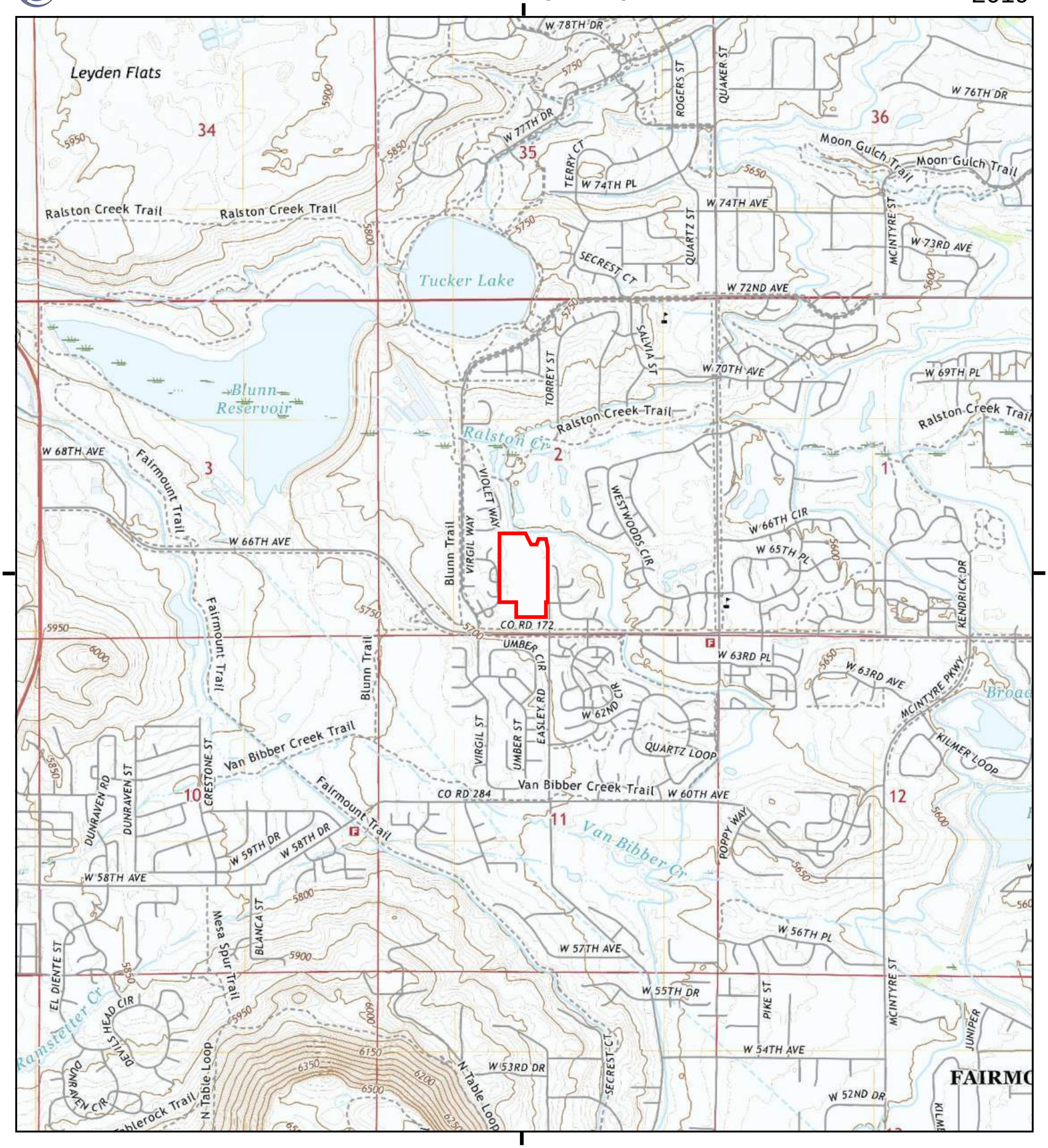

NW
N
NE
W
E
SW
S
SE

TP, Golden, 2022, 7.5-minute

SITE NAME:	Welby Gardens Phase I ESA,
ADDRESS:	17201 West 64th Avenue Arvada, CO 80007
CLIENT:	Baseline Engineering Corporation

Historical Topo Map

2019


Leyden Flats
W 78TH DR
5750
ROGERS ST
QUAKER ST
W 76TH DR
34
5950
5900
36
W 77TH DR
35
5850
Moon Gulch Trail
Moon Gulch Trail
TERRY CT
W 74TH PL
5650
Ralston Creek Trail
Ralston Creek Trail
W 74TH AVE
QUARTZ ST
MCINTYRE ST
W 73RD AVE
5750
5800
Tucker Lake
SECREST CT
5600
W 72ND AVE
5750
SALVIA ST
TORREY ST
W 70TH AVE
W 69TH PL
Blunn Reservoir
Ralston Creek Trail
Ralston Creek Trail
Ralston Cr
W 68TH AVE
2
Fairmount Trail
3
1
VIOLET WAY
WESTWOODS CIR
W 66TH CIR
VIRGIL WAY
Blunn Trail
W 66TH AVE
W 65TH PL
5600
KENDRICK DR
5750
5950
6000
5700
CO RD 172
Fairmount Trail
UMBER CIR
W 63RD PL
Blunn Trail
5650
W 63RD AVE
MCINTYRE PKWY
Broad
W 62ND CIR
EASLEY RD
VIRGIL ST
UMBER ST
KILMER LOOP
QUARTZ LOOP
Van Bibber Creek Trail
5850
CRESTONE ST
DUNRAVEN RD
DUNRAVEN ST
10
Fairmount Trail
Van Bibber Creek Trail
CO RD 284
W 60TH AVE
12
11
Van Bibber Cr
POPPY WAY
5600
W 59TH DR
W 58TH DR
W 58TH AVE
5800
5650
Mesa Spur Trail
BLANCA ST
5900
W 57TH AVE
W 56TH PL
EL DIENTE ST
5850
Ramstetter Cr
DEVILS HEAD CIR
5950
6000
W 55TH DR
PIKE ST
MCINTYRE ST
JUNIPER
DUNRAVEN CIR
N Table Loop
Tablerock Trail
6350
6150
6200
6500
6250
N Table Loop
W 53RD DR
SECREST CT
W 54TH AVE
FAIRMO
W 52ND DR
KILME

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE

W E

SW S SE

TP, Golden, 2019, 7.5-minute

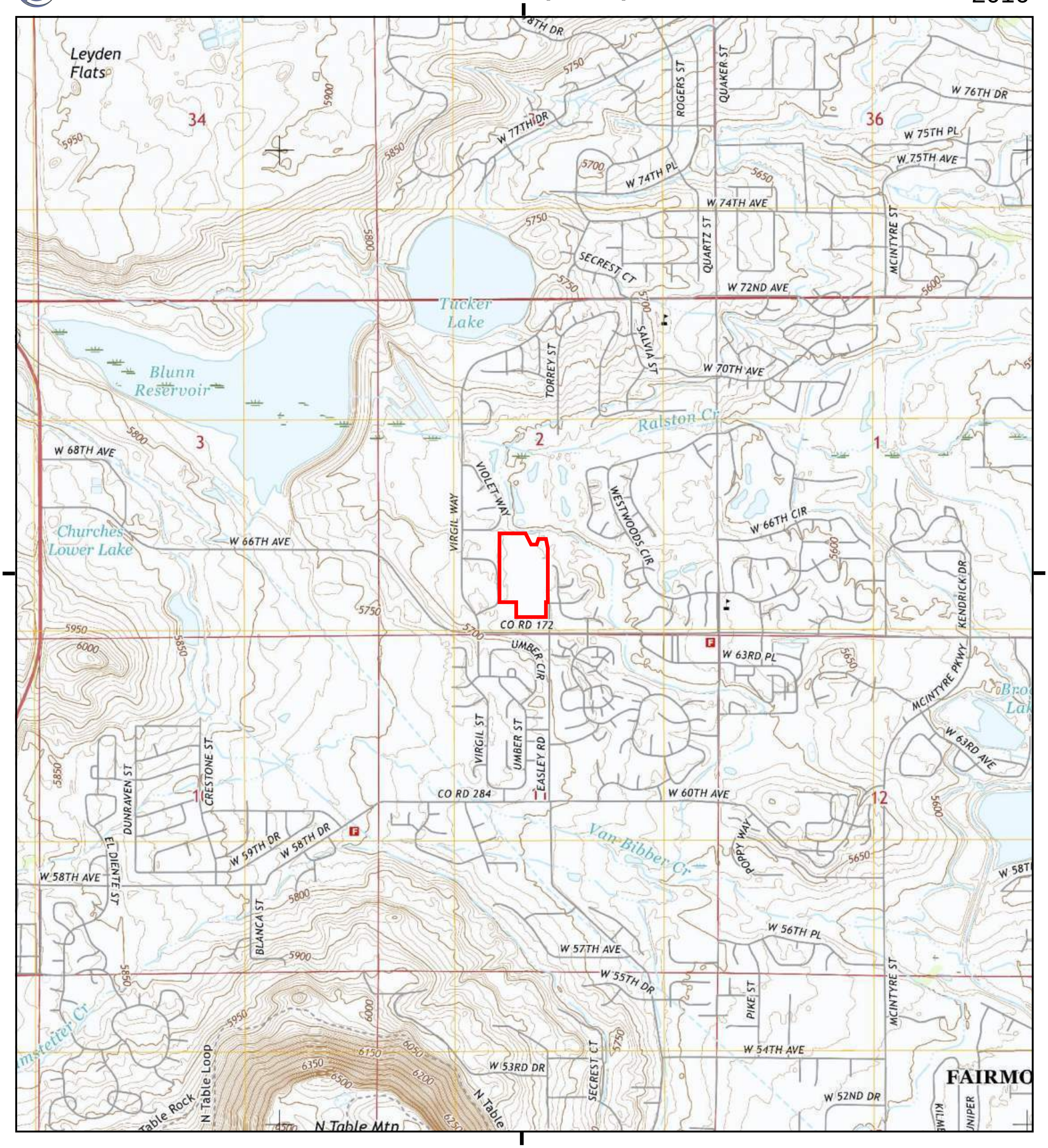
SITE NAME: Welby Gardens Phase I ESA,

ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007

CLIENT: Baseline Engineering Corporation

Historical Topo Map

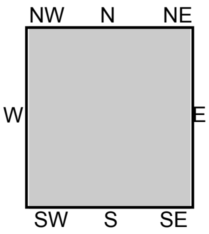
2016



Leyden Flats
34
W 77TH DR
8TH DR
5750
ROGERS ST
QUAKER ST
36
W 76TH DR
W 75TH PL
W 75TH AVE
5950
5900
5850
5700
W 74TH PL
5650
W 74TH AVE
5800
5750
Tucker Lake
SECREST CT
QUARTZ ST
MCINTYRE ST
W 72ND AVE
5600
Blunn Reservoir
TORREY ST
SALVIA ST
W 70TH AVE
Ralston Cr
5800
3
2
1
W 68TH AVE
VIOLET WAY
VIRGIL WAY
WESTWOODS CIR
W 66TH CIR
Churches Lower Lake
W 66TH AVE
5600
KENDRICK DR
5750
5950
6000
5850
5700
CO RD 172
UMBER CIR
W 63RD PL
5650
MCINTYRE PKWY
W 63RD AVE
CRESTONE ST
DUNRAVEN ST
VIRGIL ST
UMBER ST
EASLEY RD
CO RD 284
W 60TH AVE
12
11
5600
W 59TH DR
W 58TH DR
Van Bibber Cr
POPPY WAY
5650
EL DIENTE ST
W 58TH AVE
W 58T
BLANCA ST
5800
W 56TH PL
5900
W 57TH AVE
W 55TH DR
PIKE ST
MCINTYRE ST
5850
5950
6000
6150
6050
6350
6500
6200
W 53RD DR
SECREST CT
5750
W 54TH AVE
FAIRMO
W 52ND DR
N Table Loop
Table Rock
N Table Mtn
N Table
6250

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



NW
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E
SW
S
SE

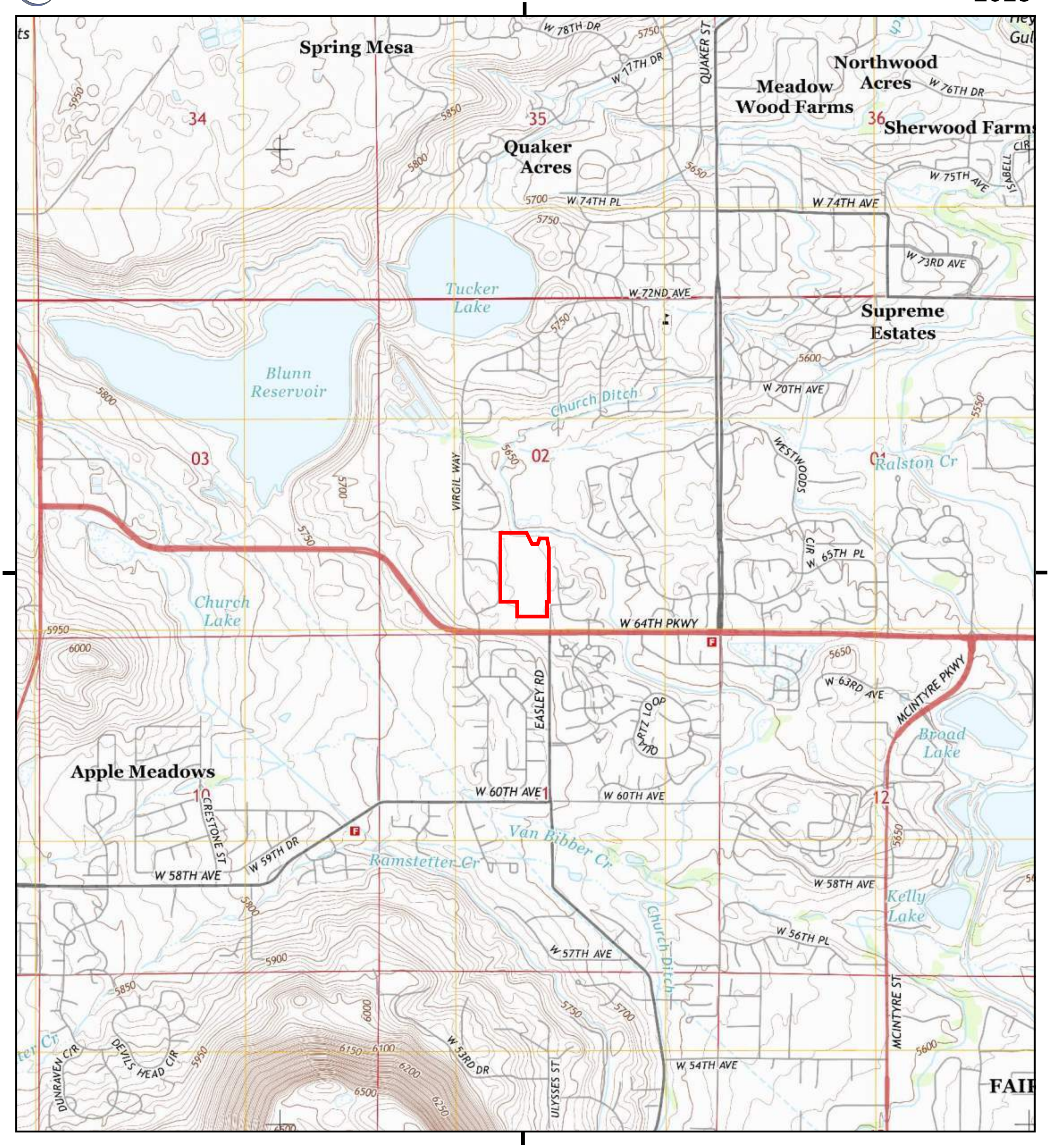
TP, Golden, 2016, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

2013



Spring Mesa
W 78TH DR
5750
W 77TH DR
QUAKER ST
Northwood
Acres
Meadow
Wood Farms
W 76TH DR
Sherwood Farms
36
35
34
5950
5850
5800
Quaker
Acres
5650
CIR
W 75TH AVE
ISABELL
5700
W 74TH PL
W 74TH AVE
5750
W 73RD AVE
Tucker
Lake
W 72ND AVE
Supreme
Estates
5750
5600
Blunn
Reservoir
5800
Church Ditch
W 70TH AVE
5550
03
5700
VIRGIL WAY
5650
02
WESTWOODS
01
Ralston Cr
5750
CIR
W 65TH PL
Church
Lake
5950
W 64TH PKWY
6000
5650
W 63RD AVE
MCINTYRE PKWY
EASLEY RD
QUARTZ LOOP
Broad
Lake
Apple Meadows
10
CRESTONE ST
W 60TH AVE
11
W 60TH AVE
12
W 59TH DR
Van Bibber Cr
5650
Ramstetter Cr
W 58TH AVE
W 58TH AVE
5800
Kelly
Lake
Church Ditch
W 56TH PL
W 57TH AVE
5900
5850
5750
5700
MCINTYRE ST
6000
DUNRAVEN CIR
DEVILS HEAD CIR
5950
6150
6100
6200
W 53RD DR
W 54TH AVE
5600
6500
6250
ULYSSES ST
FAIR

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE

W E

SW S SE

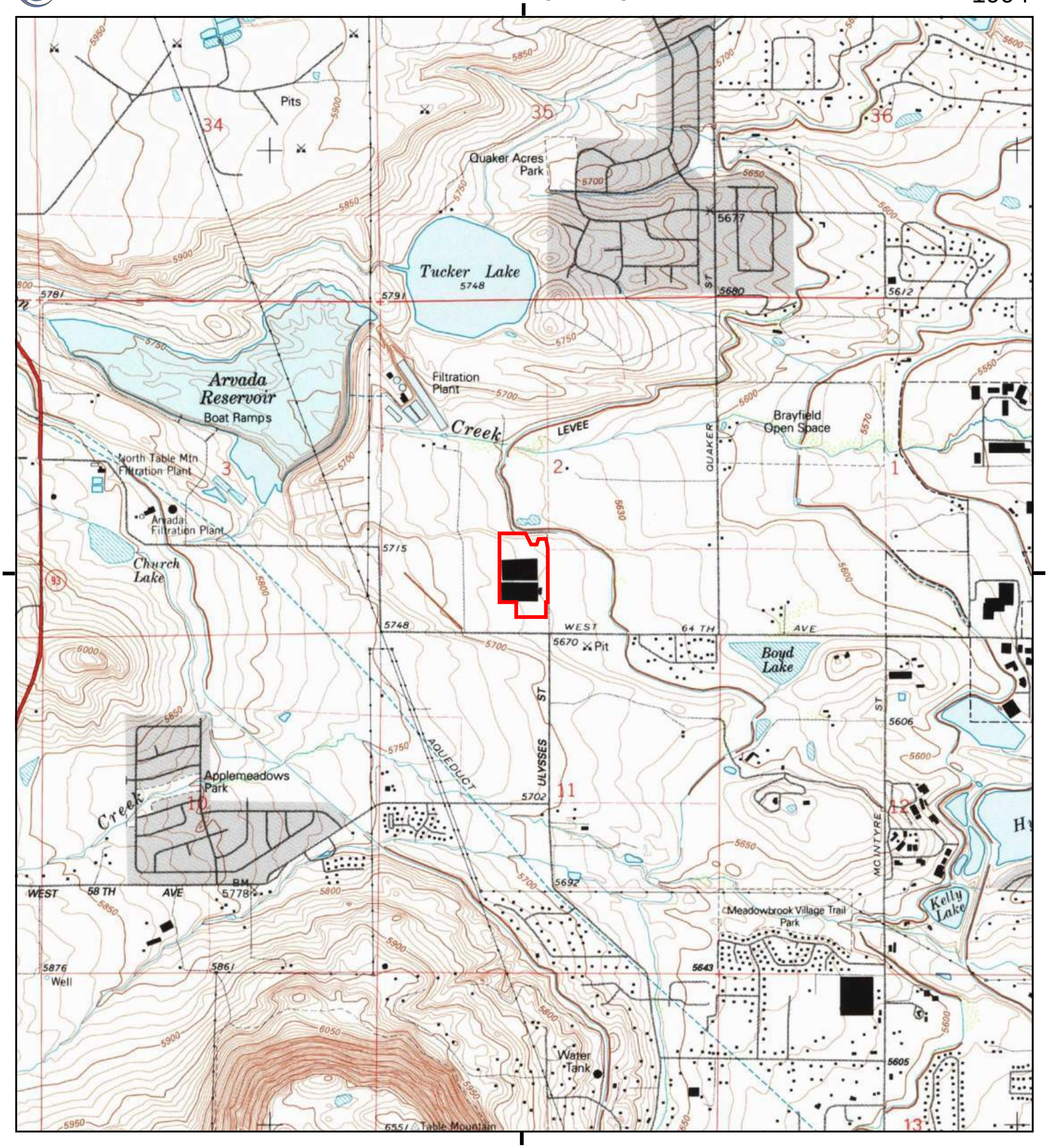
TP, Golden, 2013, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

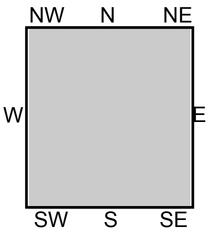
Historical Topo Map

1994


Pits
34
35
36
Quaker Acres Park
5677
Tucker Lake
5748
5781
5791
5680
5612
Arvada Reservoir
Boat Ramps
Filtration Plant
Creek
LEVEE
Brayfield Open Space
QUAKER
North Table Mtn Filtration Plant
Arvada Filtration Plant
3
2
1
Church Lake
93
5715
5748
WEST
64 TH
AVE
5670
Pit
Boyd Lake
ST
ULYSSES
AQUEDUCT
5702
11
5606
Applemeadows Park
Creek
10
12
MCINTYRE
WEST
58 TH
AVE
BM 5778
5692
Meadowbrook Village Trail Park
Kelly Lake
5876
Well
5861
5643
Water Tank
5605
6551
Table Mountain
13

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5


NW
N
NE
W
E
SW
S
SE

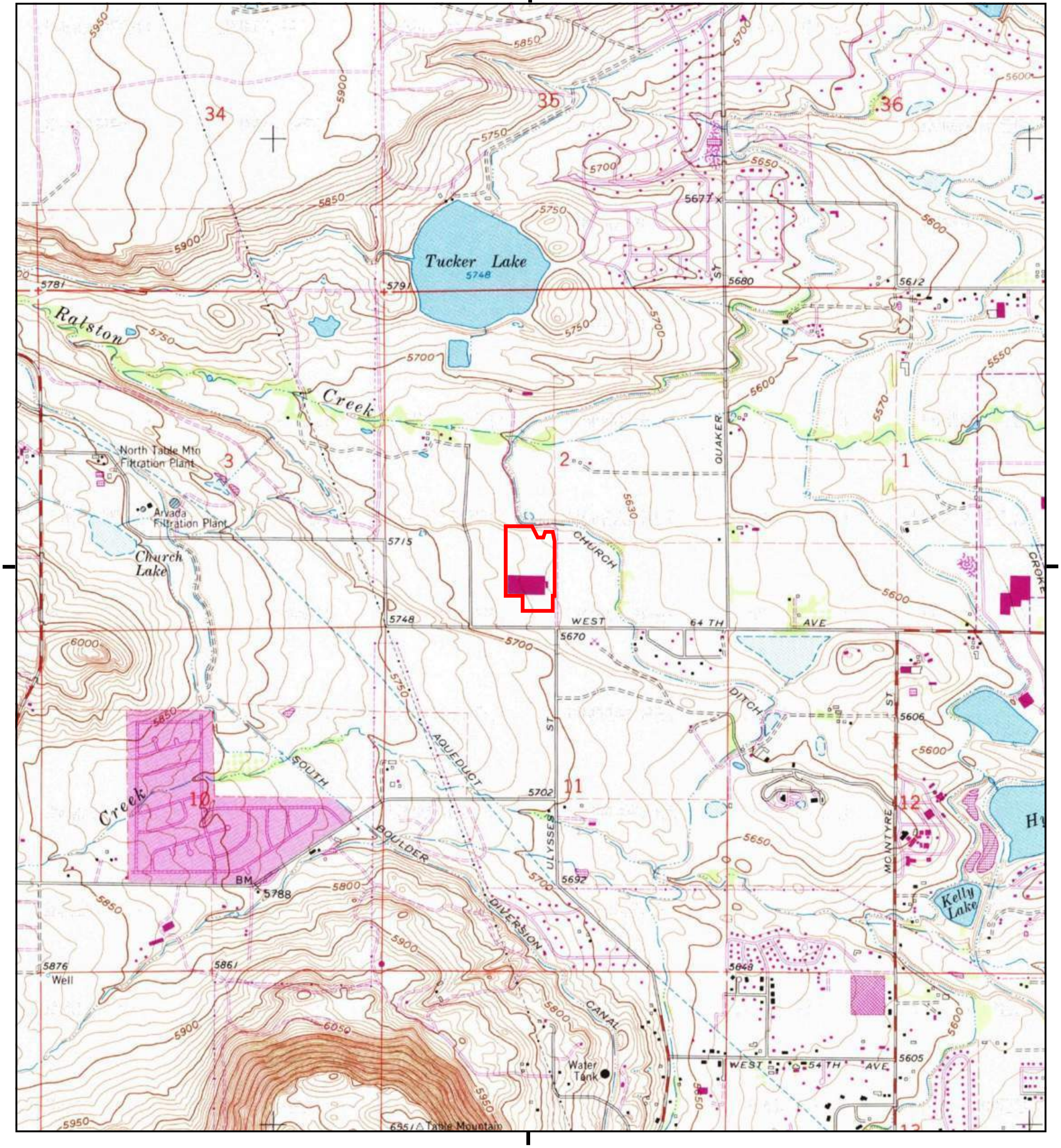
TP, Golden, 1994, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

EDR

Historical Topo Map

1980



34
35
36
5850
5900
5750
5700
5650
5677 x
5600
5850
5900
Tucker Lake
5748
5781
5791
5750
ST
5680
5612
Ralston
5750
5700
5600
5550
Creek
5570
QUAKER
North Table Mtn
Filtration Plant
3
2
1
Arvada
Filtration Plant
5630
Church
Lake
5715
CHURCH
CROKE
5600
5748
WEST
64 TH
AVE
5670
6000
5700
DITCH
ST
5606
5750
ST
5600
5850
AQUEDUCT
SOUTH
11
5702
12
Creek
10
BOULDER
ULYSSES
MCINTYRE
5650
BM
5788
5800
5700
5692
DIVERSION
Kelly
Lake
5850
5900
CANAL
5876
Well
5861
5648
5900
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Water
Tank
WEST
54 TH
AVE
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5950
5950
6551 Table Mountain
5650

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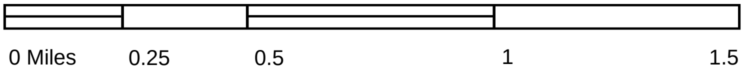

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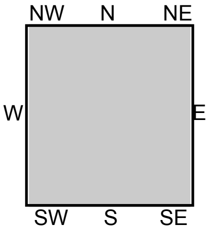


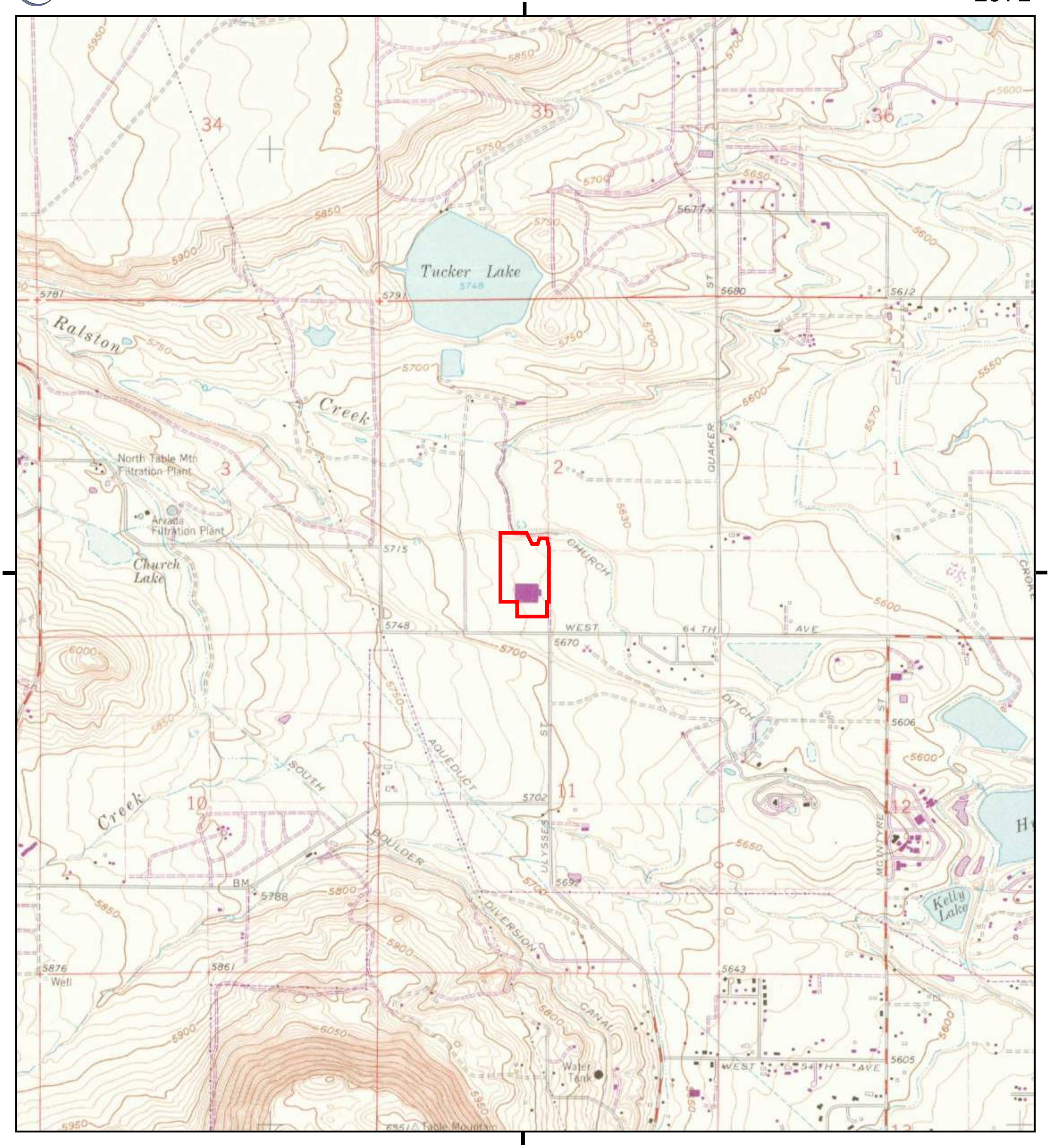
NW
N
NE
W
E
SW
S
SE

TP, Golden, 1980, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

Historical Topo Map

1971


Tucker Lake
5748
Ralston
Creek
North Table Mtn Filtration Plant
Arvada Filtration Plant
Church Lake
34
35
36
3
2
1
10
11
12
CHURCH
WEST 64 TH AVE
QUAKER ST
DITCH
SOUTH BOULDER DIVERSION CANAL
AQUEDUCT
ULYSSES ST
MCINTYRE ST
Kelly Lake
Water Tank
Well
BM 5788
WEST 54 TH AVE
Table Mountain
5781
5791
5715
5748
5670
5680
5612
5677
5606
5605
5643
5702
5692
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5876
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5570
5630

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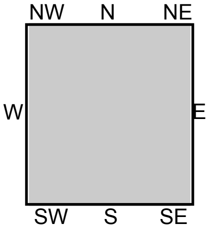
NW
N
NE
W
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SW
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SE

TP, Golden, 1971, 7.5-minute

SITE NAME:	Welby Gardens Phase I ESA,
ADDRESS:	17201 West 64th Avenue Arvada, CO 80007
CLIENT:	Baseline Engineering Corporation

Historical Topo Map

1965

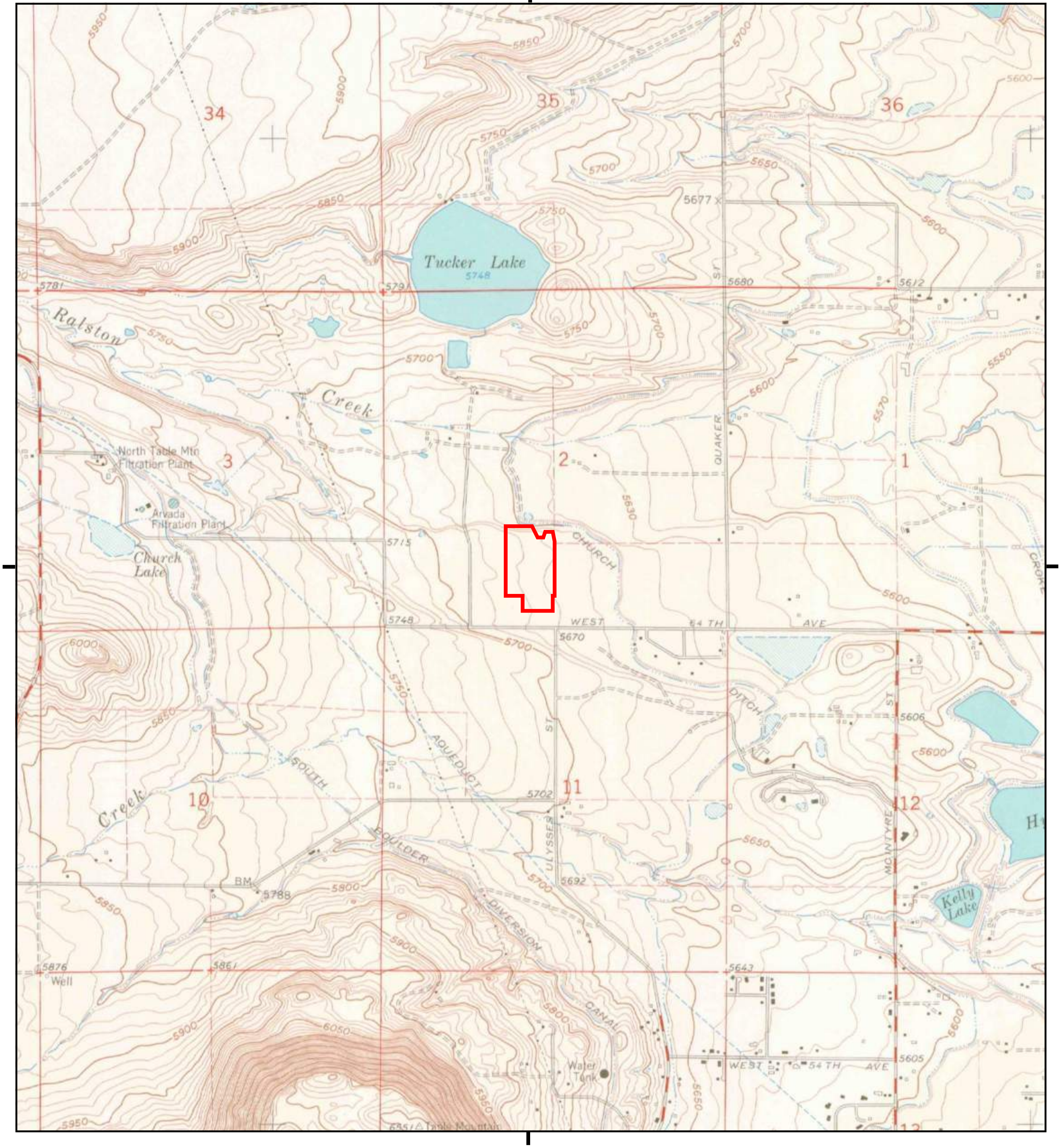
34
35
36
Tucker Lake
5748
5677
5680
5612
5781
5791
Ralston
Creek
North Table Mtn Filtration Plant
Arvada Filtration Plant
Church Lake
3
2
1
QUAKER
ST
CHURCH
5715
5748
WEST
64 TH
AVE
5670
6000
DITCH
CROKE
5606
5600
11
10
12
Creek
SOUTH
AQUEDUCT
BOULDER
DIVERSION
CANAL
5702
ULYSSES
ST
5692
MCINTYRE
Kelly Lake
BM
5788
5876
Well
5861
5643
Water Tank
WEST
54 TH
AVE
5605
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Table Mountain
5950
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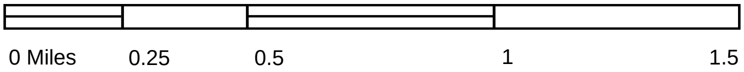
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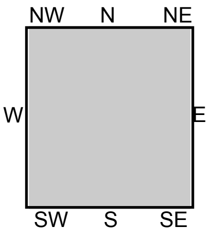
0.5
1
1.5

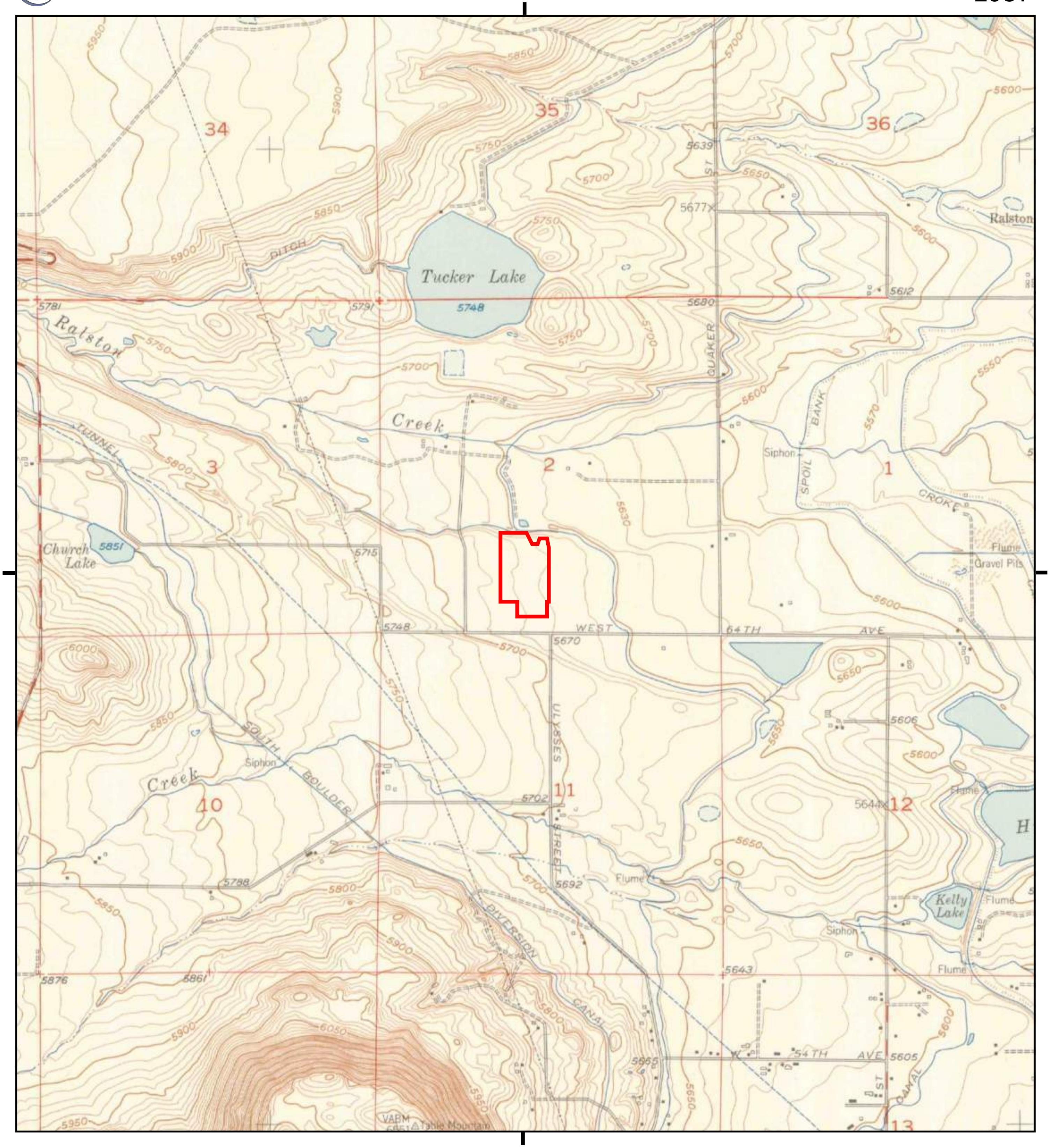

NW
N
NE
W
E
SW
S
SE

TP, Golden, 1965, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

Historical Topo Map

1957



Tucker Lake
5748
Ralston
Creek
Church Lake
5851
TUNNEL
DITCH
QUAKER
ST
WEST
64TH
AVE
ULYSSES
STREET
SOUTH BOULDER
DIVERSION
CANAL
Siphon
SPOIL BANK
CROKE
Flume
Gravel Pits
Kelly Lake
Ralston
54TH
AVE
Table Mountain
34
35
36
3
2
1
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12
13

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

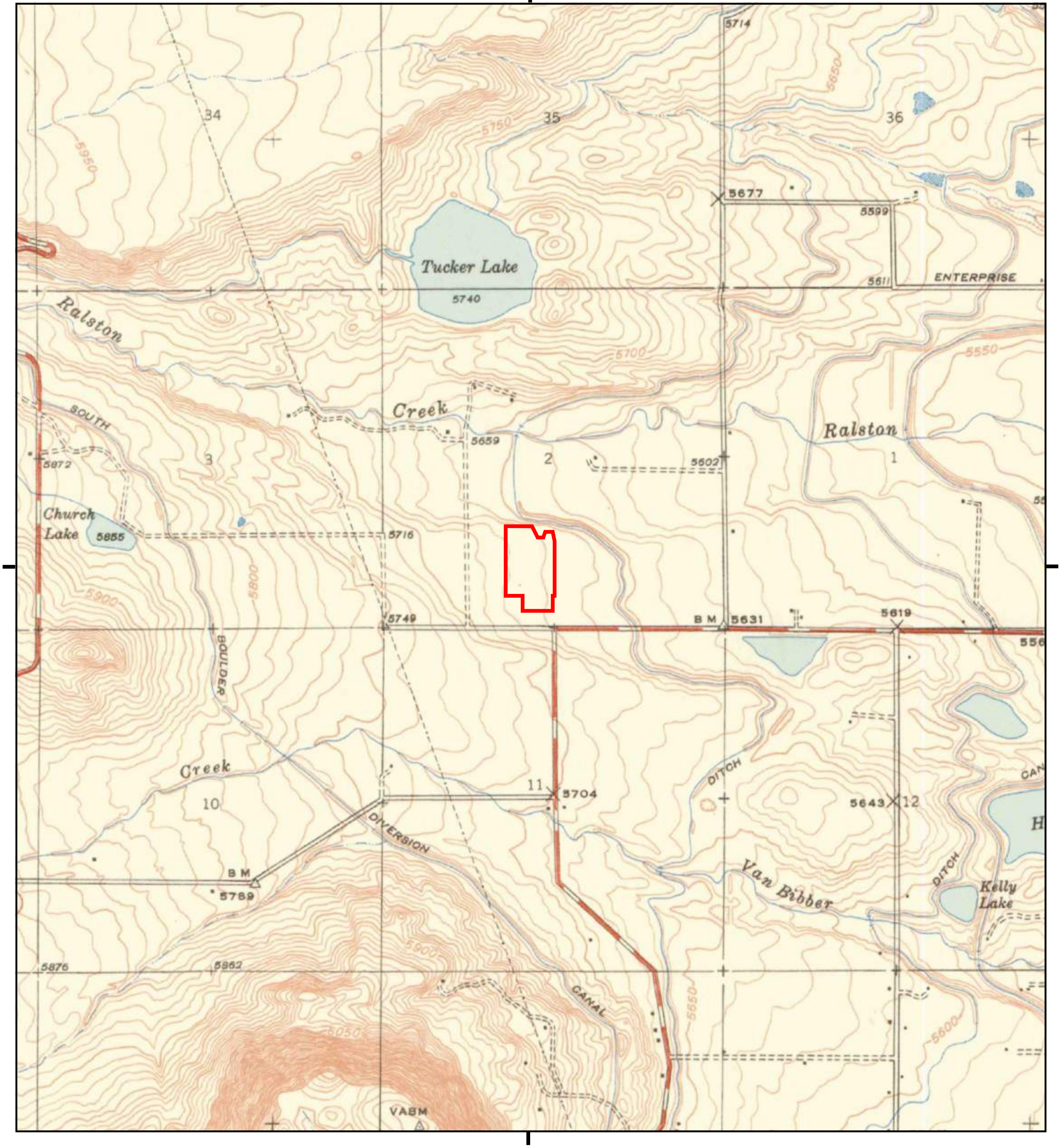
NW N NE
W E
SW S SE

TP, Golden, 1957, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

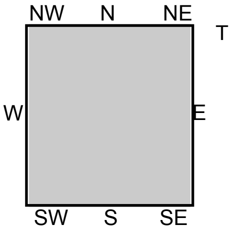
Historical Topo Map

1944


5714
5650
34
35
36
5950
5750
5677
5599
Tucker Lake
5740
5611
ENTERPRISE
Ralston
5700
5550
Creek
SOUTH
5659
Ralston
5872
3
2
5602
1
Church
Lake
5855
5716
5800
5900
5749
B M
5631
5619
BOULDER
Creek
10
11
5704
DITCH
5643
12
DIVERSION
B M
5789
Van Bibber
DITCH
Kelly
Lake
5876
5862
5900
CANAL
5650
5600
6050
VABM

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5


NW
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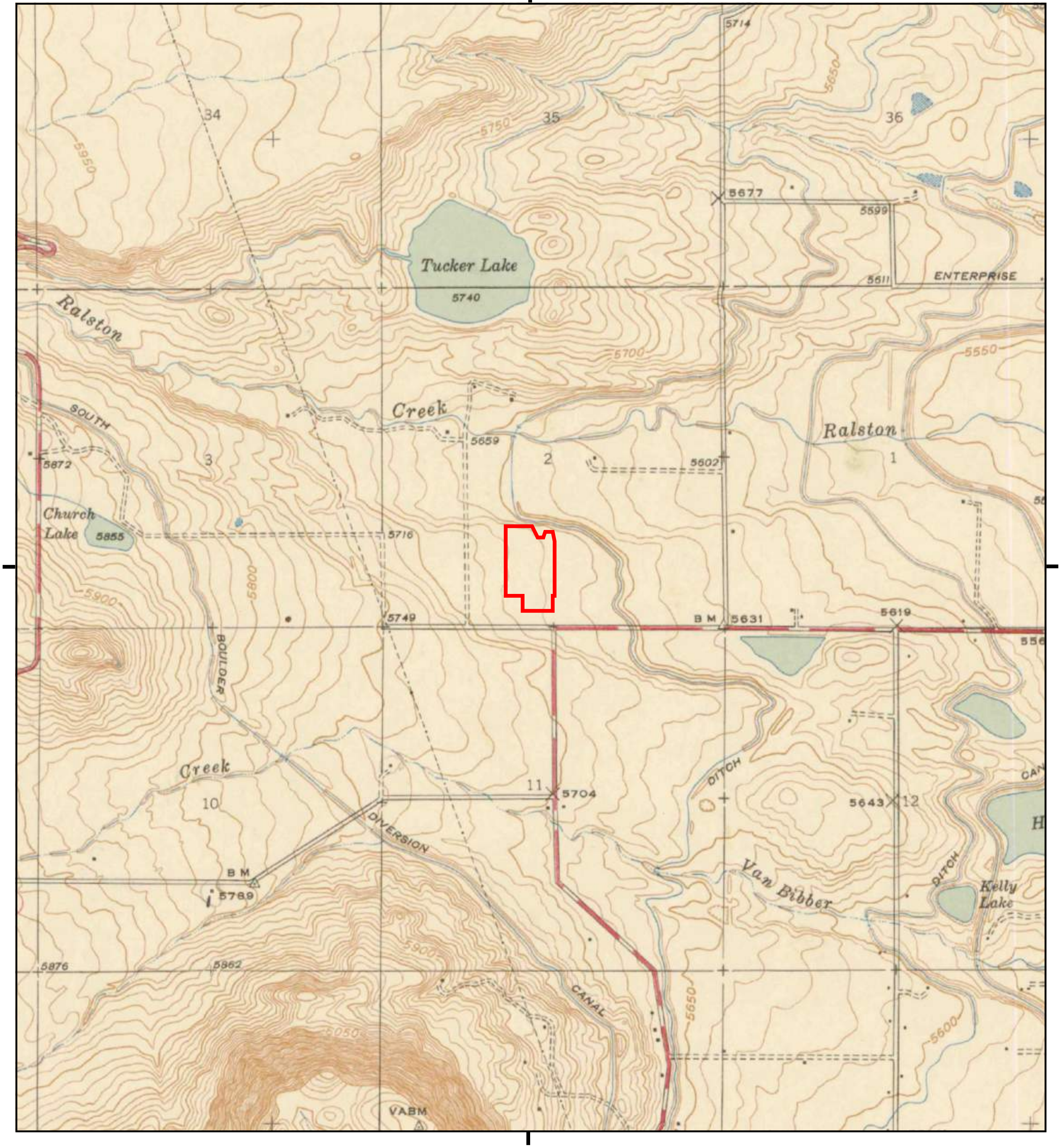
SW
S
SE

TP, Golden, 1944, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

Historical Topo Map

1942



Tucker Lake
5740
Ralston
Creek
Ralston
Church Lake
5855
SOUTH
BOULDER
Creek
DIVERSION
CANAL
DITCH
Van Bibber
Kelly Lake
ENTERPRISE
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35
36
3
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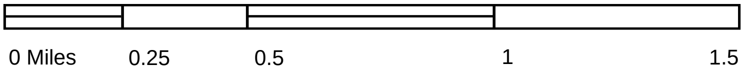
5714
5677
5599
5611
5659
5602
5872
5716
5749
B M 5631
5619
5704
5643
B M 5789
5876
5862
VABM
5950
5750
5700
5550
5900
5800
5650
5600

This report includes information from the following map sheet(s).



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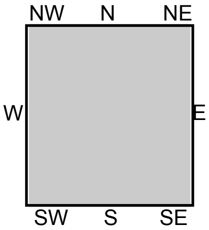

NW
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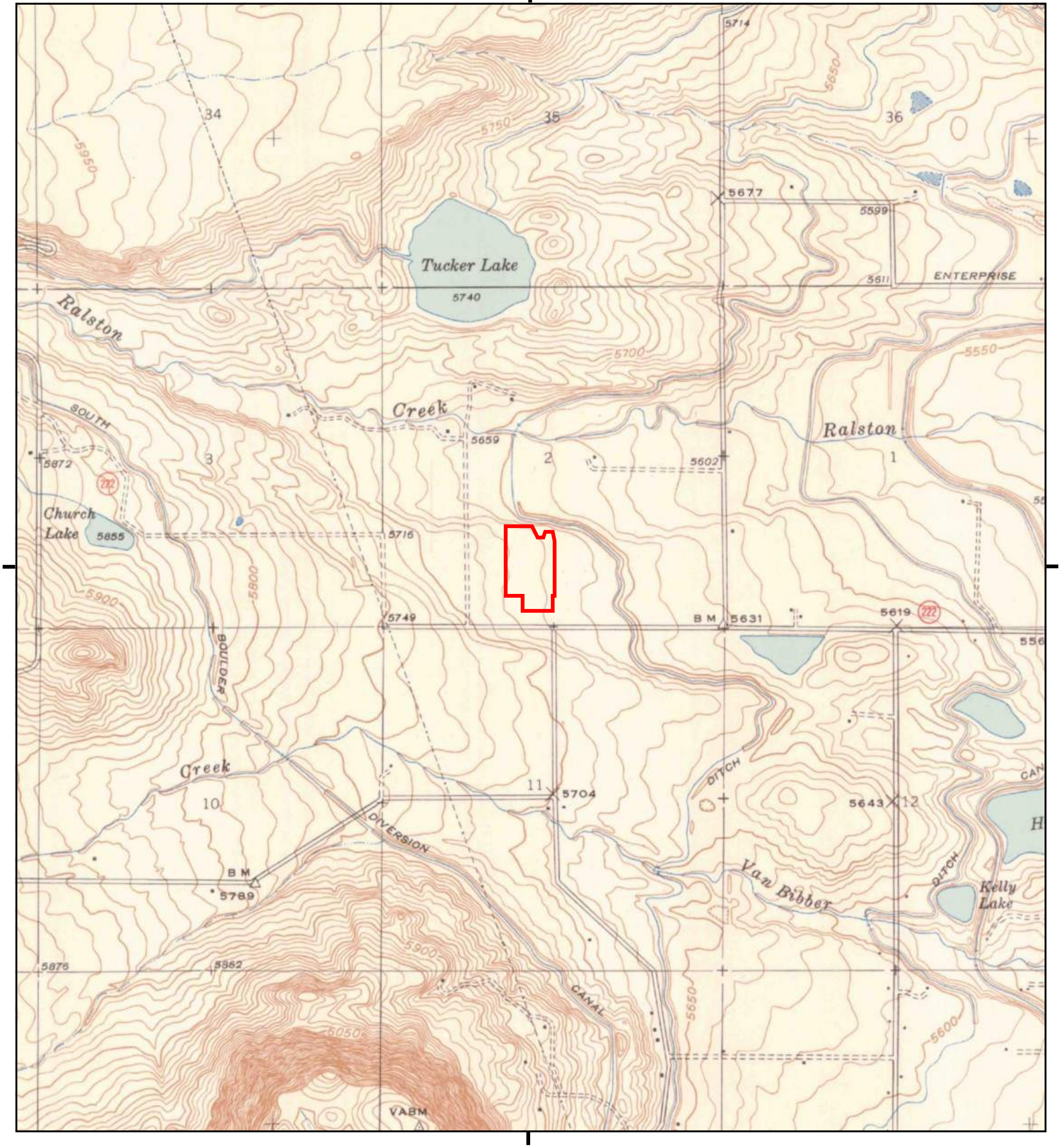
TP, Golden, 1942, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

Historical Topo Map

1939



Tucker Lake
5740
Ralston
Creek
Ralston
ENTERPRISE
SOUTH
BOULDER
Creek
Church Lake
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DIVERSION
CANAL
DITCH
Van Bibber
Kelly Lake
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5714
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5659
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5872
5716
5749
B M 5631
5619
5900
5800
5704
5643
B M 5789
5876
5862
5900
6050
5650
5600
VABM
222

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

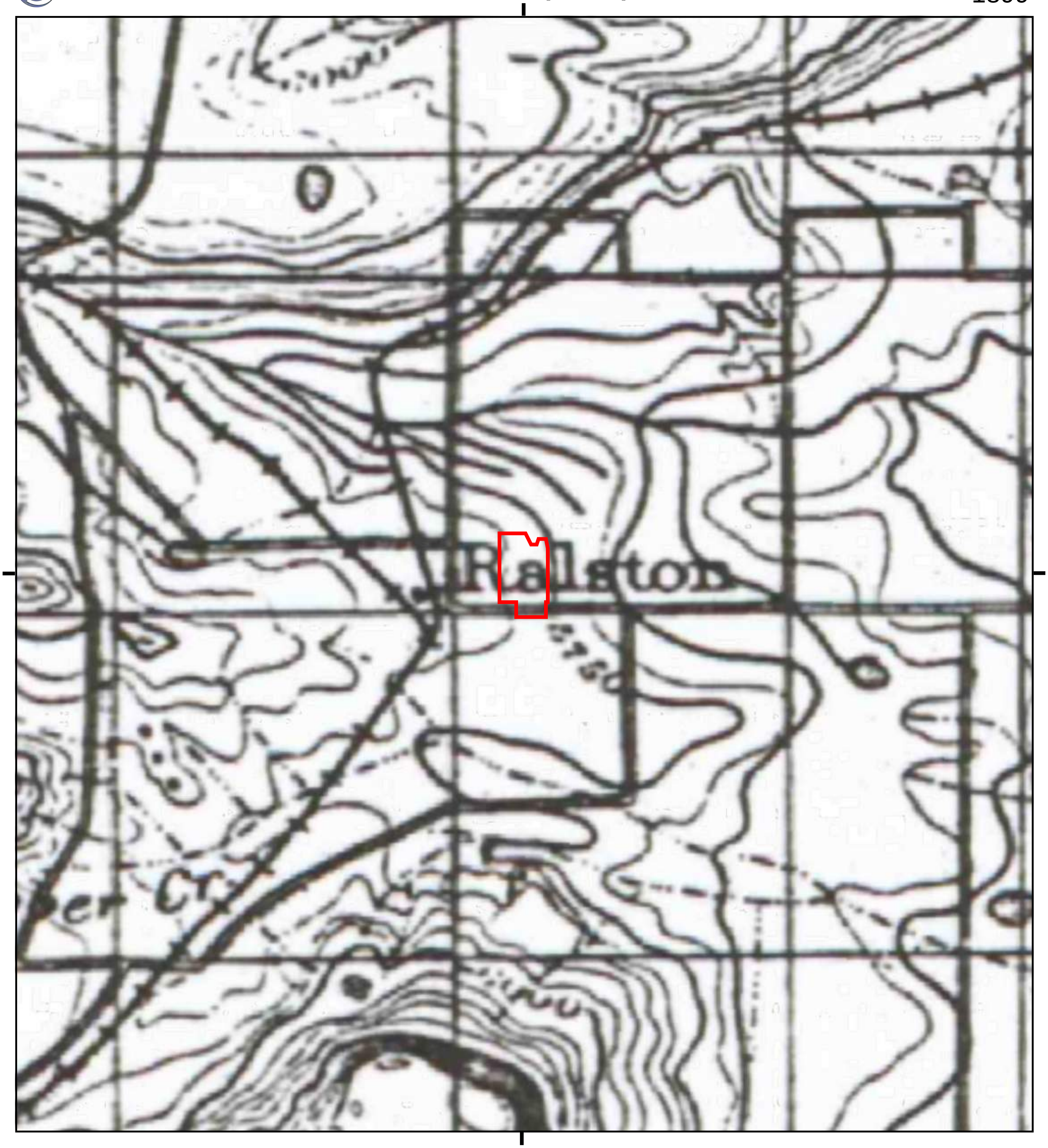
TP, Golden, 1939, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

1899



Ralston
5750
Cr

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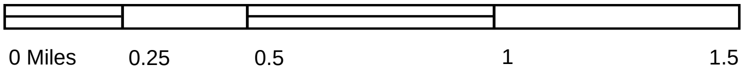

0 Miles
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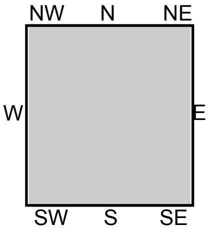
1.5



NW
N
NE
W
E
SW
S
SE

TP, West Denver, 1899, 30-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

APPENDIX E

Water Well Information

COLORADO
Division of Water Resources
Department of Natural Resources

WELL PERMIT NUMBER 84879-F
RECEIPT NUMBER 10006837

ORIGINAL PERMIT APPLICANT(S)

YWAM FOUNDATION (WARREN, PETER)

APPROVED WELL LOCATION

Water Division: 1 Water District: 7
Designated Basin: N/A
Management District: N/A
County: JEFFERSON
Parcel Name: N/A
Physical Address: N/A

SE 1/4 SW 1/4 Section 2 Township 3.0 S Range 70.0 W Sixth P.M.

UTM COORDINATES (Meters, Zone: 13, NAD83)

Easting: 483423.0 Northing: 4407275.0

PERMIT TO USE AN EXISTING WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-137(4) and the decree granted in case nos. W-8366-76 and W-8366-79, expanded in case no. 94CW164 Division 1 Water Court. The operation of this well is subject to the terms and conditions of said decrees.
4) Approved for the expansion of use of an existing well permitted under permit no. 20627-F (decreed by the Division 1 Water Court as Veldkamp Well No. 1-020627-F, case no. W-8366-76 and W-8366-79, expanded in case no. 94CW164). Upon issuance of this permit well permit no. 20627-F was canceled by the order of the State Engineer.
5) The use of groundwater from this well combined with well no. 84878-F is limited to commercial, replacement and augmentation purposes.
6) Production is limited to the Laramie-Fox Hills aquifer.
7) The pumping rate of this well shall not exceed 150 GPM (as decreed in case no. 94CW164).
8) The average annual amount of groundwater to be withdrawn by this well in combination with well no. 84878-F shall not exceed 14.4 acre-feet and the total volume of groundwater to be withdrawn shall not exceed 1,440 acre-feet.
9) The owner shall mark the well in a conspicuous location with well permit number(s), name of the aquifer, and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.
10) A totalizing flow meter must be installed on this well and maintained in good working order. Permanent records of all diversions must be maintained by the well owner (recorded at least annually) and submitted to the Division Engineer upon request.
11) This well shall be located more than 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant.
12) This well shall be located not more than 200 feet from the location specified on this permit and not more than 200 feet from the location decreed for Veldkamp Well No. 1 in case nos. W-8366-76 and W-8366-79 (decreed location is 1,000 feet from the South section line and 2,520 feet from the West section line).
13) This well is subject to administration by the Division Engineer in accordance with applicable decrees, statutes, rules, and regulations.

NOTE: This well is withdrawing water from a non-renewable aquifer. While the withdrawals from this aquifer are administered based on a 100 year aquifer life, water level declines may prevent this well from diverting the permitted amounts for that 100 years.

WELL PERMIT NUMBER 84879-F	**RECEIPT NUMBER** 10006837

Issued By IOANA COMANICIU

Date Issued: 11/10/2020

Expiration Date: N/A

COLORADO
Division of Water Resources
Department of Natural Resources

WELL PERMIT NUMBER **84878-F**
RECEIPT NUMBER **10006836**

ORIGINAL PERMIT APPLICANT(S)

YWAM FOUNDATION (PETER WARREN)

APPROVED WELL LOCATION

Water Division: 1 Water District: 7
Designated Basin: N/A
Management District: N/A
County: JEFFERSON
Parcel Name: N/A
Physical Address: N/A

SE 1/4 NW 1/4 Section 2 Township 3.0 S Range 70.0 W Sixth P.M.

UTM COORDINATES (Meters, Zone:13, NAD83)

Easting: 483238.0 Northing: 4407850.0

PERMIT TO CONSTRUCT A NEW WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-137(4) and the decree granted in case no. 94CW164 Division 1 Water Court, as an additional well to well no. 20627-F (canceled and re-permitted under permit no. 84879-F; decreed by the Division 1 Water Court as Veldkamp Well No. 1-020627-F, case nos. W-8366-76 and W-8366-79, expanded in case no. 94CW164). The operation of this well is subject to the terms and conditions of said decree.
4) The use of groundwater from this well combined with well no. 84879-F is limited to commercial, replacement and augmentation purposes.
5) Production is limited to the Laramie-Fox Hills aquifer which is located approximately 900 feet below ground surface and extends to a depth of approximately 1150 feet. In accordance with Rule 10.4.8 of the Water Well Construction Rules, plain steel casing must be installed and grouted from the top of the permitted production zone up to at least ten feet above the base of the surface casing, or to the depth required by Rule 10.5.2.1, if no surface casing is installed. (NOTE: If coals and/or carbonaceous shales are encountered in the borehole, plain casing and grout should be installed through these intervals to exclude poor quality water from entering the well.)
6) The pumping rate of this well shall not exceed 150 GPM (as decreed in case no. 94CW164).
7) The average annual amount of groundwater to be withdrawn by this well in combination with well no. 84879-F shall not exceed 14.4 acre-feet and the total volume of groundwater to be withdrawn shall not exceed 1,440 acre-feet.
8) The entire length of the hole shall be geophysically logged as required by Rule 9 of the Statewide Nontributary Ground Water Rules prior to installing casing.
9) The owner shall mark the well in a conspicuous location with well permit number(s), name of the aquifer, and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.
10) A totalizing flow meter must be installed on this well and maintained in good working order. Permanent records of all diversions must be maintained by the well owner (recorded at least annually) and submitted to the Division Engineer upon request.
11) This well shall be constructed more than 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant.
12) This well shall be constructed not more than 200 feet from the location specified on this permit and not more than 200 feet from the location specified in case no. 94CW164 (2,860 feet from the South section line and 1,960 feet from the West section line).
13) This well is subject to administration by the Division Engineer in accordance with applicable decrees, statutes, rules, and regulations.

14) ADVANCE NOTICE REQUIRED - Pursuant to Construction Rule 6.2.2.1 (2 CCR 402-2), licensed or private drillers and pump installers must provide advance notification (by 11:59 pm the day before) to the State Engineer prior to each of the following for this well: the start of well construction, the initial installation of the first permanent pump, and the initial installation of a cistern connected to the water well supply system. Any change in the date of construction/installation must be re-noticed prior to the activity (by 11:59 pm the day before). Information regarding the notification process and a link to the electronic notification form can be found on the Division of Water Resources website at dwr.colorado.gov

NOTE: This well is withdrawing water from a non-renewable aquifer. While the withdrawals from this aquifer are administered based on a 100 year aquifer life, water level declines may prevent this well from diverting the permitted amounts for that 100 years.

NOTE: To ensure a maximum productive life of this well, perforated casing should be set through the entire producing interval of the approved zone or aquifer indicated above.

NOTE: This permit will expire on the expiration date unless the well is constructed and a pump is installed by that date. A Well Construction and Yield Estimate Report (GWS-31) and Pump Installation and Production Equipment Test Report (GWS-32) must be submitted to the Division of Water Resources to verify the well has been constructed and the pump has been installed. A one-time extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: dwr.colorado.gov

NOTE: A hydrogeologic aquifer evaluation has been completed for this permit and the details of the evaluation can be viewed in the hydrogeologic aquifer evaluation imaged document and the original permit file.

NOTE: Permit no. 57785-F previously issued for this well was expired by the order of the State Engineer.

IComaniciu

Issued By IOANA COMANICIU

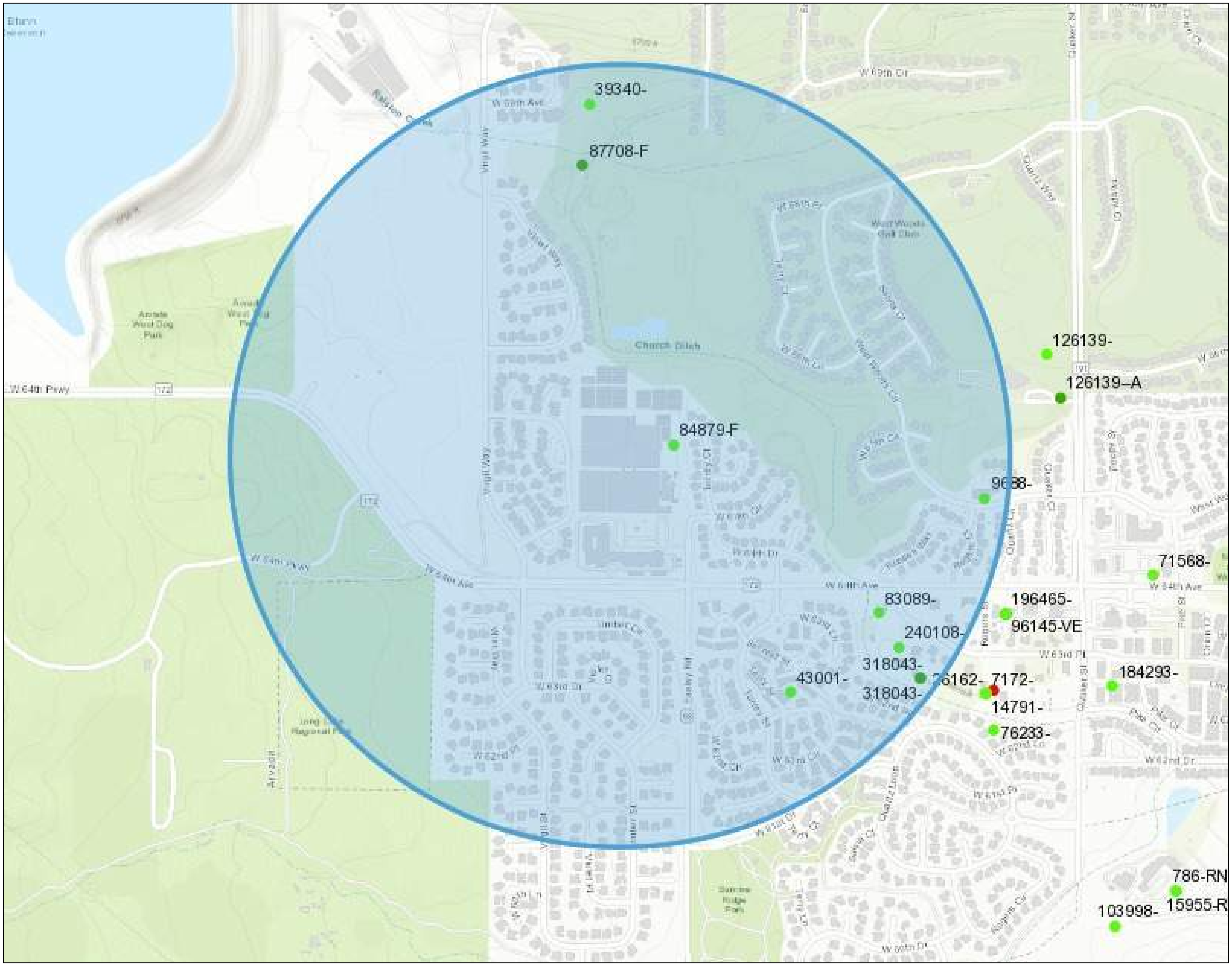
Date Issued: 11/10/2020
Expiration Date: 11/10/2022

PERMIT HISTORY

12-15-2022 PERMIT EXPIRED (SEE PERMIT NO. 87708-F)
11-09-2021 PERMIT EXTENDED

COLORADO'S
Decision Support Systems
CWCB / DWR

0.5 Mile Radius Map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87708-F
84879-F
126139-
126139–A
9688-
71568-
83089-
196465-
96145-VE
240108-
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43001-
6162-
7172-
318043-
14791-
76233-
184293-
786-RN
15955-R
103998-
W 64th Pkwy
W 64th Ave
W 69th Cir
Ralston Creek
Church Ditch
W 68th Ave

Legend

- ● Well Constructed
- ● Permit Issued
- ● Well Abandoned
- ■ OGCC Well
- ● Final Permit
- ⬚ County
- 🟥 Superfund Sites

Location

Denver
COLORADO

Notes

2,000 0 1,000 2,000 Feet

1: 12,000

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Date Prepared: 11/20/2024 9:56:06 AM

TABLE E-1

CONSTRUCTED AND PERMITTED WELLS WITHIN ONE-HALF MILE OF THE SUBJECT PROPERTY
WELBY GARDENS
17201 WEST 64TH AVENUE, ARVADA, COLORADO 80007

Permit #	Current Status	Township	Range	Section	Q160	Q40	UTMX	UTMY	LatDecDeg	LongDecDeg	Use1	Use2	Aquifer1	WellConstructed	FirstBeneficial	PumpInstalled	WellDepth	Yield	StaticWL	ApplicantName
39340-	Well Constructed	3 S	70 W	2	NW	SE	483253.2	4407976.9	39.821622	-105.195692	Domestic		ALL UNNAMED AQUIFERS	10/20/1969	10/20/1969		60		24	WEALAND, R L
83089-	Well Constructed	3 S	70 W	11	NE	NW	483848.1	4406929.3	39.812192	-105.188717	Domestic		ALL UNNAMED AQUIFERS		5/31/1964					TINDELL, SUSAN
9688-	Well Constructed	3 S	70 W	2	SE	SE	484066.1	4407164.7	39.814319	-105.186175	Domestic		ARAPAHOE	9/20/1961	9/20/1961		507		40	GILKINSON JIM & JIM G
240108-	Well Constructed	3 S	70 W	11	NE	NE	483887.2	4406858.9	39.811562	-105.18826	Domestic		QUATERNARY ALLUVIUM		5/30/1956		22			ZIMMER FAMILY TRUST
43001-	Well Constructed	3 S	70 W	11	NE	NW	483664.2	4406766	39.810719	-105.19086	Domestic		ALL UNNAMED AQUIFERS		9/13/1970					BUER KATHY MISS
84879-F	Well Constructed	3 S	70 W	2	SW	SE	483423	4407275	39.815301	-105.193691	Augmentation	Commercial		5/14/1976		8/12/1977	1071	15	340	YWAM FOUNDATION (WARREN, PETER)

Permit #	Current Status	Township	Range	Section	Q160	Q40	UTMX	UTMY	LatDecDeg	LongDecDeg	Use1	Use2	Aquifer1	PermIssued	PermExpires	PumpInstalled	WellDepth	Yield	StaticWL	ApplicantName
318043-	Permit Issued	3 S	70 W	11	NE	NE	483932	4406794	39.810977	-105.187732	Domestic	Fire	QUATERNARY ALLUVIUM	7/22/2020						CHITIKILA, RAJ
318043-	Permit Issued	3 S	70 W	11	NE	NE	483932	4406794	39.810977	-105.187732	Domestic	Fire	QUATERNARY ALLUVIUM	7/22/2020						SEIDMAN, KIMBERLY
87708-F	Permit Issued	3 S	70 W	2	NW	SE	483238	4407850	39.820478	-105.195867	Augmentation	Commercial	LARAMIE-FOX HILLS	12/15/2022	11/20/2023					GREEK ORTHODOX METROPOLIS OF DENVER (HALAX, BILLY)

APPENDIX F

Site Photographs

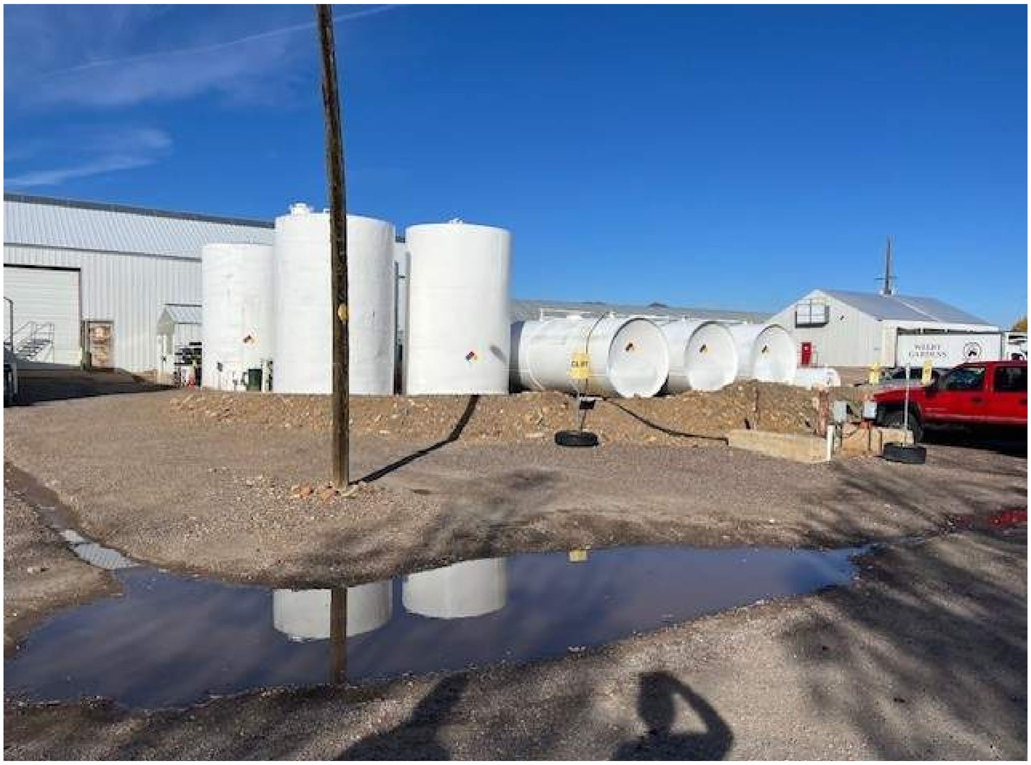


PHOTO NO. 1 **DESCRIPTION:**	Above Ground Storage Tank (AST) farm located on southeast side of the Subject Property. View is looking west from the east Subject Property boundary.

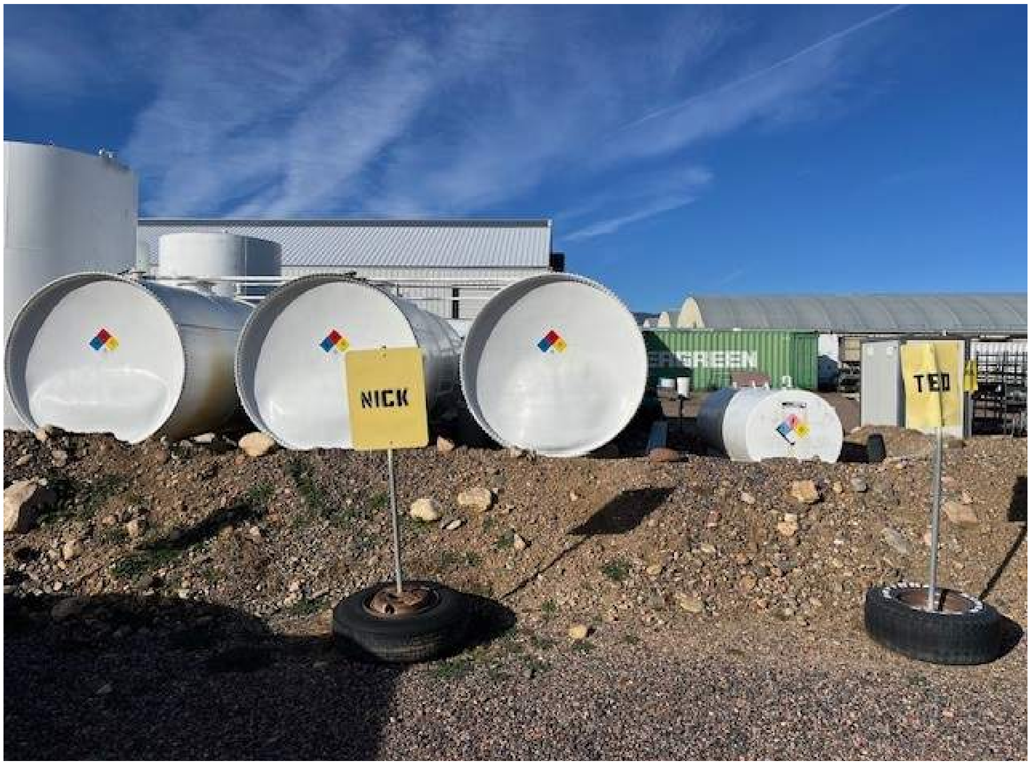


PHOTO NO. 2 **DESCRIPTION:**	North end of AST farm. These 4 ASTs are not in use. The 3 ASTs on the left formerly contained water from the deep well located onsite. Former gasoline AST on the right.

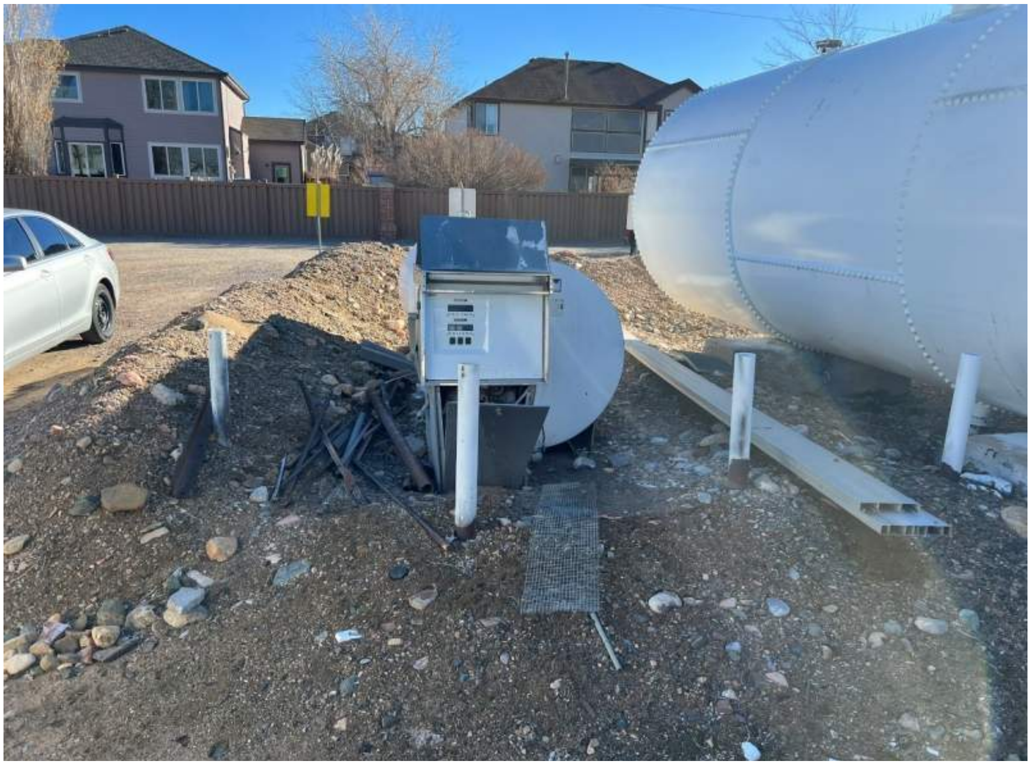


PHOTO NO. 3 DESCRIPTION:	Former gasoline AST and dispenser. Not used since Welby Gardens' purchase in 2003. No visible evidence of spillage, View is to the east.

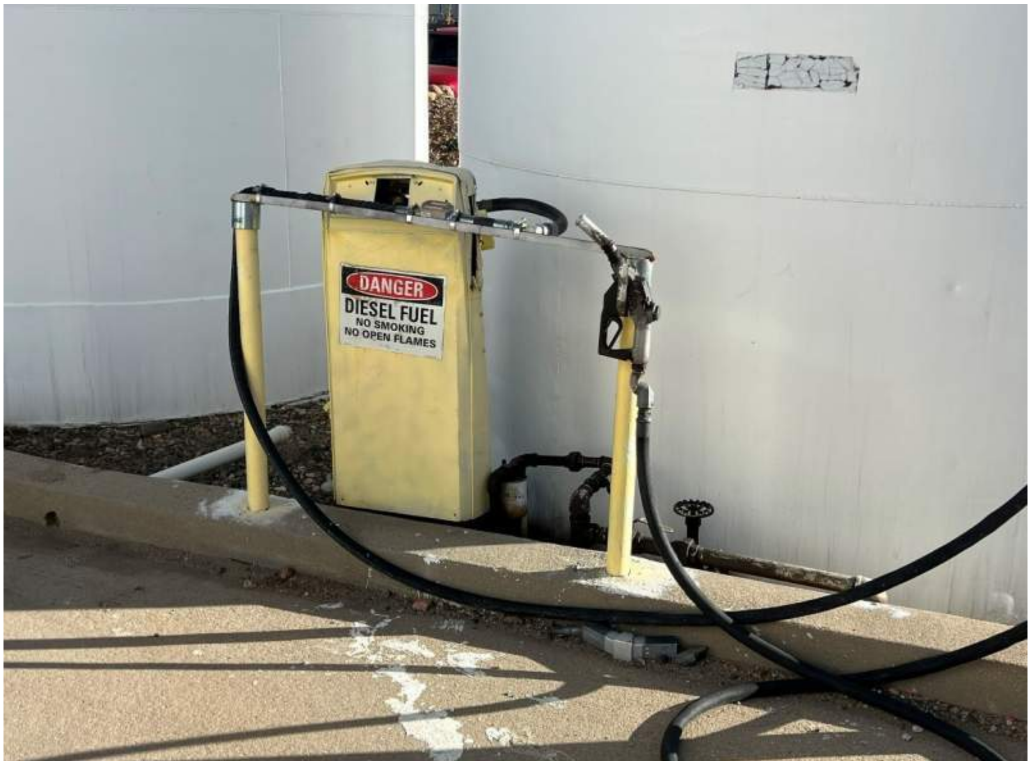


PHOTO NO. 4 DESCRIPTION:	Former diesel dispenser located on the west side of the 12,000 gallon diesel AST, west side of tank farm.

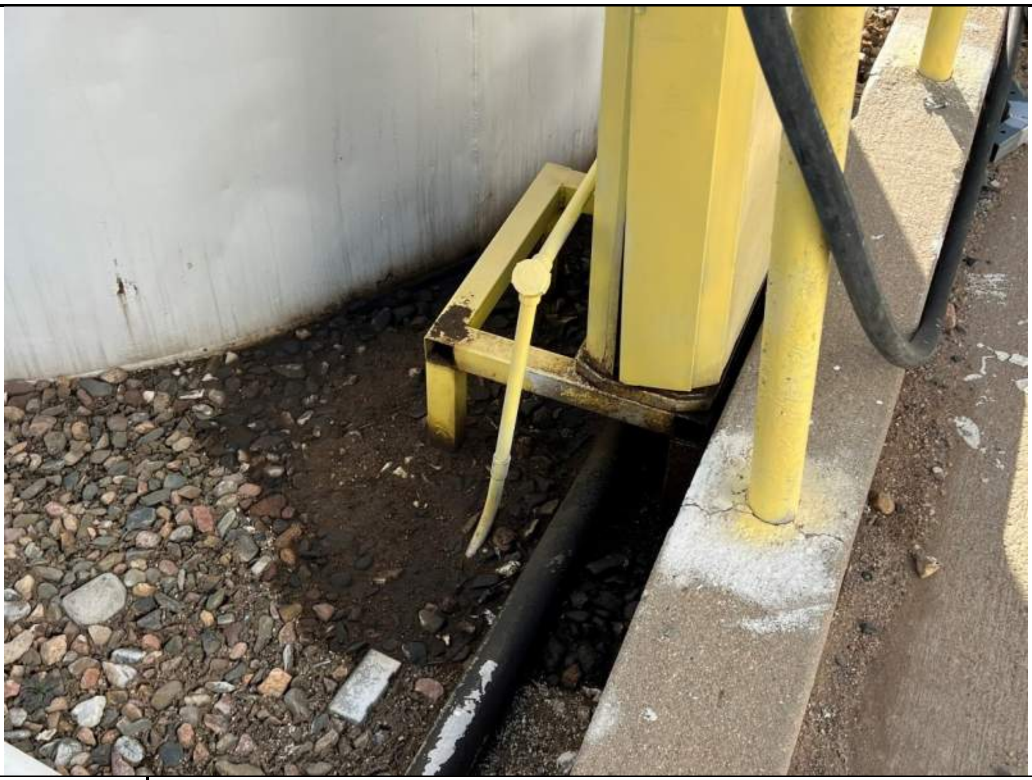


PHOTO NO. 5 **DESCRIPTION:**	Diesel staining beneath former dispenser, west side of tank farm.

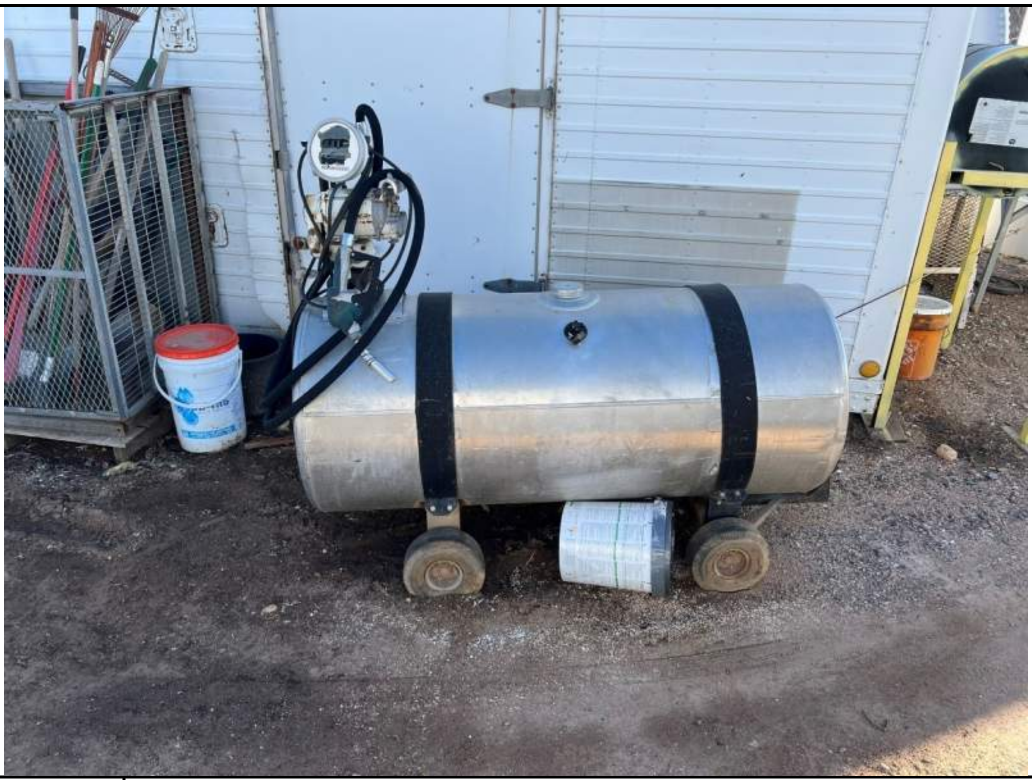


PHOTO NO. 6 **DESCRIPTION:**	Mobile 250-gallon diesel AST. Located on the west side of the tank farm.

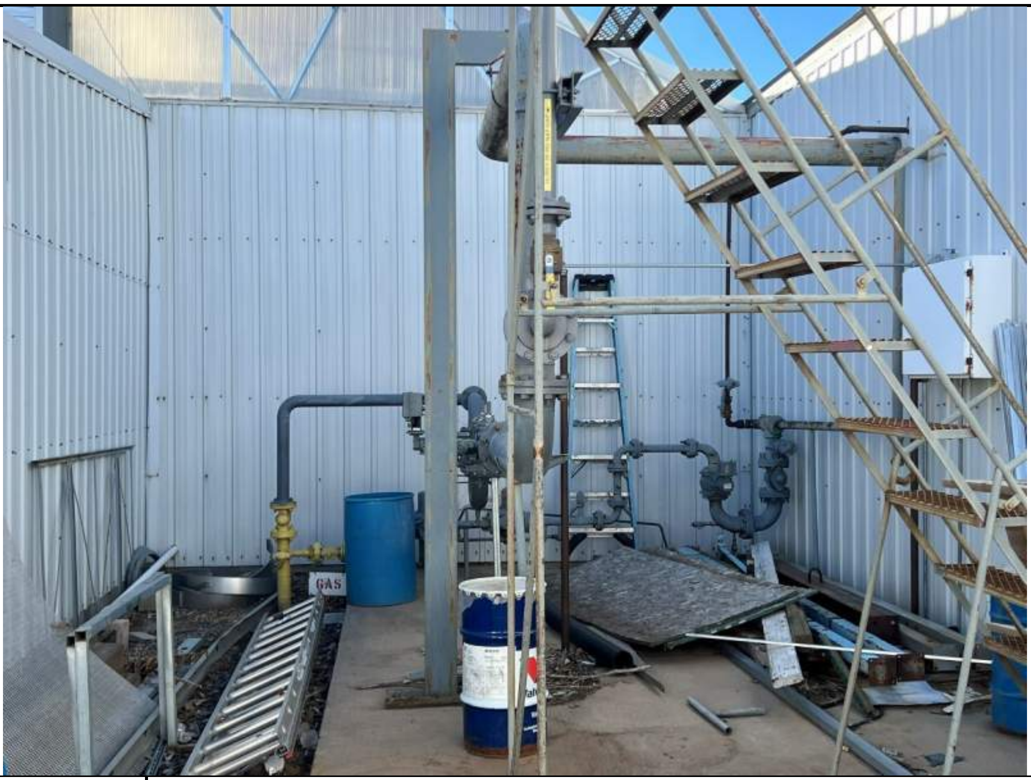


PHOTO NO. 7 DESCRIPTION:	Main natural gas entry to Boiler Room. Located to the west of the tank farm.

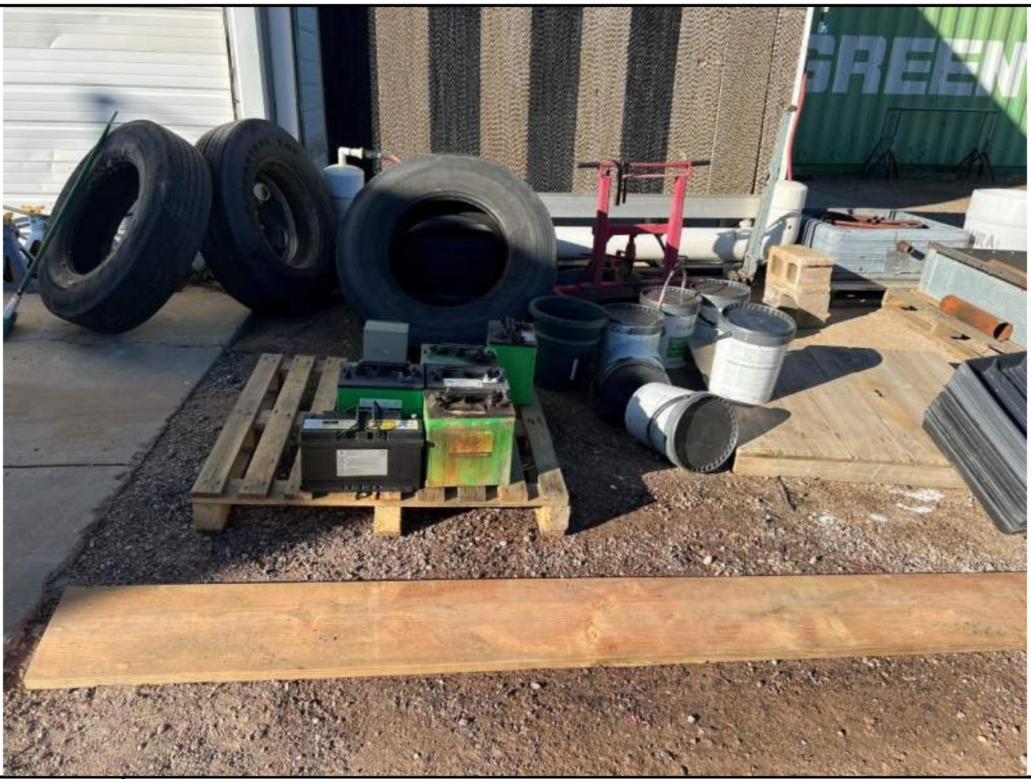


PHOTO NO. 8 DESCRIPTION:	Storage of old tires, batteries, and empty 5-gallon buckets. Located outside the maintenance shop on the east side of the Subject Property. No staining evident.

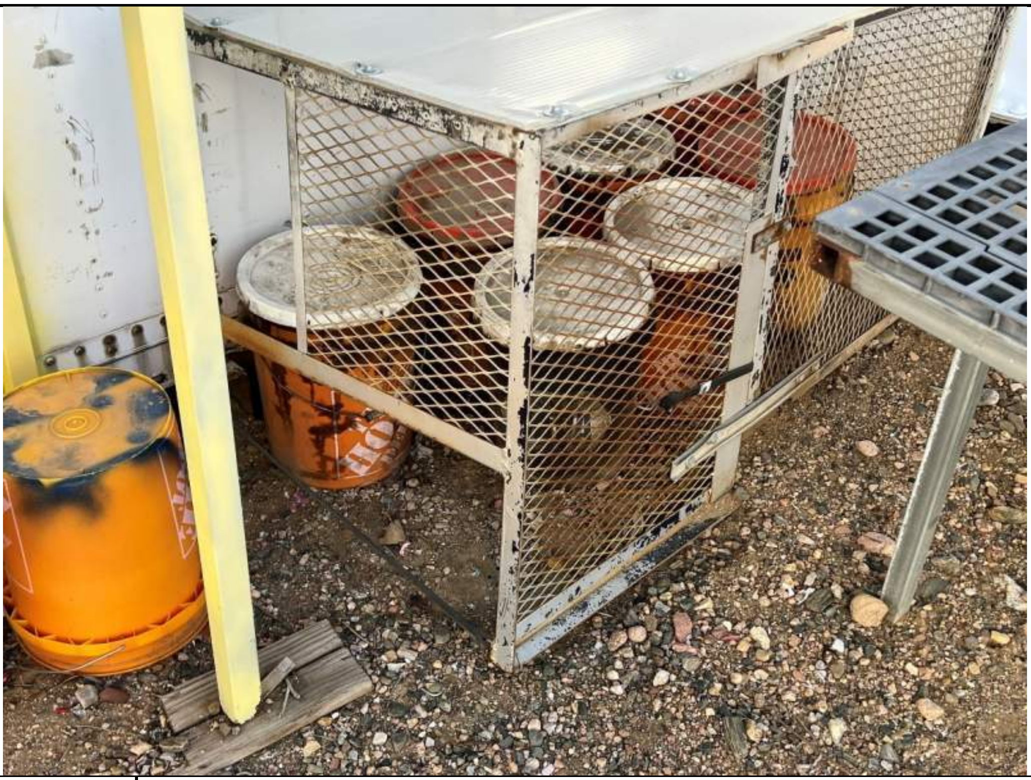


PHOTO NO. 9 DESCRIPTION:	5-gallon buckets containing waste oil or hydraulic oil. Limited staining evident.

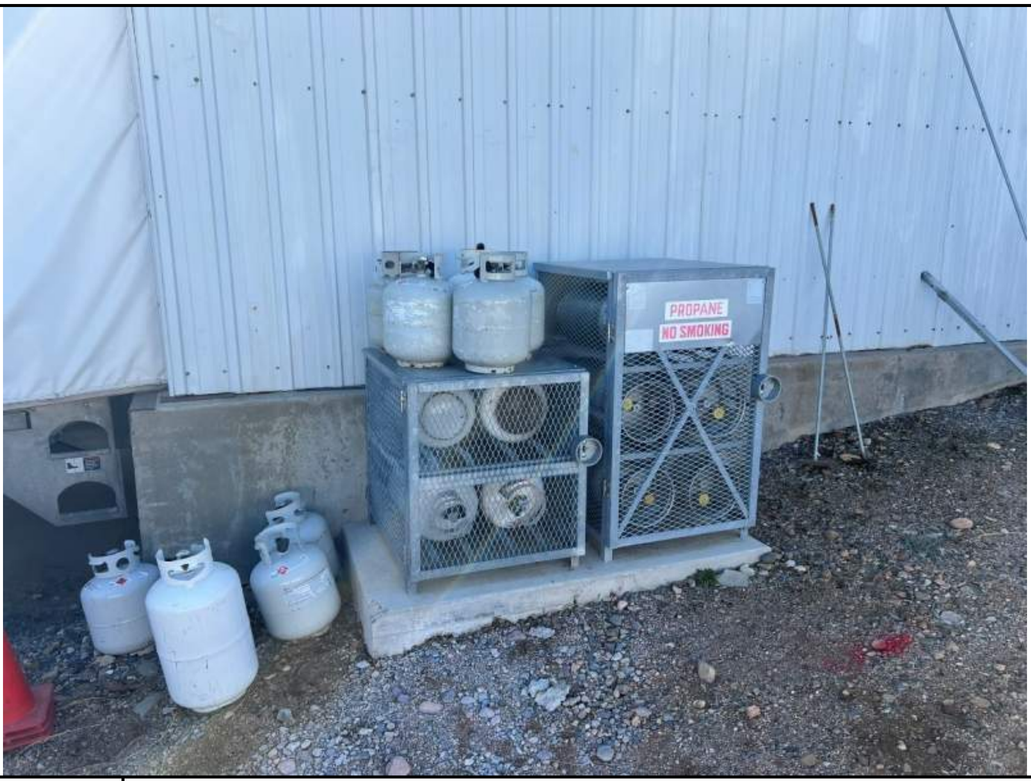


PHOTO NO. 10 DESCRIPTION:	Propane storage area. Used for space heating.

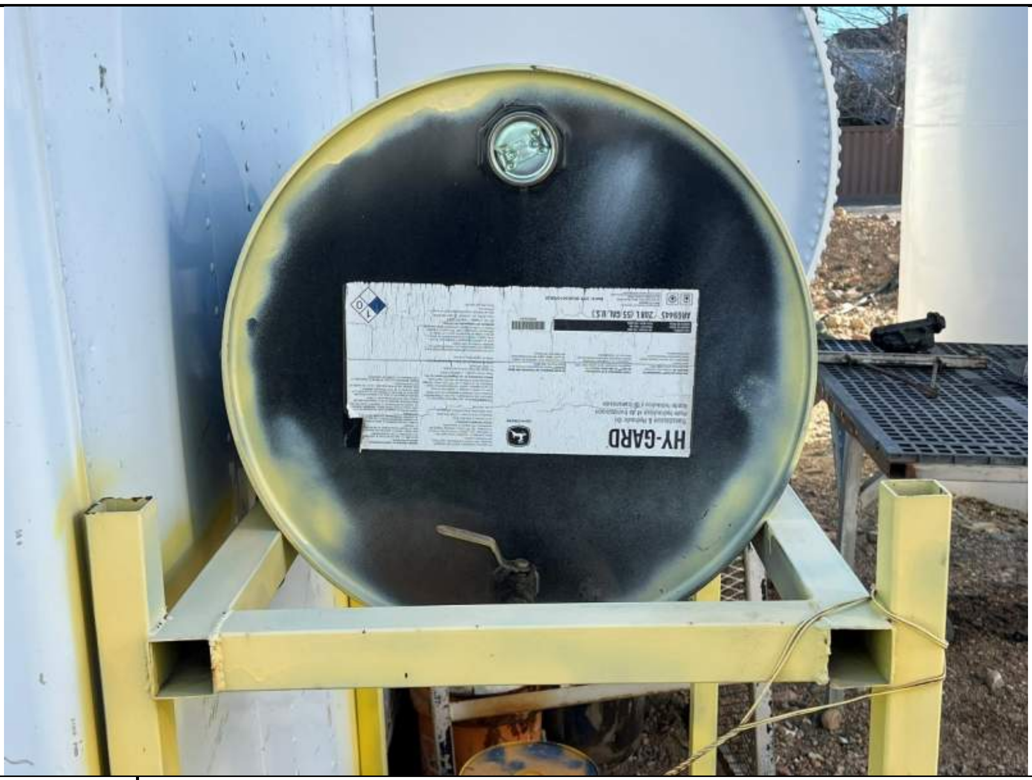


PHOTO NO. 11 DESCRIPTION:	55-gallon transmission/hydraulic oil.

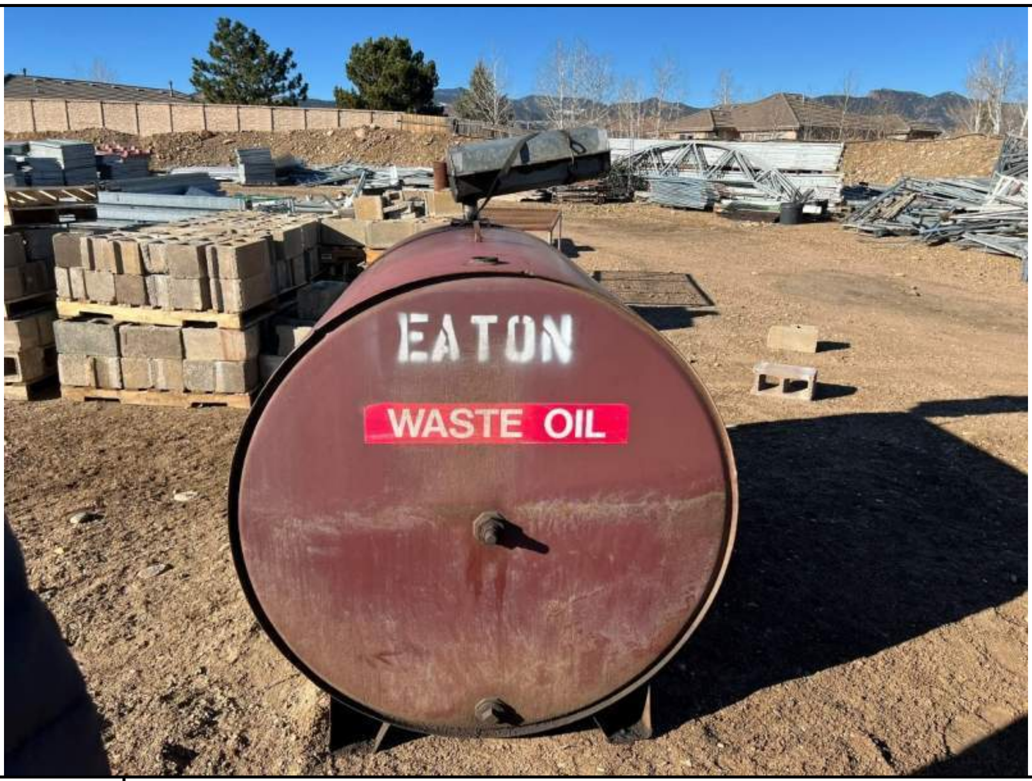


PHOTO NO. 12 DESCRIPTION:	500 gallon waste oil AST located in the northwest portion of the Subject Property.

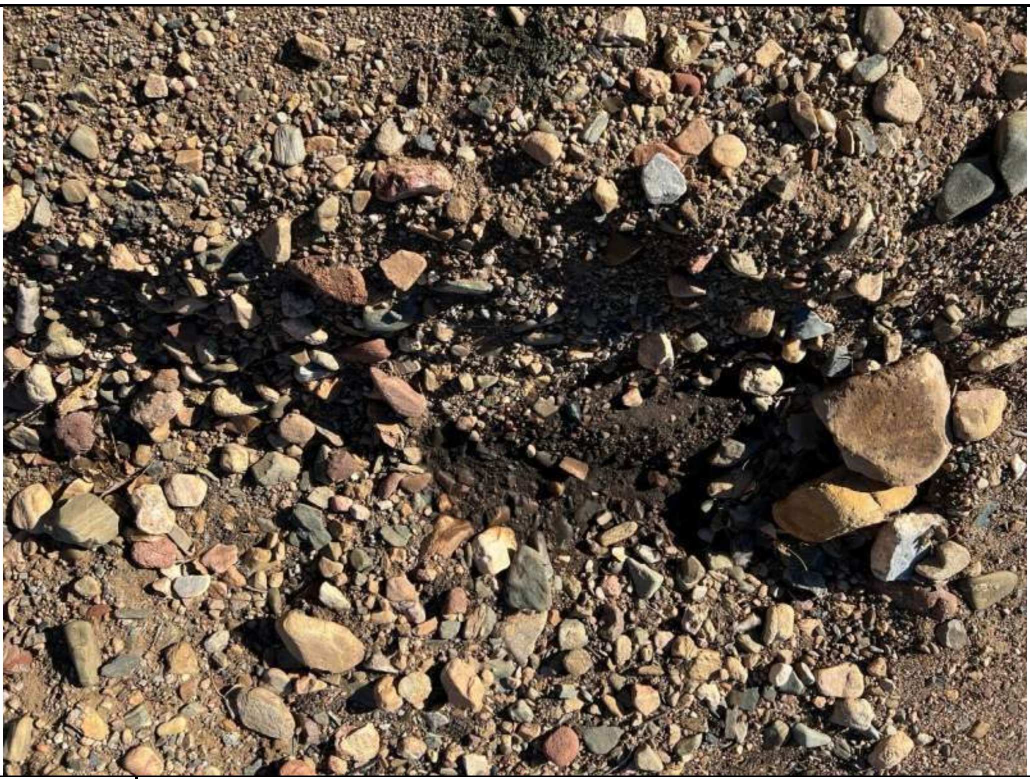


PHOTO NO. 13 **DESCRIPTION:**	Waste oil staining near 500-gallon AST.

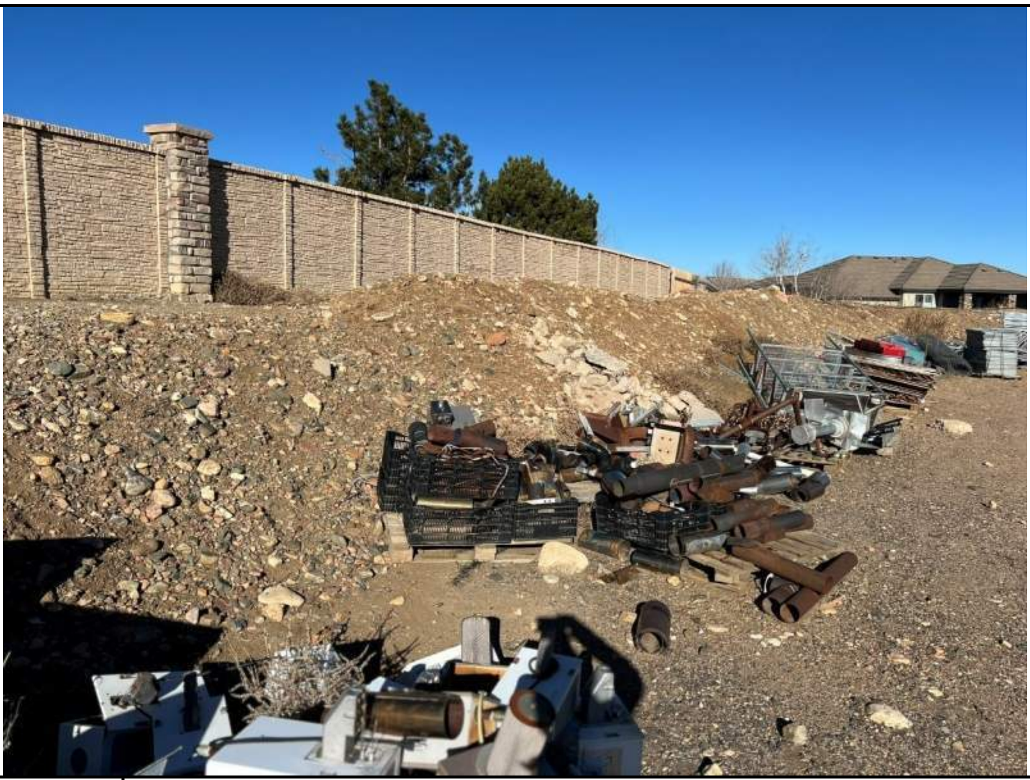


PHOTO NO. 14 **DESCRIPTION:**	Miscellaneous metal storage located in the northwest corner of the Subject Property. View is to the north.

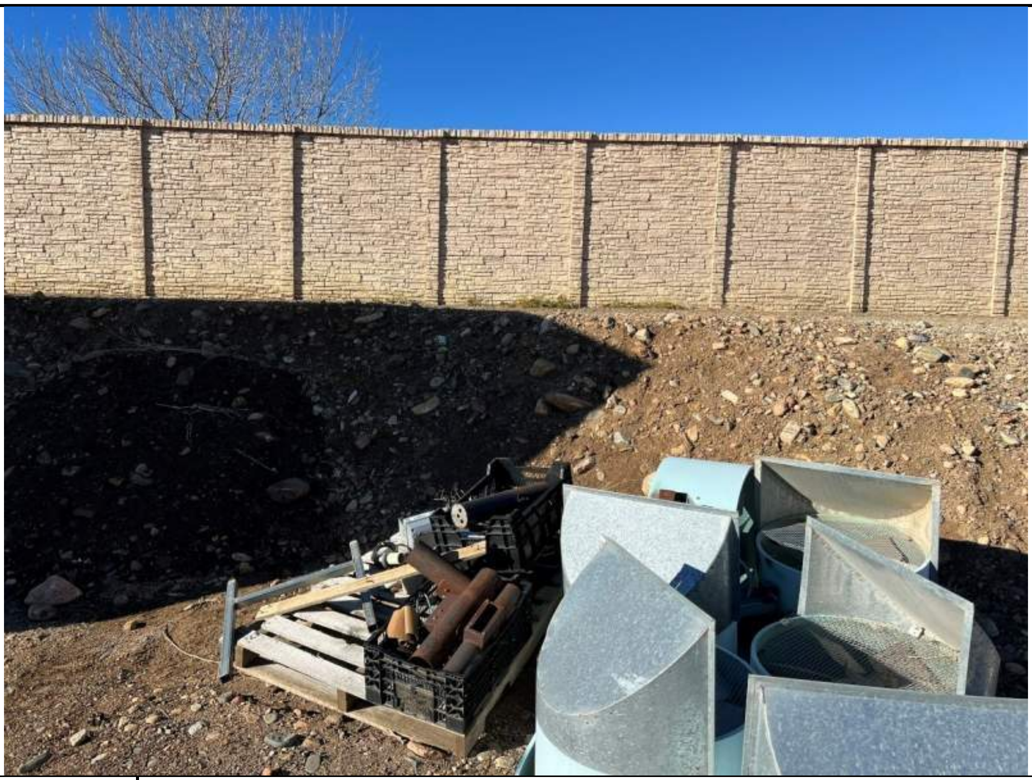


PHOTO NO. 15 DESCRIPTION:	Closeup of miscellaneous metal storage located in the northwest corner of the Subject Property.

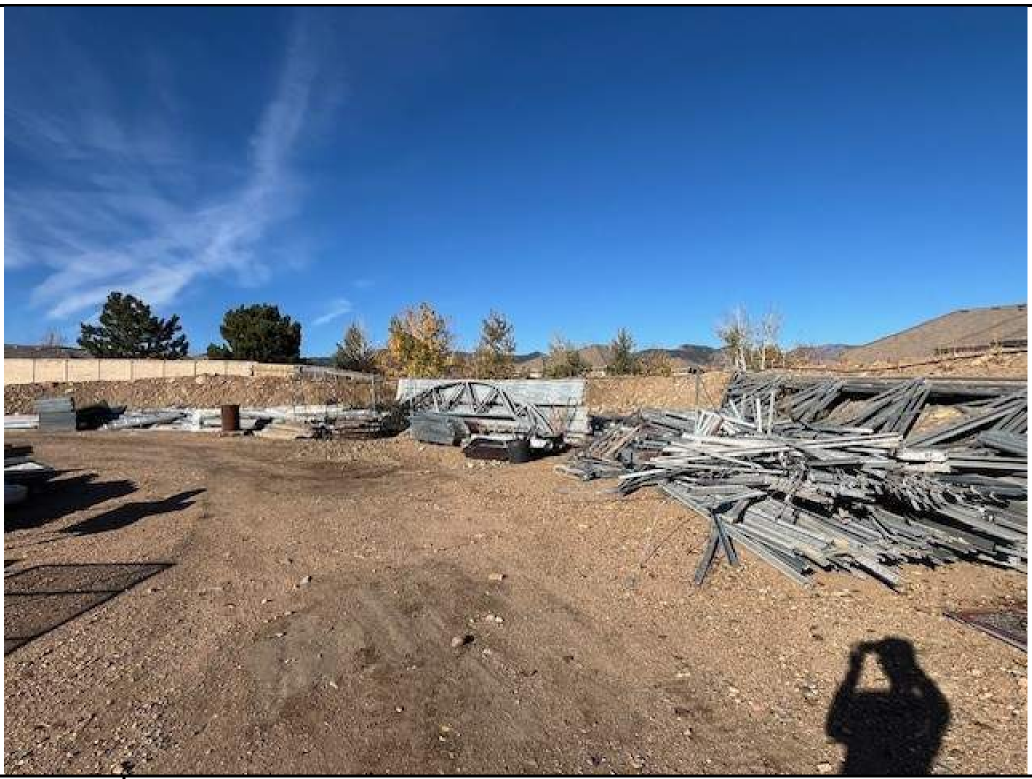


PHOTO NO. 16 DESCRIPTION:	Miscellaneous metal storage located in the northwest corner of the Subject Property. View is to the west.

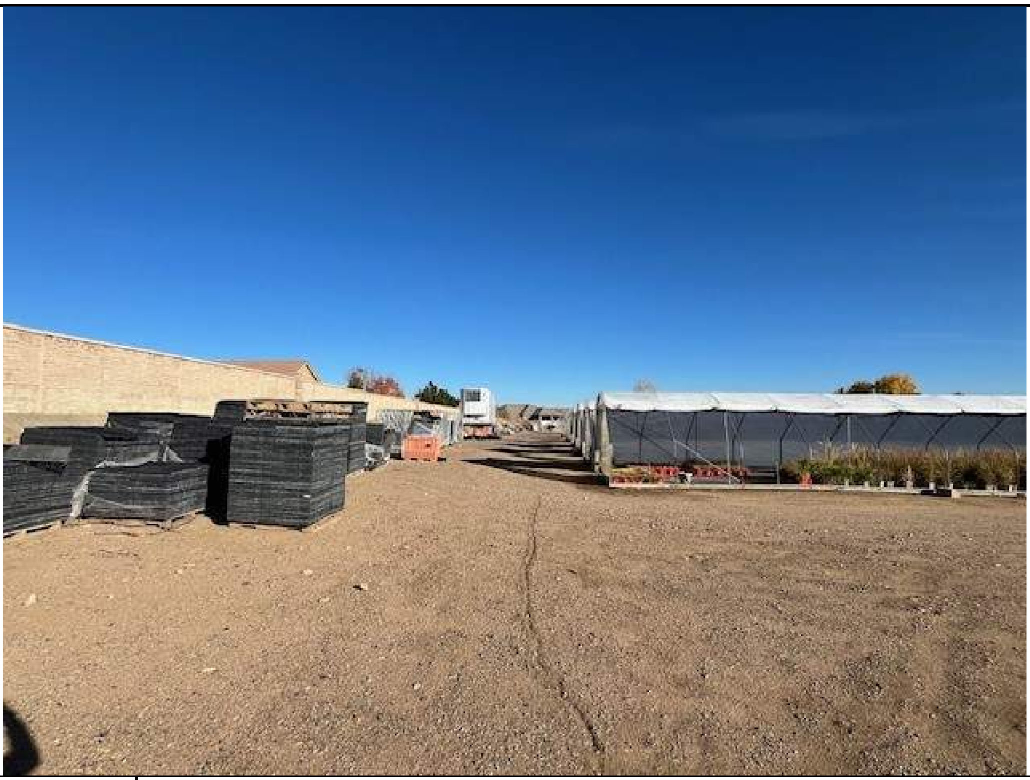


PHOTO NO. 17 DESCRIPTION:	Miscellaneous metal and plastic storage located along the west boundary of the Subject Property. View is to the north.

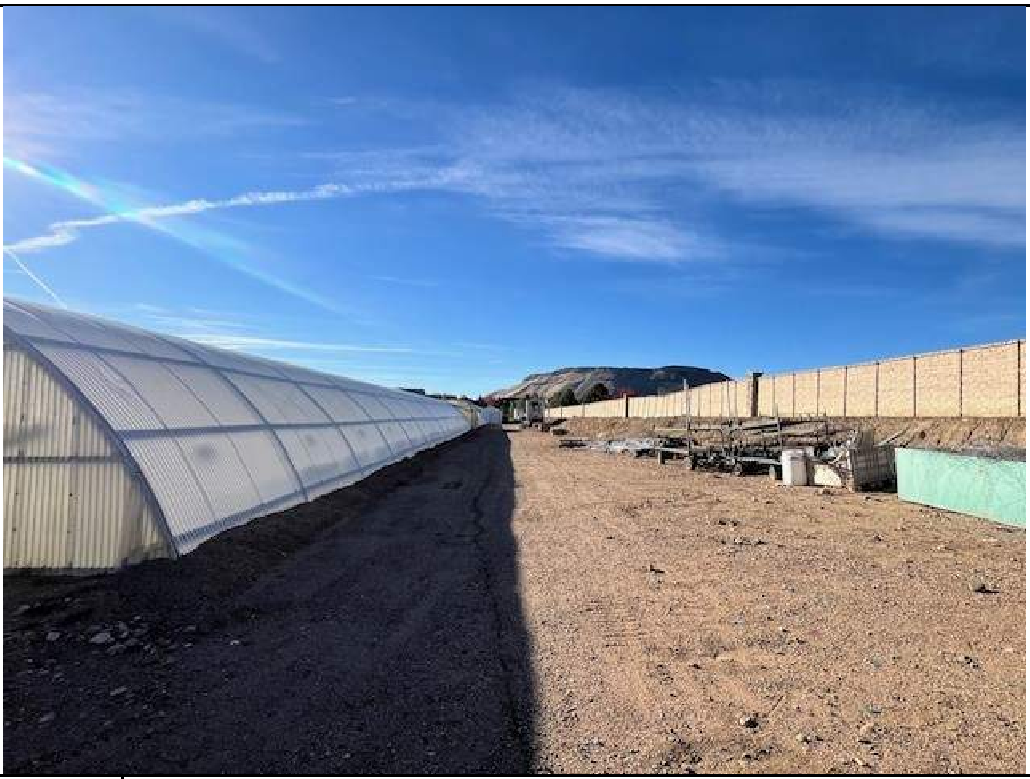


PHOTO NO. 18 DESCRIPTION:	Miscellaneous metal and plastic storage located along the west boundary of the Subject Property. View is to the south.

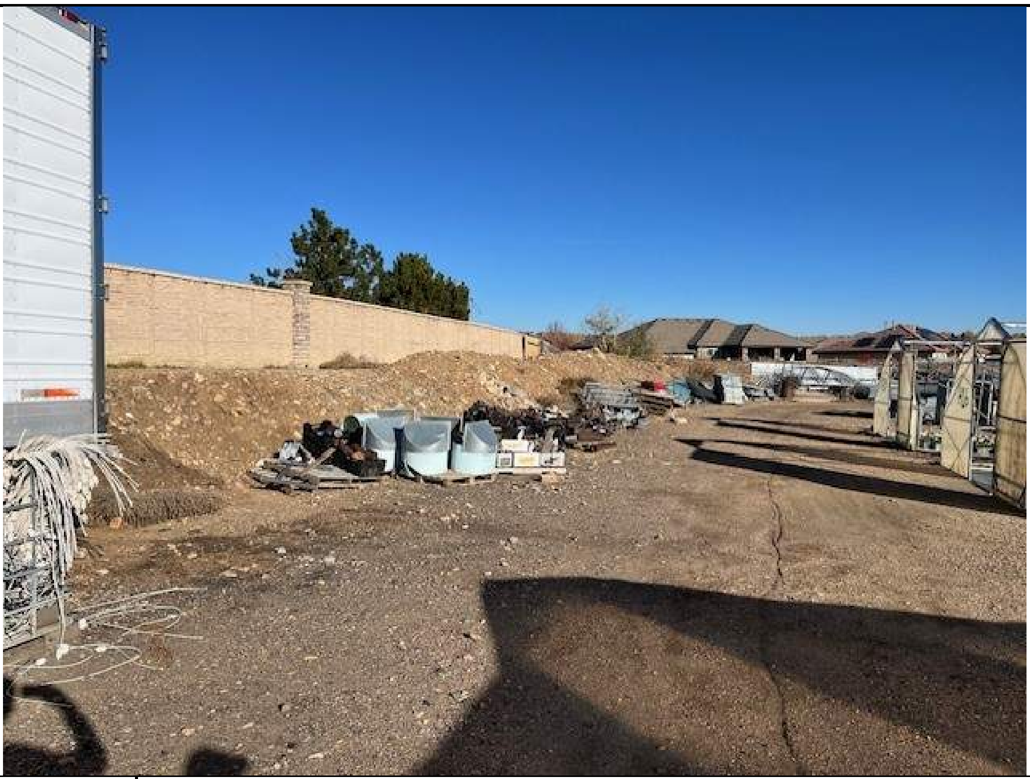


PHOTO NO. 19 **DESCRIPTION:**	Miscellaneous metal and plastic sprinkler storage located in the northwest area of the Subject Property. View is to the south.

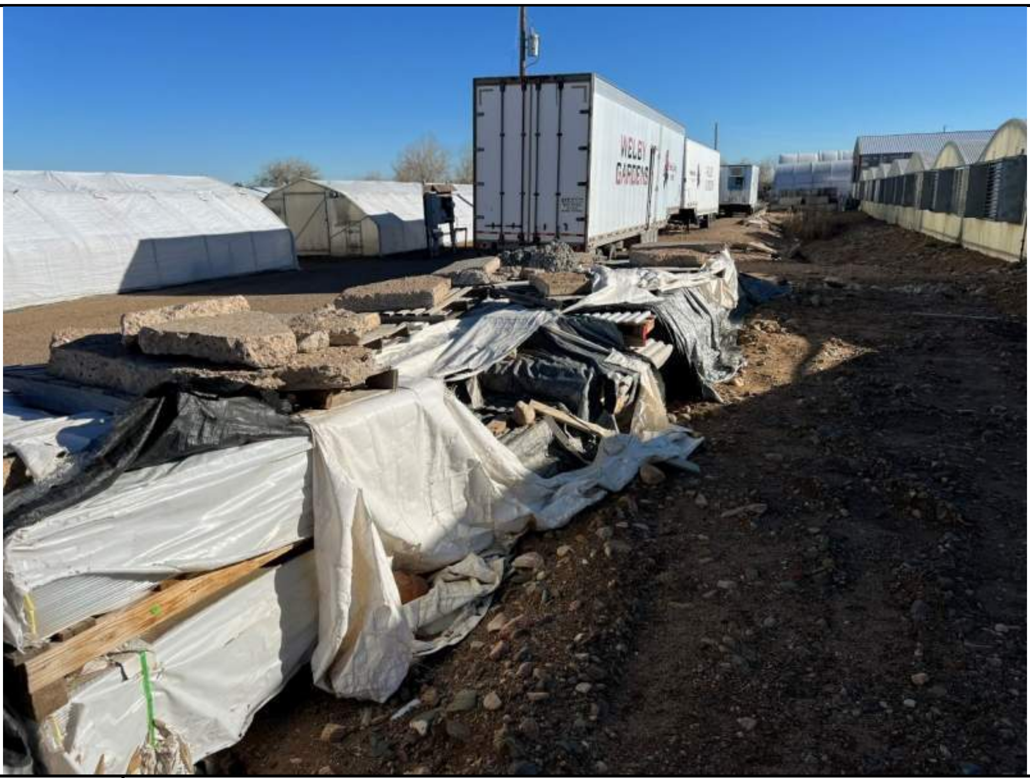


PHOTO NO. 20 **DESCRIPTION:**	Plastic panel sheet storage in an area between the north green house and hoop houses. North side of the Subject Property.

PHOTO NO. 21 **DESCRIPTION:**	Miscellaneous electrical parts. West side of the Subject Property.

PHOTO NO. 22 **DESCRIPTION:**	Hurst natural gas boiler. Water heated and then moved throughout the green house complex for heat. Boiler room located on the east side of the Subject Property.

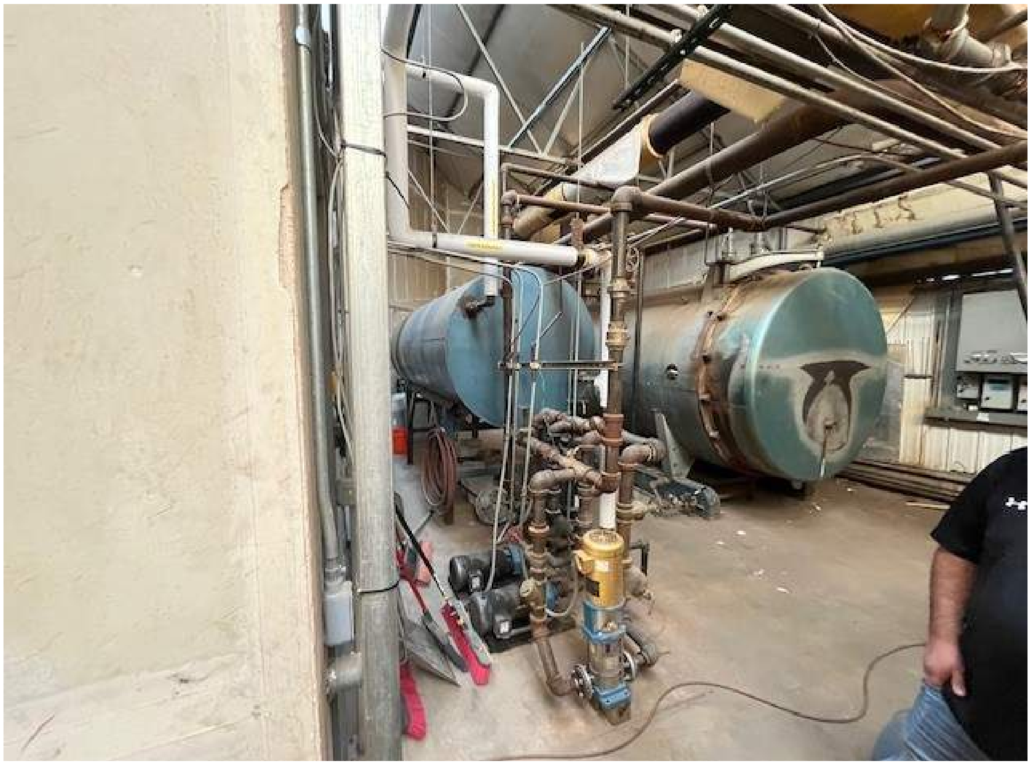


PHOTO NO. 23 **DESCRIPTION:**	Two of the older boiler units and pumping equipment.

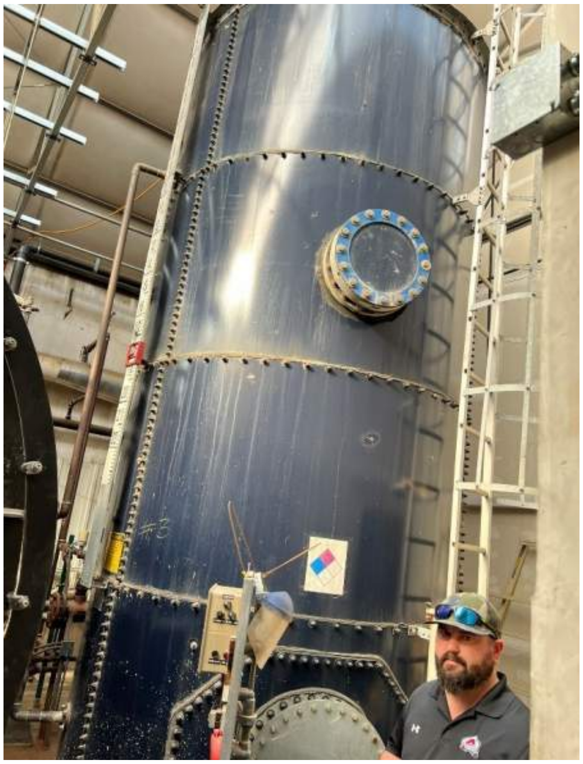


PHOTO NO. 24 **DESCRIPTION:**	Indoor 12,000 gallon water AST located in the boiler room. Water supplied by the City of Arvada.

HOUSE
PLEASE
KEEP THIS GATE CLOSED
POR FAVOR
MANTENGA ESTA PUERTA CERRADA
AS2
2000

PHOTO NO. 25 DESCRIPTION:	Example of safety postings.

HOUSE
PLEASE
DANGER PELIGRO
PESTICIDES PESTICIDAS
KEEP OUT
NO ENTRE

PHOTO NO. 26 DESCRIPTION:	Example of safety postings.

PHOTO NO. 27 **DESCRIPTION:**	Example of safety postings.

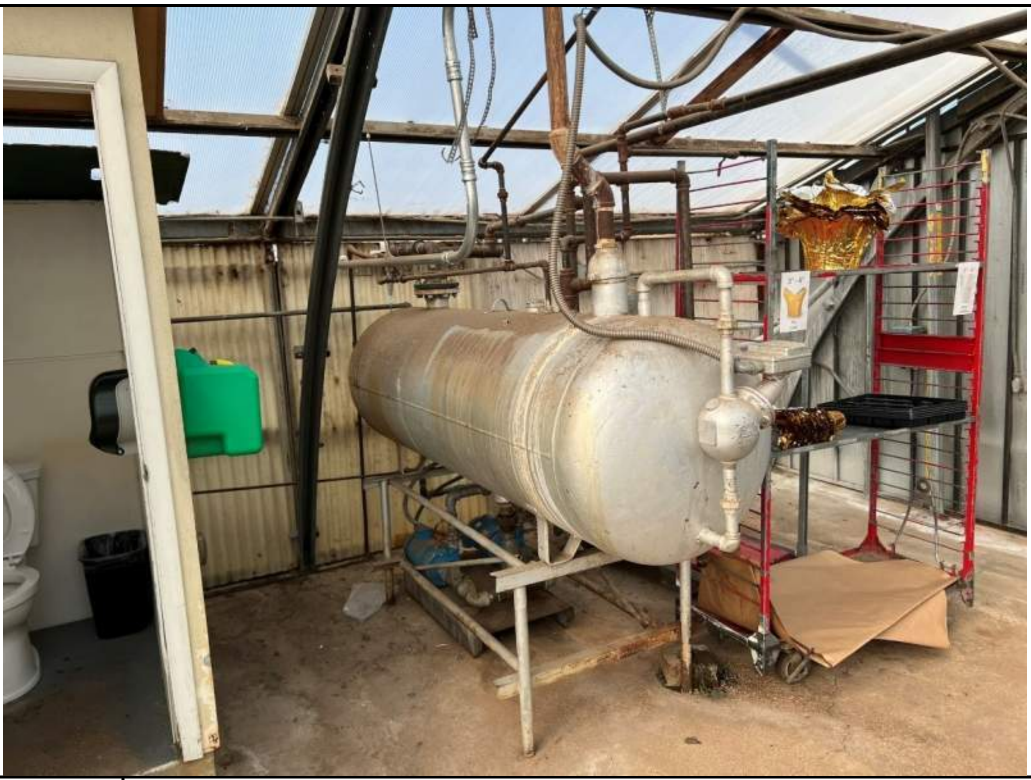


PHOTO NO. 28 **DESCRIPTION:**	Condensate tank.

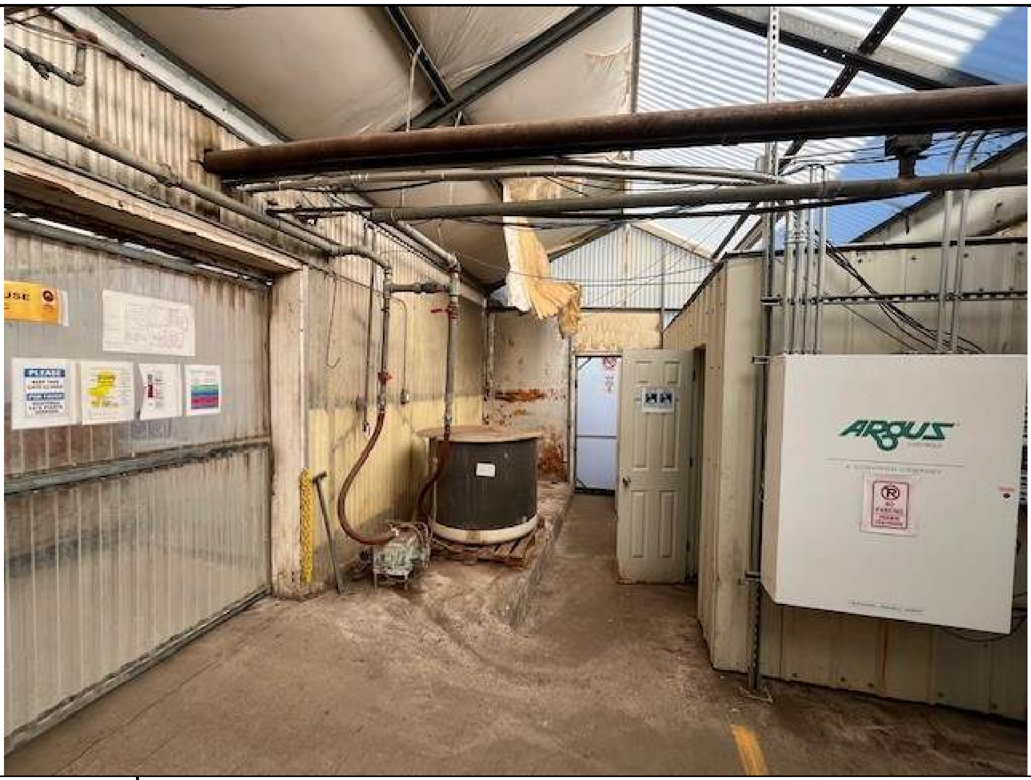


PHOTO NO. 29 DESCRIPTION: Dosing/mixing tank near northern most septic system.

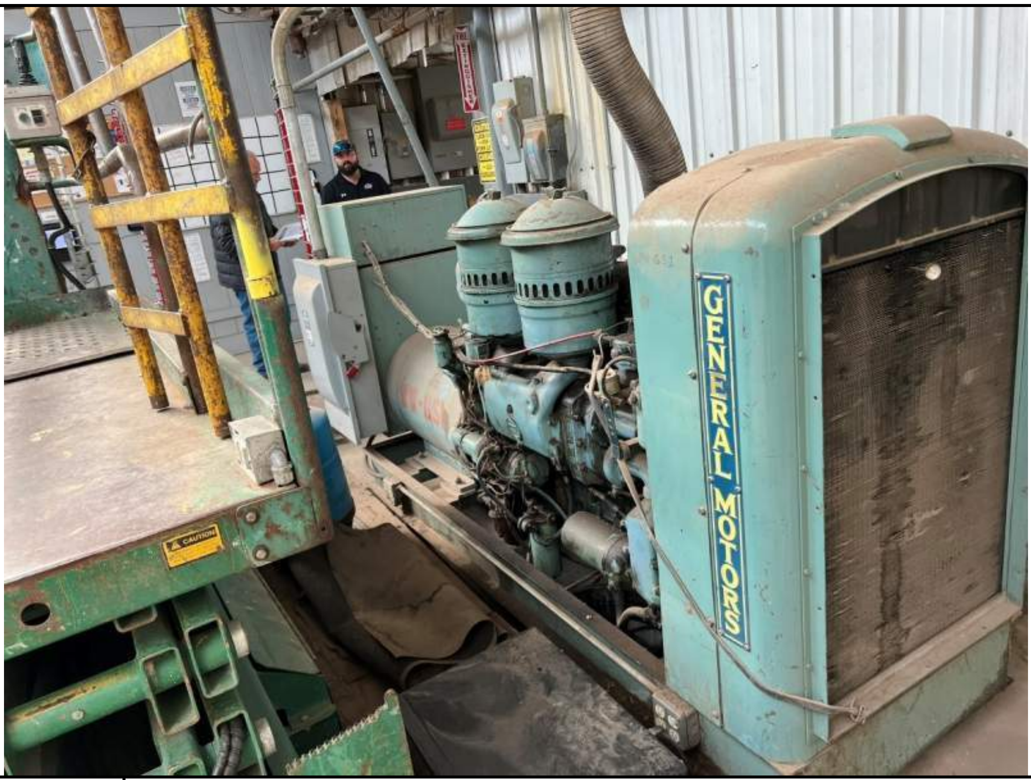


PHOTO NO. 30 DESCRIPTION: Emergency backup electric generator.

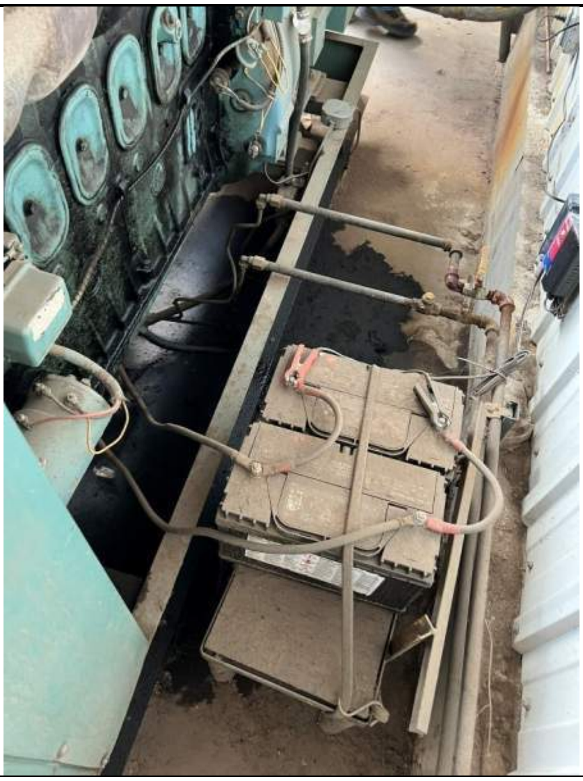


PHOTO NO. 31 DESCRIPTION:	Backup generator batteries and oil spill on concrete.

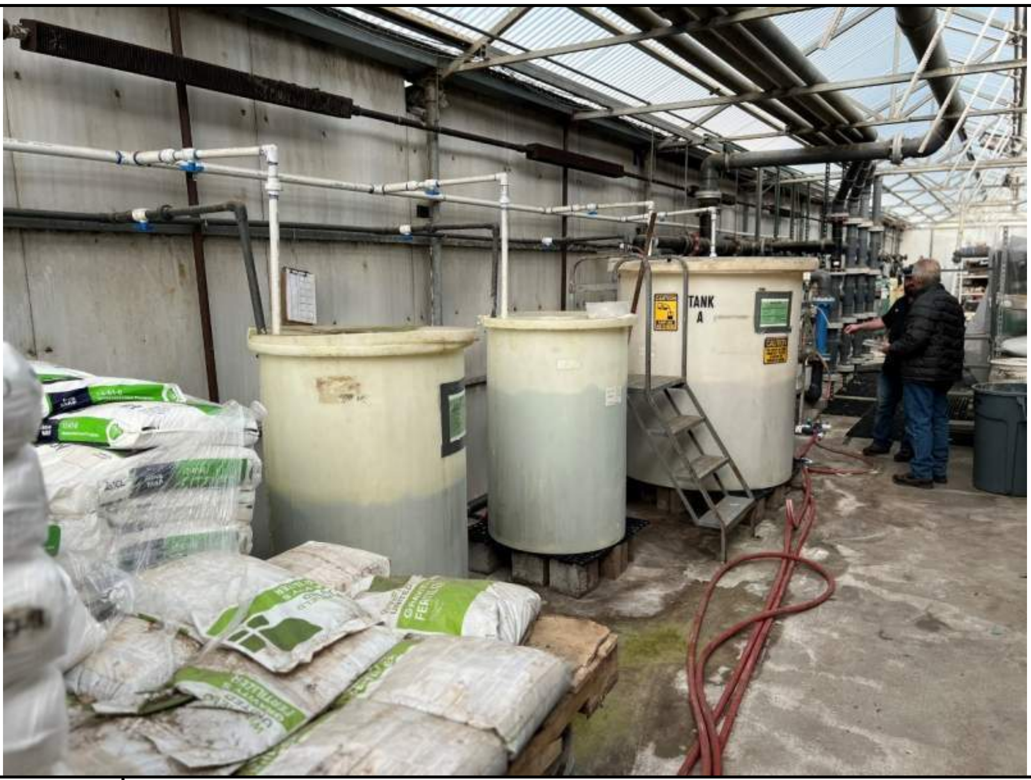


PHOTO NO. 32 DESCRIPTION:	Fertilizer storage and mixing units.

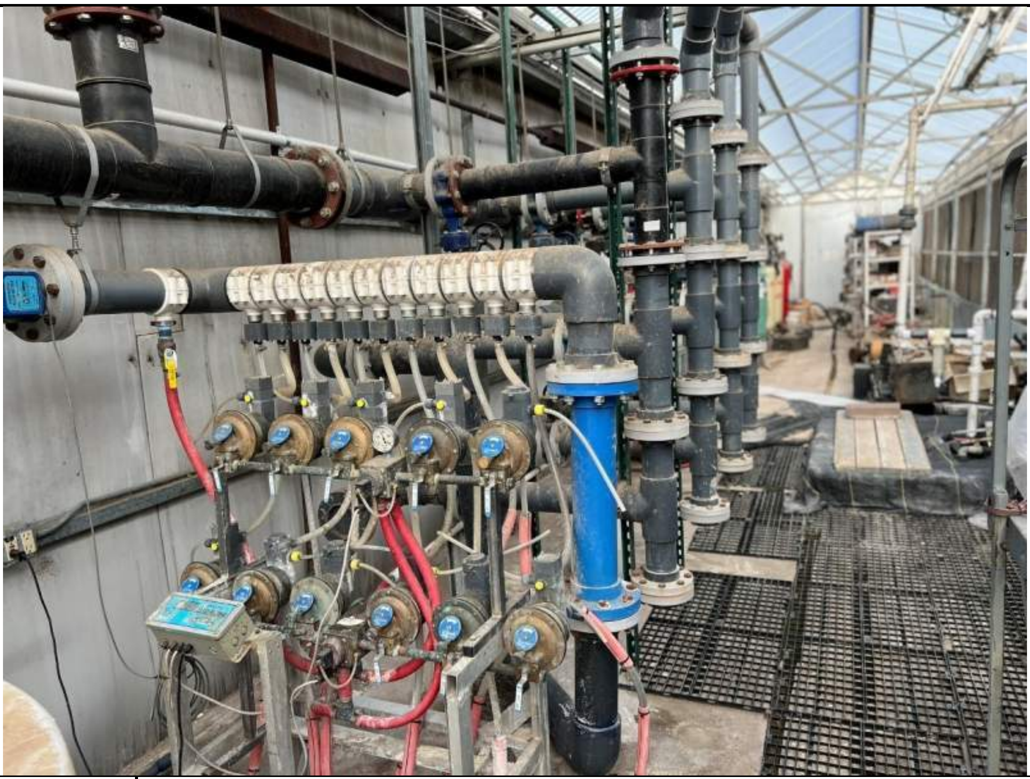


PHOTO NO. 33 **DESCRIPTION:**	Manifold for mixed fertilizer and water distribution.

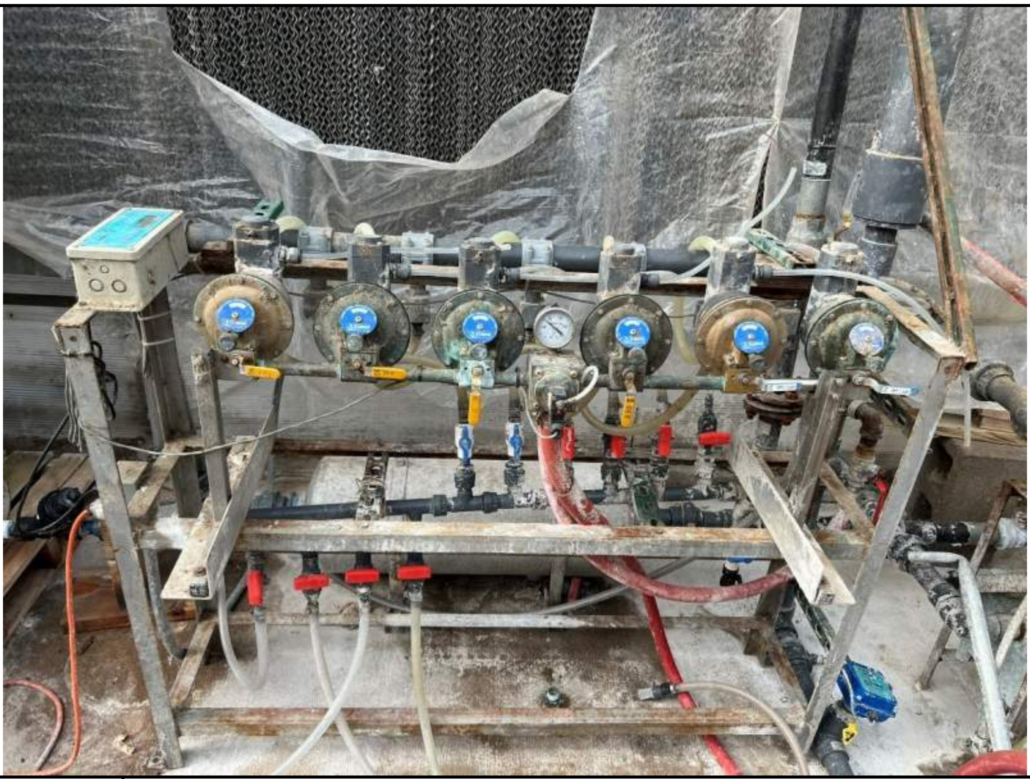


PHOTO NO. 34 **DESCRIPTION:**	Manifold for mixed fertilizer and water distribution.

PHOTO NO. 35 DESCRIPTION:	Large air compressors for distributing the fertilizer/water mixture to the green houses.

PHOTO NO. 36 DESCRIPTION:	Pesticide and herbicide mixing area.

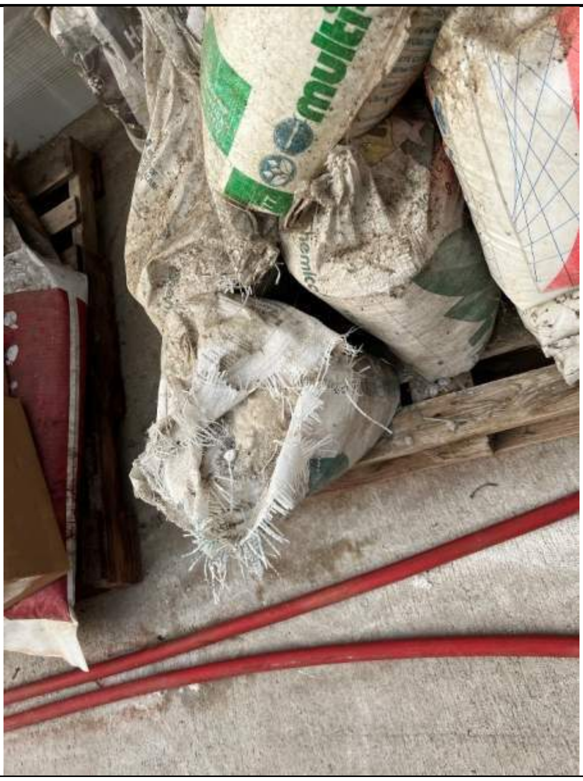
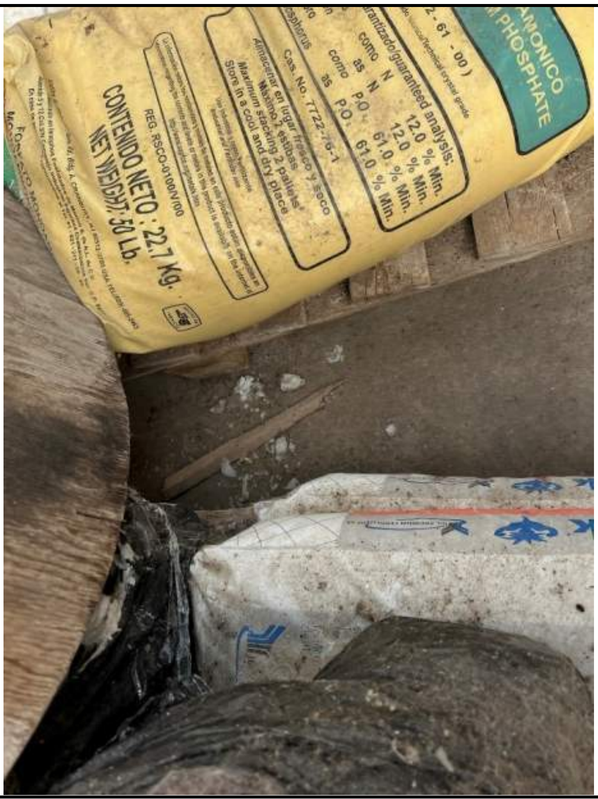


PHOTO NO. 37 DESCRIPTION: Broken bags of fertilizer.



PHOSPHATE
Guaranteed analysis:
CONTENIDO NETO : 22.7 Kg.
NET WEIGHT: 50 Lb.
Store in a cool and dry place

PHOTO NO. 38 DESCRIPTION: Fertilizer storage.

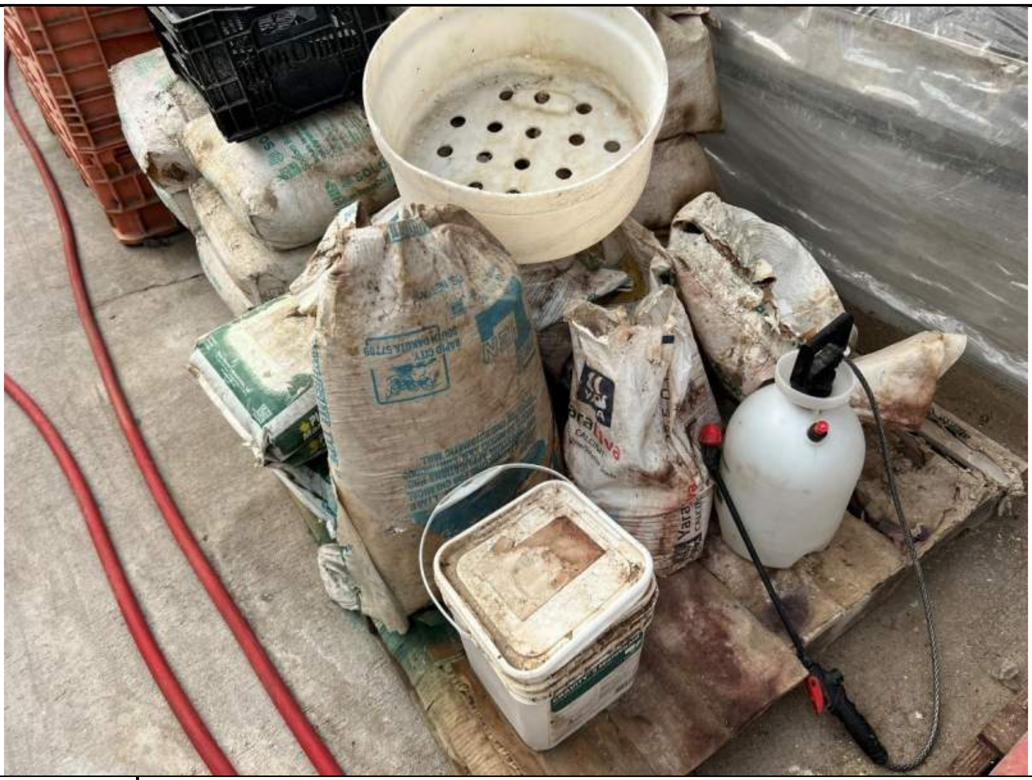


PHOTO NO. 39 DESCRIPTION:	Fertilizer mixing area.

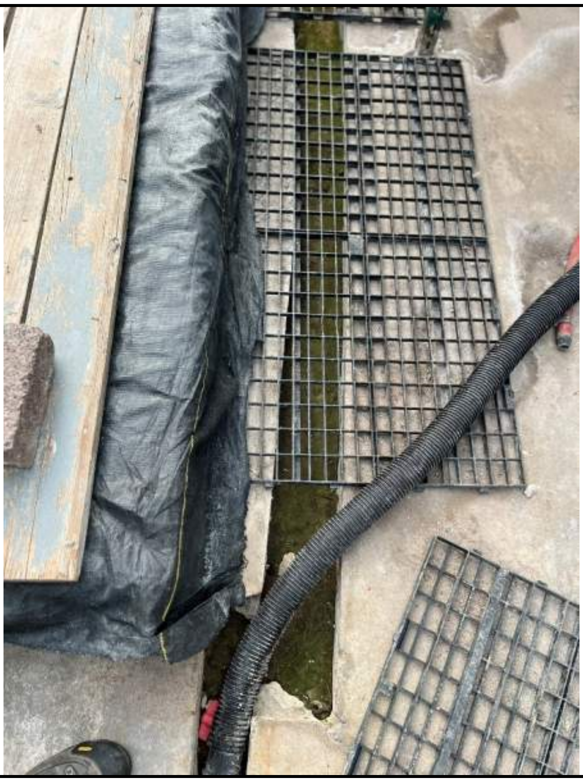


PHOTO NO. 40 DESCRIPTION:	Drainage cut into the concrete foundation in the fertilizer mixing area. Note greenish color of sediment.

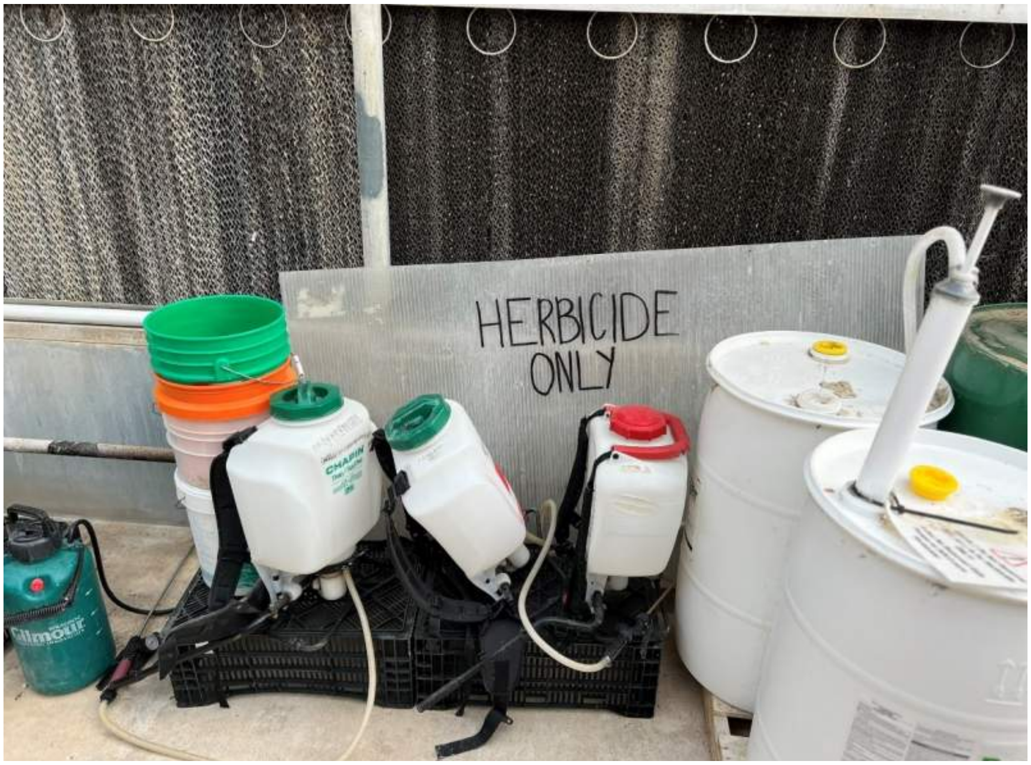

HERBICIDE
ONLY
CHAPIN
Gilmour

PHOTO NO. 41 **DESCRIPTION:**	Herbicide mixing area.

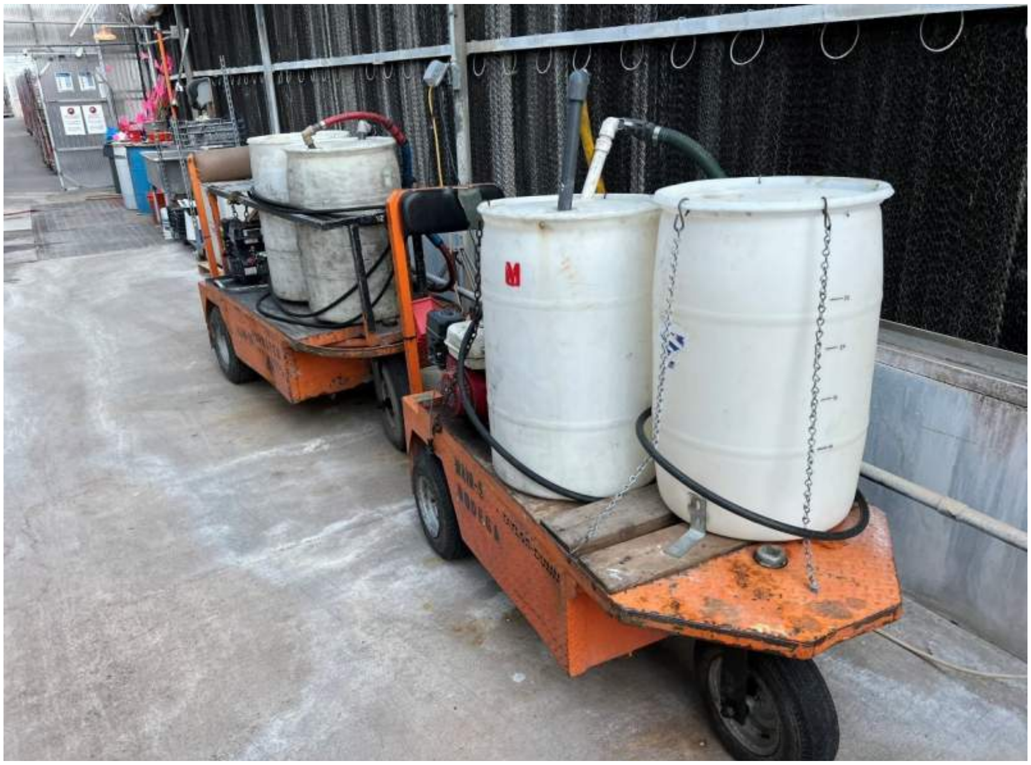


PHOTO NO. 42 **DESCRIPTION:**	Herbicide/pesticide mixing area.

PHOTO NO. 43 DESCRIPTION:	Herbicide and cleaning storage.

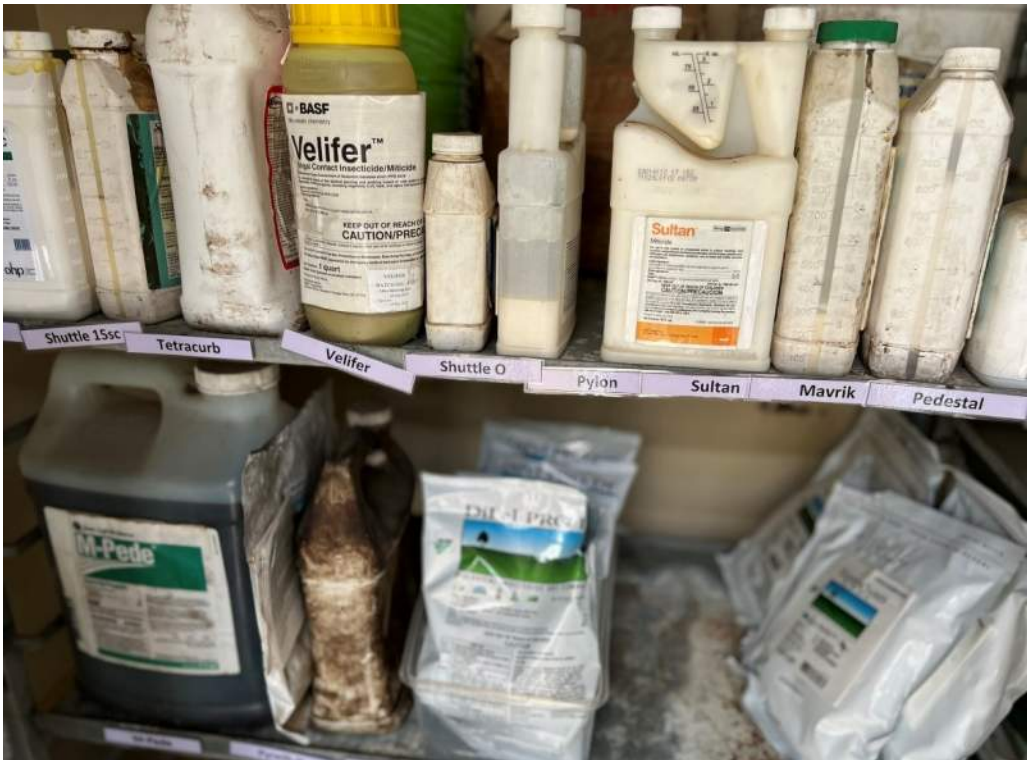

BASF
Velifer
Sultan
Shuttle 15sc
Tetracurb
Velifer
Shuttle O
Pylon
Sultan
Mavrik
Pedestal
M-Pede

PHOTO NO. 44 DESCRIPTION:	Pesticide and herbicides stored on shelving inside containment/storage shed.

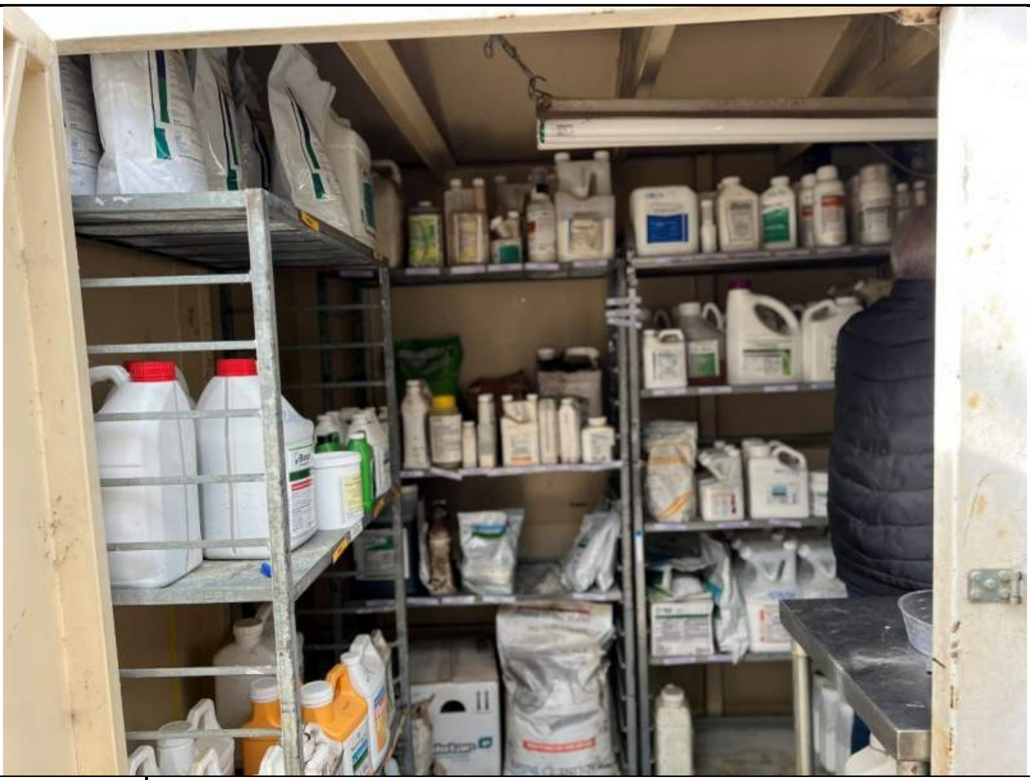


PHOTO NO. 45 DESCRIPTION:	Pesticide and herbicides stored on shelving inside containment/storage shed.

PHOTO NO. 46 DESCRIPTION:	Plant potting - production area.

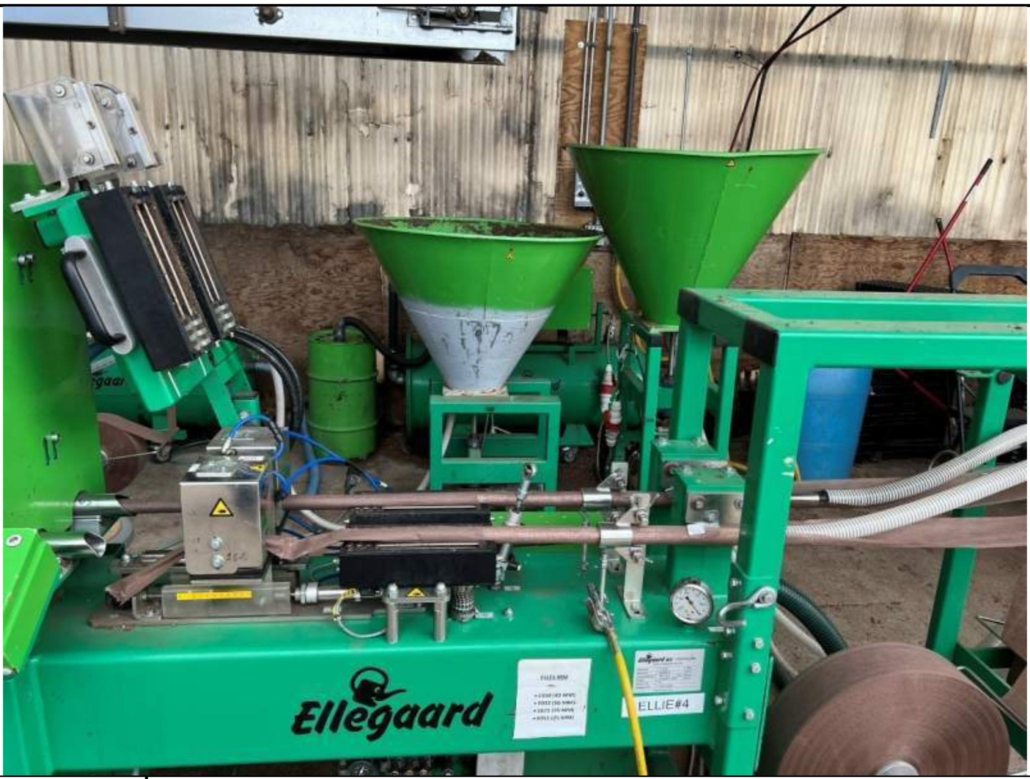

Ellegaard
ELLIE#4

PHOTO NO. 47 DESCRIPTION:	Plant potting equipment.

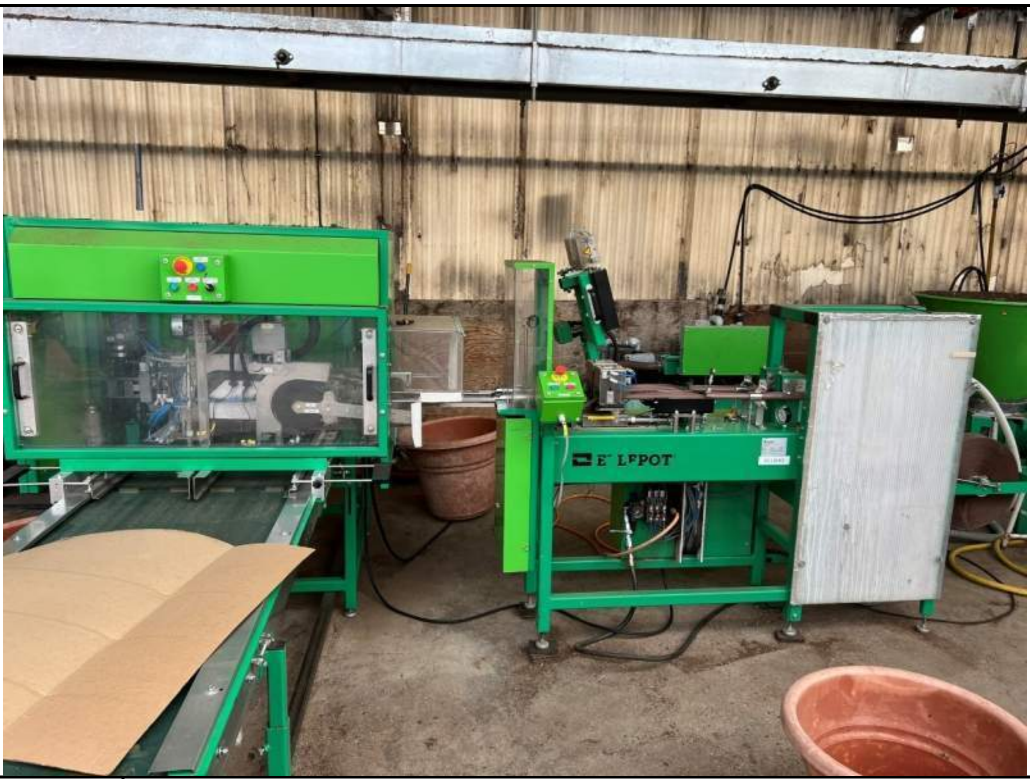


PHOTO NO. 48 DESCRIPTION:	Plant potting equipment.

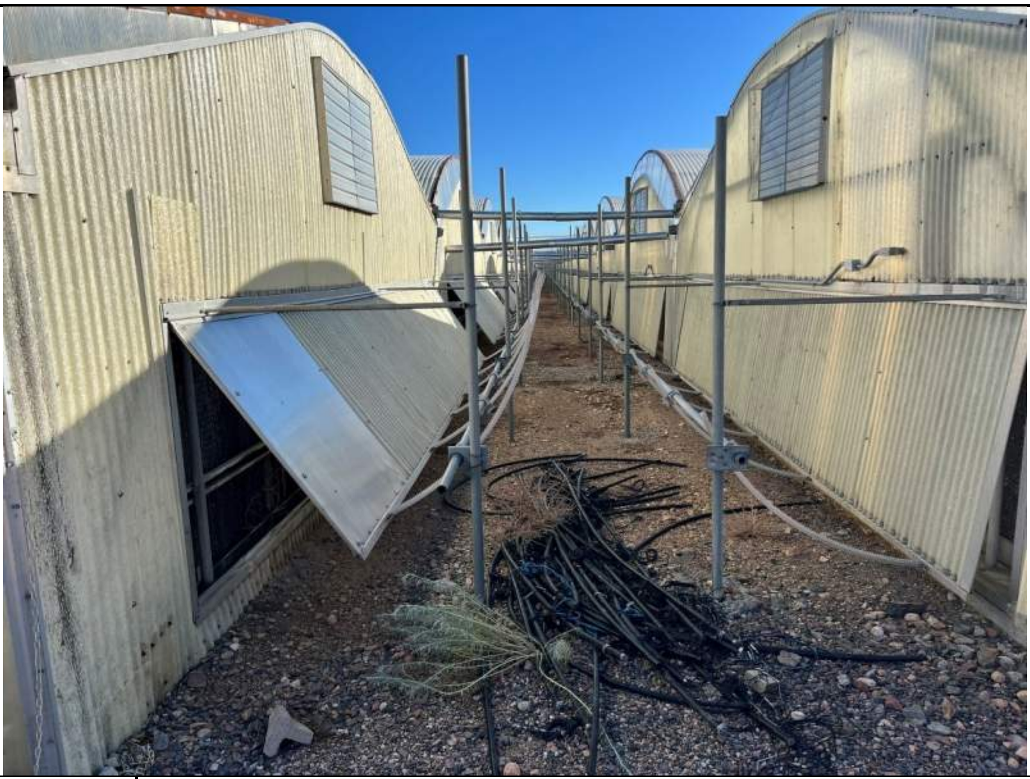


PHOTO NO. 49 DESCRIPTION: Hinged plastic panels for water cooling of green houses

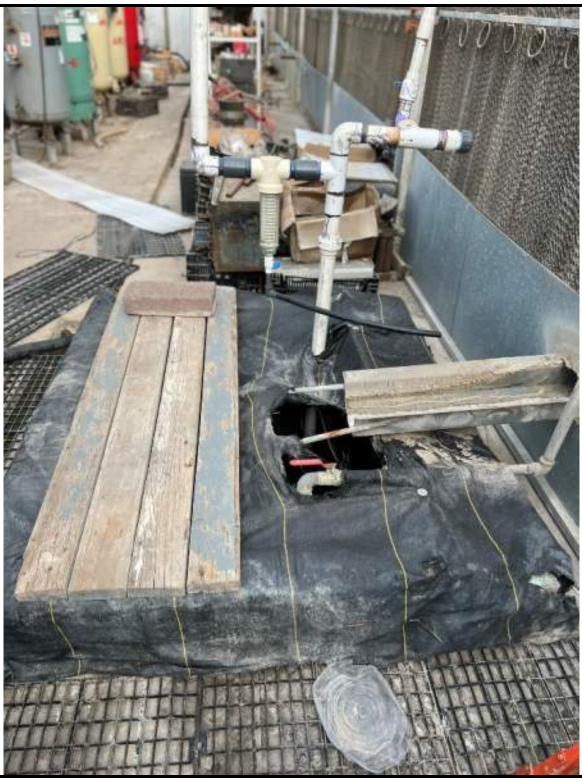


PHOTO NO. 50 DESCRIPTION: Water collection sump from water cooling (swamp cooler) system.

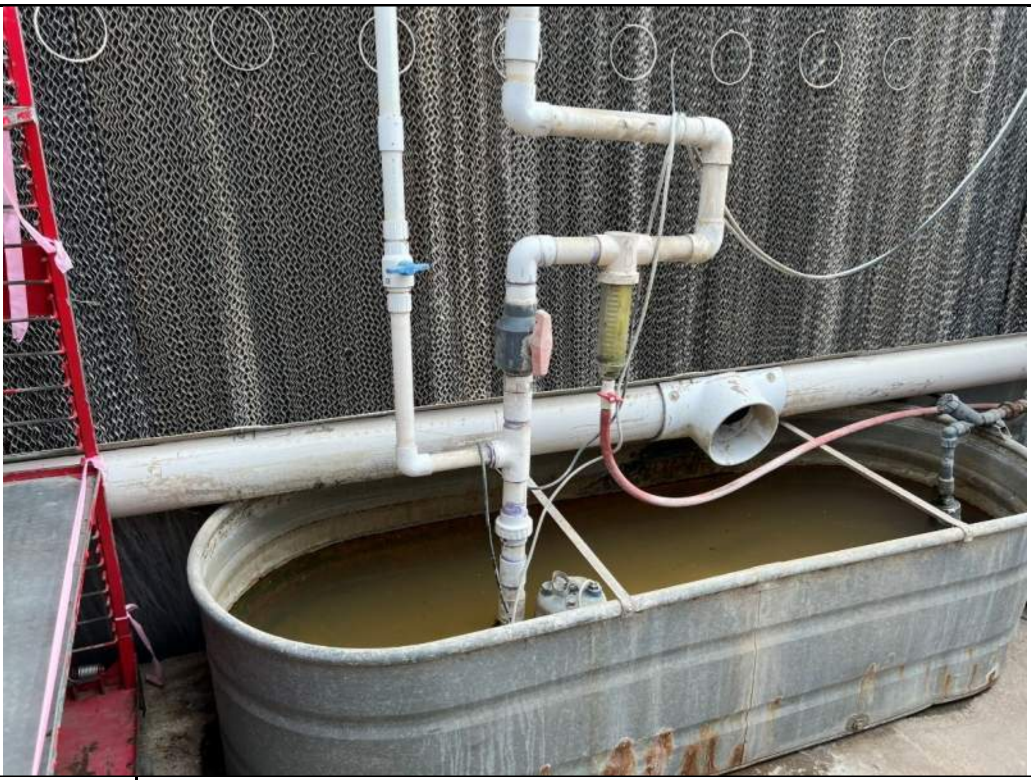


PHOTO NO. 51 **DESCRIPTION:**	Water collection sump from water cooling (swamp cooler) system.

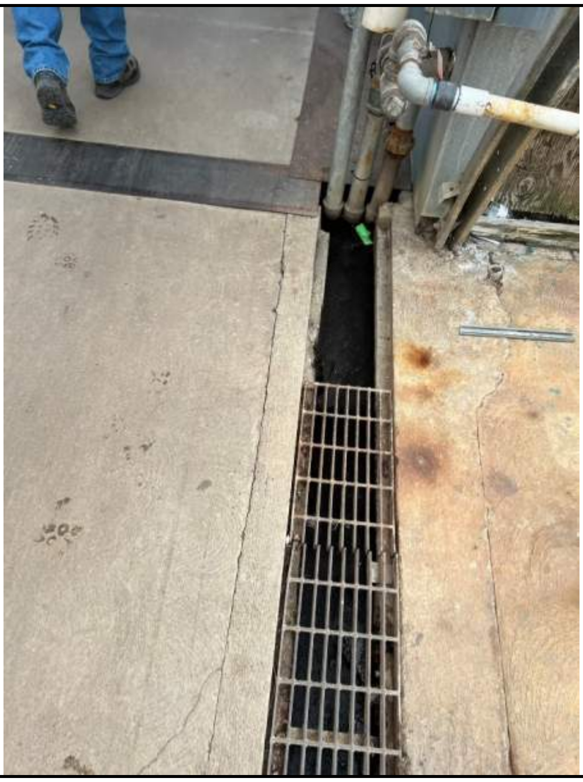


PHOTO NO. 52 **DESCRIPTION:**	Water collection grate in foundation floor.

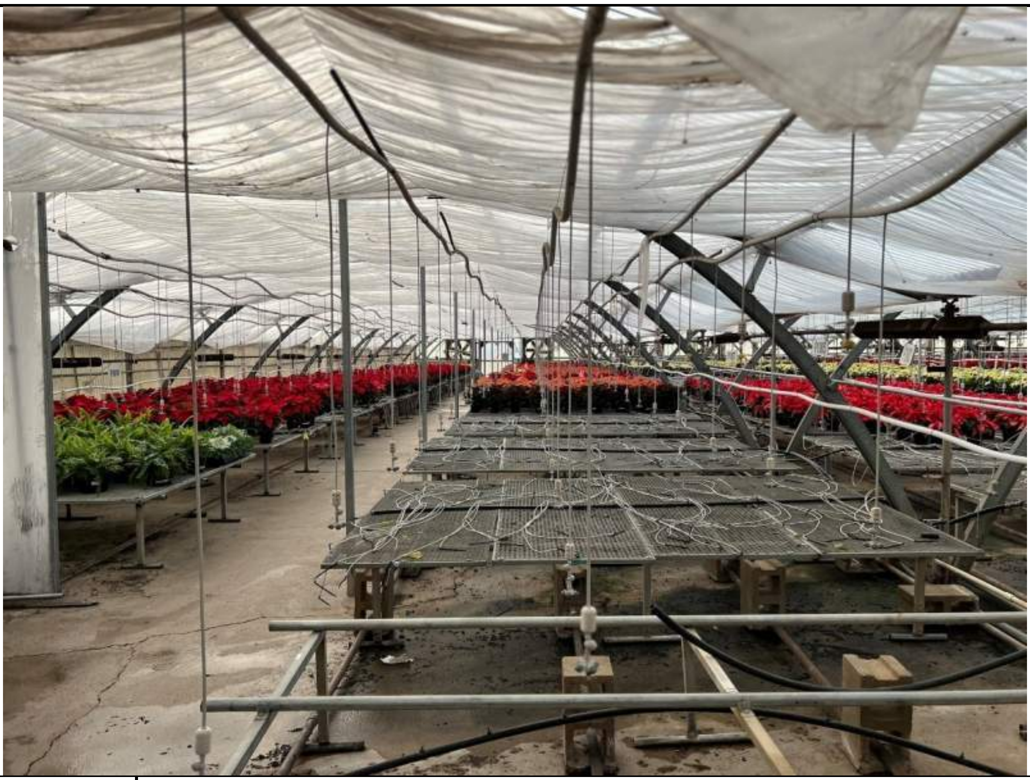


PHOTO NO. 53 DESCRIPTION:	Example of green house watering system. Tubing hanging down is a spray for smaller potted plant. Tubing on the table is for watering individual large plants.

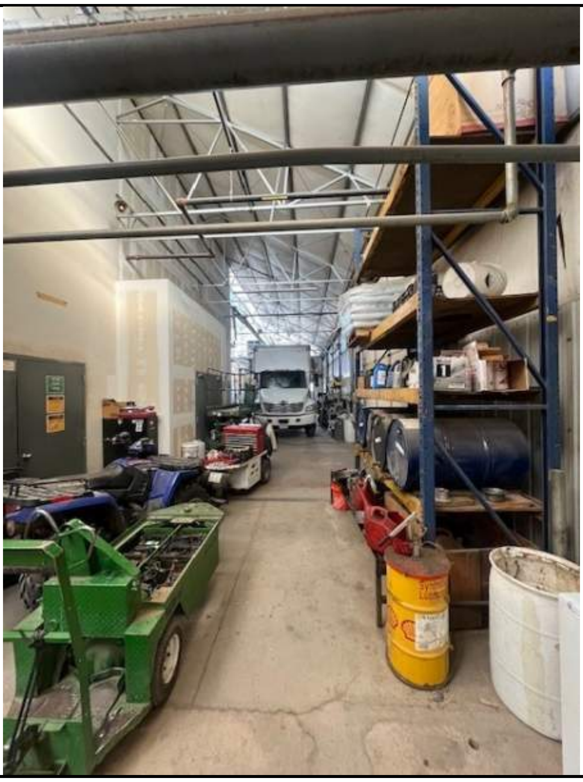


PHOTO NO. 54 DESCRIPTION:	Maintenance room.

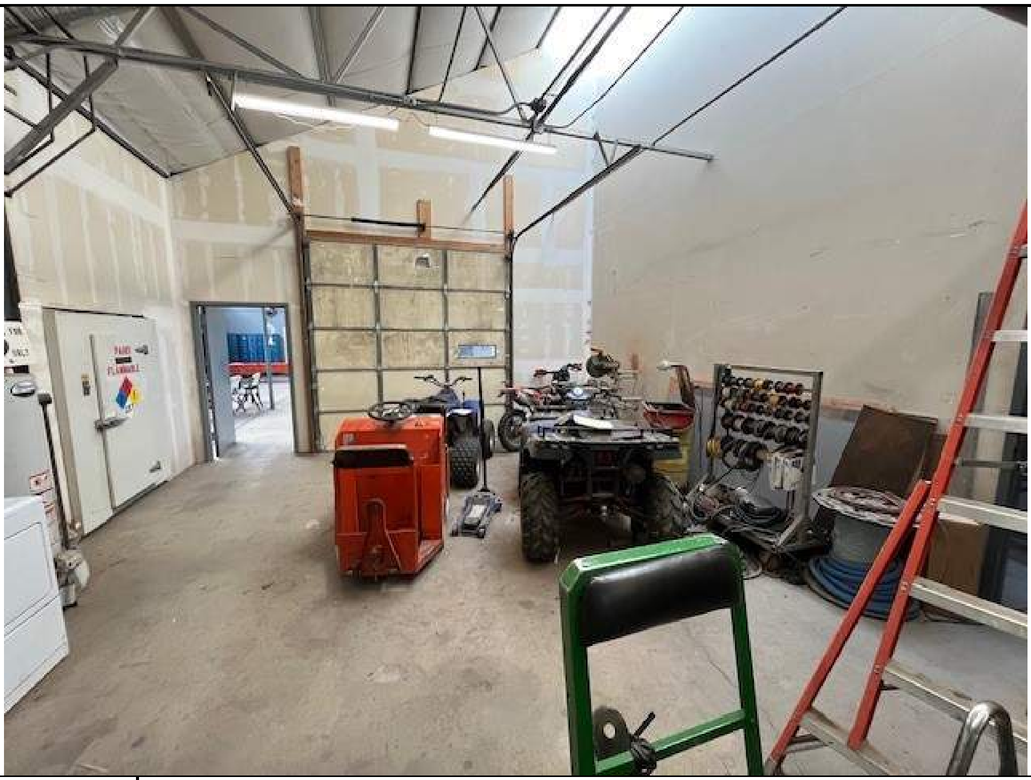


PHOTO NO. 55 DESCRIPTION:	Maintenance room. Flammable storage cabinet on left.

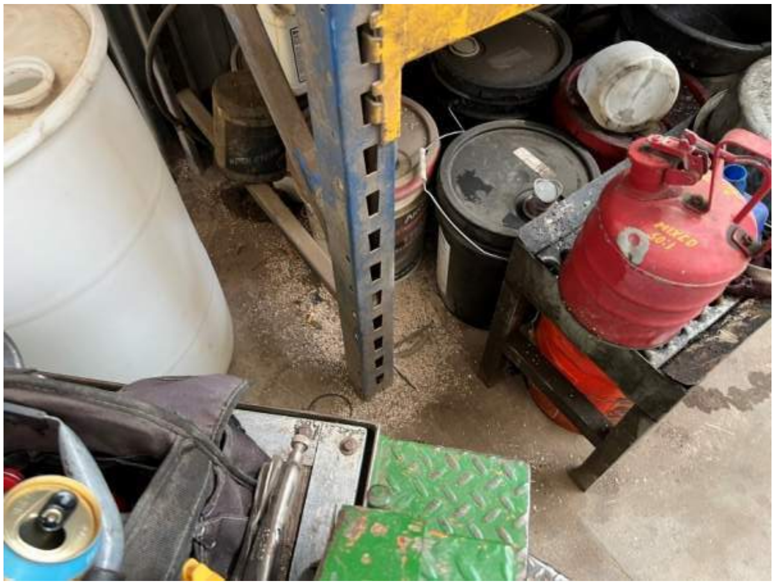


PHOTO NO. 56 DESCRIPTION:	Maintenance room. Absorbent spill cleanup material on floor.

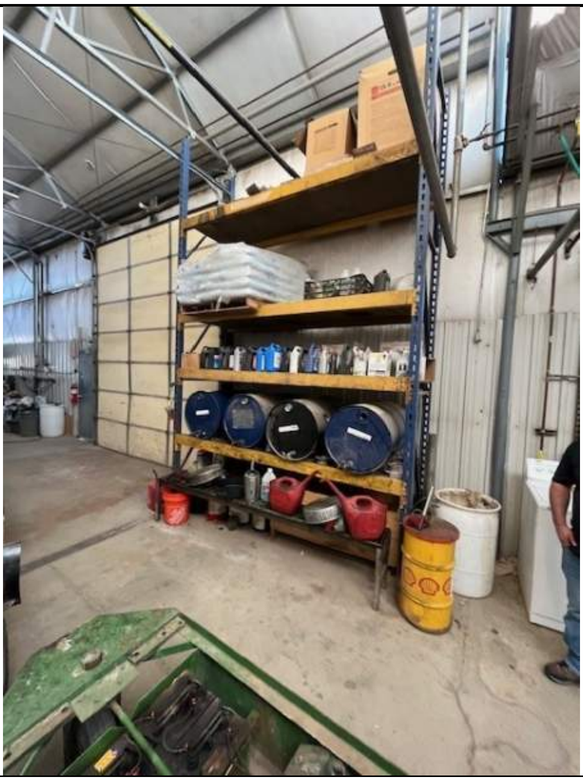


PHOTO NO. 57 DESCRIPTION:	Maintenance room 55-gallon drums of hydraulic oil, smaller containers of oil, oil change pans, etc.

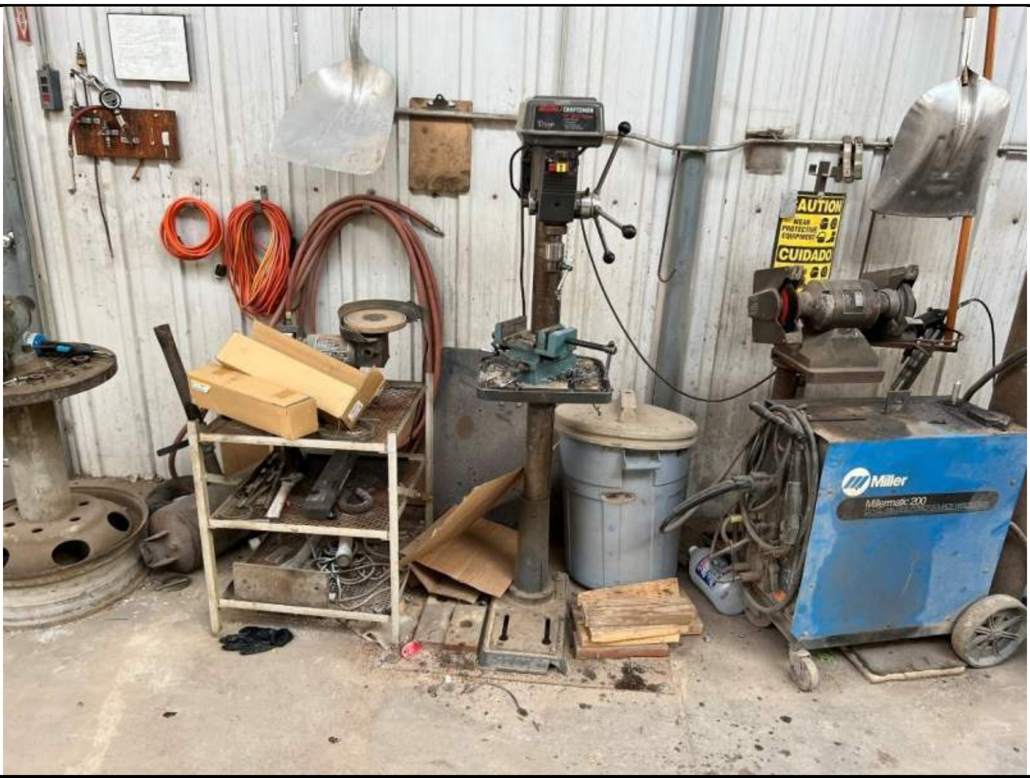

CAUTION
WEAR PROTECTIVE EQUIPMENT
CUIDADO
Miller
Millermatic 200

PHOTO NO. 58 DESCRIPTION:	Maintenance room. Minor oil staining.

PHOTO NO. 59 DESCRIPTION: Maintenance room.

PHOTO NO. 60 DESCRIPTION: Break room.

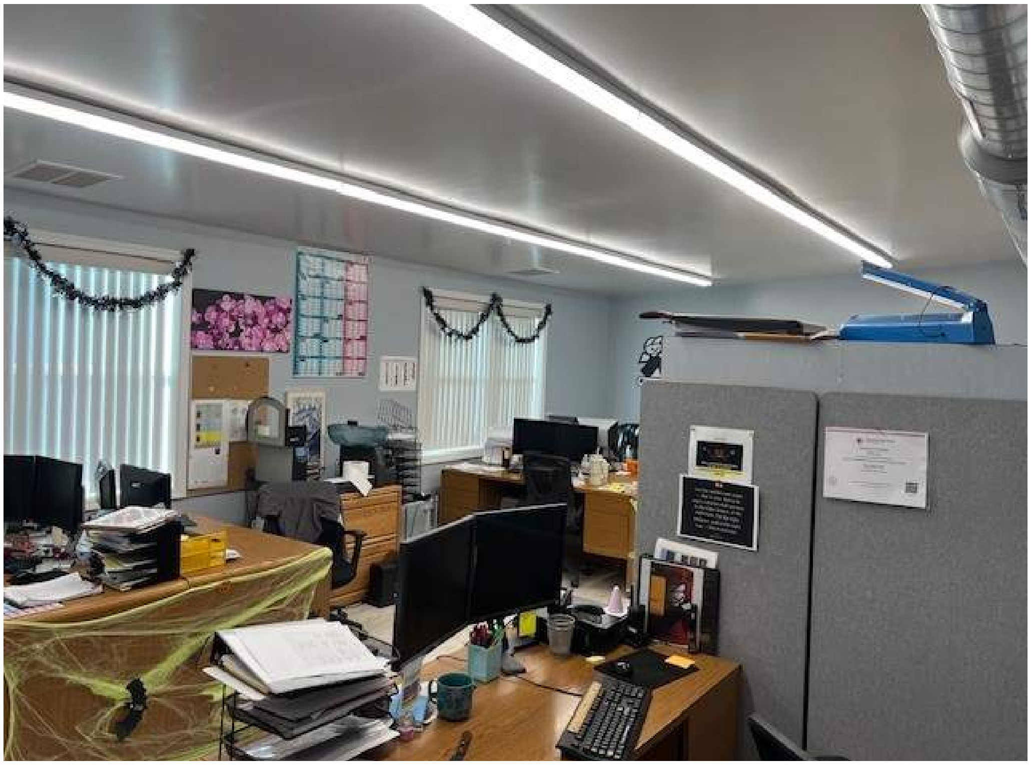


PHOTO NO. 61 **DESCRIPTION:**	Office – sales area.

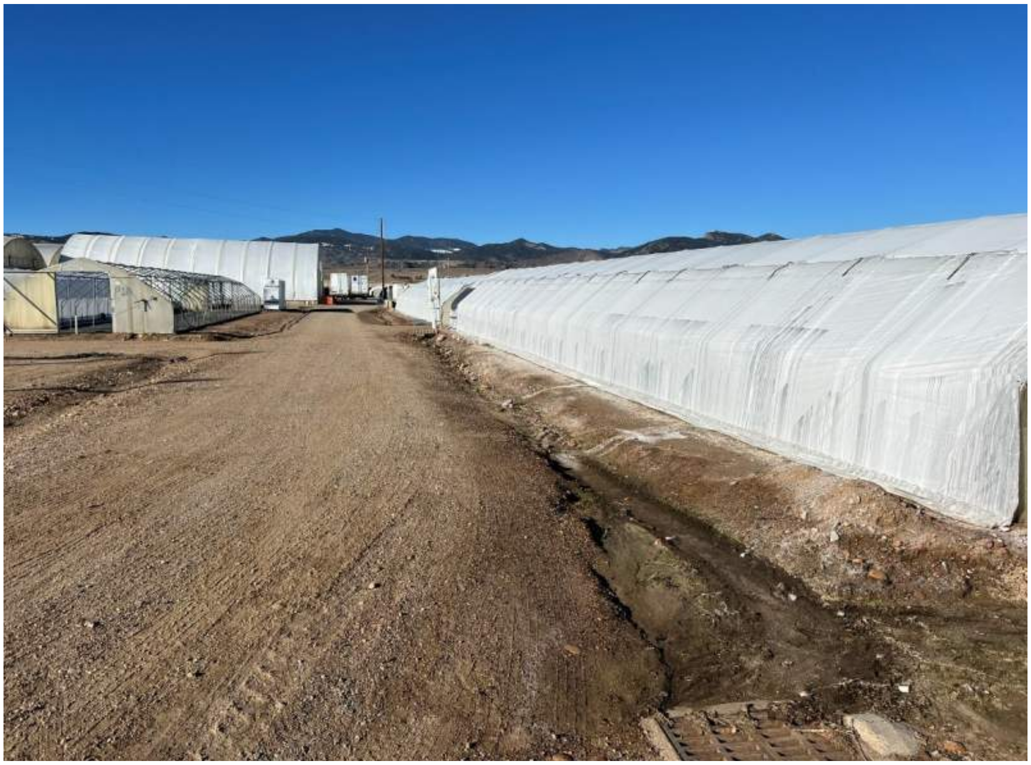


PHOTO NO. 62 **DESCRIPTION:**	Stormwater runoff ditch and grate.

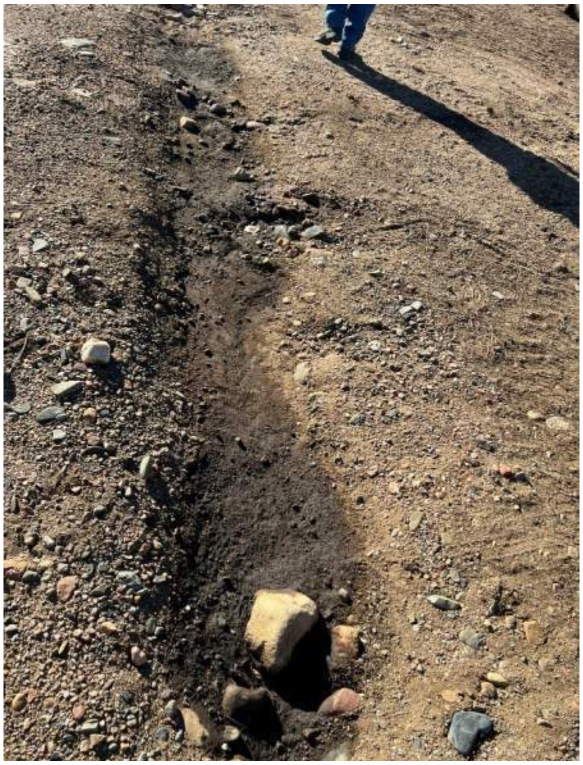


PHOTO NO. 63 DESCRIPTION:	Stormwater runoff ditch showing oil staining. Near 500-gallon waste oil AST on the northwest side of the Subject Property.

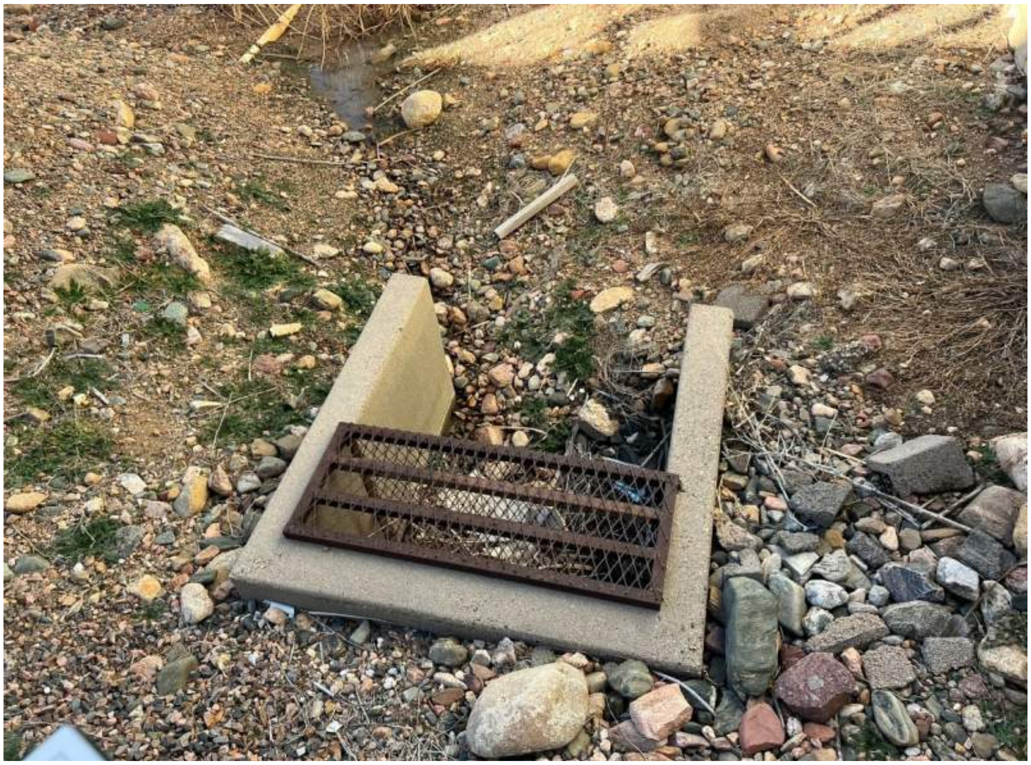


PHOTO NO. 64 DESCRIPTION:	Stormwater collection grate to underground system.

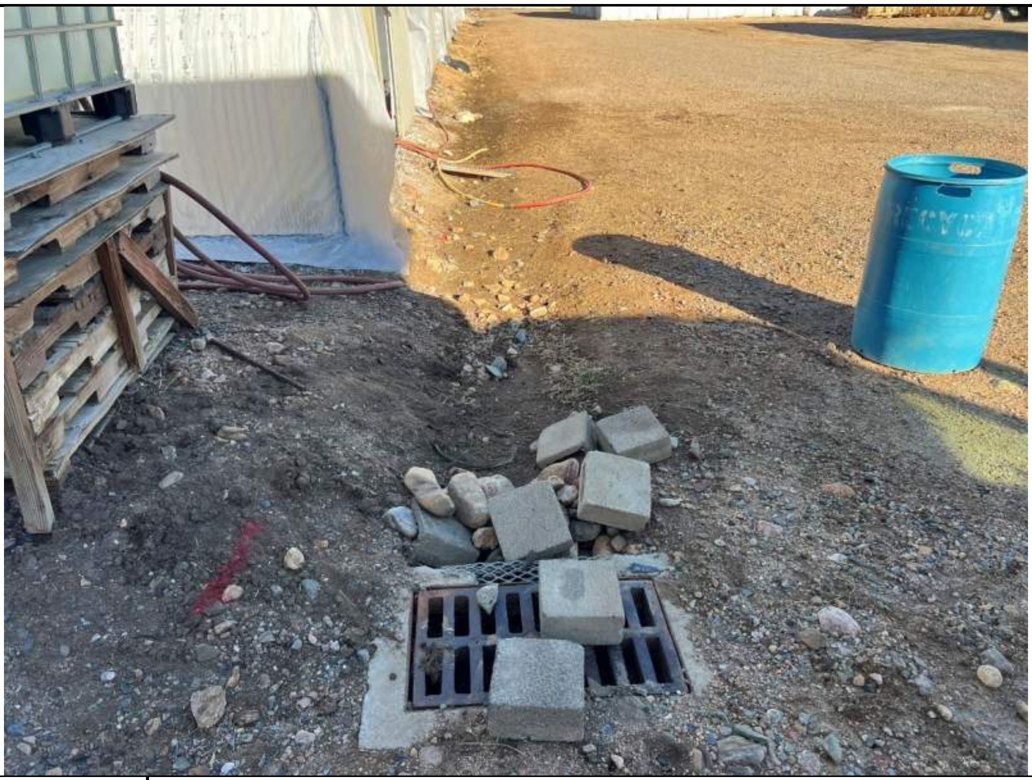


PHOTO NO. 65 **DESCRIPTION:**	Stormwater collection grate to underground system.

PHOTO NO. 66 **DESCRIPTION:**	Main retention pond area in the northeast corner.

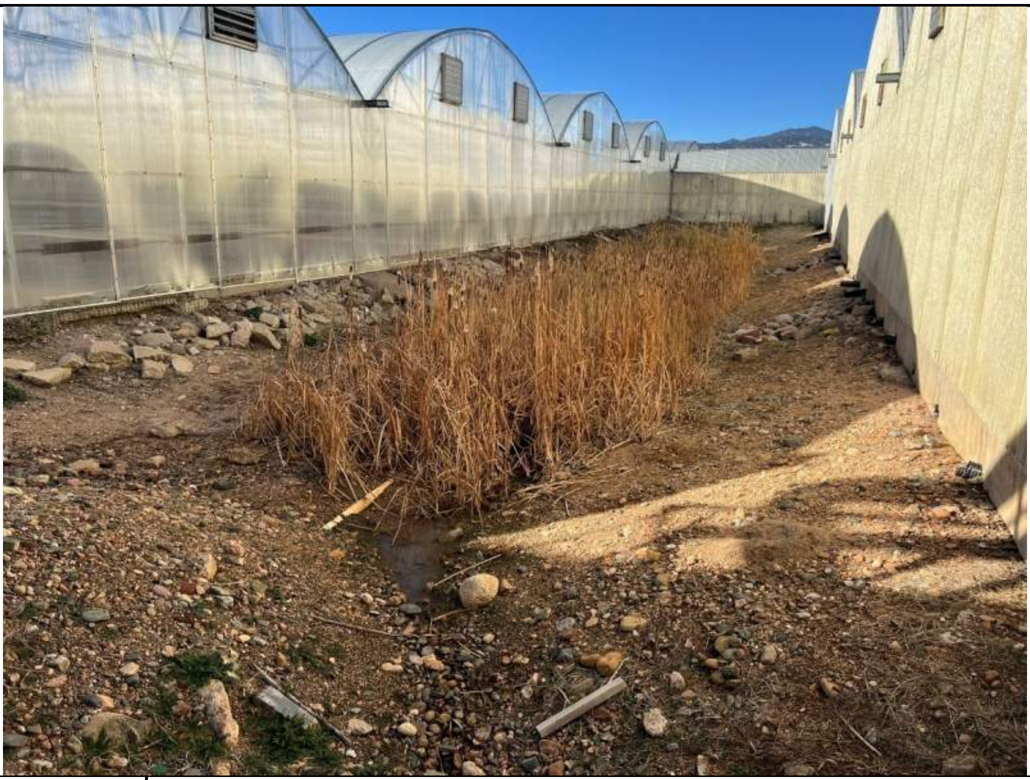


PHOTO NO. 67 **DESCRIPTION:**	Retention pond between green houses with wetland vegetation.

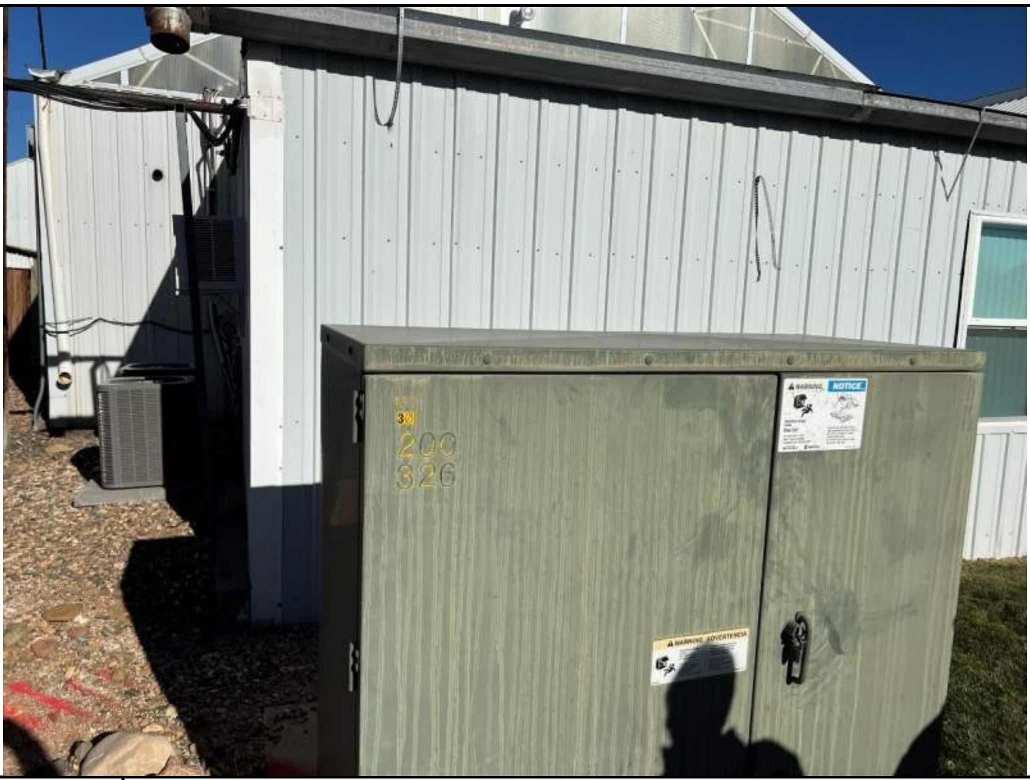


PHOTO NO. 68 **DESCRIPTION:**	Pad mounted transformer near the front office and break room area.

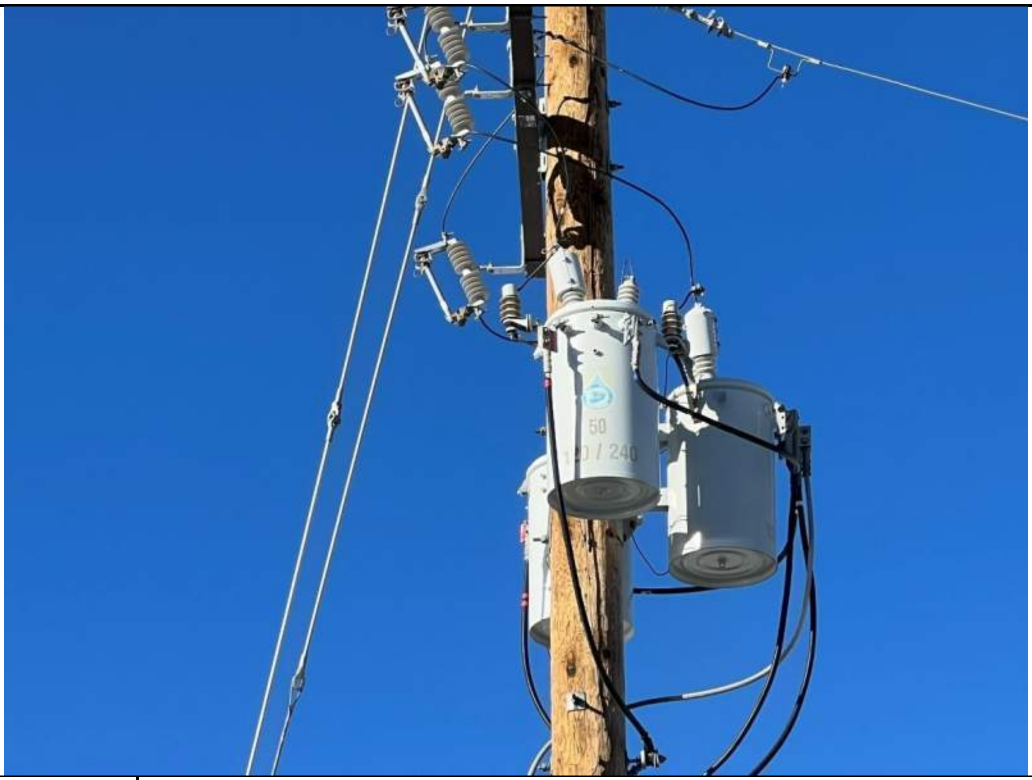


PHOTO NO. 69 DESCRIPTION:	Pole mounted transformers.

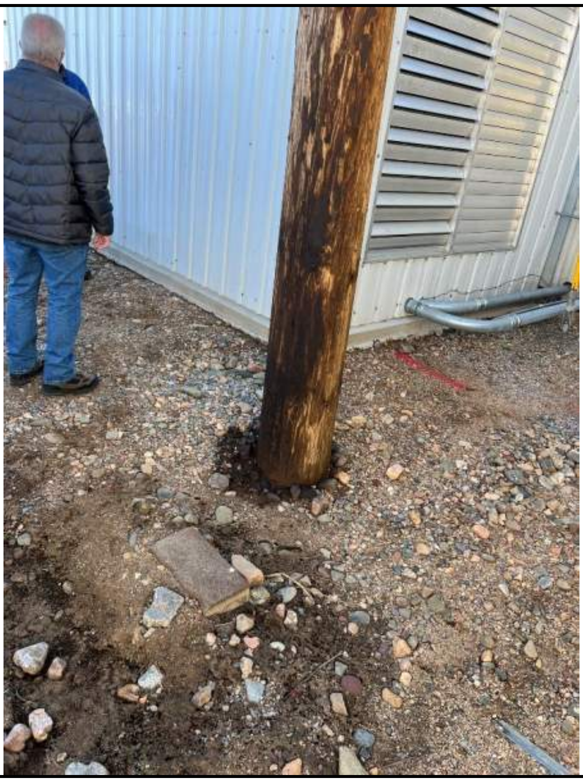


PHOTO NO. 70 DESCRIPTION:	Creosote coating on electrical power pole.

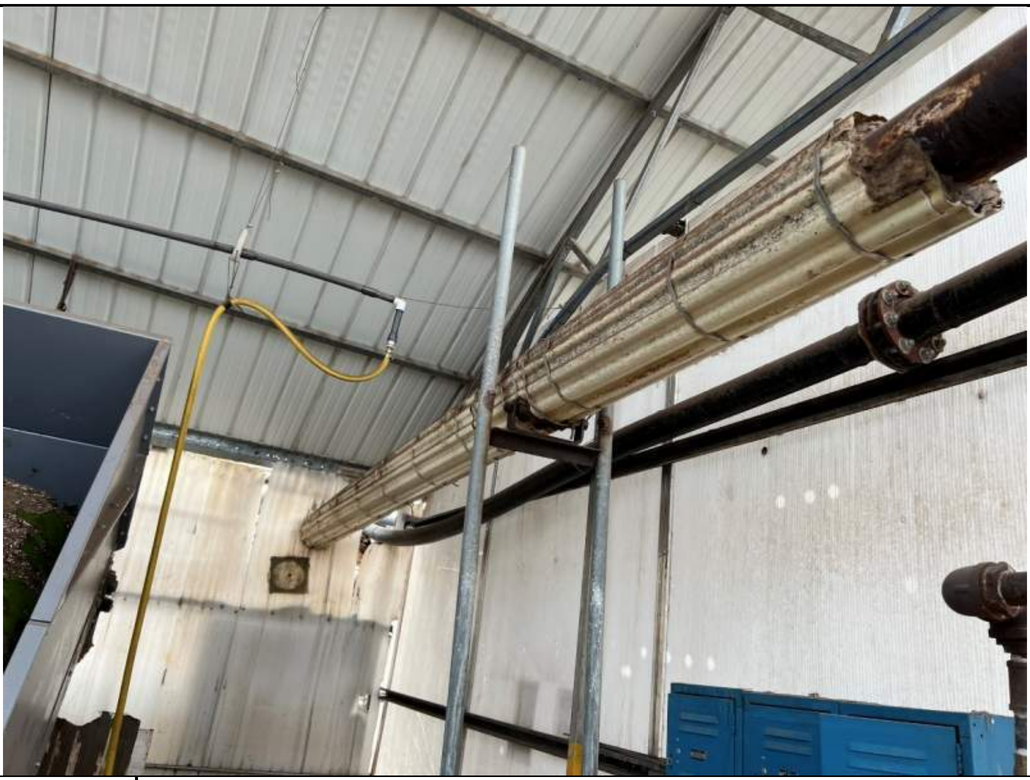


PHOTO NO. 71 **DESCRIPTION:**	Example of potential asbestos-containing material on piping.

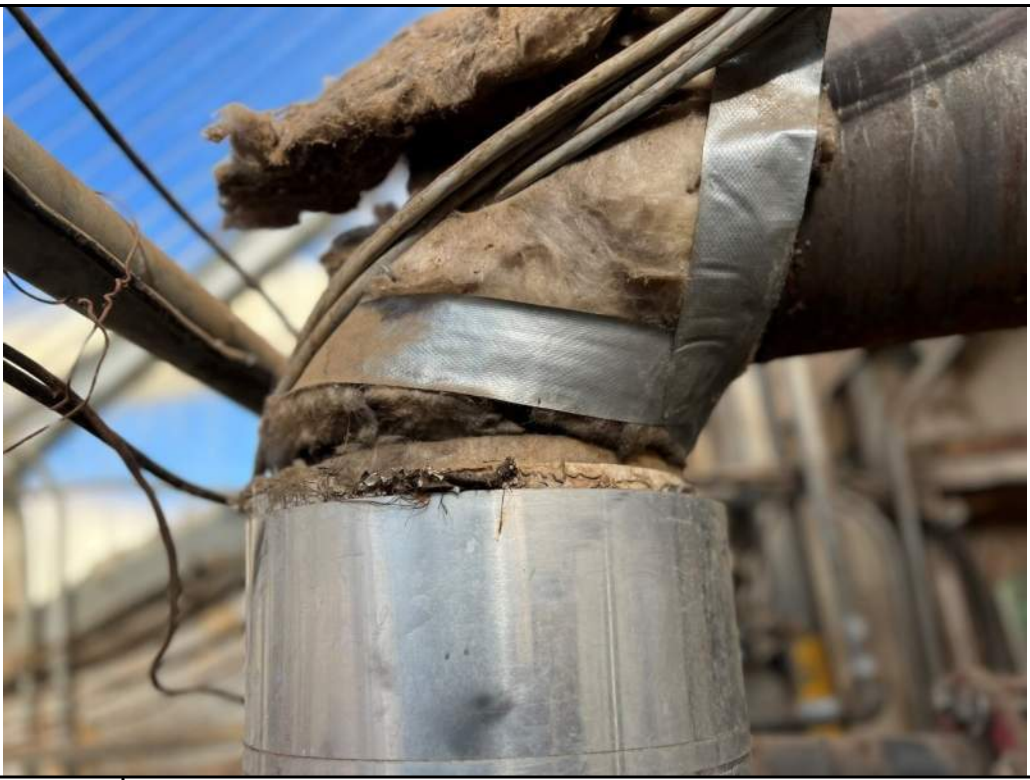


PHOTO NO. 72 **DESCRIPTION:**	Example of potential asbestos-containing material on piping.

PHOTO NO. 73 DESCRIPTION:	Fire hydrant on west boundary of the Subject Property. The main fire line runs north-south along the west side.

PHOTO NO. 74 DESCRIPTION:	Fire hydrant on southwest corner of the Subject Property.

SITE:	**Welby Gardens**		**PROJECT NO.:**	**45033.02**
LOCATION:	**17201 W. 64th Avenue, Arvada, Colorado**		**VISIT DATE:**	**December 6, 2024**

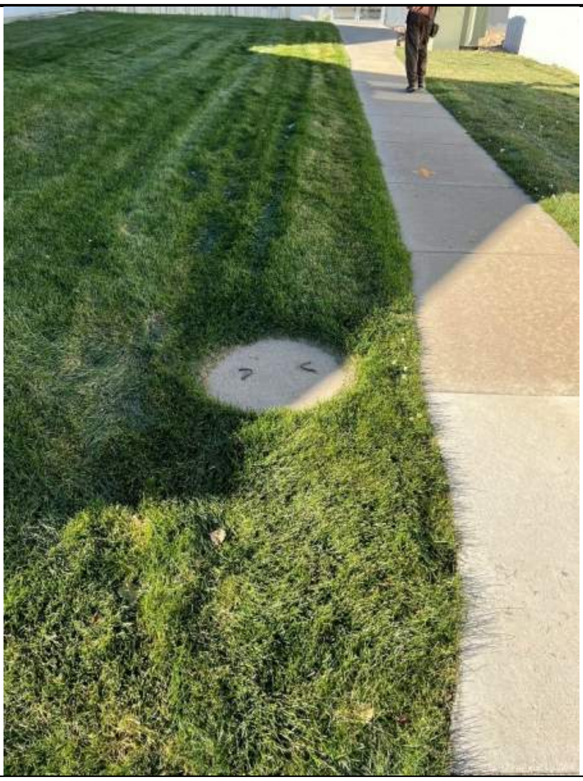


PHOTO NO. 75 DESCRIPTION:	Manhole to former septic system that serviced the offices.

APPENDIX G

Resumes of Environmental Professionals

TERRY MCGOWAN, PG

SENIOR CONSULTANT

SUMMARY

Terry has over 40 years of professional experience in hydrogeology and geology. His experience includes site assessment and characterization; design and implementation of surface-water, groundwater, and stormwater monitoring programs; groundwater assessment and remediation; hazardous and solid waste management; Phase I/II Environmental Site Assessments; project specific health and safety issues; and regulatory compliance. As a result of the numerous projects completed, Terry has considerable experience in interfacing and negotiations with city, county, state, and federal regulatory personnel.

PROJECT EXPERIENCE

Casey Resources Inc. | Wheat Ridge, Colorado

Terry served as a project manager for investigations at a former dry cleaning operation located in a strip mall adjacent to a large grocery market. Terry designed and completed the site investigations which included installation of boreholes and monitoring wells in fractured and weathered bedrock units. An Integrated Corrective Action Plan (ICAP) was prepared and approved by the Colorado Department of Public Health and Environment (CDPHE). Indoor soil removal was completed in 2006 and in-situ oxidation of groundwater and soil impacts was completed in May 2007.

Brighton Boulevard | Wheat Ridge, Colorado

Terry completed limited Phase II ESA subsurface investigations for potential development property along Brighton Boulevard. The project included drilling of soil borings, installation of monitoring wells, and collection of soil and groundwater samples for laboratory analysis. The results of the field program indicated that the site is underlain by fill materials that contain elevated metal concentrations as well as polynuclear aromatic hydrocarbons (PAHs). Recommendations to the developer were either to cap the site (ground level parking with slab on grade construction), or if underground parking was constructed, to properly dispose the excavated materials at a Subtitle D facility, and that a VCUP should be prepared in order to obtain CDPHE approval of the remedial action, which would assist in acquiring financing for the project.

William's Creek | Wheat Ridge, Colorado

Project manager and principal investigator for investigations at a former ranch that formerly used pesticides for cattle pest control and a leaking underground storage tank. Field investigations were completed to define the areal extent and depth of both soil and groundwater contamination. The field investigations included the drilling of soil borings, installation of monitoring wells, and collection of surface soil, surface water, and subsurface soil samples. Based on these investigations, CRI established the following: 1) petroleum and organochlorine pesticides had not impacted the adjacent Williams Creek, 2) the organochlorine pesticide impact was limited in depth and areal extent and could be managed (remediated) onsite, and 3) the petroleum hydrocarbon impact was naturally degrading with time. A Voluntary Cleanup Plan Application was prepared and submitted to the Colorado Department of Public Health and Environment (CDPHE) and outlined the capping of organochlorine pesticide soils and monitoring of the petroleum impact to show that the impact is naturally degrading. Approval of the Application was received from CDPHE; however, the VCUP implementation was completed by others.

EXPERTISE

Site Assessment and Characteri zation
Groundwater Assessment & Redmediation
Hazardous & Solid Waste Management
Phase I/II Enviromental Site Assessments
Project Specific Health & Safety Issues
Regulatory Compliance

EDUCATION:

BS in Geology
Colorado State University, Fort Collins, CO

CERTIFICATIONS:

40 HAZWOPER Certified

REGISTRATIONS:

State of Wisconsin Professional Geologist Registration No. 912

State of Wyoming Professional Geologist Registration No. PG-662

State of Colorado Professional Environmental Scientist Registration No. 5223

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Golden, Colorado 80403
303.940.9966
www.baselinecorp.com

VINCENT BARLOCK, CPG

ENVIRONMENTAL DIVISION MANAGER

EXPERTISE

Strategic Planning & Business Development in Environmental Remediation

Technical Proficiency in Groundwater Treatment & Remediation Technologies

Leadership & Management of Multidisciplinary Teams

Innovation & Implementation of Cost-Saving Strategies in Project Management

EDUCATION:

MS in Geology
San Jose State University & Joint Thesis Program with Stanford University, CA

BA in Geology
University of Northern Colorado, Greeley, CO

CERTIFICATIONS:

MSHA: New Miner Orientation Certification No. 9832: 2020

Technical Erosion Control Supervisor Certification (TECS) No. 5C88A5C8. 2020

PEC Premier: Safe Land Oil &Gas Safety Certification #100128200, 2011

HAZWOPER 8-Hour OSHA Supervisors Certification, 1993

HAZWOPER 40-Hour OSHA Health & Safety Certification (29 CFR 1910.120e), 1990

HAZWOPER 8-Hour OSHA Refresher Certification, 2023

REGISTRATIONS:

State of California, Professional Geologist Registration No. 6391

State of Louisiana, Professional Geologist Registration No. 238

State of Nebraska. Professional Geologist Registration No. G-0290

State of Texas, Professional Geologist Registration No. 10007

BASELINE ENGINEERING CORPORATION
112 N. Rubey Drive, #210
Golden, Colorado 80403
303.940.9966
www.baselinecorp.com

SUMMARY

Vincent is a licensed professional geologist with over 35 years of professional consulting and management experience in the environmental arena. His experience covers the full spectrum of environmental and hydrogeologic remediation services for private, industrial, solid waste, mining, construction, brownfield, and oil & gas (O&G) industries. Exhibiting remarkable leadership and expertise in environmental remediation, Vincent has seamlessly navigated various roles with ingenuity and vision. He spearheaded the expansion of business segments in mining and O&G industries, driving substantial revenue growth and project success through adept staff management and strategic planning. At other organizations, he demonstrated his proficiency in establishing and expanding divisions, fostering revenue streams, and implementing innovative technologies to optimize operations and elevate profitability. Moreover, his tenure underscored his strategic acumen, leading to significant staff and revenue growth, pioneering new service lines, and securing major projects through collaborative initiatives and technological advancements. Throughout his career, he has consistently showcased a dedication to excellence, innovation, and client satisfaction, positioning himself as a visionary leader within the environmental remediation sector.

PROJECT EXPERIENCE

Weaver Consultants Group LLC | Denver, Colorado

As director, Vincent was responsible for the oversight of senior management, technical staff, budgets, and support on corporate strategic planning, as well as providing remedial guidance and direction on the enhanced in-situ reductive dechlorination cleanup associated with chlorinated solvent, haloether, and heavy metal release sites in complex hydrogeologic settings in Puerto Rico, Arkansas, and Colorado.

Iron Woman Construction & Environmental Services LLC | Centennial, Colorado

As director, Vincent expanded the environmental services and remediation division, increasing win-ratios for contracts through strategic marketing and enhanced technical proposal writing. He also developed a new environmental permitting and compliance group, contributing to the success of high-profile projects. He also managed the pre-construction permitting and coordination for the $4.3M closure of the Adams County Shooting Range and Landfill.

USA Environment LP | Golden, Colorado

As regional manager, he took charge of pioneering new business segments tailored for the mining and O&G sectors within the Western Region. Through strategic initiatives, including staff training and skill enhancement, he facilitated the successful execution of multimillion-dollar projects, resulting in notable revenue growth. His proactive leadership not only optimized project outcomes but also strengthened the company's position within the industry, solidifying its reputation for delivering exceptional environmental remediation solutions.

Vista GeoScience | Golden, Colorado

As director of remediation and hydrogeologic services, he established a new division catering to the O&G industry, driving additional revenue streams and expanding the company's remedial technologies suite.

Pelorus Environmental & Biotechnology Corporation | Evergreen, Colorado

As director, he created a Remediation and Groundwater Treatment Services Division, increasing revenue and expanding staff significantly while implementing cost-saving project management strategies.

SECOR International | Denver, Colorado

As principal-in-charge, he effectively managed significant growth, expanded service lines, and secured major projects through innovative approaches, earning recognition for outstanding leadership and performance.

PREPARED FOR:
AVALONBAY COMMUNITIES, INC.
C/O ANDREW JOHNSON - SENIOR DEVELOPMENT MANAGER
5050 SOUTH SYRACUSE STREET, SUITE 1025
DENVER, CO. 80237

LIMITED PHASE II INVESTIGATION REPORT

WELBY GARDENS WHOLESALE CENTER

17201 WEST 64TH AVE.,
ARVADA, CO. 80007

PREPARED BY:
BASELINE ENGINEERING CORPORATION
112 N. RUBEY DRIVE, SUITE 210
GOLDEN, CO 80403

October 17, 2025

JOB # 45038-003

BASELINE

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LIST OF ACRONYMS AND DEFINITIONS

ACM	Asbestos-Containing Material
AMSL	Above Mean Sea Level
AST	Above Ground Storage Tank
AvalonBay	AvalonBay Communities, Inc.
Baseline	Baseline Engineering Corporation
bgs	Below Ground Surface
CDPHE	Colorado Department of Public Health and Environment
COC	Chain of Custody
Cole Garner	Cole Garner Geotechnical
CGS	Colorado Groundwater Standards
DOT	Department of Transportation
4,4-DDE	Dichlorodiphenyldichloroethylene, p,p'
2,4-D	Dichlorophenoxyacetic Acid
DRO	Diesel Range Organics
DWS	Drinking Water Standards
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
ft^2	Square Feet
GPRS	GPRS, Inc.
GRO	Gasoline Range Organics
Herbicides	Chlorinated Acid Herbicides
IDW	Investigation Derived Waste
J	An Estimated Concentration
MDL	Method Detection Limit
mg/kg	Milligram per Kilogram
mg/L	Milligram per Liter
MTBE	Methyl Tert-Butyl Ether
ng/L	Nanogram per Liter
Not detected	Detected concentration is less than the laboratory MDL
ORO	Oil Range Organics
Pace	Pace Analytical
PFAS	Perfluoroalkyl and Polyfluoroalkyl Substances
PFHxS	Perfluorohexanesulfonic acid
PFOS	Perfluorooctane sulfonate
PID	Photo-Ionization Detector
ppm	Parts Per Million
Property	17201 West 64th Avenue, Arvada, Colorado

LIST OF ACRONYMS AND DEFINITIONS (Continued)

PVC	Polyvinyl Chloride
QA/QC	Quality Assurance/Quality Controls
RCRA	Resource Conservation And Recovery Act
REC	Recognized Environmental Conditions
RL	Reporting Limit
RSL	Regional Screening Level
Site Services	Site Services Drilling, LLC
SSGWS	Site-Specific Groundwater Standard
TPH	Total Petroleum Hydrocarbons
UNCC	Utility Notification Center of Colorado
VOC	Volatile Organic Compounds
Welby Gardens	Welby Garden Wholesale Center

1.0 INTRODUCTION

AvalonBay Communities, Inc. (AvalonBay) retained Baseline Engineering Corporation (Baseline) to complete a Limited Phase II investigation of the Welby Garden Wholesale Center (Welby Gardens) located at 17201 West 64th Avenue (the "Property"), in Arvada, Colorado (Figure 1).

This report was prepared at the direction and for the exclusive use of AvalonBay and its successors and/or assigns. AvalonBay and Baseline are bound by the terms and conditions enumerated in the Consulting Services Agreement fully executed on October 24, 2024. No other party should rely on the information contained herein without prior written consent from AvalonBay and Baseline.

2.0 INTENT OF THE INVESTIGATION

The intent of the Limited Phase II investigation was to evaluate the recognized environmental conditions (RECs) identified during a Phase I Environmental Site Assessment (ESA) completed at the Property (Baseline: December 2024) through characterization of the subsurface soil conditions. Characterization was completed by collecting soil and groundwater samples and analyzing these samples for compounds associated with the Property operations.

The Phase I ESA identified eight RECs related to the Property and no adjacent or upgradient RECs. The eight RECs included:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline above ground storage tanks (ASTs).
- The use of waste oil and grease containers and ASTs.
- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST.
- Surface drainages from the fertilizer, herbicide, and pesticide mixing areas.
- Areas of historical use of septic systems.

3.0 PROPERTY INFORMATION

The Property consists of approximately 20.05-acres of land that is developed with an operating wholesale plant nursery (Figure 2). According to the Jefferson County Assessor's Office, the Property consists of:

- Nine main structures that occupy approximately 324,175 square feet (ft^2). In addition, there are approximately 27,985 ft^2 of minor structures (outbuildings or sheds); 65,880 ft^2 of asphalt parking and road; and 4,280 ft^2 of concrete sidewalks and pads. Jefferson County Assessor's Office noted the nine structures were constructed from 1976 to 1990 and include:
  - Two storage warehouses,
  - Five greenhouse buildings (note that there are six greenhouse buildings present on the Property), and
  - Two utility buildings noted as light commercial.

The minor outbuildings or sheds represent the approximately 60 hoop houses that are located mainly on the north half of the Property.

The Property has a stormwater collection system that includes man-made ponds between several of the greenhouses and a stormwater retention pond in the northeast corner. Over time, wetland grasses and cattails have grown in the ponds between the greenhouses establishing likely non-jurisdictional wetlands.

4.0 SITE HISTORY

Based on aerial photography cited in the Phae I ESA, the Property was vacant undeveloped land until approximately 1971, when the first greenhouse and office were constructed in the southeast area of the Property. By 1979, two additional greenhouses had been constructed west of the first greenhouse and one to the north. By 1983, five greenhouse structures had been built along with two utility buildings. Development continued through 2005 when the entire Property area was occupied by greenhouse buildings and support structures.

Limited Property ownership information was available from the Jefferson County Assessor's Office. Welby Gardens purchased the Property in November 2013 from Veldkamps Real Estate Inc. The date Veldkamps Real Estate Inc. purchased the Property was not listed.

According to the current owner, the first greenhouse on the southeast – Southern Greenhouse No.1 (Figure 2) and adjacent buildings to the east burned down and were replaced prior to the current ownership. Southern Greenhouse No. 3 was severely damaged by weather prior to the current ownership and was torn down and rebuilt. The date this occurred was not known by the current owner.

5.0 FIELD INVESTIGATION PROCEDURES

The subsurface investigation completed at the Property included the advancement of seven outdoor soil borings with a track-mounted drilling rig using solid stem auger and direct push drilling technologies. Five of these seven soil borings were converted to temporary groundwater monitoring wells. Fifteen soil borings were drilled using a hand auger (11 soil borings) and a post-hole power auger (four soil borings). Soil samples were collected from each soil boring and groundwater samples were collected from the five monitoring wells for laboratory analysis. The procedures used for these activities are detailed in the following sections.

5.1 UTILITY LOCATES

Prior to initiation of the drilling program at the Property, the drilling contractor, Site Services Drilling, LLC (Site Services) contacted the Utility Notification Center of Colorado (UNCC) and requested that all known utilities be identified and located across the Property.

Because UNCC contractors do not locate on private property, only identifying utilities entering a private property, Baseline contracted with GPRS, Inc. (GPRS) to complete geophysical investigations (ground penetrating radar) along with other typical utility locating devices at the proposed soil boring locations to identify the potential of any private utilities, shallow pipelines, and/or structures. GPRS did not identify any underground features conflicting with the proposed drilling locations.

5.2 PERMITTING

In accordance with Section 14.2.1 of the “Rules and Regulations for Water Well Construction, Pump Installation, Cistern Installation, and Monitoring and Observation Hole/Well Construction”, the Office of the State Engineer was notified of the intent to construct monitoring wells on the Property. The Office of the State Engineer issued temporary permit numbers (4002254-MH and 4002255-MH) for the installation of the groundwater monitoring wells (Appendix A). This temporary permit is valid for a period of 18 months at which time the monitoring wells must be properly abandoned, or a permanent permit obtained. AvalonBay, as the owner of the groundwater monitoring wells, will need to arrange for the abandonment or permitting of the monitoring wells by June 2 and 3, 2026.

Following installation, a “Well Construction and Yield Estimate Report” Form No. GWS-31 was completed for each new monitoring well as required by the Water Well Construction Rules (Colorado Division of Water Resources, 2018). The required forms were submitted to the Office of the State Engineer and copies are provided in Appendix A.

5.3 SOIL BORING PROCEDURES

As noted previously, the soil borings were drilled using either 1) a track-mounted Geoprobe 7822 drilling rig, 2) a hand auger, or 3) a post-hole power auger. The soil borings were drilled by Site Services of Golden, Colorado, under supervision of a Baseline geologist. Seven outdoor soil boring locations were advanced using the track-mounted drilling rig (MW-01 through MW-05 and WGB-01 and WGB-02). Two additional outdoor soil boring locations (WGB-09 and WGB-10) were advanced with a hand auger as these locations were scheduled for shallow sampling (oil spill and pond sediment). The track-mounted drilling rig was too large to access the interior of the buildings and greenhouses. As a result, indoor soil boring locations, 13 in total, were advanced with either a hand auger or a post-hole power auger. The unconsolidated deposits at the Property consist of sand, gravel, and cobbles. The hand auger could only be advanced to approximately two-feet below ground surface (bgs). A post-hole power auger was then used in an attempt at advancing the soil borings to four-feet bgs; however, these soil borings also could not be advanced past approximately two-feet bgs due to large cobbles.

A consolidated table of all sample locations and depths is presented below:

Name	Nomenclature	Method	Max Depth (feet bgs)	Composite Sample Depth or Interval (feet)
Outdoor Sampling Locations				
MW-01	Monitoring Well	Track-Mounted Drilling Rig	19.0	1.0 - 2.0
MW-02	Monitoring Well	Track-Mounted Drilling Rig	15.3	1.0 - 2.0
MW-03	Monitoring Well	Track-Mounted Drilling Rig	16.0	1.0 - 2.0
MW-04	Monitoring Well	Track-Mounted Drilling Rig	20.42	1.0 - 3.0
MW-05	Monitoring Well	Track-Mounted Drilling Rig	16.5	1.0 - 2.0
WGB-01	Welby Garden Boring	Track-Mounted Drilling Rig	14.0	1.0 - 2.0
WGB-01-A	Welby Garden Boring	Track-Mounted Drilling Rig	14.0	8.7
WGB-02	Welby Garden Boring	Track-Mounted Drilling Rig	14.5	1.0 - 2.0
WGB-09	Welby Garden Boring	Hand Auger	~1.0	0.0 - 1.0
WGB-10	Welby Garden Boring	Hand Auger	~1.0	0.0 - 1.0
Indoor Sampling Locations				
GHS1-3A	Greenhouse South 1	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS1-3B	Greenhouse South 1	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS2-2A	Greenhouse South 2	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS2-2B	Greenhouse South 2	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS3-1A	Greenhouse South 3	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS3-1B	Greenhouse South 3	Hand Auger	~1.0-2.0	0.0 - 1.0
GHN1-2A	Greenhouse North 1	Hand Auger	~1.0-2.0	0.0 - 1.0
GHN2-5A	Greenhouse North 2	Hand Auger	~1.0-2.0	0.0 - 1.0
GHN3-5A	Greenhouse North 3	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS1-3C	Greenhouse South 1	Post-Hole Power Auger	~2.0	0.0 - 1.0 / 1.0 - 1.5 / 1.5 - 2.0
GHS2-1A	Greenhouse South 2	Post-Hole Power Auger	~2.0	0.0 - 1.0 / 1.0 - 2.0
GHN1-1A	Greenhouse North 1	Post-Hole Power Auger	~2.0	0.0 - 1.0 / 1.0 - 2.0
GHS3-1C	Greenhouse South 3	Post-Hole Power Auger	~2.0	0.0 - 1.0 / 1.0 - 1.5 / 1.5 - 2.0

The nomenclature for the soil boring locations is as follows:

Outdoor sample locations:

MW = Monitoring Well; soil boring location later converted to a monitoring well.
WGB = Welby Garden Boring; soil borings advanced using a drilling rig or hand auger.

Indoor sample locations:

GH = Greenhouse, N = North; S = South; 1, 2, 3 = assigned building number, 1-10 = row number inside the greenhouse; A, B, C = first, second, and third sample collected. Examples: GHN1-2A and GHS2-2A.

The procedures used to complete the 22 soil borings advanced on the Property are discussed in the following sections.

5.3.1 Track-Mounted Drilling Rig - Soil Boring Procedures

The track-mounted drilling rig was utilized for seven outdoor soil borings on the Property on January 2 and 3, 2025. These seven outdoor soil boring locations are shown on Figure 3 and include soil boring numbers MW-01 through MW-05, WGB-01, and WGB-02. A soil boring was attempted at location WGB-03; however, a concrete slab was encountered at approximately 1.0-foot bgs.

These soil borings were generally advanced as follows:

- Hand augering was initially used from the ground surface to depths up to 5.0-feet bgs to confirm no utilities were present. Hand augering was difficult due to cobbles and gravels. Only at location MW-02 and MW-03 did the hand augering reach a depth of 5.0-feet bgs;
- Hydraulic direct push-probe technology was then used, with soils continuously cored until direct-push refusal; followed by
- Four-inch diameter solid stem auger drilling to ream and prepare the soil boring for monitoring well installation.

Soil borings MW-01 through MW-05 and WGB-01 and WGB-02 were drilled into competent bedrock with the soil borings terminated at depths ranging from 14.0 to 20.42 feet bgs. Soil samples were collected from the hand auger cutting head and the continuous push-probe sampler.

Downhole drilling equipment was decontaminated between soil boring locations using a steam cleaner and smaller, individual components, cleaned with an Alconox® wash and clean water rinse. Decontamination water was contained in Department of Transportation (DOT)-approved 55-gallon drums, which were stored on the northeast side of the Property.

Soil cuttings were placed in DOT-approved 55-gallon drums which were also stored on the west and northeast sides of the Property.

5.3.2 Hand Augered Soil Boring Procedures

Eleven of the 22 soil borings (Figure 3) were advanced using a five-foot long stainless-steel hand auger with 3-inch diameter cutting head. These soil borings include nine indoor boring locations and two outdoor boring locations (WGB-09 and WGB-10). These soil borings ranged in depth from approximately 1.0-foot bgs to 2.0-feet bgs. These soil borings could not be advanced further due to large cobbles. Soil samples were collected from the hand auger cutting head as the soil boring was advanced. The hand auger rod and cutting head were decontaminated between soil boring locations using an Alconox® wash and clean water rinse with the decontamination water placed in the 55-gallon water drum. Soil cuttings from soil borings WGB-09 and WGB-10 were placed in one of the 55-gallon soil drums. Soil cuttings from the remaining soil borings (indoor locations) were placed back into the soil boring annulus.

5.3.3 Post-Hole Power Auger Soil Boring Procedures

Four of the 22 soil borings (Figure 3) were drilled using a 4.0-foot-long post-hole power auger. These soil borings were advanced to approximately 2.0-feet bgs, where a cobble layer prevented further advancement. Soil samples were collected from the bottom of the soil boring as the soil boring was advanced using a stainless steel sampling spoon. The auger flight, sampling spoon, and other equipment used were decontaminated between soil boring locations using an Alconox® wash and clean water rinse with the decontamination water placed in the 55-gallon water drum. Soil cuttings were placed back into the soil boring annulus.

5.4 FIELD SCREENING OF SOIL

As the soil borings were advanced, soil samples were collected and field screened for the potential occurrence of contamination using both visual and olfactory observations. The soil samples were collected from intervals of approximately 1.0-foot up to 2.5-feet with the recovered material placed in both a laboratory-provided sample jar and a sealable plastic bag with each labeled for location and depth. Upon completion of each soil boring, and after allowing the bagged soil to warm for approximately 10 minutes, the head space within each bag was measured with a photo-ionization detector (PID) to assess total volatile vapor concentration. If an elevated PID reading was noted, the soil sample jar from that interval was selected for laboratory analysis. The PID reading was considered elevated if the measured concentration was greater than 10 ppm.

5.5 SOIL SAMPLE ANALYSIS

A total of 28 soil samples were collected from the sample locations for laboratory analysis.

Soil samples for laboratory analysis were collected from seven of the nine outdoor soil boring locations (MW-01 through MW-5, WGB-01, and WGB-02) from the interval between the ground surface to approximately 3.0-feet bgs as it was anticipated that any impacts associated with greenhouse operations would concentrate in that interval. At outdoor soil borings WGB-09 and WGB-10, the soil samples were collected from the ground surface to 1.0-foot bgs interval. The nine soil samples collected from the outdoor soil boring locations were analyzed for pesticides and chlorinated acid herbicides by United States Environmental Protection Agency (EPA) Methods 8081 and 8151A, respectively; Resource Conservation and Recovery Act (RCRA) 8 metals by EPA Methods 6010D/7471B; nitrate as N and sulfate by EPA Method 9056A; and pH by EPA Method 9045D.

Nine hand augered soil samples for laboratory analysis collected from inside the buildings were composited from the ground surface to 1.0-foot bgs interval. These nine soil samples were analyzed for pesticides, chlorinated acid herbicides, RCRA metals, and nitrate as N and sulfate, using the same EPA Methods presented previously.

Ten soil samples collected using the post-hole power auger were composited from the ground surface to 1.0-foot bgs interval, 1.0-foot to 1.5-foot bgs interval, and the 1.5-foot to 2.0-foot bgs interval at two locations (GHS1 and GHS3), with sampling for GHS2 and GHN1 composited from the ground surface to 1.0-foot bgs and 1.0-foot to 2.0-foot bgs. These 10 soil samples were analyzed only for pesticides and chlorinated acid herbicides by EPA Methods 8081 and 8151A, respectively. RCRA 8 metals, nitrate as N, sulfate, and pH were not analyzed as previous soil samples collected and analyzed for these constituents indicated that the concentrations detected were less than the EPA Regional Screening Levels (RSLs) for Residential soil.

In addition to analytical testing listed above, at locations WGB-01 (AST), WGB-09 (waste oil AST), and WGB-10 (pond sediment), petroleum impact was suspected during field screening. Soil grab samples from these locations were also analyzed for volatile organic compounds (VOCs) by EPA Method 8260D and total petroleum hydrocarbons (TPH) low fraction [represents Diesel Range Organics (DRO) and Oil Range Organics (ORO)], and Gasoline Range Organics (GRO) by EPA Method 8015D/GRO.

Each soil sample was packed into laboratory-provided glassware, sealed, individually labeled, and placed in a cooler with ice to achieve and maintain sample temperatures at 4 ± 2 °C until delivery to the analytical laboratory. The samples were delivered on the same day as sampling to the Pace Analytical (Pace) sample drop-off facility located in Lakewood, Colorado under an executed Chain of Custody (COC) document. The sample coolers were then packaged and sent overnight by the Pace drop-off facility to the Pace laboratory in Mount Juliet, Tennessee.

5.6 GROUNDWATER MONITORING WELLS

The procedures used to install and sample the five monitoring wells are discussed in the following sections.

5.6.1 Monitoring Well Installation

Groundwater monitoring wells were constructed with two-inch diameter, Schedule 40, polyvinyl chloride (PVC) casing and factory-slotted screen. Each monitoring well was completed with 10 feet of #10 factory-slotted screen and solid PVC casing ranging in length from 3.5 feet to 10 feet. The annulus between the PVC casing and the soil boring wall was filled with #10/20 silica sand to approximately one to two feet above the screened interval. The remaining annular space was filled with medium bentonite chips to a depth of approximately 1.0-foot bgs and then hydrated. An expandable J-plug was used to seal the top of each well casing and each well was completed at the surface with a flush-mount traffic rated well vault anchored in concrete. Details of well construction are included on the Borehole Log/Monitoring Well Completion Diagrams included as Appendix B.

5.6.2 Monitoring Well Sampling

Prior to groundwater development/purging and sampling, the groundwater level and monitoring well depth were gauged (measured) in each monitoring well with an electronic water level meter. The groundwater volume within the monitoring well casing was then calculated and recorded on Purge and Sampling forms. Specific conductance, temperature, and pH were measured and recorded during development/purging and recorded on the Purge and Sampling forms (Appendix C). The monitoring wells were developed/purged and sampled using disposable polyethylene bailers. The discharge water was contained in the 55-gallon water drum.

Each groundwater sample was packed into laboratory-provided glassware or specified container, sealed, individually labeled, and placed in a cooler with ice to achieve and maintain sample temperatures at 4 ± 2 °C until delivery to the analytical laboratory. Groundwater samples were delivered on the same day as sampling to the Pace sample drop-off facility located in Lakewood, Colorado under an executed COC document. The sample coolers were then packaged and sent overnight by the Pace drop-off facility to the Pace laboratory in Mount Juliet, Tennessee

Monitoring Wells MW-01, MW-03, and MW-04

Monitoring wells MW-01, MW-03, and MW-04 were developed/purged on January 8, 2025 and sampled the same day. A minimum of 10 casing volumes of groundwater were removed from monitoring wells MW-01, MW-03, and MW-04 prior to sampling. The samples were submitted to Pace for analysis of pesticides by EPA Method 8081B; chlorinated acid herbicides by EPA Method 8151A; RCRA 8 metals by EPA Methods 6010D and 7470A; VOCs using EPA Method 8260B; sulfate and nitrate by EPA Method 9056A; 1,4-Dioxane by EPA Method 8270-SIM; and perfluoroalkyl and polyfluoroalkyl substances

(PFAS) by EPA Method 1633 (DRAFT).

Although not requested on the COC, Pace also analyzed alkalinity by EPA Method 2320 B-2011, ammonia nitrogen by EPA Method 350.1, total phosphorus by EPA Method 365.4, pH by EPA Method 4500 H+B-2011, sulfide by EPA Method 4500S2 D-2011, and sulfite by EPA Method 4500SO3 B-2011.

Due to laboratory issues, Pace did not analyze for 1,4-dioxane even though it was requested on the COC. As a result, monitoring wells MW-01, MW-03, and MW-04 were resampled on January 23, 2025 following the same procedures previously discussed with the exception that three casing volumes of groundwater were removed from the monitoring wells and that only 1,4-dioxane was requested for analysis.

Monitoring well MW-04 was re-sampled on February 3, 2025, for analysis of PFAS by EPA Method 1633 (FINAL) to confirm initial results. Prior to sampling, three casing volumes of groundwater were removed from the monitoring well.

Monitoring Well MW-02

Monitoring well MW-02 was initially dry; however, by January 23, 2025 the monitoring well had accumulated a couple feet of groundwater. This was 21 days after the monitoring well had been constructed. This monitoring well was sampled on January 24, 2025. The monitoring well was not developed or purged prior to sampling due to the extremely slow recharge. The groundwater sample was submitted to Pace for analysis of pesticides by EPA Method 8081B; chlorinated acid herbicides by EPA Method 8151A; RCRA 8 metals by EPA Methods 6010D and 7470A; VOCs using EPA Method 8260B; 1,4-dioxane by EPA Method 8270-SIM; and sulfate and nitrate by EPA Method 9056A. Insufficient sample volume remained to fill PFAS sample bottles.

Monitoring Well MW-05

Monitoring well MW-05 remained dry during the investigation period and groundwater was not sampled at this location.

6.0 FIELD INVESTIGATION RESULTS

Both physical and analytical laboratory results were obtained during the subsurface investigation. The results are discussed in the following sections.

6.1 PHYSICAL RESULTS

The physical results obtained during the drilling and sampling program include lithologic conditions of the subsurface materials, field screening results, groundwater occurrence, and subsurface volatile vapor concentrations.

6.1.1 Lithology

The lithology of soil borings MW-01 through MW-05, WGB-01, WGB-02, WGB-09, and WGB-10 (see Figure 3), along with PID screening results, were recorded on "Borehole Log/Monitoring Well Completion Diagrams", which are included as Appendix B. Lithologic logs were not prepared for the indoor shallow soil borings. The lithology encountered during the drilling of the soil borings is generally described as follows:

- **Gravel Road Base (GW)** – At locations MW-01, MW-03, and MW-04, a 0.5-foot layer of gravel road base was present at the ground surface.
- **Fill, Gravel and/or Sand** – Dark to light brown, fine to coarse sandy gravel (GP) was encountered at locations MW-01, MW-02, MW-04,and MW-05, and ranged up to 5.0 feet in thickness. At all of the indoor shallow soil boring locations, this unit consisted of dark brown to olive grey, medium to coarse-grained sand with large gravel to cobbles. At locations MW-03, WGB-01, WGB-02, WGB-09, and WGB-10, this unit consisted of silty/clayey sand (SW - SM/SC) and ranged up to 8.5 feet in thickness.
- **Native Gravel, Sand and Clay** - Native unconsolidated gravel, sand, and clay was encountered beneath the fill materials. These native materials consisted of light brown, fine to course sandy gravel (GP); light brown to tan, fine to medium gravelly sand (SW); reddish brown to light brown, fine- to coarse-grained sand (SP) and silty sand (SM); dark brown to olive grey, fine- to coarse-grained silty sand (SM); and olive brown, low plasticity clay (CL). The native materials ranged in thickness from 2.5 feet at location MW-05 to 13.5 feet at location MW-01.
- **Bedrock, Claystone and Sandstone** – Olive grey, claystone with iron-oxide staining on partings encountered between 5.5-feet bgs (location MW-05) and 16.0-feet bgs at location MW-01. Yellowish tan to light brown, fine-grained sandstone, with iron-oxide staining on partings encountered at 15.5-feet bgs at locations MW-03 and MW-04.

Figure 4 is a contour map of the inferred bedrock surface underlying the Property which was developed from the current drilling information (Baseline) and from geotechnical investigations conducted in October 2024 by Cole Garner Geotechnical (Cole Garner). As shown in Figure 4, bedrock dips to the east on the northern half of the Property at a gradient of approximately 0.03 feet per foot. On the southern half of the Property the bedrock dips to the southeast at a gradient of approximately 0.02 feet per foot. A bedrock ridge (higher elevation) separates the northern and southern portions of the Property and trends southeast from monitoring well MW-05 on the northwest to monitoring well MW-02 on the southeast.

6.1.2 Field Screening Results

The PID measurements collected from soil samples during drilling activities are shown on the lithologic logs in Appendix B. PID measurements recorded for the soil borings were generally less than 2.0 part per million (ppm). The highest PID reading was 4.0 ppm at soil boring location WGB-01 (AST) and soil boring location WGB-09. As noted previously, a PID reading greater than 10 ppm is generally considered elevated.

6.1.3 Groundwater Occurrence

Groundwater level measurements were collected from the monitoring wells several times during the investigation. Recorded groundwater levels and the associated elevation measured in feet above mean sea level (AMSL) are presented on Table 1. As noted in Section 5.6.2. The coordinates of the borings and wells, along with ground surface and top-of-casing elevation were surveyed by a Colorado licensed land surveyor from Baseline's survey division on January 22, 2025. The horizontal datum used is Colorado state plane coordinates central zone, NAD 83 datum. Vertical datum control is based on NAVD 88. Monitoring well MW-02 was initially dry but accumulated measurable groundwater by January 23, 2025, which was 21 days after the monitoring well had been constructed. Monitoring well MW-05 has remained dry since installation. Groundwater depths across the Property ranged from 11.06 feet to 14.79 feet below the top of the PVC casing.

Figure 5 is a groundwater elevation contour map that illustrates the groundwater elevation for the four monitoring wells that contained groundwater on January 23. 2025. On the northern half of the Property, the groundwater flow direction is to the east-southeast with a gradient of approximately 0.019 feet per foot. Groundwater flow direction beneath the southern half of the Property is to the northeast with a gradient of approximately 0.013 feet per foot.

6.1.4 Groundwater Quality Field Parameters

Field parameter measurements were recorded during the pre-sample development and purging of monitoring wells MW-01, MW-03 and MW-04. There was not sufficient groundwater volume in monitoring well MW-02 to measure field parameters. Recorded field parameter measurements on January 23, 2025 are as follows:

Field Parameter	MW-01	MW-03	MW-04
pH (pH units)	7.78	7.41	7.48
Temperature (°C)	13.0	12.6	13.7
Specific Conductance (µS/cm)	-32	-12	-15

pH = Potential of hydrogen
°C = Degrees Centigrade
µS/cm = Microsiemens per centimeter

6.2 SOIL SAMPLE ANALYTICAL RESULTS

As noted in Section 5.5, 28 soil samples were collected from the soil borings drilled during the subsurface investigations. Soil samples were collected at various depths from shallow soil between ground surface and 3.0-feet bgs. At soil boring WGB-01 (AST) a second deeper sample was collected from the 8.5-feet to 9.0-feet bgs interval. This sample was analyzed only for VOCs and TPH.

The analytical results for the soil samples were compared to the EPA RSLs for both Residential and Industrial land use (EPA, 2024). The soil sample results and the RSLs are summarized on Tables 2 through 7; and the analytical laboratory reports are provided in Appendix D. Results for each specific analytical category are discussed in the following sections.

6.2.1 Pesticides

Pesticides were analyzed in 28 soil samples submitted to the laboratory. Pesticide results are presented in Table 2 and discussed below.

Dieldrin was detected in 17 out of the 28 soil samples. Dieldrin was detected in soil samples collected from outdoor soil boring locations (MW-02, WGB-01, WGB-02) and from certain locations inside the greenhouses. Figure 6 shows the dieldrin concentrations detected at the Property, with these concentrated in the oldest greenhouses in the southern portion of the Property. Detections are as follows:

- At soil boring locations WGB-01, GHS2-1A-1 0-1.0, GHS2-1A-2 1-2, GHS3-1C-1 0-1, and GHS3-1C-2 1-1.5 (each located in the southern (oldest) portion of the Property), dieldrin was detected at concentrations ranging from 0.161 micrograms per kilogram (mg/kg) to 0.321 mg/kg with these concentrations exceeding the EPA Industrial RSL of 0.14 mg/kg.

- At soil boring locations GHS1-3B, GHS3-1A, GHA3-1B, and GHS1-3C-1 0-1.0, the dieldrin concentrations ranged from 0.0341 mg/kg to 0.0734 mg/kg and exceeded the EPA Residential RSL of 0.034 mg/kg but were less than the EPA Industrial RSL of 0.14 mg/kg.

- At soil boring locations MW-02, WGB-02, GHN3-5A, GHS1-3C-3 1.5-2.0, GHS3-1C-3 1.5-2, and GHN1-1A-1 0-1 dieldrin concentrations were detected by the laboratory, but below quantitative limits and therefore are qualified by the laboratory as estimated (J) values. At soil boring location GHS1-3C-2 1-1.5 and GHN1-1A-2 1-2, dieldrin was detected at 0.0261mg/kg and 0.0270 mg/kg, respectively. These sample results for dieldrin are less than the EPA Residential RSL of 0.034 mg/kg.

The pesticides Endosulfan I, Endosulfan II, and Endosulfan Sulfate were detected in the indoor soil boring locations GHS1-3B, GHS2-2B, GHS3-1B and GHN3-5A at concentrations less than the respective EPA

Residential RSLs. In addition, 4,4-DDE (Dichlorodiphenyldichloroethylene, p,p') was detected in the soil samples collected from soil boring locations GHS1-3A and GHS1-3B, also at concentrations less than the respective EPA Residential RSL.

6.2.2 Chlorinated Acid Herbicides

Chlorinated acid herbicides (herbicides) were analyzed for 28 soil samples submitted to the laboratory. Herbicides were detected in only four of these soil samples as presented in Table 3 and discussed below.
The herbicide 2,4-D (Dichlorophenoxyacetic acid) was detected at soil boring location MW-04 at an estimated concentration of 0.0315 J mg/kg. The herbicide Dicamba was detected at soil boring locations MW-03 (0.0333 J mg/kg), MW-04 (0.0605 J mg/kg), and GHS1-3A (0.0903 mg/kg) at concentrations less than the EPA Residential RSL of 1,900 mg/kg.

6.2.3 RCRA 8 Metals

The RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) were analyzed in 18 soil samples submitted to the laboratory as shown on Table 4. The concentrations reported for the RCRA 8 metals were less than the respective EPA Residential RSLs for those metals, with the exception of the arsenic concentrations. In 2014, based on regional background levels, the Colorado Department of Public Health and Environment (CDPHE) established a concentration standard of 11 mg/kg for arsenic for the Colorado Front Range (CDPHE, 2014).

6.2.4 Volatile Organic Compounds (VOCs)

Soil grab samples from soil boring locations WGB-01, WGB-01-A, WGB-09, and WGB-10 were submitted to the laboratory for analysis of VOCs. VOC results are presented in Table 5. VOCs were not detected at soil boring locations WGB-01, WGB-01-A, and WGB-10. At soil boring location WGB-09, methyl tert-butyl ether (MTBE) and total xylene were detected at estimated (J) concentrations. Both of these compounds are associated with gasoline. The concentrations reported are less than the EPA Residential RSLs for these compounds.

6.2.5 Total Petroleum Hydrocarbons (TPH)

Soil samples from soil boring locations WGB-01 (two soil samples), WGB-09, and WGB-10 were also submitted to the laboratory for analysis of TPH, inclusive of DRO, ORO, and GRO. TPH results are presented on Table 6. As shown, petroleum compounds were detected in all four samples. At soil boring locations WGB-01 (AST) and WGB-10, the ORO concentrations reported at 22.5 mg/kg and 172 mg/kg respectively, were greater than the EPA Residential RSL concentration of 18 mg/kg. For soil sample WGB-01-A (AST), the DRO concentration of 1,240 mg/kg was greater than the EPA Industrial RSL of 440 mg/kg. At soil boring location WGB-09 (waste oil AST), concentrations for both DRO (11,200 mg/kg) and ORO (41,200 mg/kg) exceeded the EPA Industrial RSLs of 440 mg/kg and 220 mg/kg, respectively, for those compounds.

6.2.6 pH, Nitrate as N, and Sulfate

pH, nitrate as N, and sulfate results are presented on Table 7. Eighteen soil samples were submitted for analysis of these compounds (See section 5.5).

6.3 GROUNDWATER ANALYTICAL RESULTS

As noted in Section 5.6, groundwater samples were collected from the four of the five soil boring locations that were converted to monitoring wells. Monitoring well MW-05 has remained dry since installation on January 2, 2025. The groundwater samples collected from the four monitoring wells were analyzed for pesticides, herbicides, RCRA 8 metals, VOCs, and cations and anions. The compounds 1,4-dioxane and certain PFAS were also analyzed in the groundwater samples collected from MW-01, MW-03, and MW-04, and 1,4-dioxane in MW-02. The analytical laboratory reports are provided in Appendix E.

Pesticides, herbicides, VOCs, and 1,4-dioxane were not detected in any of the groundwater samples. The analytical results and the respective Colorado Groundwater Standard (CGS; CDPHE, 2020a) are presented on Tables 8, 9, and 10, respectively. As noted, some of the laboratory detection limits for pesticides and VOCs exceeded the CGS due to the extremely low CGS values, which are not attainable by most environmental laboratories.

Results for the RCRA 8 metals and sulfate and nitrate are presented in Tables 11 and 12 with these compounds discussed in the following sections. The analytical results for RCRA 8 metals and cations and anions were compared to the CGS where appropriate. The PFAS results were compared to the Colorado Water Quality Control Commission translation values of 70 nanograms per liter (ng/L) or parts per trillion (ppt) for PFOS and PFOA individually or combined (CDPHE, 2020b).

6.3.1 Dissolved RCRA 8 Metals

The analytical results for dissolved RCRA 8 metals in the groundwater samples collected from monitoring wells MW-01, MW-02, MW-03, and MW-04 are presented on Table 11. All detections were below the applicable CGS. A summary of the results is as follows:

- Dissolved arsenic and dissolved lead were not detected in the groundwater samples.
- Dissolved barium concentrations were detected in the four groundwater samples and ranged in concentration from 0.0644 milligrams per liter (mg/L) to 0.736 mg/L, all of which were less than the CGS of 2.0 mg/L.
- Dissolved cadmium and dissolved chromium were both detected in the groundwater samples collected from MW-03 and MW-04, respectively, at concentrations below 0.00219 mg/L for both

constituents. These concentrations were less than the CGS of 0.005 mg/L for cadmium and 0.100 mg/L for chromium.

- Dissolved mercury at 0.0690 mg/L and dissolved selenium at 0.0000913 J mg/L were detected in the groundwater sample collected from monitoring well MW-02 The CGS for mercury is 0.002 mg/L and the CGS for selenium is 0.050 mg/L.
- Dissolved silver was detected in the groundwater samples collected from monitoring wells MW-01 and MW04 at 0.00314 J mg/L and 0.00531 mg/L, respectively. The CGS for dissolved silver is 0.050 mg/L.

6.3.2 Nitrate and Sulfate

As noted in Section 5.6, the laboratory reported concentrations for a number of cations and anions that were not requested on the COC. Sulfate and nitrate as N were the compounds requested. The cation and anion results are listed on Table 12; however, only sulfate and nitrate as N are discussed in this section. The nitrate as N concentrations were qualified by the laboratory as being analyzed too close to the sample expiration date (qualifier T8); however, these data are considered useable.

As shown on Table 12, the concentration of 436 mg/L for sulfate exceeded the CGS of 250 mg/L at monitoring well MW-01. Nitrate as N concentrations exceeded the CGS of 10 mg/L at monitoring wells MW-02, MW-03, and MW-04 (43.9 mg/L, 97.6 T8 mg/L, and 414 T8 mg/L, respectively).

6.3.3 PFAS (Perfluoroalkyl or Polyfluoroalkyl Substances)

The groundwater samples collected on January 8, 2025, from monitoring wells MW-01, MW-03, and MW-04 were analyzed for certain PFAS utilizing EPA Method 1633-DRAFT. PFAS were not detected in monitoring wells MW-01 and MW-03. Groundwater from monitoring well MW-04 contained 270 ng/L of perfluorohexanesulfonic acid (PFHxS) and 129 ng/L of perfluorooctane sulfonate (PFOS).

Due to anomalous results, monitoring well MW-04 was resampled on February 3, 2025, along with the collection of quality assurance/quality controls (QA/QC) samples that included three rinse blank samples (sampling reel, twine used for lowering the bailer, and bailer) and a field blank sample. These QA/QC samples were collected using certified PFAS free deionized water. Sampling personnel also followed suggested sampling protocols adopted by the CDPHE. These protocols can be found in Appendix F. Pace reported these samples were analyzed by EPA Method 1633.

The PFAS results in the second groundwater sample from monitoring well MW-04 were as follows: PFBS 3.9 ng/L; PFHxA 2.1 ng/L; PFBA 13.0 ng/L; PFOS 3.6 ng/L; and PFOA 4.0 ng/L. PFAS were not detected in any of the QA/QC samples. The PFOS and PFOA concentrations were below the State of Colorado's translation value of 70 ng/L for PFOS or PFOA, individually or combined.

6.4 DISPOSITION OF INVESTIGATION DERIVED WASTES

Soil cuttings and decontamination water generated during drilling activities were placed in DOT-approved 55-gallon drums. The investigation derived waste (IDW) drums were staged at two locations on the Property. Soils generated from soil boring locations MW-01 and MW-05 were staged on the west side of the Property near soil boring MW-05. Soil from the remaining outdoor soil boring locations were placed in two IDW drums staged on the northeast corner of the Property. One IDW water drum was also staged at that location.

Based on the analytical data for the soil and groundwater samples, the soil cuttings and decontamination and sampling water are considered special solid wastes which require disposal at a licensed Class D landfill.

7.0 CONCLUSIONS

Conclusions that can be made based on the Phase I ESA and the results of this investigation are summarized below.

- Herbicides, RCRA metals, and VOCs concentrations in soil are were either not detected or detected at concentrations less than the EPA RSLs for residential use.

- Soils with dieldrin concentrations greater than the EPA RSL for residential use of 0.034 mg/kg will need to be managed appropriately. These soils are located within the footprint of the oldest greenhouses at the southern end of the Property. If the soils are to be removed from the Property, the soils will need to be disposed of at a licensed Class D landfill.

- Petroleum impacts identified near the ASTs at soil boring location WGB-01 at 8.5-feet to 9.0-feet bgs and in near surface soils at soil boring location WGB-09 should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill.

- Based on groundwater results, the groundwater has not been impacted by the greenhouse operations with the exceptions of nitrate and sulfate impacts likely associated with fertilizer use or storage. The elevated sulfate concentration of 436 mg/L appears to be limited to the upgradient monitoring well MW-01 location. Elevated concentrations of nitrate as N ranging from 43.9 mg/L to 414 T8 mg/L were detected in the downgradient monitoring wells MW-02, MW-03, and MW-04. Although the concentrations for sulfate and nitrate as N exceed their respective CGS concentrations of 250 mg/L and 10 mg/L the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease.

- PFAS results from monitoring well MW-4 differed from the first round of sampling to the second round when more rigorous sampling procedures were utilized. PFAS are prevalent in the environment (air, soil, groundwater and many materials). Further evaluation of PFAS may be warranted if groundwater at the Property were to be used for domestic purposes.

8.0 REFERENCES

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TABLES

TABLE 1

GROUNDWATER AND BEDROCK ELEVATION DATA
PHASE II INVESTIGATION
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE, ARVADA, COLORADO

Monitor Well & Boring ID	Date	Depth to Water	Groundwater Elevation	Survey Information		Total Casing Length	Bottom of Casing Elevation	Depth to Bedrock	Bedrock Elevation	Comments
				Ground Surface Elevation	Top-of-PVC Casing Elevation					
	(mm/dd/yy)	(Ft. btoc)	(FT - amsl)	(Ft - amsl)	(Ft - amsl)	(Ft. btoc)	(Ft - amsl)	(Ft. -bgs)	(Ft. -amsl)	
MW-01				5681.5	5681.32					
	1/6/2025	14.76	5666.56			18.42	5662.9	16	5665.5	
	1/8/2025	14.76	5666.56							
	1/23/2025	14.79	**5666.53**							
MW-02				5669.9	5669.51					
	1/6/2025	DRY	DRY			14.91	5654.6	10	5659.9	
	1/8/2025	DRY	DRY							
	2/3/2025	12.91	**5656.60**							
MW-03				5668.4	5668.24					
	1/6/2025	11.06	5657.18			15.03	5653.21	15.5	5652.9	
	1/8/2025	10.85	5657.39							
	1/23/2025	11.16	**5657.08**							
MW-04				5669.9	5669.44					
	1/6/2025	13.15	5656.29			19.96	5649.48	15.5	5654.4	
	1/8/2025	13.16	5656.28							
	1/23/2025	13.24	**5656.2**							
MW-05				5680.9	5680.47					
	1/6/2025	DRY	DRY			13.45	5667.02	5.5	5675.4	
	1/8/2025	DRY	DRY							
	1/23/2025	DRY	DRY							
WGB-01				5671.5						
	1/6/2025							9	5662.5	
WGB-02				5670.7						
	1/6/2025							12.9	5657.8	

Notes

1.) Survey conducted by

Ft. - amsl	Feet above mean-sea-level
Ft. - btoc	Feet below top-of-casing
Ft. -bgs	Feet below ground surface

TABLE 2-A

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		MW-01	MW-02	MW-03	MW-04	MW-05		
		1' - 2'	1' - 2'	1' - 2'	1' - 3'	1' - 2'		
		1/2/2025	1/2/2025	1/2/2025	1/2/2025	1/2/2025	Residential	Industrial
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	2.0	9
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	< 0.00697	**0.0152 J**	< 0.00697	< 0.00697	< 0.00697	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	< 0.00661	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-B

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-02	WGB-09	WGB-10	GHS1-3A		
		1' - 2'	1' - 2'	1' - 2'	1' - 2'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025		
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	< 0.00673	**0.015 J**	2.0	9
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	**0.321**	**0.0125 J**	< 0.00697	< 0.00697	< 0.00697	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	< 0.00661	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-C

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

		Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3B	GHS2-2A	GHS2-2B	GHS3-1A	GHS3-1B		
		0' - 1'	0' - 1'	0' - 1'	0' - 1'	0' - 1'		
Analyte	Units	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025		
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	**0.0726 P**	< 0.00673	< 0.00673	< 0.00673	< 0.00673	2.0	9.3
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	**0.0734**	< 0.00697	< 0.00697	**0.038**	**0.0402**	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	**0.00969 J**	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	**0.00782 J**	< 0.00661	< 0.00661	< 0.00661	**0.0349**	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	< 0.00642	**0.0204**	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-D

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHN1-2A	GHN2-5A	GHN3-5A	GHS1-3C-1 0-1.0	GHS1-3C-2 1-1.5		
		0' - 1'	0' - 1'	0' - 1'	0' - 1'	1' - 1.5'		
		1/3/2025	1/3/2025	1/3/2025	2/18/2025	2/18/2025	Residential	Industrial
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	2.0	9.3
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	< 0.00697	< 0.00697	**0.0155 J**	**0.0341**	**0.0261**	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	**0.0123 J**	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	**0.0288**	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-E

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3C-31.5-2.0	**GHS2-1A-1 0-1.0**	**GHS2-1A-2 1-2**	**GHS3-1C-1 0-1**	**GHS3-1C-2 1-1.5**		
		1.5' - 2'	**0' - 1'**	**1' - 2'**	**0' - 1'**	**1' - 1.5'**		
		2/18/2025	**2/18/2025**	**2/18/2025**	**2/18/2025**	**2/18/2025**	**Residential**	**Industrial**
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	2.0	9.3
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	**0.0188 J**	**0.256**	**0.161**	**0.198**	**0.184**	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	< 0.00661	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-F

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

		Sample Identification, Sample Depth, and Date of Sampling			Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS3-1C-3 1.5-2	GHN1-1A-1 0-1	GHN1-1A-2 1-2		
		1.5' - 2'	0' - 1'	1' - 2'		
Analyte	Units	2/18/2025	2/18/2025	2/18/2025	Residential	Industrial
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	2.0	9.3
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	**0.00790 J**	**0.0171 J**	**0.0270**	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-A

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		MW-01	**MW-02**	**MW-03**	**MW-04**	**MW-05**		
		1' - 2'	**1' - 2'**	**1' - 2'**	**1' - 3'**	**1' - 2'**		
		1/2/2025	**1/2/2025**	**1/2/2025**	**1/2/2025**	**1/2/2025**	**Residential**	**Industrial**
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	**0.0315 J**	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	**0.0333 J**	**0.0605 J**	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.
mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.
NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-B

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

		Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	**WGB-02**	**WGB-09**	**WGB-10**	**GHS1-3A**		
		1' - 2'	**1' - 2'**	**1' - 2'**	**1' - 2'**	**0' - 1'**		
Analyte	**Units**	**1/3/2025**	**1/3/2025**	**1/3/2025**	**1/3/2025**	**1/3/2025**		
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0713	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0565	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	< 0.0776	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0562	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	< 0.0683	**0.0903**	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0553	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.077	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 5.62	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 6.13	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.
mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.
NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-C

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3B	GHS2-2A	GHS2-2B	GHS3-1A	GHS3-1B		
		0' - 1'	0' - 1'	0' - 1'	0' - 1'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025		
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	< 0.0257	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	< 0.0226	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.
mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.
NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-D

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

		Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHN1-2A	**GHN2-5A**	**GHN3-5A**	**GHS1-3C-1 0-1.0**	**GHS1-3C-2 1-1.5**		
		0' - 1'	**0' - 1'**	**0' - 1'**	**0' - 1'**	**1' - 1.5'**		
Analyte	**Units**	**1/3/2025**	**1/3/2025**	**1/3/2025**	**2/18/2025**	**2/18/2025**	**Residential**	**Industrial**
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	< 0.0257	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	< 0.0226	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.
mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.
NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-E

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

		Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3C-31.5-2.0	GHS2-1A-1 0-1.0	GHS2-1A-2 1-2	GHS3-1C-1 0-1	GHS3-1C-2 1-1.5		
		1.5' - 2'	0' - 1'	1' - 2'	0' - 1'	1' - 1.5'		
Analyte	**Units**	**2/18/2025**	**2/18/2025**	**2/18/2025**	**2/18/2025**	**2/18/2025**	**Residential**	**Industrial**
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	< 0.0257	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	< 0.0226	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.
mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.
NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-F

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling			Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS3-1C-3 1.5-2	GHN1-1A-1 0-1	GHN1-1A-2 1-2		
		1.5' - 2'	0' - 1'	1' - 2'		
		2/18/2025	2/18/2025	2/18/2025	Residential	Industrial
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 4-A

SOIL ANALYTICAL RESULTS - RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		MW-01	**MW-02**	**MW-03**	**MW-04**	**MW-05**		
		1' - 2'	**1' - 2'**	**1' - 2'**	**1' - 3'**	**1' - 2'**		
		1/2/2025	**1/2/2025**	**1/2/2025**	**1/2/2025**	**1/2/2025**	**Residential**	**Industrial**
Arsenic	mg/kg	**3.28**	**2.53**	**4.05**	**1.72 J**	**2.87**	11*	11*
Barium	mg/kg	**89.4**	**78.4**	**127**	**76.1**	**75.4**	15,000	220,000
Cadmium	mg/kg	**0.126 J**	**0.141 J**	**0.221 J**	**0.0746 J**	**0.174**	7.1	100
Chromium	mg/kg	**61.8**	**46.6**	**44.6**	**45.8**	**31.1**	85,000	360,000
Lead	mg/kg	**15.5**	**12.5**	**17.4**	**6.7**	**13.2**	200	800
Selenium	mg/kg	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	390	5,800
Silver	mg/kg	**0.53 J**	< 0.127	**0.393 J**	**0.214 J**	< 0.127	390	5,800
Mercury	mg/kg	< 0.0206	< 0.0206	< 0.0206	< 0.0206	< 0.0206	7.1	30

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

*The CDPHE has established a background concentration for arsenic of 11 mg/kg for Colorado soils.

TABLE 4-B

SOIL ANALYTICAL RESULTS - RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-02	WGB-09	WGB-10	GHS1-3A		
		1' - 2'	1' - 2'	1' - 2'	1' - 2'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
Arsenic	mg/kg	**2.57**	**2.79**	**2.85**	**3.24**	**4.68**	11*	11*
Barium	mg/kg	**77.3**	**71.9**	**73.8**	**72.5**	**68.4**	15,000	220,000
Cadmium	mg/kg	**0.36 J**	**0.306 J**	**0.077 J**	**0.57**	**0.211**	7.1	100
Chromium	mg/kg	**50.9**	**35.9**	**31.4**	**24.4**	**32.7**	85,000	360,000
Lead	mg/kg	**24.6**	**19.4**	**17**	**20.3**	**12.7**	200	800
Selenium	mg/kg	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	390	5,800
Silver	mg/kg	< 0.127	< 0.127	< 0.127	< 0.127	< 0.127	390	5,800
Mercury	mg/kg	< 0.0206	< 0.0206	< 0.0206	< 0.0206	< 0.0206	7.1	30

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

*The CDPHE has established a background concentration for arsenic of 11 mg/kg for Colorado soils.

TABLE 4-C

SOIL ANALYTICAL RESULTS - RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

		Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3B	GHS2-2A	GHS2-2B	GHS3-1A	GHS3-1B		
		0' - 1'	0' - 1'	0' - 1'	0' - 1'	0' - 1'		
Analyte	Units	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
Arsenic	mg/kg	< 0.837	**4.35**	**3.27**	**< 0.837**	**2.46**	11*	11*
Barium	mg/kg	**25.8**	**140**	**111**	**31.8**	**59.7**	15,000	220,000
Cadmium	mg/kg	**0.246**	**0.145 J**	**0.194 J**	**0.0931 J**	**0.235 J**	7.1	100
Chromium	mg/kg	**17.4**	**71.8**	**74.6**	**8.35**	**45.3 J6**	85,000	360,000
Lead	mg/kg	**9.23**	**18.3**	**14**	**7.06**	**21.3 O1**	200	800
Selenium	mg/kg	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	390	5,800
Silver	mg/kg	< 0.127	**0.145 J**	< 0.127	< 0.127	**2.33**	390	5,800
Mercury	mg/kg	< 0.0206	< 0.0206	< 0.0206	< 0.0206	< 0.0206	7.1	30

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

*The CDPHE has established a background concentration for arsenic of 11 mg/kg for Colorado soils.

TABLE 4-D

SOIL ANALYTICAL RESULTS - RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

		Sample Identification, Sample Depth, and Date of Sampling			Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHN1-2A	GHN2-5A	GHN3-5A		
		0' - 1'	0' - 1'	0' - 1'		
Analyte	Units	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
Arsenic	mg/kg	**1.72 J**	**0.977 J**	**3.18**	11*	11*
Barium	mg/kg	**72.5**	**50.6**	**113**	15,000	220,000
Cadmium	mg/kg	**0.3 J**	**0.163 J**	**0.419 J**	7.1	100
Chromium	mg/kg	**13.2**	**11.5**	**68.9**	85,000	360,000
Lead	mg/kg	**14.9**	**11.9**	**25.4**	200	800
Selenium	mg/kg	< 1.07	< 1.07	**1.15 J**	390	5,800
Silver	mg/kg	< 0.127	< 0.127	< 0.127	390	5,800
Mercury	mg/kg	< 0.0206	< 0.0206	< 0.0206	7.1	30

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

*The CDPHE has established a background concentration for arsenic of 11 mg/kg for Colorado soils.

TABLE 5

SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-01-A	WGB-09	WGB-10		
		1' - 2'	8.7'	1' - 2'	1' - 2'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
1,1,1,2-Tetrachloroethane	mg/kg	< 0.000948	< 0.000948	< 0.000948	< 0.000948	2.0	8.8
1,1,1-Trichloroethane	mg/kg	< 0.000923	< 0.000923	< 0.000923	< 0.000923	8,100	36,000
1,1,2,2-Tetrachloroethane	mg/kg	< 0.000695	< 0.000695	< 0.000695	< 0.000695	0.6	2.7
1,1,2-Trichloroethane	mg/kg	< 0.000597	< 0.000597	< 0.000597	< 0.000597	1.1	5.0
1,1,2-Trichlorotrifluoroethane	mg/kg	< 0.000754	< 0.000754	< 0.000754	< 0.000754	NE	NE
1,1-Dichloroethane	mg/kg	< 0.000491	< 0.000491	< 0.000491	< 0.000491	3.6	16
1,1-Dichloroethene	mg/kg	< 0.000606	< 0.000606	< 0.000606	< 0.000606	4.8	20
1,1-Dichloropropene	mg/kg	< 0.000809	< 0.000809	< 0.000809	< 0.000809	NE	NE
1,2,3-Trichlorobenzene	mg/kg	< 0.00733	< 0.00733	< 0.00733	< 0.00733	63	930
1,2,3-Trichloropropane	mg/kg	< 0.00162	< 0.00162	< 0.00162	< 0.00162	0.0051	0.11
1,2,3-Trimethylbenzene	mg/kg	< 0.00158	< 0.00158	< 0.00158	< 0.00158	340	2,000
1,2,4-Trichlorobenzene	mg/kg	< 0.0044	< 0.0044	< 0.0044	< 0.0044	24	110
1,2,4-Trimethylbenzene	mg/kg	< 0.00158	< 0.00158	< 0.00158	< 0.00158	300	1,800
1,2-Dibromo-3-Chloropropane	mg/kg	< 0.0039	< 0.0039	< 0.0039	< 0.0039	0.0053	0.064
1,2-Dibromoethane	mg/kg	< 0.000648	< 0.000648	< 0.000648	< 0.000648	0.036	0.16
1,2-Dichlorobenzene	mg/kg	< 0.000425	< 0.000425	< 0.000425	< 0.000425	1,800	9,300
1,2-Dichloroethane	mg/kg	< 0.000649	< 0.000649	< 0.000649	< 0.000649	0.46	2.0
1,2-Dichloropropane	mg/kg	< 0.00142	< 0.00142	< 0.00142	< 0.00142	2.5	11
1,3,5-Trimethylbenzene	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	270	1,500
1,3-Dichlorobenzene	mg/kg	< 0.0006	< 0.0006	< 0.0006	< 0.0006	NE	NE
1,3-Dichloropropane	mg/kg	< 0.000501	< 0.000501	< 0.000501	< 0.000501	1,600	23,000
1,4-Dichlorobenzene	mg/kg	< 0.0007	< 0.0007	< 0.0007	< 0.0007	2.6	11
2,2-Dichloropropane	mg/kg	< 0.00138	< 0.00138	< 0.00138	< 0.00138	NE	NE
2-Butanone (MEK = Methyl ethyl ketone)	mg/kg	< 0.0635	< 0.0635	< 0.0635	< 0.0635	27,000	190,000
2-Chlorotoluene	mg/kg	< 0.000865	< 0.000865	< 0.000865	< 0.000865	1,600	23,000
4-Chlorotoluene	mg/kg	< 0.00045	< 0.00045	< 0.00045	< 0.00045	1,600	23,000
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.00228	< 0.00228	< 0.00228	< 0.00228	33,000	140,000

TABLE 5 (Continued)

SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

		Sample Identification, Sample Depth, and Date of Sampling				Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-01-A	WGB-09	WGB-10		
		1' - 2'	8.7'	1' - 2'	1' - 2'		
Analyte	**Units**	**1/3/2025**	**1/3/2025**	**1/3/2025**	**1/3/2025**	**Residential**	**Industrial**
Acetone	mg/kg	< 0.0365	< 0.0365	< 0.0365	< 0.0365	70,000	1,100,000
Acrylonitrile	mg/kg	< 0.00361	< 0.00361	< 0.00361	< 0.00361	0.25	1.1
Benzene	mg/kg	< 0.000467	< 0.000467	< 0.000467	< 0.000467	1.2	5.1
Bromobenzene	mg/kg	< 0.0009	< 0.0009	< 0.0009	< 0.0009	290	1,800
Bromodichloromethane	mg/kg	< 0.000725	< 0.000725	< 0.000725	< 0.000725	0.29	1.3
Bromoform	mg/kg	< 0.00117	< 0.00117	< 0.00117	< 0.00117	19	86
Bromomethane	mg/kg	< 0.00197	< 0.00197	< 0.00197	< 0.00197	6.8	30
Carbon tetrachloride	mg/kg	< 0.000898	< 0.000898	< 0.000898	< 0.000898	0.65	2.9
Chlorobenzene	mg/kg	< 0.00021	< 0.00021	< 0.00021	< 0.00021	280	1,300
Chlorodibromomethane	mg/kg	< 0.000612	< 0.000612	< 0.000612	< 0.000612	8.3	39
Chloroethane	mg/kg	< 0.0017	< 0.0017	< 0.0017	< 0.0017	5,400	23,000
Chloroform	mg/kg	< 0.00103	< 0.00103	< 0.00103	< 0.00103	0.32	1.4
Chloromethane	mg/kg	< 0.00435	< 0.00435	< 0.00435	< 0.00435	110	460
cis-1,2-Dichloroethene	mg/kg	< 0.000734	< 0.000734	< 0.000734	< 0.000734	0.46	2.0
cis-1,3-Dichloropropene	mg/kg	< 0.000757	< 0.000757	< 0.000757	< 0.000757	1.8	8.2
Di-isopropyl ether	mg/kg	< 0.00041	< 0.00041	< 0.00041	< 0.00041	2,200	9,400
Dibromomethane	mg/kg	< 0.00075	< 0.00075	< 0.00075	< 0.00075	24	99
Dichlorodifluoromethane	mg/kg	< 0.00161	< 0.00161	< 0.00161	< 0.00161	NE	NE
Ethylbenzene	mg/kg	< 0.000737	< 0.000737	< 0.000737	< 0.000737	5.8	25
Hexachloro-1,3-butadiene	mg/kg	< 0.006	< 0.006	< 0.006	< 0.006	1.2	5.3
Isopropylbenzene	mg/kg	< 0.000425	< 0.000425	< 0.000425	< 0.000425	1,900	9,900
Methyl tert-butyl ether	mg/kg	< 0.00035	< 0.00035	**0.000475 J**	< 0.00035	47	210
Methylene Chloride	mg/kg	< 0.00664	< 0.00664	< 0.00664	< 0.00664	57	1,000
n-Butylbenzene	mg/kg	< 0.00525	< 0.00525	< 0.00525	< 0.00525	3,900	58,000
n-Propylbenzene	mg/kg	< 0.00095	< 0.00095	< 0.00095	< 0.00095	3,800	24,000
Naphthalene	mg/kg	< 0.00488	< 0.00488	< 0.00488	< 0.00488	2.0	8.6
p-Isopropyltoluene	mg/kg	< 0.00255	< 0.00255	< 0.00255	< 0.00255	170	1,100

TABLE 5 (Continued)

SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	**WGB-01-A**	**WGB-09**	**WGB-10**		
		1' - 2'	**8.7'**	**1' - 2'**	**1' - 2'**		
		1/3/2025	**1/3/2025**	**1/3/2025**	**1/3/2025**	**Residential**	**Industrial**
sec-Butylbenzene	mg/kg	< 0.00288	< 0.00288	< 0.00288	< 0.00288	7,800	120,000
Styrene	mg/kg	< 0.000229	< 0.000229	< 0.000229	< 0.000229	6,000	35,000
tert-Butylbenzene	mg/kg	< 0.00195	< 0.00195	< 0.00195	< 0.00195	7,800	120,000
Tetrachloroethene	mg/kg	< 0.000896	< 0.000896	< 0.000896	< 0.000896	24	100
Toluene	mg/kg	< 0.0013	< 0.0013	< 0.0013	< 0.0013	4,900	47,000
trans-1,2-Dichloroethene	mg/kg	< 0.00104	< 0.00104	< 0.00104	< 0.00104	70	300
trans-1,3-Dichloropropene	mg/kg	< 0.00114	< 0.00114	< 0.00114	< 0.00114	NE	NE
Trichloroethene	mg/kg	< 0.000584	< 0.000584	< 0.000584	< 0.000584	0.94	6.0
Trichlorofluoromethane	mg/kg	< 0.000827	< 0.000827	< 0.000827	< 0.000827	23,000	350,000
Vinyl chloride	mg/kg	< 0.00116	< 0.00116	< 0.00116	< 0.00116	0.059	1.7
Xylenes, Total	mg/kg	< 0.00088	< 0.00088	**0.00239 J**	< 0.00088	580	2,500

Volatile Organic Compounds (VOCs) were analyzed by EPA Method 8260B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The identification of the analyte is acceptable; the reported value is an estimate.

MIBK = Methyl isobutyl ketone

NE = Not established

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 6

SOIL ANALYTICAL RESULTS - TOTAL PETROLEUM HYDROCARBONS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	**Units**	**Sample Identification, Sample Depth, and Date of Sampling**				**Environmental Protection Agency (EPA) Regional Screening Level (RSL)**	
		WGB-01	**WGB-01A**	**WGB-09**	**WGB-10**		
		1' - 2'	**8.7'**	**1' - 2'**	**1' - 2'**		
		1/3/2025	**1/3/2025**	**1/3/2025**	**1/3/2025**	**Residential**	**Industrial**
C10-C28 Diesel Range Organics (DRO)	mg/kg	**17.8**	**1,240**	**11,200**	**64.4**	96	440
C28-C40 Oil Range Organics (ORO)	mg/kg	**22.5**	**13.7 J**	**41,200**	**172**	18	220
Gasoline Range Organics (GRO)	mg/kg	**0.0632 B J**	**0.126 B**	**0.0966 B J**	**0.115 B**	96	440

DRO and ORO were analyzed by EPA Method 8015 (TPH (GC/FID) Low Fraction).

GRO was analyzed by EPA Method 8015D/GRO.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

B = The same analyte was found in the associated blank.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 7-A

SOIL ANALYTICAL RESULTS - pH, NITRATE AS N, AND SULFATE
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		MW-01	MW-02	MW-03	MW-04	MW-05		
		1' - 2'	1' - 2'	1' - 2'	1' - 3'	1' - 2'		
		1/2/2025	1/2/2025	1/2/2025	1/2/2025	1/2/2025	Residential	Industrial
pH	su	**8.12 T8**	**7.50 T8**	**8.81 T8**	**7.62 T8**	**8.24 T8**	NE	NE
Nitrate as N	mg/kg	**3.21 J**	**6.02 J**	**21.2**	**5.19 J**	**5.48 J**	130,000	1,900,000
Sulfate	mg/kg	**14.1 J**	**17.9 J**	**95.1**	**10.8 J**	**10.9 J**	NE	NE

Nitrate as N and Sulfate were analyzed by EPA Methods 9056A.

pH was analyzed by EPA Methods 9045D.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

su = Standard units.

mg/kg = Milligrams per kilogram.

NE = Not established.

T8 = Sample received too close to holding time expiration.

J = The reported value is an estimate.

P1 = RPD value not applicable for sample concentrations less than 5 times the reporting limit.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

TABLE 8

GROUNDWATER ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8/2025	1/24/2025	1/8/2025	1/8/2025	
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	µg/L	< 0.0297	< 0.0297	< 0.0297	< 0.0297	0.15
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	µg/L	< 0.0276	< 0.0276	< 0.0276	< 0.0276	0.1
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	µg/L	< 0.0211	< 0.0211	< 0.0211	< 0.0211	0.1
Aldrin	µg/L	< 0.0249	< 0.0249	< 0.0249	< 0.0249	0.0021 *
Alpha BHC (alpha-Hexachlorocyclohexane)	µg/L	< 0.0277	< 0.0277	< 0.0277	< 0.0277	0.0056 *
Beta BHC (beta-Hexachlorocyclohexane)	µg/L	< 0.0326	< 0.0326	< 0.0326	< 0.0326	NE
Chlordane	µg/L	< 0.7	< 0.7	< 0.7	< 0.7	0.10 to 2 *
Delta BHC (delta-Hexachlorocyclohexane)	µg/L	< 0.0403	< 0.0403	< 0.0403	< 0.0403	NE
Dieldrin	µg/L	< 0.0298	< 0.0298	< 0.0298	< 0.0298	0.002 *
Endosulfan I	µg/L	< 0.0306	< 0.0306	< 0.0306	< 0.0306	42
Endosulfan II	µg/L	< 0.0311	< 0.0311	< 0.0311	< 0.0311	42
Endosulfan sulfate	µg/L	< 0.0306	< 0.0306	< 0.0306	< 0.0306	42
Endrin	µg/L	< 0.0329	< 0.0329	< 0.0329	< 0.0329	2
Endrin aldehyde	µg/L	< 0.0358	< 0.0358	< 0.0358	< 0.0358	2.1
Endrin ketone	µg/L	< 0.0322	< 0.0322	< 0.0322	< 0.0322	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	µg/L	< 0.0267	< 0.0267	< 0.0267	< 0.0267	0.2
Heptachlor	µg/L	< 0.029	< 0.029	< 0.029	< 0.029	0.008 to 0.4 *
Heptachlor epoxide	µg/L	< 0.0307	< 0.0307	< 0.0307	< 0.0307	0.004 to 0.2 *
Hexachlorobenzene	µg/L	< 0.0425	< 0.0425	< 0.0425	< 0.0425	0.022 to 1.0 *
Methoxychlor	µg/L	< 0.04	< 0.04	< 0.04	< 0.04	35 to 40
Toxaphene	µg/L	< 0.4	< 0.4	< 0.4	< 0.4	0.032 to 3 *

Pesticides were analyzed by EPA Method 8081B.

µg/L = Micrograms per liter.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

NE = Not established.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

* The laboratory MDL is greater than the listed groundwater standard.

TABLE 9

GROUNDWATER ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8/2025	1/24/2025	1/8/2025	1/8/2025	
2,4,5-T (Trichlorophenoxyacetic acid)	µg/L	< 0.858	< 0.858	< 0.858	< 0.858	NE
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	µg/L	< 0.505	< 0.505	< 0.505	< 0.505	50
2,4-D (Dichlorophenoxyacetic acid)	µg/L	< 0.671	< 0.671	< 0.671	< 0.671	70
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	µg/L	< 0.686	< 0.686	< 0.686	< 0.686	NE
Dalapon	µg/L	< 0.734	< 0.734	< 0.734	< 0.734	200
Dicamba	µg/L	< 0.395	< 0.395	< 0.395	< 0.395	210
Dichloroprop	µg/L	< 0.954	< 0.954	< 0.954	< 0.954	NE
Dinoseb	µg/L	< 0.455	< 0.455	< 0.455	< 0.455	7
MCPA	µg/L	< 85.8	< 85.8	< 85.8	< 85.8	NE
MCPP	µg/L	< 74.3	< 74.3	< 74.3	< 74.3	NE

Herbicides were analyzed by EPA Method 8151A.

µg/L = Micrograms per liter.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

NE = Not established.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

TABLE 10

GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS AND 1,4 DIOXANE
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8 & 23/2025	1/24/2025	1/8 & 23/2025	1/8 & 23/2025	
1,1,1,2-Tetrachloroethane	µg/L	< 0.147	< 0.147	< 0.147	< 0.147	0.18
1,1,1-Trichloroethane	µg/L	< 0.149	< 0.149	< 0.149	< 0.149	14,000 or 200
1,1,2,2-Tetrachloroethane	µg/L	< 0.133	< 0.133	< 0.133	< 0.133	0.18
1,1,2-Trichloroethane	µg/L	< 0.158	< 0.158	< 0.158	< 0.158	2.8 to 5
1,1,2-Trichlorotrifluoroethane	µg/L	< 0.18	< 0.18	< 0.18	< 0.18	NE
1,1-Dichloroethane	µg/L	< 0.1	< 0.1	< 0.1	< 0.1	NE
1,1-Dichloroethene	µg/L	< 0.188	< 0.188	< 0.188	< 0.188	7
1,1-Dichloropropene	µg/L	< 0.142	< 0.142	< 0.142	< 0.142	NE
1,2,3-Trichlorobenzene	µg/L	< 0.23	< 0.23	< 0.23	< 0.23	NE
1,2,3-Trichloropropane	µg/L	< 0.237	< 0.237	< 0.237	< 0.237	0.00037
1,2,3-Trimethylbenzene	µg/L	< 0.104	< 0.104	< 0.104	< 0.104	67
1,2,4-Trichlorobenzene	µg/L	< 0.481	< 0.481	< 0.481	< 0.481	70
1,2,4-Trimethylbenzene	µg/L	< 0.322	< 0.322	< 0.322	< 0.322	67
1,2-Dibromo-3-Chloropropane	µg/L	< 0.276	< 0.276	< 0.276	< 0.276	0.2 *
1,2-Dibromoethane	µg/L	< 0.126	< 0.126	< 0.126	< 0.126	0.018 *
1,2-Dichlorobenzene	µg/L	< 0.107	< 0.107	< 0.107	< 0.107	600
1,2-Dichloroethane	µg/L	< 0.0819	< 0.0819	< 0.0819	< 0.0819	0.38 to 5
1,2-Dichloropropane	µg/L	< 0.149	< 0.149	< 0.149	< 0.149	0.52 to 5
1,3,5-Trimethylbenzene	µg/L	< 0.104	< 0.104	< 0.104	< 0.104	67
1,3-Dichlorobenzene	µg/L	< 0.11	< 0.11	< 0.11	< 0.11	94
1,3-Dichloropropane	µg/L	< 0.11	< 0.11	< 0.11	< 0.11	NE
1,4-Dichlorobenzene	µg/L	< 0.12	< 0.12	< 0.12	< 0.12	75
2,2-Dichloropropane	µg/L	< 0.161	< 0.161	< 0.161	< 0.161	NE
2-Butanone (MEK = Methyl ethyl ketone)	µg/L	< 1.19	< 1.19	< 1.19	< 1.19	NE
2-Chlorotoluene	µg/L	< 0.106	< 0.106	< 0.106	< 0.106	NE
4-Chlorotoluene	µg/L	< 0.114	< 0.114	< 0.114	< 0.114	NE
4-Methyl-2-pentanone (MIBK)	µg/L	< 0.478	< 0.478	< 0.478	< 0.478	NE

TABLE 10 (Continued)

GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS AND 1,4 DIOXANE
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8 & 23/2025	1/24/2025	1/8 & 23/2025	1/8 & 23/2025	
Acetone	µg/L	< 11.3	< 11.3	< 11.3	< 11.3	6,300
Acrolein	µg/L	< 2.54	< 2.54	< 2.54	< 2.54	3.5
Acrylonitrile	µg/L	< 0.671	< 0.671	< 0.671	< 0.671	0.065 *
Benzene	µg/L	< 0.0941	< 0.0941	< 0.0941	< 0.0941	5.0
Bromobenzene	µg/L	< 0.118	< 0.118	< 0.118	< 0.118	56
Bromodichloromethane	µg/L	< 0.136	< 0.136	< 0.136	< 0.136	0.56
Bromoform	µg/L	< 0.129	< 0.129	< 0.129	< 0.129	4
Bromomethane	µg/L	< 0.605	< 0.605	< 0.605	< 0.605	NE
Carbon tetrachloride	µg/L	< 0.128	< 0.128	< 0.128	< 0.128	0.5 to 5
Chlorobenzene	µg/L	< 0.116	< 0.116	< 0.116	< 0.116	100
Chlorodibromomethane	µg/L	< 0.14	< 0.14	< 0.14	< 0.14	14
Chloroethane	µg/L	< 0.192	< 0.192	< 0.192	< 0.192	NE
Chloroform	µg/L	< 0.111	< 0.111	< 0.111	< 0.111	3.5
Chloromethane	µg/L	< 0.96	< 0.96	< 0.96	< 0.96	NE
cis-1,2-Dichloroethene	µg/L	< 0.126	< 0.126	< 0.126	< 0.126	14 to 70
cis-1,3-Dichloropropene	µg/L	< 0.111	< 0.111	< 0.111	< 0.111	NE
Di-isopropyl ether	µg/L	< 0.122	< 0.122	< 0.122	< 0.122	NE
Dibromomethane	µg/L	< 0.374	< 0.374	< 0.374	< 0.374	NE
Dichlorodifluoromethane	µg/L	< 0.105	< 0.105	< 0.105	< 0.105	NE
Ethylbenzene	µg/L	< 0.137	< 0.137	< 0.137	< 0.137	700
Hexachloro-1,3-butadiene	µg/L	< 0.337	< 0.337	< 0.337	< 0.337	0.5
Isopropylbenzene	µg/L	< 0.105	< 0.105	< 0.105	< 0.105	NE
Methyl tert-butyl ether	µg/L	< 0.101	< 0.101	< 0.101	< 0.101	NE
Methylene Chloride	µg/L	< 0.43	< 0.43	< 0.43	< 0.43	5.6 or 5
n-Butylbenzene	µg/L	< 0.157	< 0.157	< 0.157	< 0.157	NE
n-Propylbenzene	µg/L	< 0.0993	< 0.0993	< 0.0993	< 0.0993	NE
Naphthalene	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	140

TABLE 10 (Continued)

GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS AND 1,4 DIOXANE
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8 & 23/2025	1/24/2025	1/8 & 23/2025	1/8 & 23/2025	
p-Isopropyltoluene	µg/L	< 0.12	< 0.12	< 0.12	< 0.12	NE
sec-Butylbenzene	µg/L	< 0.125	< 0.125	< 0.125	< 0.125	NE
Styrene	µg/L	< 0.118	< 0.118	< 0.118	< 0.118	100
tert-Butylbenzene	µg/L	< 0.127	< 0.127	< 0.127	< 0.127	NE
Tetrachloroethene	µg/L	< 0.3	< 0.3	< 0.3	< 0.3	17 or 5
Toluene	µg/L	< 0.278	< 0.278	< 0.278	< 0.278	560 to 1,000
trans-1,2-Dichloroethene	µg/L	< 0.149	< 0.149	< 0.149	< 0.149	140 or 100
trans-1,3-Dichloropropene	µg/L	< 0.118	< 0.118	< 0.118	< 0.118	NE
Trichloroethene	µg/L	< 0.19	< 0.19	< 0.19	< 0.19	5.0
Trichlorofluoromethane	µg/L	< 0.16	< 0.16	< 0.16	< 0.16	NE
Vinyl chloride	µg/L	< 0.234	< 0.234	< 0.234	< 0.234	0.023 to 2 *
Xylenes, Total	µg/L	< 0.174	< 0.174	< 0.174	< 0.174	1,400 to 10,000
1,4-Dioxane	µg/L	< 0.3	< 0.3	< 0.3	< 0.3	0.35

Volatile Organic Compounds (VOCs) were analyzed by EPA Method 8260B.

1.4 Dioxane was analyzed by EPA Method 8270E-SIM. 1,4 Dioxane sampled on 01/23/2025 in monioring wells MW-01, MW-03, and MW-04,

µg/L = Micrograms per liter.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

NE = Not established.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

* The laboratory MDL is greater than the listed groundwater standard.

TABLE 11

GROUNDWATER ANALYTICAL RESULTS
RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

		Sample Identification - Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
Analyte	**Units**	**1/8/2025**	**1/24/2025**	**1/8/2025**	**1/8/2025**	
Arsenic	mg/L	< 0.00783	< 0.00783	< 0.00783	< 0.00783	0.010
Barium	mg/L	**0.241**	**0.0644**	**0.276**	**0.736**	2.0
Cadmium	mg/L	< 0.000538	< 0.000538	**0.00125 B J**	**0.00218 B**	0.005
Chromium	mg/L	< 0.00151	< 0.00151	**0.00162 J**	**0.00155 J**	0.100
Lead	mg/L	< 0.00243	< 0.00243	< 0.00243	< 0.00243	0.050
Selenium	mg/L	< 0.00616	**0.0690**	< 0.00616	< 0.00616	0.050
Silver	mg/L	**0.00314 J**	< 0.00289	< 0.00289	**0.00531**	0.050
Mercury	mg/L	< 0.00007	**0.0000913 J**	< 0.00007	< 0.00007	0.002

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Colorado Groundwater Standard.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/L = Milligrams per liter

B = The same analyte was found in the associated blank.

J = The reported value is an estimate.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

TABLE 12

GROUNDWATER ANALYTICAL RESULTS
CATIONS AND ANIONS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Sample Identification - Date of Sampling					Colorado Groundwater Standard
	Units	MW-01	MW-02	MW-03	MW-04	
		1/8/2025	1/24/2025	1/8/2025	1/8/2025	
Alkalinity	mg/L	**402**	NA	**145**	**221**	NE
Ammonia Nitrogen	mg/L	< 0.0539	NA	**8.68**	**0.059 J**	NE
Phosphorus, Total	mg/L	**0.163 B**	NA	**0.115 B P1**	**0.0568 B J**	NE
pH	mg/L	**7.74 T8**	NA	**7.45 T8**	**7.29 T8**	6.5 - 8.5
Sulfide	mg/L	< 0.0255	NA	< 0.0255	< 0.0255 J6	NE
Sulfite	mg/L	**10 J T8**	NA	**2 J T8**	**10 J T8**	NE
Nitrite as N	mg/L	< 0.397 T8	NA	< 0.0794 T8	**0.451 T8**	1.0
Chloride	mg/L	**41.6**	NA	**27.6**	**16.6**	250
Sulfate	mg/L	**436**	< 0.637	**89.1**	**43.6**	250
Nitrate as N	mg/L	< 0.442 T8	**43.9**	**97.6 T8**	**414 T8**	10

Sulfate and nitrate as N analyzed by EPA Method 9056A, alkalinity by EPA Method 2320 B-2011, ammonia nitrogen by EPA Method 350.1, total phosphorus by EPA Method 365.4, pH by EPA Method 4500 H+B-2011, sulfide by EPA Method 4500S2 D-2011, and sulfite by EPA Method 4500SO3 B-2011.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Colorado Groundwater Standard.

Blue Bolded values indicate the compound was detected by the laboratory at a concentration greater than the Colorado Groundwater Standard.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/L = Milligrams per liter.

B = The same analyte was found in the associated blank.

J = The reported value is an estimate.

J6 = The sample matrix interfered with the ability to make any accurate determination; spike value is low

P1 = Relative Percent Difference value not applicable for sample concentrations less than 5 times the reporting limit.

T8 = Sample(s) received past/too close to holding time expiration.

NE = Not established. NA = Compound not analyzed.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking

TABLE 12

GROUNDWATER ANALYTICAL RESULTS
CATIONS AND ANIONS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification - Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8/2025	1/24/2025	1/8/2025	1/8/2025	
Alkalinity	mg/L	**402**	NA	**145**	**221**	NE
Ammonia Nitrogen	mg/L	< 0.0539	NA	**8.68**	**0.059 J**	NE
Phosphorus, Total	mg/L	**0.163 B**	NA	**0.115 B P1**	**0.0568 B J**	NE
pH	mg/L	**7.74 T8**	NA	**7.45 T8**	**7.29 T8**	6.5 - 8.5
Sulfide	mg/L	< 0.0255	NA	< 0.0255	< 0.0255 J6	NE
Sulfite	mg/L	**10 J T8**	NA	**2 J T8**	**10 J T8**	NE
Nitrite as N	mg/L	< 0.397 T8	NA	< 0.0794 T8	**0.451 T8**	1.0
Chloride	mg/L	**41.6**	NA	**27.6**	**16.6**	250
Sulfate	mg/L	**436**	< 0.637	**89.1**	**43.6**	250
Nitrate as N	mg/L	< 0.442 T8	**43.9**	**97.6 T8**	**414 T8**	10

Sulfate and nitrate as N analyzed by EPA Method 9056A, alkalinity by EPA Method 2320 B-2011, ammonia nitrogen by EPA Method 350.1, total phosphorus by EPA Method 365.4, pH by EPA Method 4500 H+B-2011, sulfide by EPA Method 4500S2 D-2011, and sulfite by EPA Method 4500SO3 B-2011.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Colorado Groundwater Standard.

Blue Bolded values indicate the compound was detected by the laboratory at a concentration greater than the Colorado Groundwater Standard.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/L = Milligrams per liter.

B = The same analyte was found in the associated blank.

J = The reported value is an estimate.

J6 = The sample matrix interfered with the ability to make any accurate determination; spike value is low

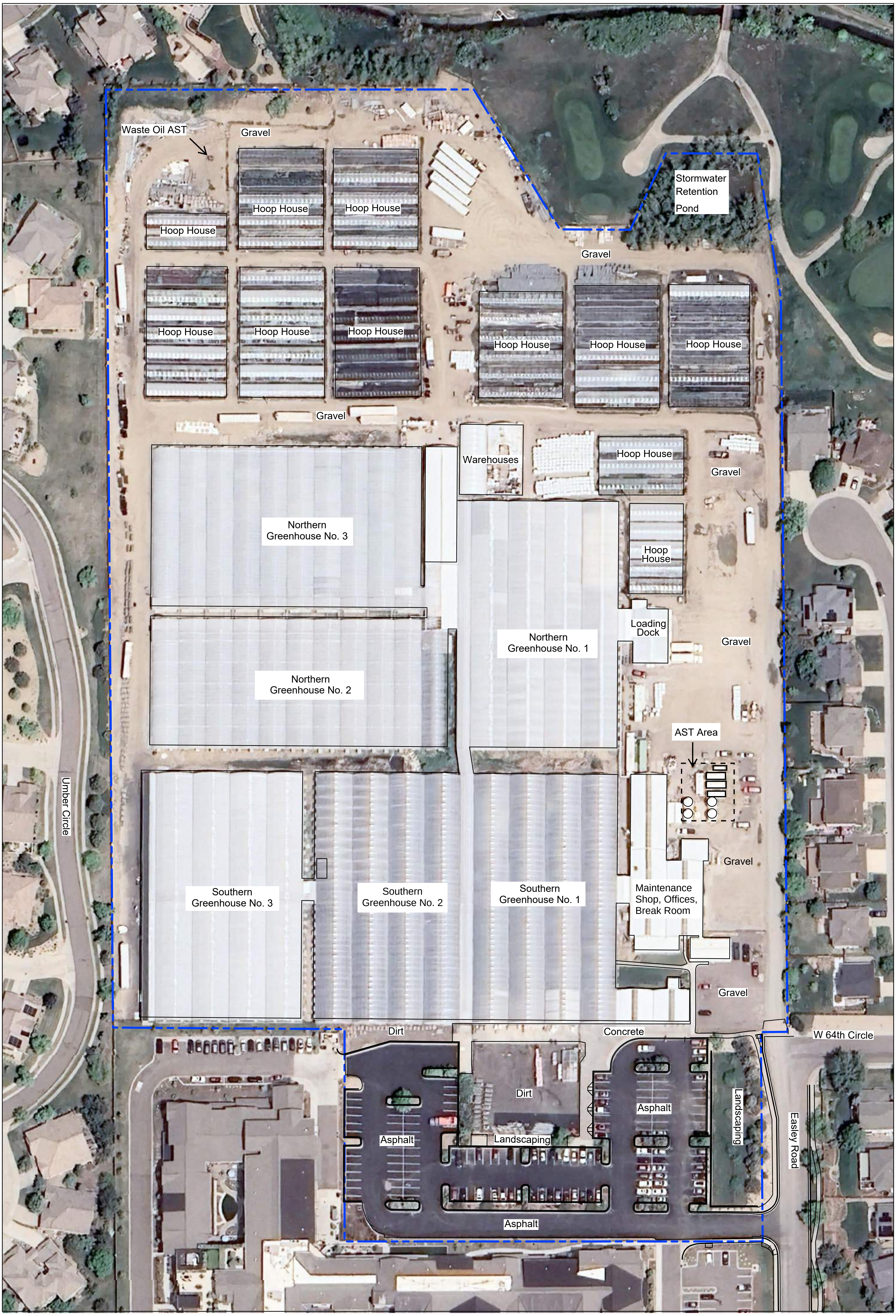
P1 = Relative Percent Difference value not applicable for sample concentrations less than 5 times the reporting limit.

T8 = Sample(s) received past/too close to holding time expiration.

NE = Not established. NA = Compound not analyzed.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

FIGURES


Waste Oil AST
Gravel
Hoop House
Hoop House
Hoop House
Stormwater Retention Pond
Gravel
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Gravel
Warehouses
Hoop House
Gravel
Northern Greenhouse No. 3
Hoop House
Northern Greenhouse No. 1
Loading Dock
Gravel
Northern Greenhouse No. 2
AST Area
Umber Circle
Southern Greenhouse No. 3
Southern Greenhouse No. 2
Southern Greenhouse No. 1
Maintenance Shop, Offices, Break Room
Gravel
Gravel
Dirt
Concrete
W 64th Circle
Dirt
Asphalt
Asphalt
Landscaping
Landscaping
Easley Road
Asphalt

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LEGEND

Property Boundary

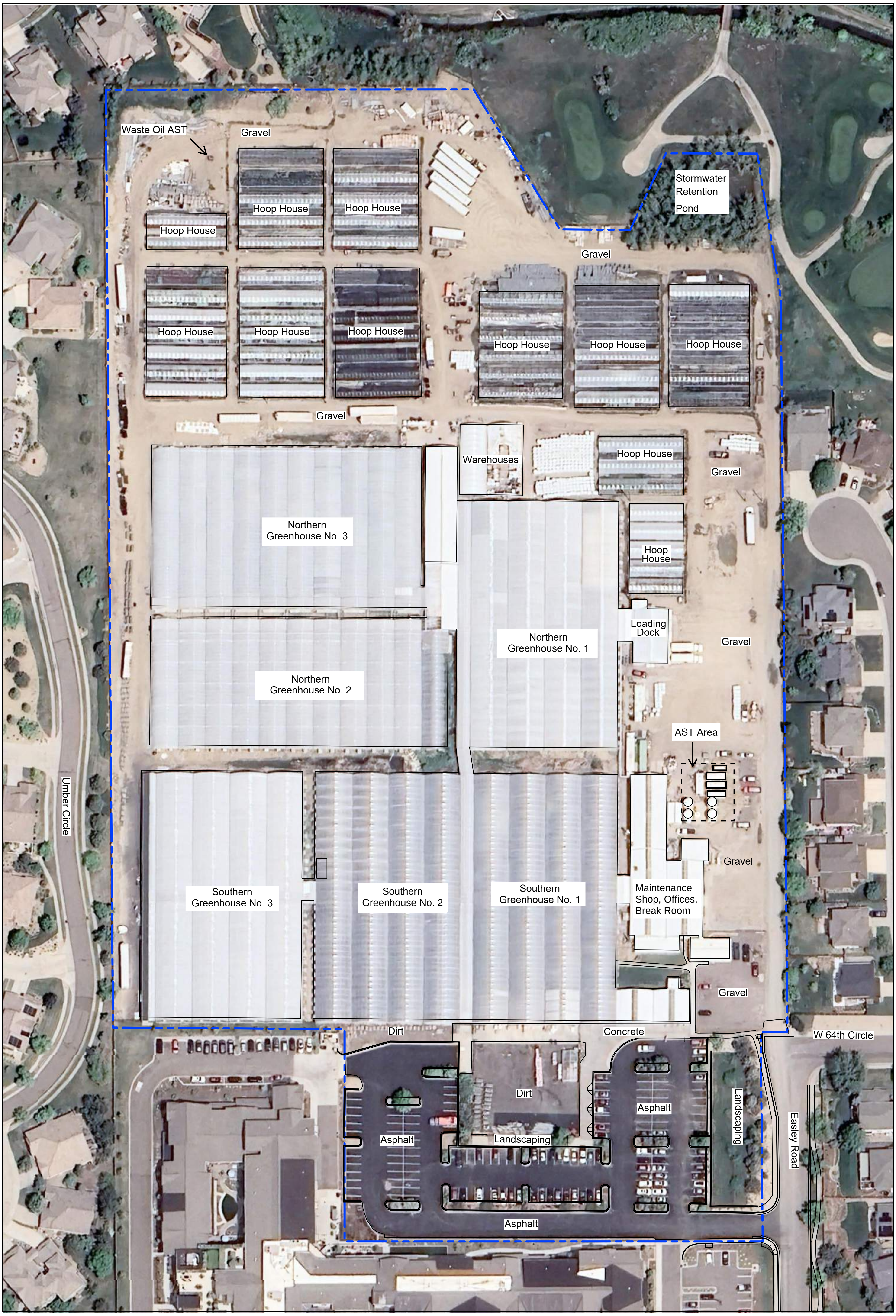
N

0 50 100
SCALE IN FEET

PROJECT: 45033.02
DATE: 12/20/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 2
Facility Map
Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007


Waste Oil AST
Gravel
Hoop House
Hoop House
Hoop House
Stormwater Retention Pond
Gravel
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Hoop House
Gravel
Warehouses
Hoop House
Gravel
Northern Greenhouse No. 3
Hoop House
Loading Dock
Northern Greenhouse No. 1
Gravel
Northern Greenhouse No. 2
AST Area
Umber Circle
Gravel
Southern Greenhouse No. 3
Southern Greenhouse No. 2
Southern Greenhouse No. 1
Maintenance Shop, Offices, Break Room
Gravel
Dirt
Concrete
W 64th Circle
Dirt
Asphalt
Asphalt
Landscaping
Landscaping
Easley Road
Asphalt

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LEGEND

Property Boundary

N

0 50 100
SCALE IN FEET

PROJECT: 45033.02
DATE: 12/20/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 2
Property Map
Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007

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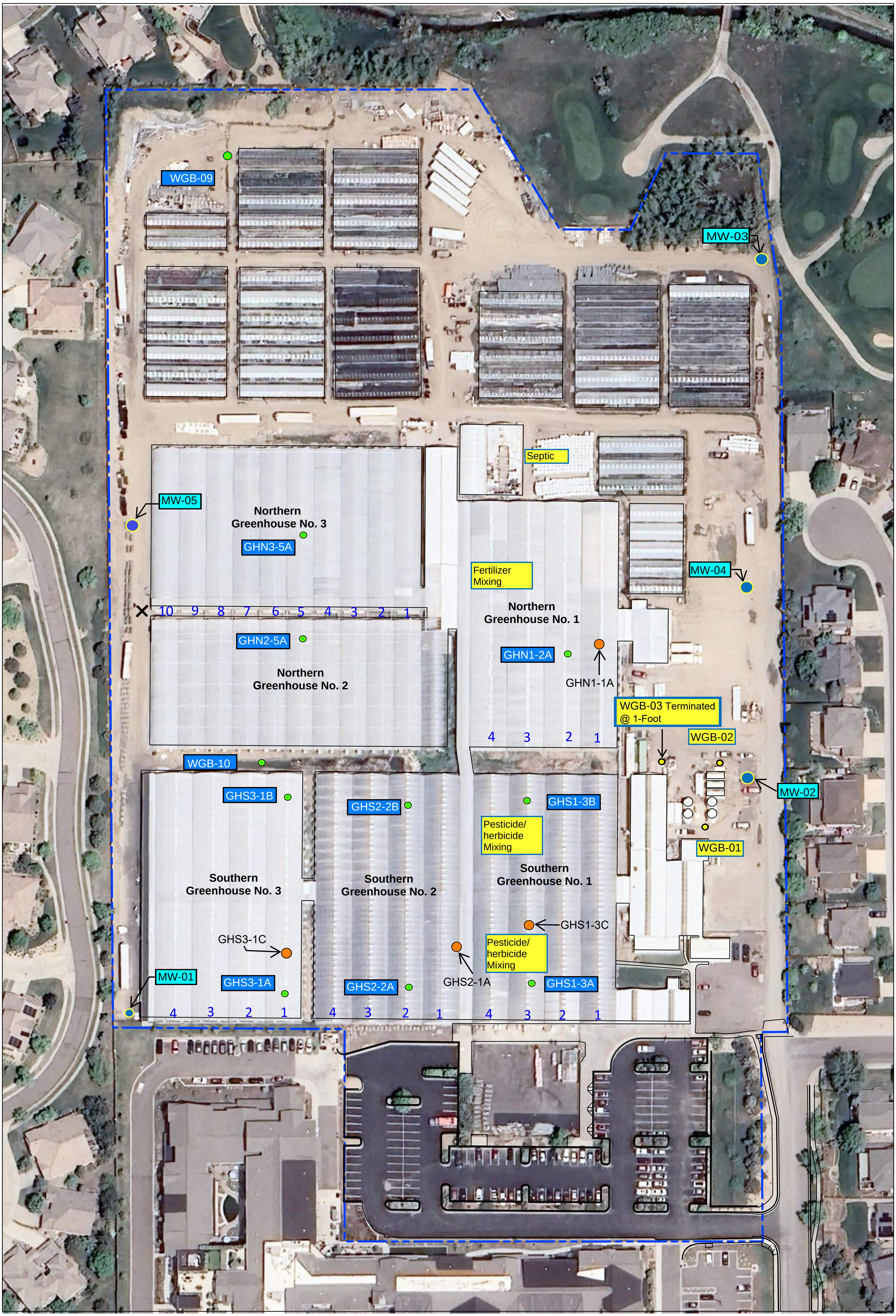
WGB-09
MW-03
Septic
MW-05
Northern Greenhouse No. 3
GHN3-5A
Fertilizer Mixing
MW-04
Northern Greenhouse No. 1
10 9 8 7 6 5 4 3 2 1
GHN2-5A
GHN1-2A
Northern Greenhouse No. 2
GHN1-1A
WGB-03 Terminated @ 1-Foot
4 3 2 1
WGB-02
WGB-10
MW-02
GHS3-1B
GHS2-2B
GHS1-3B
Pesticide/ herbicide Mixing
WGB-01
Southern Greenhouse No. 3
Southern Greenhouse No. 2
Southern Greenhouse No. 1
GHS1-3C
GHS3-1C
Pesticide/ herbicide Mixing
MW-01
GHS3-1A
GHS2-2A
GHS2-1A
GHS1-3A
4 3 2 1 4 3 2 1 4 3 2 1

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🟢	GHN1-2A	Hand Auger Soil Boring Location (BEC 2025): GH= Green House; N = North; S = South; 1, 2, 3 = Bldg. No.; 1-10 = Row No. Inside Green House; A = First Sample Collected; B = Second Sample Collected
🟠	GHS2-1A	Post-Hole Power Auger Soil Boring Location (BEC 2025) : same numbering as above
🟡	WGB-01	Drilling Rig Soil Boring Location: WGB = Welby Garden Boring (BEC 2025)
🔵	MW-1	Drilling Rig Soil Boring and Monitoring Well Location (BEC 2025)
▬ ▬ ▬		Property Boundary

N

0 50 100
SCALE IN FEET

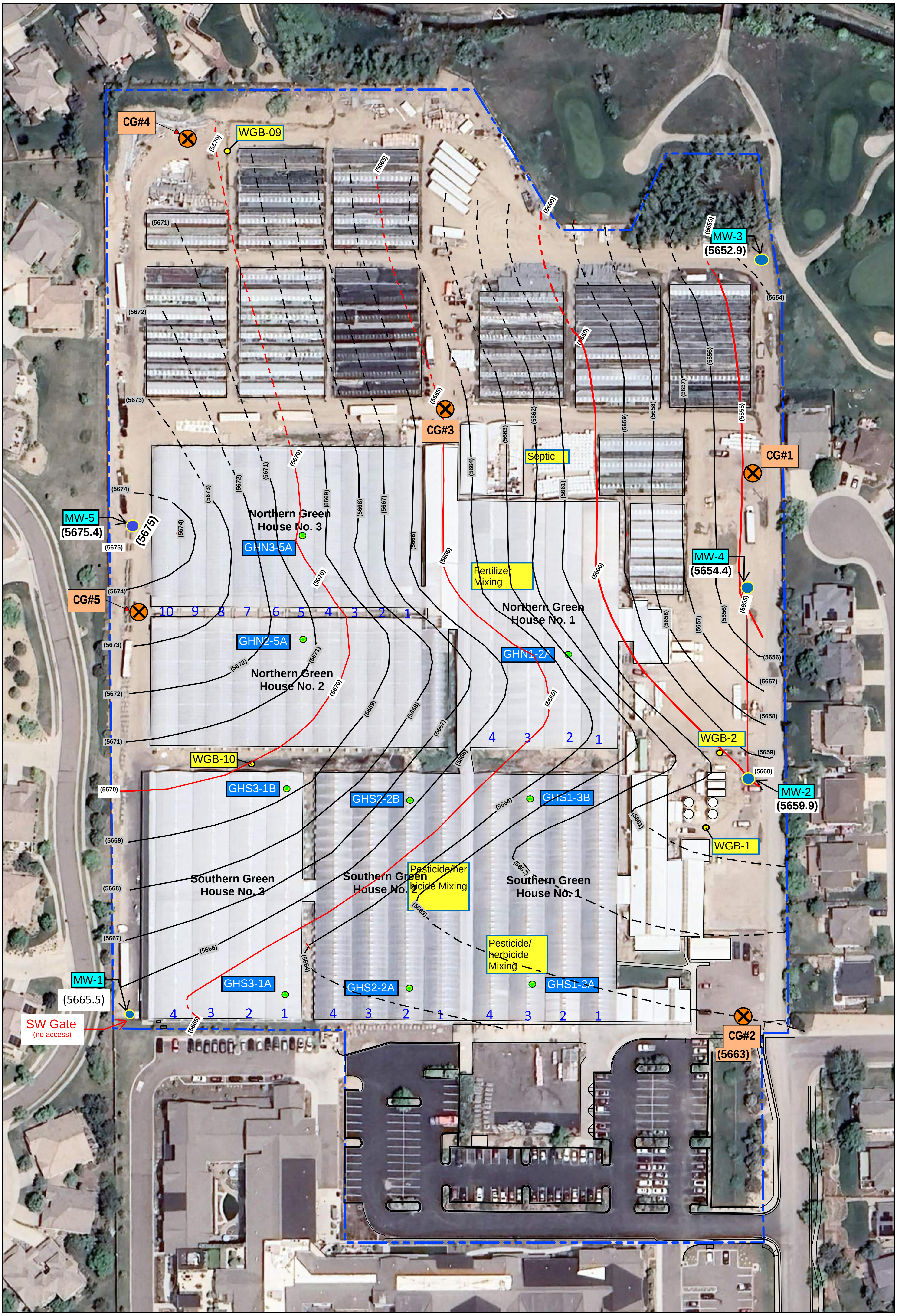
PROJECT: 45038.2
DATE: 01/06/25
DRAWN: VEB
CHECKED: VEB

FIGURE 3

Soil Boring and Monitoring Well Location Map

Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007


CG#4
WGB-09
(5670)
(5665)
(5671)
(5672)
(5673)
(5674)
(5675)
(5660)
(5655)
MW-3
(5652.9)
(5654)
(5656)
(5657)
(5658)
(5659)
(5662)
(5663)
(5664)
(5661)
CG#3
Septic
CG#1
MW-5
(5675.4)
Northern Green House No. 3
GHN3-5A
Fertilizer Mixing
Northern Green House No. 1
MW-4
(5654.4)
CG#5
10 9 8 7 6 5 4 3 2 1
GHN2-5A
Northern Green House No. 2
GHN1-2A
4 3 2 1
WGB-2
WGB-10
MW-2
(5659.9)
GHS3-1B
GHS2-2B
GHS1-3B
WGB-1
Southern Green House No. 3
Southern Green House No. 2
Pesticide/herbicide Mixing
Southern Green House No. 1
(5669)
(5668)
(5667)
(5666)
Pesticide/herbicide Mixing
MW-1
(5665.5)
SW Gate
(no access)
GHS3-1A
GHS2-2A
GHS1-3A
CG#2
(5663)

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LEGEND

— — — —		Dashed areas of the bedrock contours are outside of survey control and the accuracy in these areas is inferred.
●	GHN1-2A	Grab Soil Sample Location (BEC 2025): GH= Green House; N = North; S = South; 1, 2, 3 = Bldg. No.; 1-10 = Row No. Inside Green House; A = First Sample Collected; B = Second Sample Collected
— — —		Property Boundary
~	(5620)	Bedrock Elevation & Contour Line (Interval 5-foot)
●	WGB-1	WGB-1 Welby Garden Boring Location (BEC 2025)
●	MW-1	Monitoring Well Location (BEC 2025)
⊕		Geotechnical Boring Location (Cole Garner Geotechnical: Nov 2024)

N

0 50 100
SCALE IN FEET

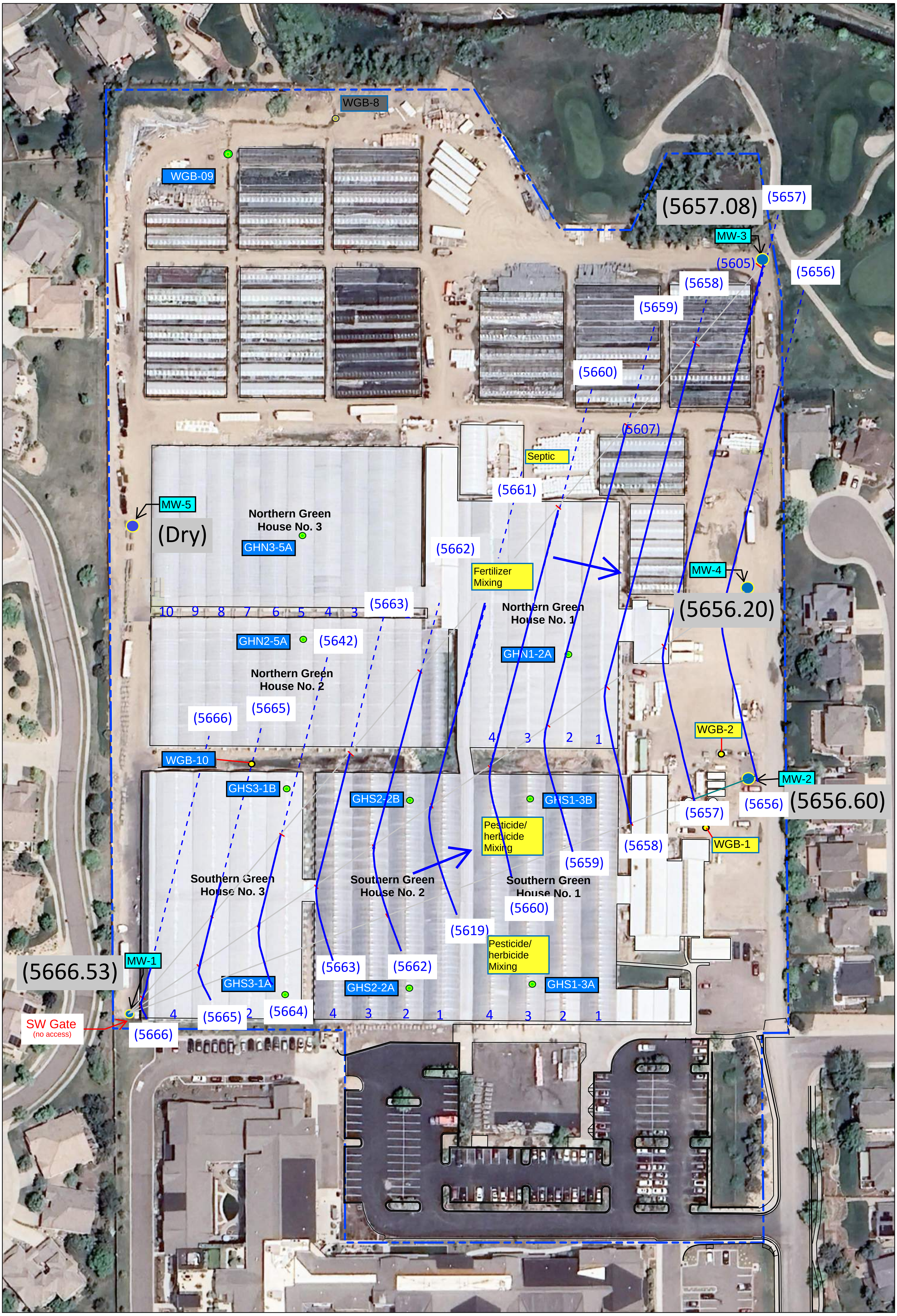
PROJECT: 45038.2
DATE: 02/04/25
DRAWN: VEB
CHECKED: VEB

FIGURE 4

Bedrock Contour Map

Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007


WGB-8
WGB-09
(5657.08)
(5657)
MW-3
(5605)
(5656)
(5658)
(5659)
(5660)
(5607)
Septic
(5661)
MW-5
(Dry)
Northern Green House No. 3
GHN3-5A
(5662)
Fertilizer Mixing
MW-4
(5656.20)
10 9 8 7 6 5 4 3
(5663)
Northern Green House No. 1
GHN2-5A
(5642)
GHN1-2A
Northern Green House No. 2
(5665)
(5666)
4 3 2 1
WGB-2
WGB-10
GHS3-1B
GHS2-2B
GHS1-3B
MW-2
(5656)
(5656.60)
(5657)
Pesticide/ herbicide Mixing
(5658)
WGB-1
(5659)
Southern Green House No. 3
Southern Green House No. 2
Southern Green House No. 1
(5660)
(5619)
Pesticide/ herbicide Mixing
(5666.53)
MW-1
(5663)
(5662)
GHS3-1A
GHS2-2A
GHS1-3A
SW Gate
(no access)
4 2
(5665)
(5664)
4 3 2 1 4 3 2 1
(5666)

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0 50 100
SCALE IN FEET

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LEGEND

~-?- -	(5614)	Groundwater Contour (Interval 1-foot; dashed where inferred & queried where uncertain)
●	GHN1-2A	Grab Soil Sample Location (BEC 2025): GH= Green House; N = North; S = South; 1, 2, 3 = Bldg. No.; 1-10 = Row No. Inside Green House; A = First Sample Collected; B = Second Sample Collected
— — —		Property Boundary
◉	WGB-3	WGB-3 Proposed Welby Garden Boring Location Not Sampled (BEC 2025)
●	WGB-1	WGB-1 Welby Garden Boring Location (BEC 2025)
● ←	MW-1	Monitoring Well Location (BEC 2025)

N

PROJECT: 45038.2
DATE: 06/24/25
DRAWN: VEB
CHECKED: VEB

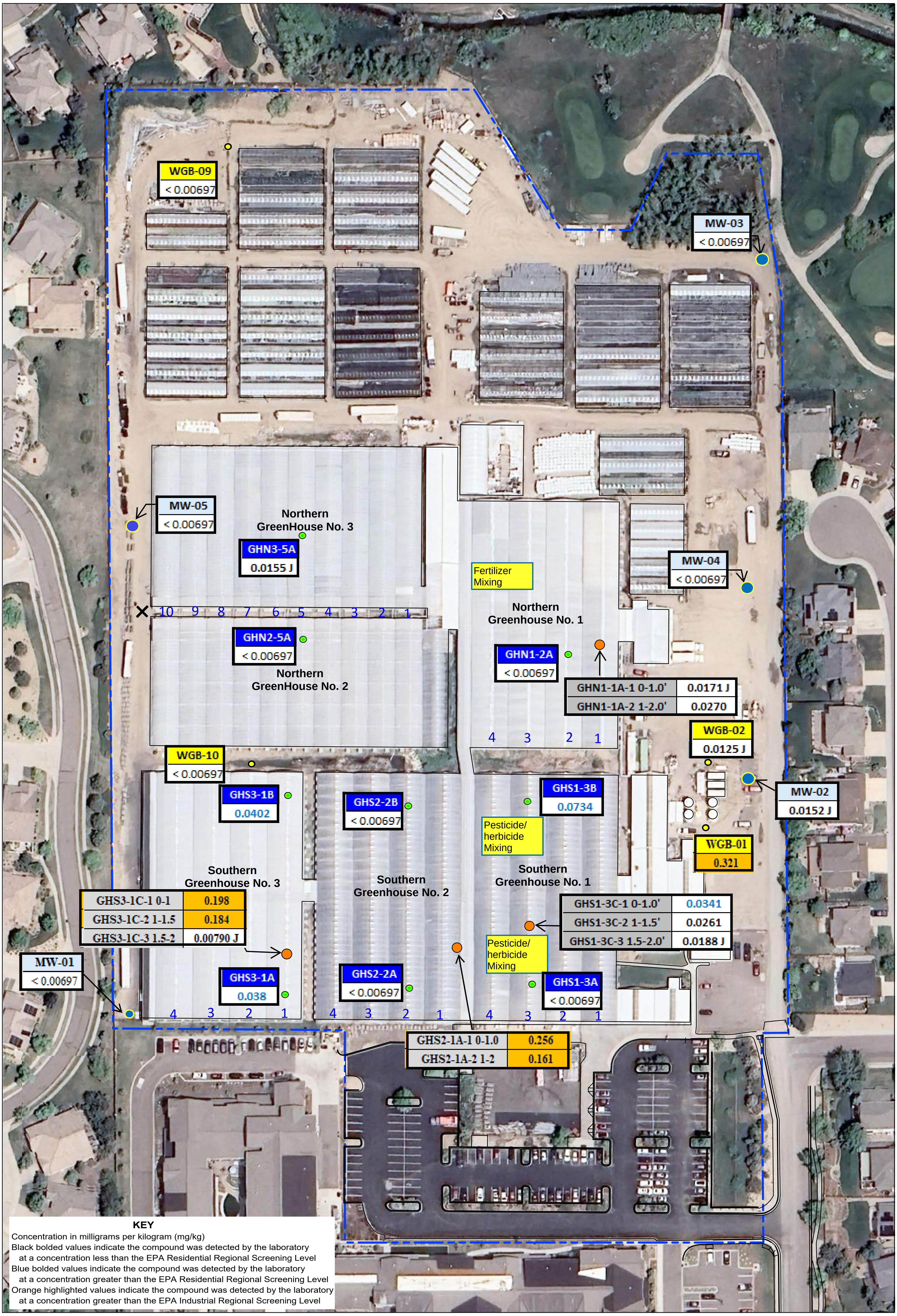
FIGURE 5

Groundwater Elevation Contour Map for January 23, 2025

Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007

D:\00SRV\M\clients\Baseline\Welby Gardens\Welby-Gardens-Base.dwg 11/26/2024


WGB-09
< 0.00697
MW-03
< 0.00697
MW-05
< 0.00697
Northern
GreenHouse No. 3
GHN3-5A
0.0155 J
Fertilizer
Mixing
MW-04
< 0.00697
10 9 8 7 6 5 4 3 2 1
Northern
Greenhouse No. 1
GHN2-5A
< 0.00697
Northern
GreenHouse No. 2
GHN1-2A
< 0.00697
GHN1-1A-1 0-1.0' 0.0171 J
GHN1-1A-2 1-2.0' 0.0270
4 3 2 1
WGB-02
0.0125 J
WGB-10
< 0.00697
GHS3-1B
0.0402
GHS2-2B
< 0.00697
GHS1-3B
0.0734
MW-02
0.0152 J
Pesticide/
herbicide
Mixing
WGB-01
0.321
Southern
Greenhouse No. 3
Southern
Greenhouse No. 2
Southern
Greenhouse No. 1
GHS3-1C-1 0-1 0.198
GHS3-1C-2 1-1.5 0.184
GHS3-1C-3 1.5-2 0.00790 J
GHS1-3C-1 0-1.0' 0.0341
GHS1-3C-2 1-1.5' 0.0261
GHS1-3C-3 1.5-2.0' 0.0188 J
Pesticide/
herbicide
Mixing
MW-01
< 0.00697
GHS3-1A
0.038
GHS2-2A
< 0.00697
GHS1-3A
< 0.00697
4 3 2 1 4 3 2 1 4 3 2 1
GHS2-1A-1 0-1.0 0.256
GHS2-1A-2 1-2 0.161
N
0 50 100
SCALE IN FEET

KEY

Concentration in milligrams per kilogram (mg/kg)
Black bolded values indicate the compound was detected by the laboratory
at a concentration less than the EPA Residential Regional Screening Level
Blue bolded values indicate the compound was detected by the laboratory
at a concentration greater than the EPA Residential Regional Screening Level
Orange highlighted values indicate the compound was detected by the laboratory
at a concentration greater than the EPA Industrial Regional Screening Level

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BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

●	GHN1-2A	Grab Soil Sample Location (1-3-2025): GH= Green House; N = North; S = South; 1, 2, 3 = Bldg. No.; 1-10 = Row No. Inside Green House; A = First Sample Collected; B = Second Sample Collected
— — —		Property Boundary
●	GHS1-3C	Grab Soil Sample (2-18-2025)
●	WGB-01	WGB-1 Welby Garden Boring Location (BEC 2025)
●	MW-01	Monitoring Well Location (BEC 2025)

PROJECT: 45038.2
DATE: 06/24/25
DRAWN: TOM
CHECKED: VEB

FIGURE 6

Dieldrin Concentrations in Soil

Welby Gardens Development Limited
Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007

APPENDIX A

State Engineer Records

Notice of Intent to Construct Monitoring Holes or Dewatering Wells (also Test Holes Penetrating Through a Confining Layer)

COLORADO
Division of Water Resources
Department of Natural Resources

Form Ref Num:	35906
Date Submitted:	12/29/2024 2:33:55 PM
Application Type:	Applications, Filings, and Submittals (No Fee)

Applicant Information

- *Well Owner(s):*

#	Name	Organization	Address	Phone	Email
1	GREGORY HIMMEL	AVALONBAY COMMUNITIES, INC.	5050 S. SYRACUSE ST., SUITE 1025 DENVER, COLORADO 80237	720-245-6941	GREGORY_HIMMEL@AVALONBAY.COM

- *Contact/Consultant(s) to be listed on this application:*

#	Type	Name	Organization	Address	Phone	Email
1	CONSULTANT	TERRY MCGOWAN	BASELINE ENGINEERING CORP	112 N. RUBEY DRIVE GOLDEN, CO 80403	3032295496	TERRY.MCGOWAN@BASELINECORP.COM

Notice Type

- *Specify which notice type.* **Monitoring and observation hole**

Monitoring and observation hole

- *What is the purpose of the hole(s)/well(s):** **Monitoring of groundwater levels and groundwater quality**
- *Anticipated date construction will start (mm/dd/yyyy):** **1/2/2025**
- *Anticipated date construction will be completed (mm/dd/yyyy):** **1/3/2025**

Well Location

- *Locations currently listed on this application:*

#	Q40	Q160	Section	Township	Range	Principal Meridian	Number Holes(Wells)
1	SE	SW	2	3 S	70 W	S	5

Property Owner Contact Information

- *Is the property owner different from the well owner:* **Yes**
- *Prefix* **Mr**
- *First Name* **Nick**
- *Middle Name* **N/A**
- *Last Name* **Gerace**
- *Suffix* **N/A**
- *Organization* **Welby Gardens, LLC**
- *Address* **17201 W. 64th Avenue**
- *City* **ARVADA**
- *State* **CO**
- *Zip* **80007**
- *Phone* **303-288-3398**
- *Email* **nickg@hardyboyplant.com**

Proposed Well Data

- *What is the maximum anticipated depth of the hole(s)/well(s):* **20**
- *In what aquifer will the hole(s)/well(s) be completed:* **ALLUVIAL**
- *In what aquifer type will the hole(s)/well(s) be completed:* **Type 3 (Alluvial)**

Proposed Well Driller

- *Who will be constructing the hole(s)/well(s):* **Professional Geologist as defined in section 23-41-208(b), C.R.S.**
- *Select driller* **N/A**

Constructor Contact Information

- *Prefix* **Mr**
- *First Name* **Terry**
- *Middle Name* **N/A**
- *Last Name* **McGowan**
- *Suffix* **N/A**
- *Organization* **Baseline Engineering Corp**
- *Address* **112 N. Rubey Drive**
- *City* **Golden**
- *State* **CO**
- *Zip* **80403**
- *Country* **United States**
- *Phone* **3032295496**
- *Email* **terry.mcgowan@baselinecorp.com**

Additional Information

- *Please provide any additional information that will assist us in the processing of your submission* **Looks like one of the monitoring wells is located in the NESW, so I will submit a second form.**

Signature and Certification

1. The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104(13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.
2. I understand that the applicant(s) listed have permission to construct the hole(s)/well(s) at the location specified on this Notice of Intent.
3. I understand that a change to the specified section or an increase in the number or depth of proposed holes/wells will require a new Notice of Intent to be filed.

- *I've read and agree to the Terms and Conditions listed above* **Yes**
- *Organization:* **Baseline Engineering Corp**
- *Name:* **Terry McGowan**
- *Email Address:* **terry.mcgowan@baselinecorp.com**

COLORADO
Division of Water Resources
Department of Natural Resources

ACKNOWLEDGEMENT NUMBER	**4002254-MH**
RECEIPT NUMBER	**04002254**

HOLE/WELL OWNER(S)

AVALONBAY COMMUNITIES, INC. (GREGORY HIMMEL)

CONTACT/CONSULTANT(S)

BASELINE ENGINEERING CORP (MCGOWAN, TERRY)

Proposed Hole/Well Information

Number of holes/wells:	5
Maximum Depth:	20 FT
Aquifer:	ALLUVIAL
Aquifer Type:	Type 3 (Alluvial)

APPROVED HOLE/WELL LOCATION

Water Division: 1	Water District: 7
Designated Basin:	N/A
Management District:	N/A
County:	JEFFERSON

Section 2 Township 3.0 S Range 70.0 W Sixth P.M.

Purpose of holes/wells: Monitoring and observation hole
Anticipated Construction Start Date: 1/2/2025

Acknowledgment From State Engineer's Office

ACKNOWLEDGEMENT OF THIS NOTICE DOES NOT CONFER A WATER RIGHT

CONDITIONS OF ACKNOWLEDGEMENT

1) In accordance with Rule 6.3 of the Water Well Construction Rules (2 CCR 402-2), a Notice of Intent was provided to the State Engineer at least 72 hours prior to construction of monitoring & observation hole(s).

2) Construction of the monitoring and observation hole(s) must be completed within 90 days of the date the Notice of Intent was submitted to the State Engineer. Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing must not be used for beneficial purposes. The owner of the monitoring and observation hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.

3) All work must comply with the Water Well Construction Rules, 2 CCR 402-2. Well Construction and Yield Estimate Reports (GWS-31) must be completed for each monitoring and observation hole drilled. The licensed contractor or authorized individual must submit the completed forms to DwrPermitsOnline@state.co.us within 60 days of monitoring and observation hole completion. Aquifer testing information must be submitted on Well Yield Test Report (GWS-39). Forms are available at: https://dwr.state.co.us/eforms

4) Unless a well permit is obtained or variance approved, the monitoring and observation hole(s) must be plugged and sealed within eighteen (18) months after construction. A Well Abandonment Report e-Form available at: https://dwr.state.co.us/eforms must be submitted within 60 days of plugging & sealing to confirm the monitoring and observation hole is no longer in existence. The MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction, and abandonment reports.

5) A MONITORING AND OBSERVATION HOLE CANNOT BE CONVERTED TO A PRODUCTION WATER WELL, except for purposes of remediation (recovery), or as a permanent dewatering system, if constructed in accordance with the Water Well Construction Rules and if such conversion is approved and permitted by the State Engineer.

6) A copy of the acknowledgement (or the notice, if not acknowledged within 3 days of submittal) must be available at the drilling site.

7) This acknowledgement of notice does not indicate that well permit(s) can be approved.

8) If monitoring and observation holes will not be constructed under this notice within 90 days, please indicate “No holes constructed” in an email with the MH acknowledgement number and send to: DwrPermitsOnline@state.co.us

Issued By: ANITIA ARCHULETA

Date Notice received by DWR:	12/29/2024
Notice Expiration Date:	3/29/2025

COLORADO
Division of Water Resources
Department of Natural Resources

ACKNOWLEDGEMENT NUMBER **4002255-MH**
RECEIPT NUMBER **04002255**

HOLE/WELL OWNER(S)

AVALONBAY COMMUNITIES, INC. (GREGORY HIMMEL)

CONTACT/CONSULTANT(S)

BASELINE ENGINEERING CORP (MCGOWAN, TERRY)

Proposed Hole/Well Information

Number of holes/wells: 1
Maximum Depth: 20 FT
Aquifer: ALLUVIAL
Aquifer Type: Type 3 (Alluvial)

APPROVED HOLE/WELL LOCATION

Water Division: 1 Water District: 7
Designated Basin: N/A
Management District: N/A
County: JEFFERSON

Section 2 Township 3.0 S Range 70.0 W Sixth P.M.

Purpose of holes/wells: Monitoring and observation hole
Anticipated Construction Start Date: 1/2/2025

Acknowledgment From State Engineer's Office

ACKNOWLEDGEMENT OF THIS NOTICE DOES NOT CONFER A WATER RIGHT

CONDITIONS OF ACKNOWLEDGEMENT

1) In accordance with Rule 6.3 of the Water Well Construction Rules (2 CCR 402-2), a Notice of Intent was provided to the State Engineer at least 72 hours prior to construction of monitoring & observation hole(s).

2) Construction of the monitoring and observation hole(s) must be completed within 90 days of the date the Notice of Intent was submitted to the State Engineer. Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing must not be used for beneficial purposes. The owner of the monitoring and observation hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.

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4) Unless a well permit is obtained or variance approved, the monitoring and observation hole(s) must be plugged and sealed within eighteen (18) months after construction. A Well Abandonment Report e-Form available at: https://dwr.state.co.us/eforms must be submitted within 60 days of plugging & sealing to confirm the monitoring and observation hole is no longer in existence. The MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction, and abandonment reports.

5) A MONITORING AND OBSERVATION HOLE CANNOT BE CONVERTED TO A PRODUCTION WATER WELL, except for purposes of remediation (recovery), or as a permanent dewatering system, if constructed in accordance with the Water Well Construction Rules and if such conversion is approved and permitted by the State Engineer.

6) A copy of the acknowledgement (or the notice, if not acknowledged within 3 days of submittal) must be available at the drilling site.

7) This acknowledgement of notice does not indicate that well permit(s) can be approved.

8) If monitoring and observation holes will not be constructed under this notice within 90 days, please indicate "No holes constructed" in an email with the MH acknowledgement number and send to: DwrPermitsOnline@state.co.us

Issued By: ANITIA ARCHULETA

Date Notice received by DWR: 12/29/2024
Notice Expiration Date: 3/29/2025

Form No.
GWS-31
02/2024

WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

State of Colorado, Office of the State Engineer
1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581
dwr.colorado.gov and dwrpermitsonline@state.co.us

For Office Use Only

1. Well Permit Number: 4002254-MH **Receipt Number:** 4002254

2. Owner's Well Designation: MW-1

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuise Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 483228.0 Northing: 4407143.19

6. Legal Well Location: SE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☒, Range 70 ☐ E or W ☒, 6th P.M.

County: Jefferson

Subdivision: ____, Lot ____, Block ____, Filing (Unit) ____

7. Ground Surface Elevation: 5681.5 feet **Date Completed:** 01/03/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 19.0 feet **Depth Completed:** 19.0 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☒ No, Date Notification Given: ____

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☒ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	0.5	GW (Rd Base)	Brn	
0.5	2.5	GP (Fill)	Dk Brn	
2.5	16.0	GP	Lt Brn	15.0
16.0	19.0	Claystone	Olive Grey	

Remarks:

12. Hole Diameter (in.)

Hole Diameter (in.)	From (ft)	To (ft)
4.0	0.0	19.0

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	9.0

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	9.0	19.0

14. Filter Pack:
Material Silica sand
Size #10/20
Interval 7.0' - 19.0'

15. Packer Placement:
Type NA
Depth ____

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-7.0'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: ____

Static Level: 5666.53
Date/Time measured: 01/23/2025

Estimated Yield (gpm) ____
Estimate Length (hrs) ____

☐ Dry Hole, Keep Permit Active
☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

Form No. GWS-31
02/2024

WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

State of Colorado, Office of the State Engineer
1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581
dwr.colorado.gov and dwrpermitsonline@state.co.us

For Office Use Only

1. Well Permit Number: 4002254-MH **Receipt Number:** 4002254

2. Owner's Well Designation: MW-2

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuise Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 483437.4 Northing: 4407220.43

6. Legal Well Location: SE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☒, Range 70 ☐ E or W ☒, 6th P.M.
County: Jefferson
Subdivision: ____, Lot ____, Block ____, Filing (Unit) ____

7. Ground Surface Elevation: 5669.9 feet **Date Completed:** 01/02/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 19.0 feet **Depth Completed:** 19.0 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☒ No, Date Notification Given: ____

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☒ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	5.0	GP (Fill)	Dk Brn	
5.0	8.0	SW	Lt Brn	
8.0	10.0	SP/SM	Reddish Brn	8.5-9.0'
10.0	15.3	Claystone	Olive Grey	

Remarks: Monitoring well was dry until 02/03/2025

12. Hole Diameter (in.)

Hole Diameter (in.)	From (ft)	To (ft)
4.0	0.0	15.3

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	9.0

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	5.3	15.3

14. Filter Pack:
Material Silica sand
Size #10/20
Interval 4.0' - 15.3'

15. Packer Placement:
Type NA
Depth ____

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-4.0'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report
Well Yield Estimate Method: ____
Static Level: 5656.50
Date/Time measured: 02/03/2025
Estimated Yield (gpm) ____
Estimate Length (hrs) ____
☐ Dry Hole, Keep Permit Active
☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

Form No. GWS-31
02/2024

WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

State of Colorado, Office of the State Engineer
1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581
dwr.colorado.gov and dwrpermitsonline@state.co.us

For Office Use Only

1. Well Permit Number: 4002255-MH **Receipt Number:** 4002255

2. Owner's Well Designation: MW-3

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuise Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 483445.7 Northing: 4407398.00

6. Legal Well Location: NE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☒, Range 70 ☐ E or W ☒, 6th P.M.
County: Jefferson
Subdivision: ____, Lot ____, Block ____, Filing (Unit) ____

7. Ground Surface Elevation: 5668.4 feet **Date Completed:** 01/02/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 16.0 feet **Depth Completed:** 16.0 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☒ No, Date Notification Given: ____

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☒ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	0.5	GW (Rd Base)	Brn	
0.5	3.5	SW (Fill)	Dk Brn	
3.5	5.5	GP	Lt Brn	
5.5	10.5	SM/SP	Lt Brn	
10.5	11.5	CL	Olive Grey	
11.5	15.5	SM	Lt Brn	11.5
15.5	16.0	Sandstone	Yel. Tan	

Remarks:

12. Hole Diameter (in.)

Hole Diameter (in.)	From (ft)	To (ft)
4.0	0.0	16.0

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	6.0

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	6.0	16.0

14. Filter Pack:
Material: Silica sand
Size: #10/20
Interval: 3.5' - 16.0'

15. Packer Placement:
Type: NA
Depth: ____

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-3.5'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report
Well Yield Estimate Method: ____
Static Level: 5657.08
Date/Time measured: 01/23/2025
Estimated Yield (gpm) ____
Estimate Length (hrs) ____
☐ Dry Hole, Keep Permit Active
☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

Form No.
GWS-31
02/2024

WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

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1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581
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For Office Use Only

1. Well Permit Number: 4002254-MH **Receipt Number:** 4002254

2. Owner's Well Designation: MW-4

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuise Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☑ Zone 13 Easting: 483437.2 Northing: 4407285.16

6. Legal Well Location: SE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☑, Range 70 ☐ E or W ☑, 6th P.M.

County: Jefferson

Subdivision: ______, Lot ______, Block ______, Filing (Unit) ______

7. Ground Surface Elevation: 5669.9 feet **Date Completed:** 01/02/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 20.42 feet **Depth Completed:** 20.42 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☑ No, Date Notification Given: ______

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☑ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	0.5	GW (Rd Base)	Brn	
0.5	3.0	GP (Fill)	Lt Brn	
3.0	7.0	GP	Lt Brn	
7.0	10.0	SP	Lt Brn	
10.5	13.5	CL	Olive Grey	
13.5	15.5	SP	Lt Brn	13.5'
15.5	20.42	Sandstone	Lt Brn	

Remarks:

12. Hole Diameter (in.)

Hole Diameter (in.)	From (ft)	To (ft)
4.0	0.0	20.42

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	10.42

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	10.42	20.42

14. Filter Pack:
Material: Silica sand
Size: #10/20
Interval: 8.0' - 20.42'

15. Packer Placement:
Type: NA
Depth: ______

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-8.0'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: ______

Static Level: 5656.20
Date/Time measured: 01/23/2025

Estimated Yield (gpm) ______
Estimate Length (hrs) ______

☐ Dry Hole, Keep Permit Active
☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

Form No. GWS-31
02/2024

WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

State of Colorado, Office of the State Engineer
1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581
dwr.colorado.gov and dwrpermitsonline@state.co.us

For Office Use Only

1. Well Permit Number: 4002254-MH **Receipt Number:** 4002254

2. Owner's Well Designation: MW-5

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuise Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 48322.8 Northing: 4407285.16

6. Legal Well Location: SE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☒, Range 70 ☐ E or W ☒, 6th P.M.

County: Jefferson

Subdivision: ______, Lot ____, Block ______, Filing (Unit) ______

7. Ground Surface Elevation: 5680.9 feet **Date Completed:** 01/02/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 16.5 feet **Depth Completed:** 14.0 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☒ No, Date Notification Given: ______

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☒ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	2.0	GP (Fill)	Lt Brn	
2.0	5.5	SW	Lt-Dk Brn	
5.5	16.5	Claystone	Dk Grey	

Remarks:

12. Hole Diameter (in.)

Hole Diameter (in.)	From (ft)	To (ft)
4.0	0.0	16.5

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	4.0

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	4.0	14.0

14. Filter Pack:

Material: Silica sand
Size: #10/20
Interval: 3.5' - 14.0'

15. Packer Placement:

Type: NA
Depth: ______

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-3.5'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: ______

Static Level: Dry
Date/Time measured: 01/23/2025

Estimated Yield (gpm) ______
Estimate Length (hrs) ______

☑ Dry Hole, Keep Permit Active
☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

tomcgowan1@comcast.net

From: erica.gutierrez@state.co.us on behalf of DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us>
Sent: Monday, April 7, 2025 9:30 AM
To: Terry McGowan
Cc: dwrpermitsonline@state.co.us; Vincent Barlock
Subject: Re: Submittal of 5 GWS-31 Well Construction and Yield Estimate Reports for 5 Monitoring Wells

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Thank you for your form submission. These forms do not require payment of a fee.

If you would like to check the status of a well permit application, please use this website: Well Permit Search.

DWR forms are available via the eForms Dashboard.
Questions can be submitted through our AskDWR Portal.

Thank You,

P 303.866.3581x0
DWRPermitsOnline@state.co.us | dwr.colorado.gov/

On Sun, Apr 6, 2025 at 5:56 PM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> To whom it may concern:
>
> Baseline Engineering Corporation installed five monitoring wells at the Welby Gardens property located at 17201 W. 64th Avenue, Arvada, CO on January 2 and 3, 2025 under permits 4002254-MH and 4002255-MH. The completed GWS-31 forms are attached.
>
> Please contact me should you have any questions.
>
> Regards,

Terry O. McGowan, P. G. | Senior Geologist/Hydrogeologist

Environmental Division

303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

www.baselinecorp.com | Social Media

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and please delete the original message. Thank you.

Notice of Intent to Construct Monitoring Holes or Dewatering Wells (also Test Holes Penetrating Through a Confining Layer)

COLORADO
Division of Water Resources
Department of Natural Resources

Form Ref Num:	35908
Date Submitted:	12/29/2024 2:44:56 PM
Application Type:	Applications, Filings, and Submittals (No Fee)

Applicant Information

- *Well Owner(s):*

#	Name	Organization	Address	Phone	Email
1	GREGORY HIMMEL	AVALONBAY COMMUNITIES, INC.	5050 S. SYRACUSE STREET, SUITE 1025 DENVER, CO 80237	720-245-6941	GREGORY_HIMMEL@AVALONBAY.COM

- *Contact/Consultant(s) to be listed on this application:*

#	Type	Name	Organization	Address	Phone	Email
1	CONSULTANT	TERRY MCGOWAN	BASELINE ENGINEERING CORP	112 N. RUBEY DRIVE GOLDEN, CO 80403	303-229-5496	TERRY.MCGOWAN@BASELINECORP.COM

Notice Type

- *Specify which notice type.* **Monitoring and observation hole**

Monitoring and observation hole

- *What is the purpose of the hole(s)/well(s):** **Monitoring of groundwater levels and groundwater quality**
- *Anticipated date construction will start (mm/dd/yyyy):** **1/2/2025**
- *Anticipated date construction will be completed (mm/dd/yyyy):** **1/3/2025**

Well Location

- *Locations currently listed on this application:*

#	Q40	Q160	Section	Township	Range	Principal Meridian	Number Holes(Wells)
1	NE	SW	2	3 S	70 W	S	1

Property Owner Contact Information

- *Is the property owner different from the well owner:* **Yes**
- *Prefix* **Mr**
- *First Name* **Nick**
- *Middle Name* **N/A**
- *Last Name* **Gerace**
- *Suffix* **N/A**
- *Organization* **Welby Gardens, LLC**
- *Address* **17201 W. 64th Avenue**
- *City* **ARVADA**
- *State* **CO**
- *Zip* **80007**
- *Phone* **303-288-3398**
- *Email* **nickg@hardyboyplant.com**

Proposed Well Data

- *What is the maximum anticipated depth of the hole(s)/well(s):* **20**
- *In what aquifer will the hole(s)/well(s) be completed:* **ALLUVIAL**
- *In what aquifer type will the hole(s)/well(s) be completed:* **Type 3 (Alluvial)**

Proposed Well Driller

- *Who will be constructing the hole(s)/well(s):* **Professional Geologist as defined in section 23-41-208(b), C.R.S.**
- *Select driller* **N/A**

Constructor Contact Information

- *Prefix* **Mr**
- *First Name* **Terry**
- *Middle Name* **N/A**
- *Last Name* **McGowan**
- *Suffix* **N/A**
- *Organization* **Baseline Engineering Corp**
- *Address* **112 N. Rubey Drive**
- *City* **Golden**
- *State* **CO**
- *Zip* **80403**
- *Country* **United States**
- *Phone* **3032295496**
- *Email* **terry.mcgowan@baselinecorp.com**

Additional Information

- *Please provide any additional information that will assist us in the processing of your submission* **N/A**

Signature and Certification

1. The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104(13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.
2. I understand that the applicant(s) listed have permission to construct the hole(s)/well(s) at the location specified on this Notice of Intent.
3. I understand that a change to the specified section or an increase in the number or depth of proposed holes/wells will require a new Notice of Intent to be filed.

- *I've read and agree to the Terms and Conditions listed above* **Yes**
- *Organization:* **Baseline Engineering Corp**
- *Name:* **Terry McGowan**
- *Email Address:* **terry.mcgowan@baselinecorp.com**

APPENDIX B

Borehole Log/Monitoring Well Completion Diagrams

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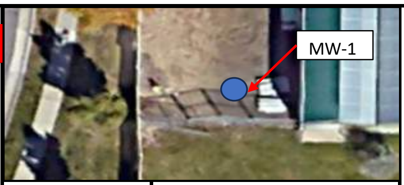
LOG OF EXPLORATORY BORING

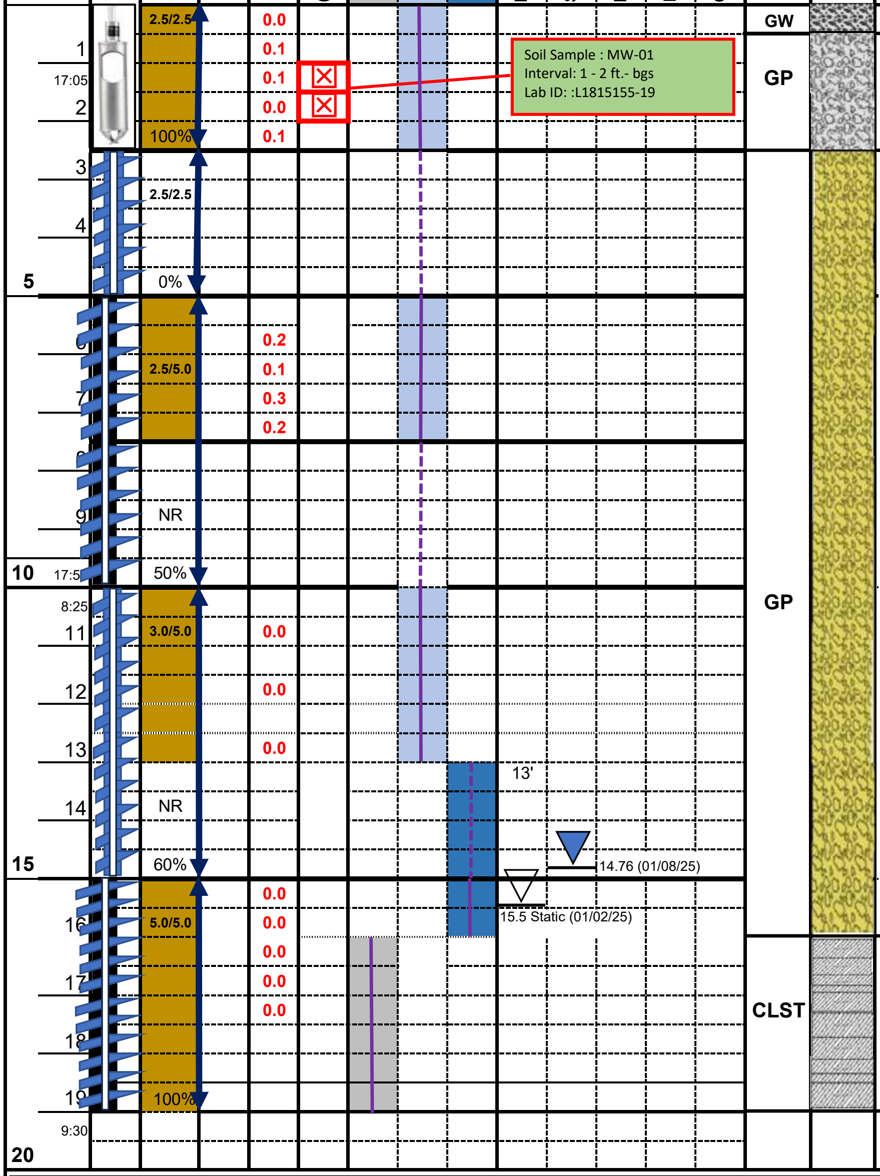
Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/2/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No.
Monitor Well ID: MW-01
Type Temp ☒ Perm ☐
Coordinates: (approximate) Longitude: -105.1959 **Latitude:** 39.81410979

Well Construction Details

TOC Elevation	5681.32		Ft- MSL	Boring Diameter (inches)	4.00	
Ground Elevation	5681.5		Ft- MSL	Casing Diameter (inches)	2	
Total Boring Depth	19.00		Ft bgs	-0.18		
Total Casing Length	18.42		(feet)			
Screen Interval	17.99	to	8.44 ft	**Slot Size**	0.010	inches
Filter Pack Interval	19	to	7 ft	**Sand Size**	#10/20	Silica
Bentonite Seal	7	to	1 ft	**Type:** Bentonite: Chips or Granules		
Surface Seal	1	to	0 ft	**Type:** Conc. w. 8-in Flush-mount Vault box		




Depth (Ft- bgs)
& TIME
Sampler Type & Run (ft)
% Recovery (ft/ft)
Relative Density (blows/ft)
PID (ppm)
Sample Collected At
☒
Saturation Degree
Fracture Intensity
USCS Symbol ( )
Lithographic Column
DPT: 2.5 - 5.0 ft. runs
5 ft. of 5 ft. = 100%
(s) soil; ® rock
Dry
Moist
Wet
Massive (>3.0 ft)
Slightly (1 - 3 ft)
Moderately (0.5-1 ft)
Intensely (0.1- 0.5 ft)
Crushed (<0.1-foot)
13'
14.76 (01/08/25)
15.5 Static (01/02/25)

Soil Sample : MW-01
Interval: 1 - 2 ft.- bgs
Lab ID: :L1815155-19

Depth (Ft- bgs)	TIME	% Recovery (ft/ft)	PID (ppm)	Sample Collected At	Saturation Degree	USCS Symbol
0	17:00	2.5/2.5	0.0		Moist	GW
0.5–1			0.1		Moist	GP
1–1.5	17:05		0.1	☒	Moist	GP
1.5–2			0.0	☒	Moist	GP
2–2.5		100%	0.1		Moist	GP
2.5–5		2.5/2.5 0%				GP
5–7.5		2.5/5.0	0.2 0.1 0.3 0.2		Moist	GP
7.5–10	17:5	NR 50%				GP
10–13	8:25	3.0/5.0	0.0 0.0 0.0		Moist	GP
13–15		NR 60%			Wet	GP
15–16		5.0/5.0	0.0 0.0		Wet	GP
16–19		100%	0.0 0.0 0.0		Dry	CLST
20	9:30					

SOIL/ROCK DESCRIPTION

Well / Boring / DPT Location:
See GPS Longitude and Latitude Coordinates above.

0 - 0.5' Road Base- Gravel, GW

@ 0.5 - 2.5 - FILL: SANDY GRAVEL with Cobbles (GP): Dark brown; well-graded: 30 - 40 % fine to medium gravel; 30 - 40 % (F:M:C = 1:2:1) angular to sub-angular sand; 15% cobbles (>5-in.); 5% fines; moist; no staining; no odor; no PID hits. Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_2 / RCRA-8 .

@2.5 - 16': ALLUVIUM: SANDY GRAVEL with Cobbles (GP): Light brown; well-graded: 30 - 40% fine to medium gravel; 40 - 50% (F:M:C = 1:2:1) angular to sub-angular sand; 10% cobbles (>5-in.); 10% fines; moist; no staining; no odor; no PID hits.

@ 5.0 to 10.0': as above. Moist to dry, no staining, no odor.

@ 10.0': Stop for the night, resume drilling (01/03/25) @ 8:25 am.

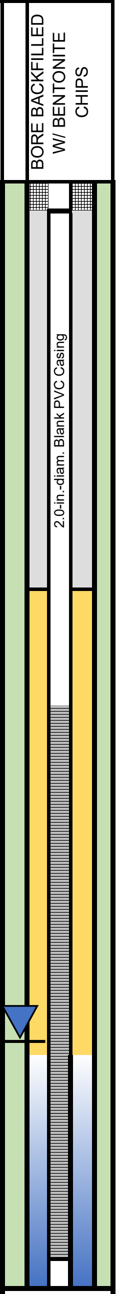
@15.2 - 17.5'**: CLAY (CL):** Olive brown; low-plasticity; stiff; moist; no odor, no staining, no PID hits.

@ 13.0 ': Driller noted very soft drilling and no-recovery on DPT sampler.

@ 15.0 - 16.0': First Encountered Groundwater; moderate recharge
GP -As above; no staining, no odor, no PID hits.

@16.0 - 19.0': BEDROCK: CLAYSTONE (CLST): olive grey; 90% fines: 10% very fine-grained sand; Fe-O_2-staining on partings; moderate pedocal structure development; Dry. No Odor, No Staining.
Base of well casing at ~ 18.8-ft. bgs.
Boring Terminated at ~19.0-ft. bgs.

WELL DETAIL


BORE BACKFILLED W/ BENTONITE CHIPS
2.0-in.-diam. Blank PVC Casing

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

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LOG OF EXPLORATORY BORING

Project No.	45038.Phase 002
Project Name:	AvalonBay: Welby Gardens Phase II Investigation
Logged By:	VEB
Date:	1/2/2025
Job: Location:	17201 W. 64th Ave., Arvada, CO

Boring No.
Monitor Well ID: MW-02
Type Temp ☒ Perm ☐
Coordinates: (approximate) Longitude: -105.193496119 **Latitude:** 39.8147864

Well Construction Details

TOC Elevation	5669.51	Ft- MSL	Boring Diameter (inches)	4.00
Ground Elevation	5669.9	Ft- MSL	Casing Diameter (inches)	2.0
Total Boring Depth	15.3	Ft bgs	-0.39	
Total Casing Length	14.9	(feet)		
Screen Interval	14.72 to 5.17 ft		**Slot Size**	0.010 inches
Filter Pack Interval	15.3 to 4 ft		**Sand Size**	#10/20 Silica
Bentonite Seal	4 to 1 ft		**Type:**	Bentonite: Chips or Granules
Surface Seal	1 to 0 ft		**Type:**	Conc. w. 8-in Flush-mount Vault box

Depth (Ft- bgs)	**& TIME**	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft)	**PID (ppm)**	Sample Collected At	Saturation Degree	Fracture Intensity	USCS Symbol ( )	Lithographic Column
0	11:00	DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; ® rock	Dry / Moist / Wet	Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot)		
			5.0/5.0		0.1		Moist		GP	
1	11:05				0.5	☒				
2					1.3	☒				
					1.7					
3					1.1					
4										
5			100%							
					0.6		Moist		SW	
6					0.7					
			2.5/5.0		0.7					
7					0.7					
8								▽ 8.5' (01/03/25)		
9			NR							
10	17:50		50%							
	8:25						Dry			
11			5.0/5.0		0.7				CLST	
12					0.6					
13										
14					0.7					
15			100%		0.6				CLST	
	11:45									
16										
17										
18										
19										
20										

Soil Sample : MW-02
Date: 01/09/25
Interval: 1 - 2 ft.- bgs

SOIL/ROCK DESCRIPTION

Well / Boring / DPT Location:
See GPS Longitude and Latitude Coordinates above.
Hand-auger each boring location to approximately 4 - to 5-feet bgs.

Borehole Dry on Jan, 6, 2025.
Dry Jan 8, 2025

@ 0.0 - 5.0 - FILL: SANDY GRAVEL with Cobbles (GP): Dark grey to 1-foot then change to dark brown; poorly-graded: 10- to 15% cobbles (3- to >5-in.); subrounded; 30 - 40 % medium to coarse gravel; angular to sub-angular sand; 40 - 45% med. to coarse sand; angular; Fe-O2-staining on grains; loose;10-20% fines; moist to dry; no staining; no odor; no PID hits.
@1 - 2.0': Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .

@5.0 - 8': ALLUVIUM: GRAVELLY SAND (SW): Light brown to tan; well-graded: 85% (F:M:C = 1:2:1) sand, sub-angular; 15% fine to medium gravel; loose; moist; no staining; no odor; no PID hits.

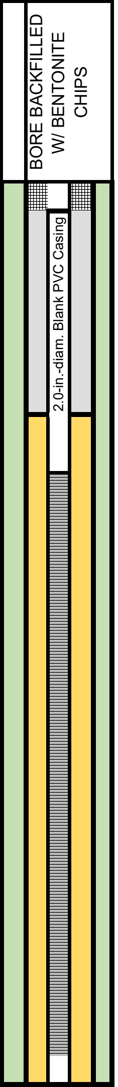
@8.0 - 10.0': SAND TO SILTYSAND (SP_SM): Reddish brown; 80% fine sand, 20% silty fines; loose; no staining; no odor; no PID hits. Wet.
@ 8.5 - 9.0': First Encountered Groundwater; slight coating of water on sand grains; very minimal appearance and saturation of pore spaces.

@10.0 - 15.3': BEDROCK: CLAYSTONE (CLST): olive grey to dark grey; weathered; 90% fines: 10% very fine-grained sand; Fe-O_2-staining on partings; moderate pedocal structure development between 10.5 to 12.5 feet; Dry. No Odor, No Staining.

Boring Terminated at ~15.3-ft. bgs.
Base of well casing at ~ 15.3ft. bgs.

BORING DRY after 5 days. Groundwater sample collected on Jan 24, 2025.
Well yield low. Groundwater capable of supporting minimal sampling.

WELL DETAIL


BORE BACKFILLED W/ BENTONITE CHIPS
2.0-in.-diam. Blank PVC Casing

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

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Page 1 Of 1

LOG OF EXPLORATORY BORING

Project No.	45038.Phase 002	**Boring No.**	
Project Name:	AvalonBay: Welby Gardens Phase II Investigation	**Monitor Well ID:**	**MW-03**
Logged By:	VEB	Type	Temp ☒ Perm ☐
Date:	1/2/2025	**Coordinates: (approximate) Longitude:**	-105.1959 **Latitude:** 39.81410979
Job: Location:	17201 W. 64th Ave., Arvada, CO		

Well Construction Details

TOC Elevation	5668.24	Ft- MSL	Boring Diameter (inches)	4.00	
Ground Elevation	5668.4	Ft- MSL	Casing Diameter (inches)	2	
Total Boring Depth	16.00	Ft bgs	-0.16		
Total Casing Length	15.23	(feet)			
Screen Interval	5.3 to 14.85	ft	**Slot Size**	0.010	inches
Filter Pack Interval	16 to 3.5	ft	**Sand Size**	#10/20	Silica
Bentonite Seal	3.5 to 1	ft	**Type:**	Bentonite: Chips or Granules	
Surface Seal	1 to 0	ft	**Type:**	Conc. w. 8-in Flush-mount Vault box	

Well / Boring / DPT Location:
See GPS Longitude and Latitude Coordinates above.

Depth (Ft- bgs)	& TIME	Sampler Type & Run (ft) DPT: 2.5 - 5.0 ft. runs	% Recovery (ft/ft) 5 ft. of 5 ft. = 100%	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At (s) soil; ® rock	Saturation Degree Dry / Moist / Wet	Fracture Intensity Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot)	USCS Symbol ( )
0	13:00								
			5.0/5.0				Moist		GW
1						☒	Moist		SW
2					1.4	☒	Moist		
3							Moist		
4							Moist		
5			100%		0.6		Moist		GP
6							Moist		
7			3.25/5.0				Moist		
8									
9			NR						
10	13:4		65%		0.75				
11			2.0/5.0	4.5 4.25	0.0		Moist		CL
12					0.0		Moist	11.5 - 12.0 (1/2/25)	
13								13.15 (1/6/25)	
14			NR						
15			40%					14.76 (01/08/25)	
16	13:50		1.0/1.0 100%		0.0 0.0		Wet		SS
17									
18									
19	9:30								
20									

Soil Sample : MW-03
Date: 01/09/25
Interval: 1 - 2 ft.- bgs

SOIL/ROCK DESCRIPTION

0 - 0.5' Road Base- Gravel, GW

@ 0.5 - 3.5 - FILL: GRAVELLY SAND (SW): Dark brown; 20 - 30% find, sub-angular gravel; 65 - 70 % (M:C = 2:1) angular to sub-angular sand; 5% fines; moist; no staining; no odor; no PID hits.
@1 .0 - 2.0': Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .

@3.5 - 5.5': ALLUVIUM: SANDY GRAVEL (GP): Light brown; poorly-graded: 60% fine to coarse gravel; 30% (M:C = 2:1) angular to sub-angular sand; loose; 10% silty; moist; no staining; no odor; no PID hits.

@ 5.5 to 10.5': SILTY SAND TO SAND (SM-SP): Light brown; 45% -55% fine sand; 45% - 55% silty fines; moist; no staining; no odor.

@ 10.5 to 11.5': SILTY CLAY (CL): olive grey; 85% clayey fines; 15% silty fines; very hard; stiff; moist; no staining; no odor.

@11.5 to 15.5': SILTY SAND (SM): Light brown; 65% -75% fine sand; 25% - 35% silty fines; moist; no staining; no odor. Collected 2-ounce Jar sample - on hold.

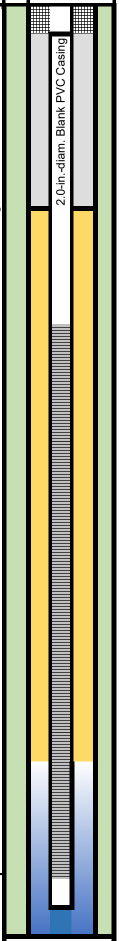
@ **11.5 - 12.0': First Encountered Groundwater**; very slow recharge.

@15.5 - 16.0': BEDROCK: SANDSTONE (SS): yellowish tan; 80% fine-grained sandstone with 20% silty fines; Fe-O_2-staining on partings; Wet. No Odor, No Staining.

Boring Terminated at ~16.0-ft. bgs.
Base of well at approx. 15.39-ft.-bgs.

WELL DETAIL

BORE BACKFILLED W/ BENTONITE CHIPS



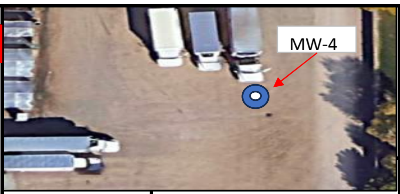
Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

LOG OF EXPLORATORY BORING

Project No.	45038.Phase 002	**Boring No.**	
Project Name:	AvalonBay: Welby Gardens Phase II Investigation	**Monitor Well ID:**	MW-04
Logged By:	VEB	Type	Temp ☒ Perm ☐
Date:	1/2/2025	**Coordinates: (approximate) Longitude:**	-105.193496866 **Latitude:** 39.815391502
Job: Location:	17201 W. 64th Ave., Arvada, CO		

Well Construction Details

TOC Elevation	5669.44	Ft- MSL	Boring Diameter (inches)	4.00	
Ground Elevation	5669.9	Ft- MSL	Casing Diameter (inches)	2	
Total Boring Depth	20.42	Ft bgs	-0.46		
Total Casing Length	19.96	(feet)			
Screen Interval	10.33 to 19.88 ft		**Slot Size**	0.010 inches	
Filter Pack Interval	8 to 20.46 ft		**Sand Size**	#10/20	Silica
Bentonite Seal	1 to 8 ft		**Type:**	Bentonite: Chips or Granules	
Surface Seal	0 to 1 ft		**Type:**	Conc. w. 8-in Flush-mount	Vault box



Well / Boring / DPT Location:
See GPS Longitude and Latitude Coordinates above.

Depth (Ft- bgs)	& TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At	Saturation Degree	Fracture Intensity	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
		DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; ® rock	Dry Moist Wet	Massive (>3.0 ft) Slightly (1 - 3 ft) Moderately (0.5-1 ft) Intensely (0.1- 0.5 ft) Crushed (<0.1-foot)				BORE BACKFILLED W/ BENTONITE CHIPS
0	8:30		3.0/3.0						GW		**0 - 0.5' Road Base- Gravel, GW**	2.0-in.-diam. Blank PVC Casing
1					0.2				GP		**@ 0.5 - 3.0 - FILL: SANDY GRAVEL (GP):** Light brown; poorly-graded; 10% cobbles (1 - >4-in); angular to sub-rounded; 40 - 45% fine to medium gravel, moderately rounded; 50 - 55% (M:C = 2:1) angular to sub-angular sand; loose; 5% fines; dry; no staining; no odor; no PID hits. **@1 .0 - 3.0':** Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .	
						☒						
2			100%		0.3	☒						
	8:45					☒						
3					0.2	☒					**@3.0 - 5.0':** Needed solid stem to get through large cobbles in fill. Appears to be same material as above.	
4		Solid Stem										
	9:00		NR					NR				
5									GP		**@5.0': ALLUVIUM: SANDY GRAVEL (GP):** Light brown; poorly-graded: 60% fine to coarse gravel; 30% (M:C = 2:1) angular to sub-angular sand; loose; 10% silty; moist; no staining; no odor; no PID hits.	
6					0.2							
			2.0/4.0									
7					0.4				SP		**@7.0 to 10.0':** High Slough Zone, no recovery. **@ 7.0 to 10.0': SAND (SP):** Light brown; 50% medium sand; 40 % coarse sand, sub-angular; loose; 10% silty fines; trace fine gravel; Fe-O_2 staining; dry; no staining; no odor.	
8			40%									
9			NR									
		PUSH										
10	9:15		NR									
					0.5				CL		**@ 10.5 to 13.5': CLAY (CL); olive grey;** 90-95% clayey fines; 5-10% very fine sand; stiff; low-plasticity; moist; no staining; no odor; no PID hits	
11			5.0/5.0									
					0.6	☐						
12												
					0.6							
13			100%					13.5 (1/2/25) 13.15 (1/6/25)				
					0.4				SP		**@ 13.5 ': First Encountered Groundwater**. Slow to moderate recharge. **@ 13.5 to 15.5: SAND (SP)** light brown; poorly-graded; 90%fine to medium-grained sand; angular to sub-angular; thinly laminated; no odor; moist grading to wet. Driller noticed DPT drive-rod refusal at ~ 15.5'.	
14												
15					0.7							
	9:20		0.0/5.0						SS			
16		Solid Stem									**@15.5': BEDROCK: SANDSTONE (SS):** Light brown; fine-grained sand; highly-weathered; slight to moderate formation of pedocals with FE-O2 staining on partings: moist; no hydrocarbon or other staining; no odor.	
17												
18			0%									
19		Solid Stem							SS		**@15.0 to 20.4':** Solid Stem Auger from 15 to 20.4 to build well. Shoe of Augers still in Sandstone. **Base of Casing at ~20.42 ft. bgs. Boring Terminated at ~20.42 ft. bgs.**	
20												

Soil Sample : MW-04
Date: 01/06/25
Interval: 1 - 3 ft.- bgs

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

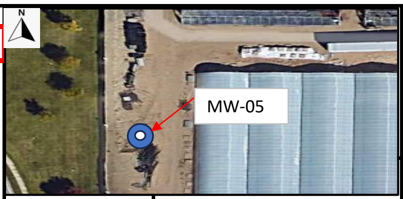
LOG OF EXPLORATORY BORING

Project No.	45038.Phase 002	**Boring No.**	
Project Name:	AvalonBay: Welby Gardens Phase II Investigation	**Monitor Well ID:**	**MW-05**
Logged By:	VEB	Type	Temp ☒ Perm ☐
Date:	1/2/2025	**Coordinates: (approximate) Longitude:**	-105.195948551
Job: Location:	17201 W. 64th Ave., Arvada, CO	**Latitude:**	39.81555228

Well Construction Details

TOC Elevation	5680.47 Ft- MSL		Boring Diameter (inches)	4.00
Ground Elevation	5680.9 Ft- MSL		Casing Diameter (inches)	2
Total Boring Depth	16.50 Ft bgs		-0.43	
Total Casing Length	13.45 (feet)			
Screen Interval	3.75 to 13.30 ft		**Slot Size**	0.010 inches
Filter Pack Interval	3 to 14 ft		**Sand Size**	#10/20 Silica
Bentonite Seal	1 to 3 ft		**Type:**	Bentonite: Chips or Granules
Surface Seal	0 to 1 ft		**Type:**	Conc. w. 8-in Flush-mount Vault box

☒ Sample Collected At



Depth (Ft- bgs)	& TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At (s) soil; ® rock	Saturation Degree (Dry / Moist / Wet)	Fracture Intensity (Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot))	USCS Symbol ( )	Lithographic Column
0		DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%							
0.5			2.0/2.0		0.0		Moist		GP	
1					0.1		Moist			
1.5					0.1	☒	Moist			
2			100%		0.1	☒	Moist			
2.5	8:45								SW	
3			3.0/3.0							
4		Solid Stem					NR		SW	
4.5			NR							
5										
6					0.2		Dry			
6.5			3.0/5.0				Dry			
7					0.1		Dry			
8			60%	2			Dry			
9			NR							
10				3						
11			5.0/5.0				Dry			
11.5				4	0.1		Dry			
12					0.1		Dry			
13			100%	4	0.1		Dry			
13.5					0.1		Dry			
14.5				4.5	0.1		Dry			
15					0.1		Dry			
15.5			1.5/1.5				Dry			
16				4.5	0.1		Dry			
16.5			100%				Dry			
17										
18										
19									SS	
20										

Soil Sample : MW-05
Date: 01/09/25
Interval: 1 - 2 ft.- bgs
Lab ID: L1815155-03

SOIL/ROCK DESCRIPTION

Well / Boring / DPT Location:
See GPS Longitude and Latitude Coordinates above.

@ 0.5 - 3.0 - FILL: SANDY GRAVEL with COBBLES (GP): Light brown; poorly-graded; 70% fine to medium gravel, angular to sub-rounded; 25-30% (M:C = 2:1) angular to sub-angular sand; loose; with 5% cobbles (>5-in); dry; no staining; no odor; no PID hits.

@1 .0 - 2.0': Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .

@2.0 - 5.0': Alluvium: GRAVELLY SAND (SW); MOTTLED LIGHT TO DARK BROWN; 80% F-M sand, sub-angular; 20% fine gravel, sub-rounded; loose; moist; no staining; no odor; no PID hits.

@5.0 - 5.5': Gradational contact with bedrock

@5.5': BEDROCK: CLAYSTONE (CLST); dark grey; highly weathered 5.0 to 7.0 feet; Fe-O2-staining speckled throughout; pedocals more developed with depth; more competent with depth; very hard; dry; no staining; no odor; no PID hits.

Base of Casing at ~13.88 ft. -bgs.

@16.5': Drill-rig refusal.

Boring Terminated at ~16.5 ft. bgs.

WELL DETAIL

BORE BACKFILLED W/ BENTONITE CHIPS

2.0-in.-diam. Blank PVC Casing

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

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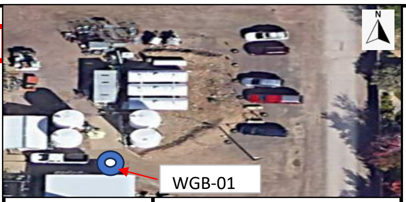
LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/3/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No. WGB-01
Monitor Well ID:
Type Temp ☒ Perm ☐
Coordinates: (approximate) **N** 1721763.89 **E** 3086053.63

Well Construction Details

TOC Elevation	NA	Ft- MSL		Boring Diameter (inches)	4.00
Ground Elevation	5671.5	Ft- MSL		Casing Diameter (inches)	0
Total Boring Depth	14.00	Ft bgs			
Total Casing Length		(feet)			
Screen Interval	to	ft	**Slot Size**		inches
Filter Pack Interval	to	ft	**Sand Size**		Silica
Bentonite Seal	0 to 14	ft	**Type:** Bentonite: Chips or Granules		
Surface Seal	to	ft	**Type:**		



Depth (Ft- bgs)	& TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At ☒	Saturation Degree (Dry / Moist / Wet)	Fracture Intensity (Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1 - 0.5 ft) / Crushed (<0.1-foot))	USCS Symbol ( )	Lithographic Column
0		DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; ® rock				
	12:20		2.0/2.0						SW	
1						☒				
2			100%		0.2	☒				
	12:30									
3			3.0/3.0							
4			Solid Stem NR				NR		GP-GW	
5					0.5					
6			4.0/5.0		0.2					
7					0.3					
8			80%		2.0					
9					4.0	☒		~9.0 (01/03/25)		
	13:00		NR							
10										
11			5.0/5.0							
12										
13			100%							
14										
15										
16										
17										
18										
19									SS	
20										

Soil Sample : WGB-01
Date: 01/09/25
Interval: 1 - 2 ft.- bgs
Lab ID: :L1815155-01

Soil Sample WGB-01 -A
Date: 01/09/25
Interval: 8.7 ft.- bgs
Lab ID: L1815155-22

SOIL/ROCK DESCRIPTION

Well / Boring / DPT Location:
See GPS Longitude and Latitude Coordinates above.

@ 0.0 - 2.5' - **FILL: GRAVELLY SAND (SW)**
dark brown; well-graded; 70% fine to coarse sand; 25% fine gravel, angular to sub-rounded; 5% fines; dry; no staining; no odor; no PID hits.
@1 .0 - 2.0': Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA 8 .

@2.5 - 9.0': Alluvium: SANDY GRAVEL with COBBLES (GP-GW); mottled white to tan and red; 20% cobbles (>5-inch); 40% f:M:C sand; 40% fine gravel, sub-angular, sub-rounded; loose; moist; no staining; no odor; no PID hits.

@7.0 - 7.5': GRAVELLY SAND (SW): color as above; 55-60 very fine to coarse sand; 30-35% fine gravel; trace coarse; 5-10% silty fines: loose; moist; no staining; no odor; no PID hits.
@9.0': Contact w/ bedrock. Wet, very minimal, barely visible water coating grains and filling pore spaces. Highly unlikely to produce any water at volumes suitable for sampling.

@9.5': BEDROCK: CLAYSTONE (CLST); dark olive grey; highly weathered 80% clay fines; 20% very fine sand; thinly laminated; weathered with traces of Fe-O2-staining speckled throughout; pedocals more developed with depth; more competent with depth; very hard; dry; no staining; no odor; no PID hits.

@14.0': Drill rig refusal.

Boring Terminated at ~14.0 ft. bgs. Boring backfilled to ground surface with 1/4 - 1/2-inch bentonite granules.

WELL DETAIL

BORE BACKFILLED W/ BENTONITE CHIPS

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.

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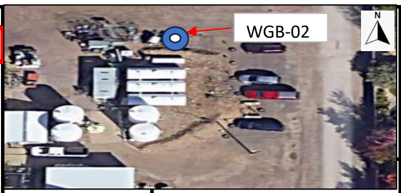
LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/3/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No. WGB-02
Monitor Well ID:
Type Temp ☒ Perm ☐
Coordinates: (approximate) **N** 1721843.82 **E** 3086085.02

Well Construction Details

TOC Elevation	NA Ft- MSL		Boring Diameter (inches)	4.00
Ground Elevation	5670.7 Ft- MSL		Casing Diameter (inches)	0
Total Boring Depth	14.50 Ft bgs			
Total Casing Length	(feet)			
Screen Interval	to ft		**Slot Size**	inches
Filter Pack Interval	to ft		**Sand Size**	Silica
Bentonite Seal	0 to 14.5 ft		**Type:**	Bentonite: Chips or Granules
Surface Seal	to ft		**Type:**	



Depth (Ft- bgs)	& TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At	Saturation Degree	USCS Symbol ( )
0		DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; ® rock	Dry / Moist / Wet	
	13:00		3.0/3.0				Dry	SM
1					0.5	☒	Dry	
2			100%		0.4	☒	Dry	
	13:32						Dry	
3								
4		Solid Stem	NR					
5	13:45				0.3		Dry	
6			4.0/5.0		0.3		Dry	
7					0.6		Dry	
8			80%		0.5		Dry	
9			NR				Moist	CL
10	13:4							GW-SW
11			4.5/5.0		0.3		Moist	
12					0.6			CL
13			90%		0.5			GW SW
14					0.0			CLST
15	14:10							
16								
17								
18								
19								
20								

Fracture Intensity: Massive (>3.0 ft) | Slightly (1 - 3 ft) | Moderately (0.5-1 ft) | Intensely (0.1- 0.5 ft) | Crushed (<0.1-foot)

Lithographic Column

Soil Sample : WGB-02
Date: 01/09/25
Interval: 1 - 2 ft.- bgs
Lab ID: :L1815155-23

SOIL/ROCK DESCRIPTION

Well / Boring / DPT Location:
See GPS Longitude and Latitude Coordinates above.

@ 0.0 - 8.5' - FILL: SILTY SAND (SM) with GRAVEL
Mottled dark brown to olive grey; 70% fine- medium-coarse sand, sub-angular; 20% fine gravel, angular to sub-rounded; trace to 5% cobbles; trace to 5% fines; dry; no staining; no odor; no PID hits.

@1 .0 - 2.0': Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .

@8.5 - 9.0': Alluvium: **SANDY CLAY (CLs):** Light brown; 80-90% clayey fines; 10-20% very fine sand; stiff; moist; no staining; no odor; no PID hits.

@9.0 - 11.5': SANDY GRAVEL to GRAVELLY SAND (GW-SW): Light brown; 45-55% fine to medium sand; 45-55% fine to coarse gravel; loose; moist; no staining; no odor; no PID hits.

@11.5 ' - 12.0': CLAY (CL) olive grey; very stiff; dry.

@12.0 - 12.5': SANDY GRAVEL (GW) as above at 9.0'; dry no staining; no odor; no PID hits.

@12.5' - 13.0': GRAVELLY SAND (SW): light brown: 55-65% fine to med sand; 35-45% fine to medium gravel; dry no staining; no odor; no PID hits.

BEDROCK: CLAYSTONE (CLST); dark olive grey; highly weathered from 13 to 14 ft.; stiff; hard to 14.5'; 90% clay fines; 10% very fine sand; thinly laminated; weathered with traces of Fe-O2-staining speckled throughout; pedocals more developed with depth; more competent with depth; very hard; dry; no staining; no odor; no PID hits.

@14.5': Drill rig refusal.
Boring Terminated at ~14.5 ft. bgs. Boring backfilled to ground surface with 1/4 - 1/2-inch bentonite granules.

WELL DETAIL

BORE BACKFILLED W/ BENTONITE CHIPS

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.

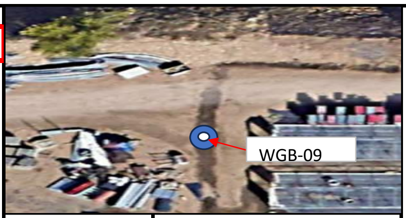
LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/3/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No. WGB-09
Monitor Well ID:
Type Temp ☐ Perm ☐
Coordinates: (approximate) **N** 1722523.19 **E** 3085522.0100

Well Construction Details

TOC Elevation	NA	Ft- MSL		Boring Diameter (inches)	4.00
Ground Elevation	5676.9	Ft- MSL		Casing Diameter (inches)	0
Total Boring Depth	1.00	Ft bgs			
Total Casing Length		(feet)			
Screen Interval	to	ft		**Slot Size**	inches
Filter Pack Interval	to	ft		**Sand Size**	Silica
Bentonite Seal	0 to	1 ft		**Type:** Bentonite: Chips or Granules	
Surface Seal	to	ft		**Type:**	



Depth (Ft- bgs)	Depth (0.10-foot bgs)	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At	Saturation Degree: Dry	Moist	Wet	Fracture Intensity: Massive (>3.0 ft)	Slightly (1 - 3 ft)	Moderately (0.5-1 ft)	Intensely (0.1- 0.5 ft)	Crushed (<0.1-foot)	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
0.0		DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; ® rock	Dry	Moist	Wet								**Well / Boring / DPT Location:** **See GPS Longitude and Latitude Coordinates above.**	BORE BACKFILLED W/ BENTONITE CHIPS
	0.1		0.5/0.5														**@ 0.0 - 1.0' - FILL: CLAYEY SAND (SC) TO SILTY SAND (SM)** Mottled dark brown; 60-65% fine to medium sand; 10-15% fine gravel, angular to sub-rounded; trace to 5% cobbles (>3-in), angular to sub-angular; loose; trace to 15-25% clayey to silty fines; dry; no staining; no odor; no PID hits. **@0.0 - 0.5':** Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 and TEPH .	
	0.2		100%		0.2	☒ ☒												
	0.3				0.5													
	0.4				0.2	☒ ☒									SC-SM			
0.5					0.3													
	0.6		0.5/0.5		0.2													
	0.7				0.2													
	0.8		100%		2.0													
	0.9				4.0 0.7												**HAND Boring Terminated at ~1.0 ft. bgs.** Boring backfilled to ground surface with 1/4 - 1/2-inch bentonite granules.	
1.0																		
	1.1																	
	1.2																	
	1.3																	
	1.4																	
1.5																		
	1.6																	
	1.7																	
	1.8																	
	1.9																	
2.0																		

Soil Sample : WGB-09
Date: 01/09/25
Interval: 0 - 1.0 ft.- bgs
Lab ID: L1815155-20

Boring Remarks: Boring advanced in 6-inch (0.5-foot) increments using a decontaminated stainless-steel hand-auger.

Page 1 0f 1

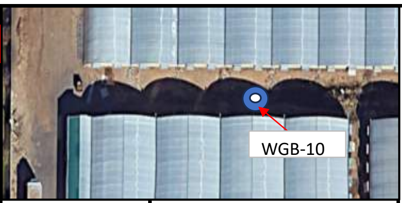
LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/3/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No. WGB-10
Monitor Well ID:
Type Temp ☐ Perm ☐
Coordinates: (approximate) **N** 1721837.48 **W** 3085494.3400

Well Construction Details

TOC Elevation	NA	Ft- MSL	Boring Diameter (inches)	4.00
Ground Elevation	5676.2	Ft- MSL	Casing Diameter (inches)	0
Total Boring Depth	1.00	Ft bgs		
Total Casing Length		(feet)		
Screen Interval	to ft		**Slot Size**	inches
Filter Pack Interval	to ft		**Sand Size**	Silica
Bentonite Seal	0 to 1 ft		**Type:**	Bentonite: Chips or Granules
Surface Seal	to ft		**Type:**	



Depth (Ft- bgs)	Depth (0.01-foot bgs)	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At ☒	Saturation Degree: Dry / Moist / Wet	Fracture Intensity: Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot)	USCS Symbol ( )	Lithographic Column
0.0		DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; ® rock				
	0.1		0.5/0.5		0.1		Moist			
	0.2		100%			☒ ☒	Moist			
	0.3				0.1		Moist			
	0.4					☒ ☒	Moist		SC-SM	
0.5					0.2		Moist			
	0.6		0.5/0.5				Moist			
	0.7				0.1		Moist			
	0.8		100%				Moist			
	0.9				0.1		Moist			
1.0										
	1.1									
	1.2									
	1.3									
	1.4									
1.5										
	1.6									
	1.7									
	1.8									
	1.9									
2.0										

Soil Sample : WGB-10
Date: 01/09/25
Interval: 0 - 1.0 ft.- bgs
Lab ID: L1815155-04

SOIL/ROCK DESCRIPTION

Well / Boring / DPT Location:
See GPS Longitude and Latitude Coordinates above.

@ 0.0 - 1.0' - FILL: CLAYEY SAND (SC) TO SILTY SAND (SM)
Mottled dark brown; 55-60% fine to medium sand; 5-10% fine gravel, angular to sub-rounded; angular to sub-angular; loose; trace to 30-35% clayey to silty fines; dry; no staining; no odor; no PID hits.

@0.0 - 0.5': Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 and TEPH .

HAND Boring Terminated at ~1.0 ft. bgs. Boring backfilled to ground surface with 1/4 - 1/2-inch bentonite granules.

WELL DETAIL

BORE BACKFILLED W/ BENTONITE CHIPS

Boring Remarks: Boring advanced in 6-inch (0.5-foot) increments using a decontaminated stainless-steel hand-auger.

BASELINE

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens: Phase II Inv.

WELL NAME/ID: MW-01

LOCATION 17201 W. 64th Ave., Arvada, CO.

A GROUND SURFACE ELEVATION 5681.5 FT.-AMSL

B TOP OF CASING ELEVATION 5681.32 FT.-AMSL

TYPE OF WELL Temporary Monitoring Well

LATITUDE: 39.814109794 FEET

PERMIT NO.

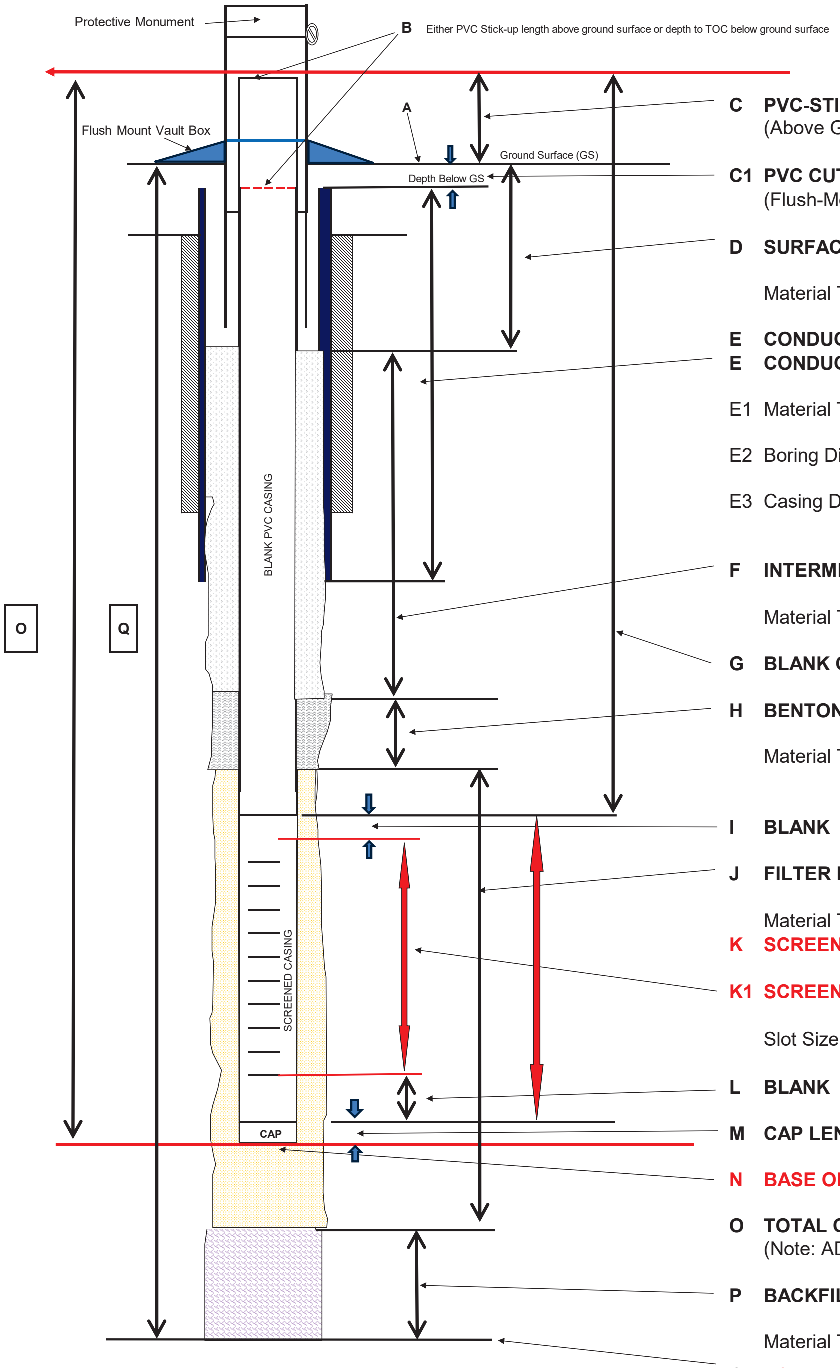
LONGITUDE: -105.195946959 FEET

CASING DIAMETER 2.0 **INCHES**

DATE DRILLED 01/02/25

BORING DIAMTER 4.0 **INCHES**

DATE INSTALLED 01/03/25



C	**PVC-STICK-UP :** (Above Ground Monument Used)	GROUND		T.O.C		INTERVAL	FEET
C1	**PVC CUT OFF** (Flush-Mount Vault Box Used)	GROUND	5681.5	T.O.C	5681.32	INTERVAL 0.15	FEET
D	**SURFACE SEAL :**	BOT.	1	TOP	0	INTERVAL 1.0	FEET

Material Type/ Quantity: Concrete w/ 8-inch Diameter Flush-mount vault box

E	**CONDUCTOR**	YES		NO	X		
E	**CONDUCTOR**	BOT.		TOP		INTERVAL	FEET

E1 Material Type:

E2 Boring Diameter: inches

E3 Casing Diameter: inches

F	**INTERMEDIATE SEAL:**	BOT.	7.0	TOP	1.0	INTERVAL 6.0	FEET

Material Type/ Quantity: Bentonite: Chips or Granules

G	**BLANK CASING:**	BOT.	8.27	TOP	0.15	INTERVAL 8.09	FEET
H	**BENTONITE SEAL:**	BOT.	NA	TOP	NA	INTERVAL NA	FEET

Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.20 FEET

J	**FILTER PACK:**	BOT.	19.0	TOP	7	INTERVAL 12	FEET

Material Type/ Quantity: # 10/20 Silica Sand

K	**SCREEN CASING:**	BOT.	17.67	TOP	7.67	INTERVAL 10.0	FEET
K1	**SCREEN INTERVAL:**	BOT.	18.02	TOP	8.47	INTERVAL 9.55	FEET

Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 18.6 FEET

O TOTAL CASING LENGTH: 18.42 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. TOP INTERVAL 0 FEET

Material Type/ Quantity: NA

Q TOTAL BORING DEPTH: 19.0 FEET

DRILLED BY: Site Services LLC.
LOGGED BY: Vince Barlock C.P.G
DRILLING METHOD H.S.A or DPT ☒ **ROTARY** ☐

SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:

See map on boring log. Well located in SW corner of property just north inside access gate.

Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE

FIRM

VERSION 1.0

BASELINE

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens Phase II Inv. 45038. Phase 002

LOCATION 17201 W. 64th Ave., Arvada, CO.

TYPE OF WELL Temporary Monitoring Well

PERMIT NO.

CASING DIAMETER 2.0 **INCHES**

BORING DIAMTER 4.0 **INCHES**

WELL NAME/ID: MW-02

A GROUND SURFACE ELEVATION 5669.9 FT.-AMSL

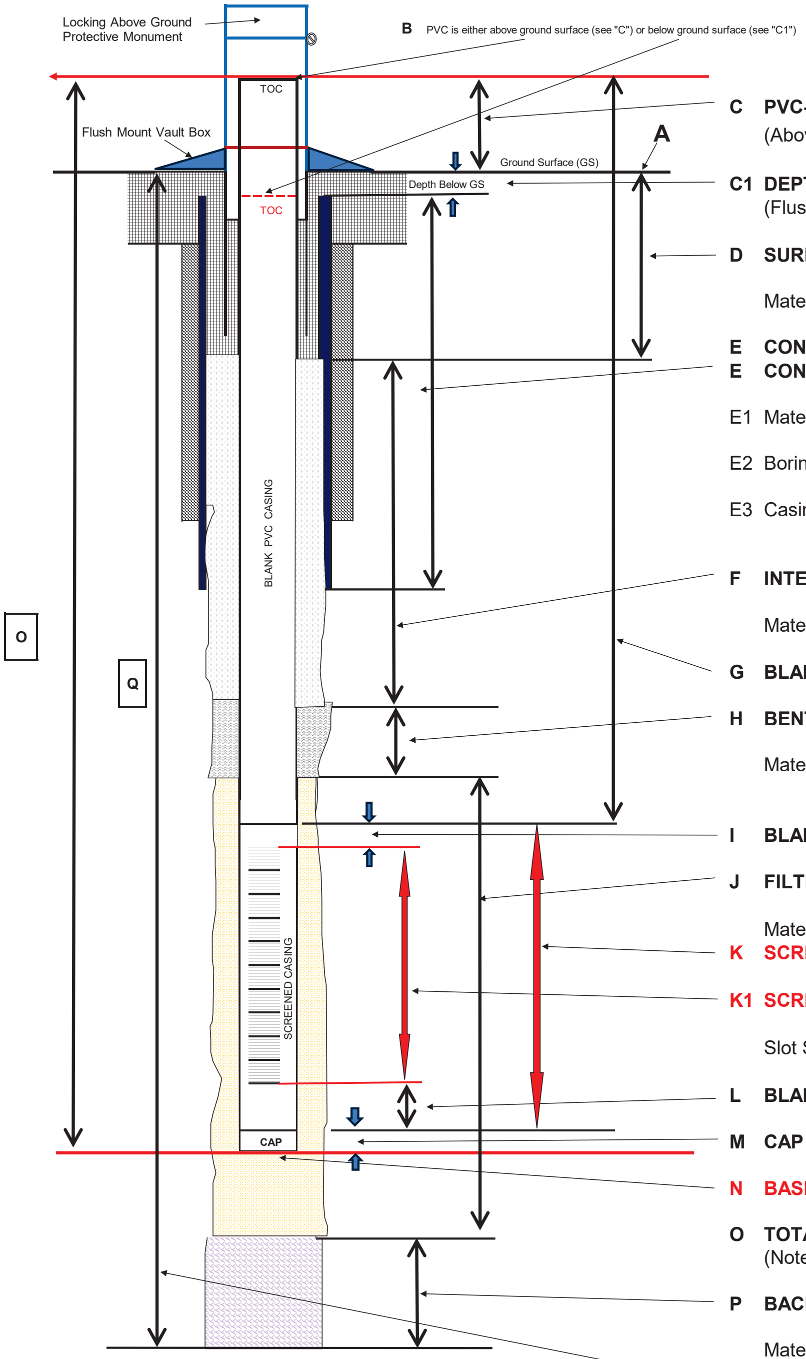
B TOP OF CASING ELEVATION 5669.51 FT.-AMSL

LATITUDE: 39.814786397 FEET

LONGITUDE: -105.193496119 FEET

DATE DRILLED 01/02/25

DATE INSTALLED 01/02/25


Locking Above Ground Protective Monument
B
PVC is either above ground surface (see "C") or below ground surface (see "C1")
TOC
Flush Mount Vault Box
A
Ground Surface (GS)
Depth Below GS
TOC
BLANK PVC CASING
O
Q
SCREENED CASING
CAP

C PVC-STICK-UP : GROUND ______ T.O.C ______ INTERVAL ______ FEET
(Above Ground Monument Used)

C1 DEPTH TO TOC GROUND 5669.9 T.O.C 5669.51 INTERVAL 0.4 FEET
(Flush-Mount Vault Box Used)

D SURFACE SEAL : BOT. 1.0 TOP 0.0 INTERVAL 1.0 FEET
Material Type/ Quantity: Concrete w/ 8-inch diameter flush-mount vault box

E CONDUCTOR YES ☐ NO ☒

E CONDUCTOR BOT. ______ TOP ______ INTERVAL ______ FEET

E1 Material Type: ______

E2 Boring Diameter: ______ inches

E3 Casing Diameter: ______ inches

F INTERMEDIATE SEAL: BOT. 4.0 TOP 1.0 INTERVAL 3.0 FEET
Material Type/ Quantity: Bentonite: Chips or Granules

G BLANK CASING: BOT. 4.97 TOP -0.4 INTERVAL 4.57 FEET

H BENTONITE SEAL: BOT. NA TOP NA INTERVAL NA FEET
Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.2 FEET

J FILTER PACK: BOT. 15.3 TOP 4.0 INTERVAL 11.3 FEET
Material Type/ Quantity: #10/20 Silica Sand

K SCREEN CASING: BOT. 14.97 TOP 4.77 INTERVAL 10.0 FEET

K1 SCREEN INTERVAL: BOT. 14.72 TOP 5.17 INTERVAL 9.55 FEET
Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 15.3 FEET

O TOTAL CASING LENGTH: 14.9 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. NA TOP NA INTERVAL NA FEET
Material Type/ Quantity: NA

Q TOTAL BORING DEPTH: 15.3 FEET

DRILLED BY: Site Services LLC
LOGGED BY: Vincent Barlock C.P.G
DRILLING METHOD H.S.A or DPT ☒ ROTARY ☐
SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:
See map /photo on boring log. Well located east of ASTs north of front access gate.
Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE

FIRM

BASELINE

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens Phase II Inv. 45038. Phase 002

LOCATION 17201 W. 64th Ave., Arvada, CO.

TYPE OF WELL Temporary Monitoring Well

PERMIT NO.

CASING DIAMETER 2.0 **INCHES**

BORING DIAMTER 4.0 **INCHES**

WELL NAME/ID: MW-03

A GROUND SURFACE ELEVATION 5668.4 FT.-AMSL

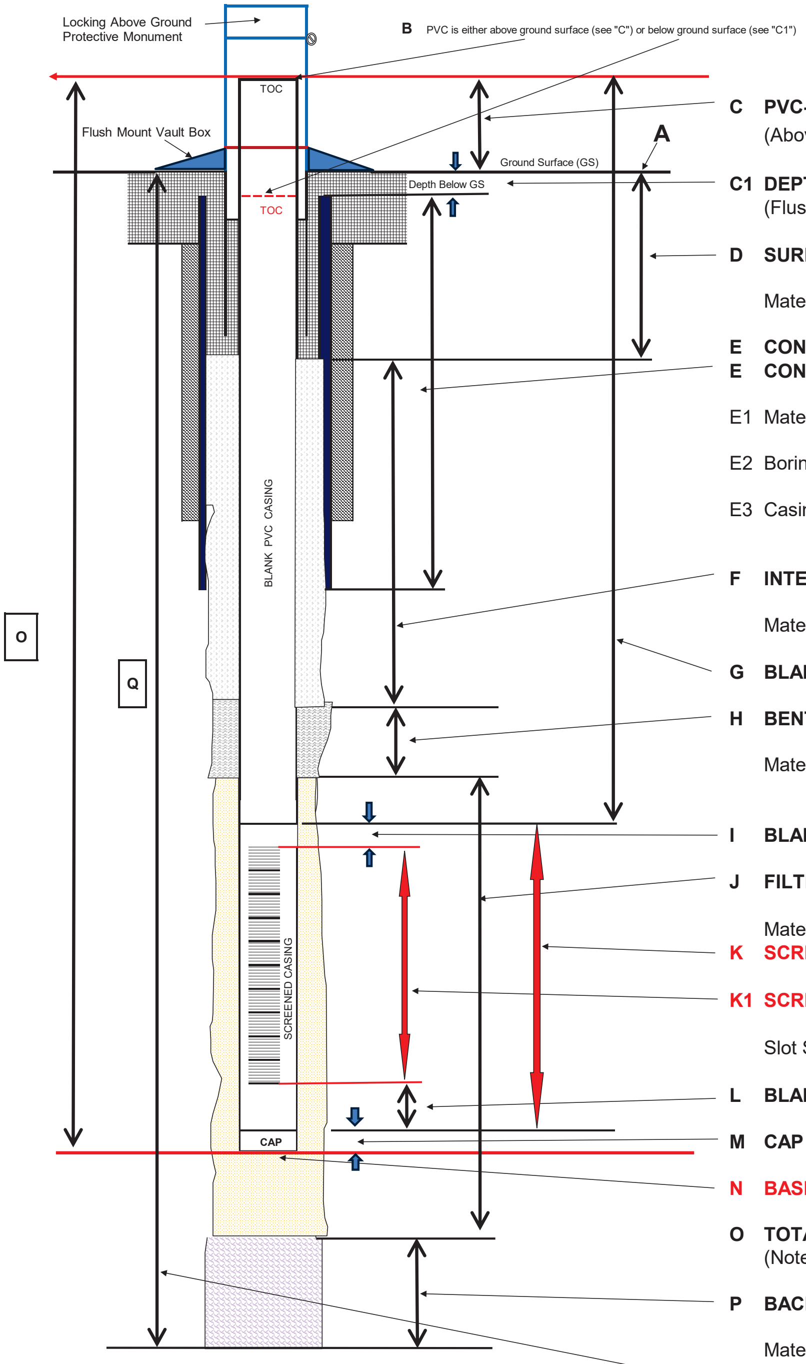
B TOP OF CASING ELEVATION 5668.24 FT.-AMSL

LATITUDE: 39.816405683 FEET

LONGITUDE: -105.193406672 FEET

DATE DRILLED 01/02/25

DATE INSTALLED 01/02/25


Locking Above Ground Protective Monument
B
PVC is either above ground surface (see "C") or below ground surface (see "C1")
TOC
Flush Mount Vault Box
A
Ground Surface (GS)
Depth Below GS
TOC
BLANK PVC CASING
O
Q
SCREENED CASING
CAP

C PVC-STICK-UP : GROUND ______ T.O.C ______ INTERVAL ______ FEET
(Above Ground Monument Used)

C1 DEPTH TO TOC GROUND 5668.4 T.O.C 5668.24 INTERVAL 0.16 FEET
(Flush-Mount Vault Box Used)

D SURFACE SEAL : BOT. 1.0 TOP 0.0 INTERVAL 1.0 FEET

Material Type/ Quantity: Concrete w/ 8-inch diameter flush-mount vault box

E CONDUCTOR YES ☐ NO ☒

E CONDUCTOR BOT. ______ TOP ______ INTERVAL ______ FEET

E1 Material Type:

E2 Boring Diameter: ______ inches

E3 Casing Diameter: ______ inches

F INTERMEDIATE SEAL: BOT. 3.5 TOP 1.0 INTERVAL 2.5 FEET

Material Type/ Quantity: Bentonite: Chips or Granules

G BLANK CASING: BOT. 5.06 TOP 0.16 INTERVAL 4.90 FEET

H BENTONITE SEAL: BOT. NA TOP NA INTERVAL NA FEET

Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.2 FEET

J FILTER PACK: BOT. 16.0 TOP 3.5 INTERVAL 12.5 FEET

Material Type/ Quantity:

K SCREEN CASING: BOT. 15.06 TOP 5.06 INTERVAL 10.0 FEET

K1 SCREEN INTERVAL: BOT. 14.81 TOP 5.26 INTERVAL 9.55 FEET

Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 15.39 FEET

O TOTAL CASING LENGTH: 15.23 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. NA TOP NA INTERVAL NA FEET

Material Type/ Quantity: NA

Q TOTAL BORING DEPTH: 16.0 FEET

DRILLED BY: Site Services LLC

LOGGED BY: Vincent Barlock C.P.G

DRILLING METHOD **H.S.A or DPT** ☒ **ROTARY** ☐

SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:

See map /photo on boring log. Well located east of ASTs north of front access gate.
Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE

FIRM

BASELINE

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens Phase II Inv. 45038. Phase 002

LOCATION 17201 W. 64th Ave., Arvada, CO.

TYPE OF WELL Temporary Monitoring Well

PERMIT NO.

CASING DIAMETER 2.0 **INCHES**

BORING DIAMTER 4.0 **INCHES**

WELL NAME/ID: MW-04

A GROUND SURFACE ELEVATION 5669.9 FT.-AMSL

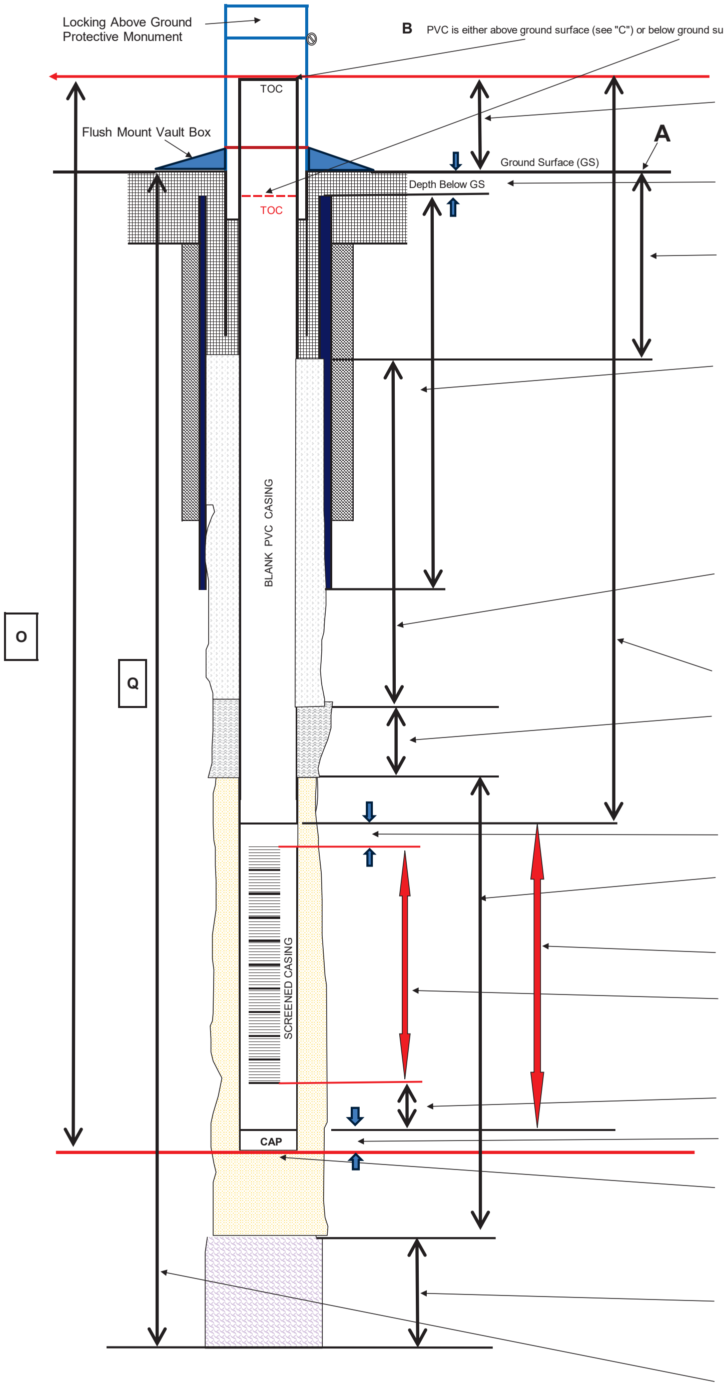
B TOP OF CASING ELEVATION 5669.44 FT.-AMSL

LATITUDE: 39.815391502 FEET

LONGITUDE: -105.193496866 FEET

DATE DRILLED 01/02/25

DATE INSTALLED 01/02/25


Locking Above Ground Protective Monument
B
PVC is either above ground surface (see "C") or below ground surface (see "C1")
TOC
Flush Mount Vault Box
A
Ground Surface (GS)
Depth Below GS
TOC
BLANK PVC CASING
O
Q
SCREENED CASING
CAP

C PVC-STICK-UP : GROUND ____ T.O.C ____ INTERVAL ____ FEET
(Above Ground Monument Used)

C1 DEPTH TO TOC GROUND 5669.9 T.O.C 5669.44 INTERVAL 0.46c FEET
(Flush-Mount Vault Box Used)

D SURFACE SEAL : BOT. 1.0 TOP 0.0 INTERVAL 1.0 FEET

Material Type/ Quantity: Concrete w/ 8-inch diameter flush-mount vault box

E CONDUCTOR YES ☐ NO ☒

E CONDUCTOR BOT. ____ TOP ____ INTERVAL ____ FEET

E1 Material Type:

E2 Boring Diameter: ____ inches

E3 Casing Diameter: ____ inches

F INTERMEDIATE SEAL: BOT. 8.0 TOP 1.0 INTERVAL 7.0 FEET

Material Type/ Quantity: Bentonite: Chips or Granules

G BLANK CASING: BOT. 10.09 TOP 0.46 INTERVAL 9.63 FEET

H BENTONITE SEAL: BOT. NA TOP NA INTERVAL NA FEET

Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.2 FEET

J FILTER PACK: BOT. 20.42 TOP 8 INTERVAL 12.46 FEET

Material Type/ Quantity:

K SCREEN CASING: BOT. 20.09 TOP 10.09 INTERVAL 10.0 FEET

K1 SCREEN INTERVAL: BOT. 19.84 TOP 10.29 INTERVAL 9.55 FEET

Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 20.42 FEET

O TOTAL CASING LENGTH: 19.96 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. NA TOP NA INTERVAL NA FEET

Material Type/ Quantity: NA

Q TOTAL BORING DEPTH: 20.42 FEET

DRILLED BY: Site Services LLC

LOGGED BY: Vincent Barlock C.P.G

DRILLING METHOD **H.S.A or DPT** ☒ **ROTARY** ☐

SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:

See map /photo on boring log. Well located west of access road in truck loading bay area just west and north of exposed storm-water drain.
Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE

FIRM

BASELINE

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens Phase II Inv. 45038. Phase 002

WELL NAME/ID: MW-05

LOCATION 17201 W. 64th Ave., Arvada, CO.

A GROUND SURFACE ELEVATION 5680.9 FT.-AMSL

B TOP OF CASING ELEVATION 5680.47 FT.-AMSL

TYPE OF WELL Temporary Monitoring Well

LATITUDE: 39.815552282 FEET

PERMIT NO.

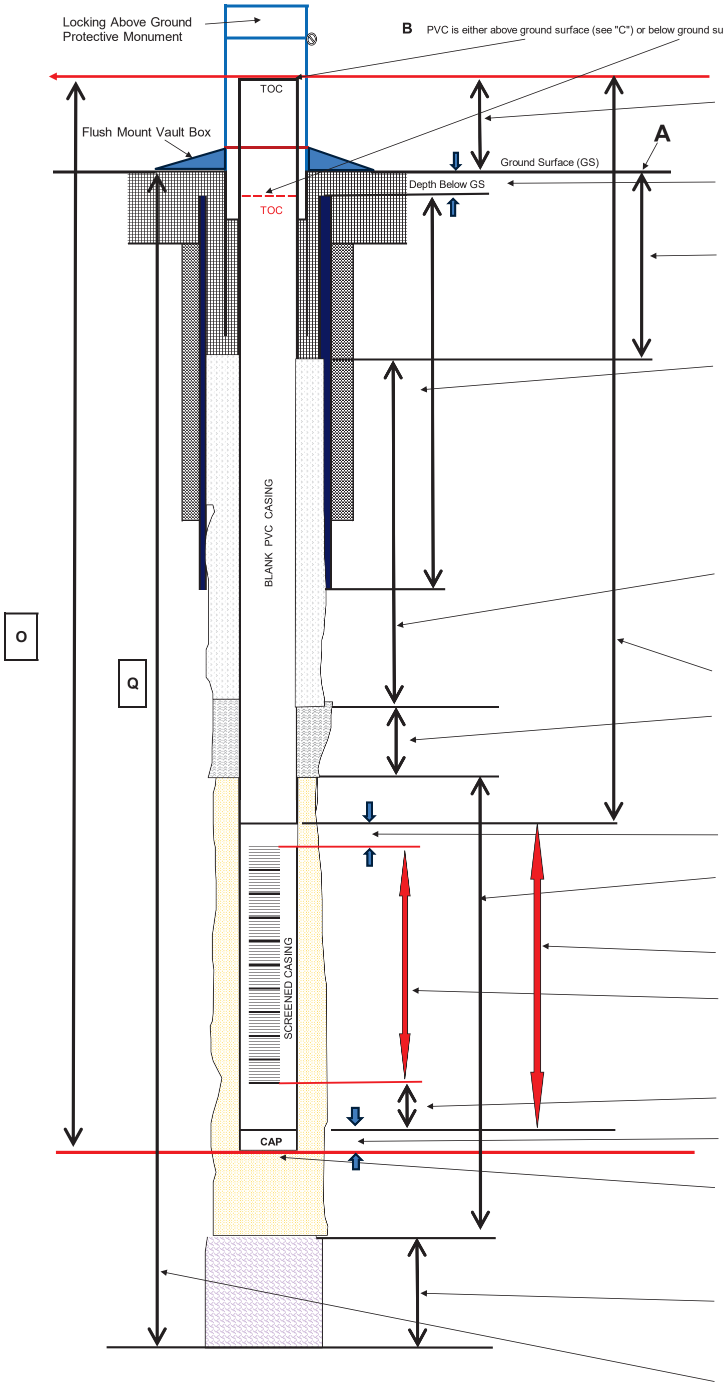
LONGITUDE: -105.195948551 FEET

CASING DIAMETER 2.0 **INCHES**

DATE DRILLED 01/02/25

BORING DIAMTER 4.0 **INCHES**

DATE INSTALLED 01/02/25


Locking Above Ground Protective Monument
B
PVC is either above ground surface (see "C") or below ground surface (see "C1")
TOC
Flush Mount Vault Box
A
Ground Surface (GS)
Depth Below GS
TOC
BLANK PVC CASING
O
Q
SCREENED CASING
CAP

C PVC-STICK-UP : GROUND ______ T.O.C ______ INTERVAL ______ FEET
(Above Ground Monument Used)

C1 DEPTH TO TOC GROUND 5680.9 T.O.C 5680.47 INTERVAL 0.43 FEET
(Flush-Mount Vault Box Used)

D SURFACE SEAL : BOT. 1.0 TOP 0.0 INTERVAL 1.0 FEET

Material Type/ Quantity: Concrete w/ 8-inch diameter flush-mount vault box

E CONDUCTOR YES ☐ NO ☒

E CONDUCTOR BOT. ______ TOP ______ INTERVAL ______ FEET

E1 Material Type: ______

E2 Boring Diameter: ______ inches

E3 Casing Diameter: ______ inches

F INTERMEDIATE SEAL: BOT. 3.5 TOP 1.0 INTERVAL 2.5 FEET

Material Type/ Quantity: Bentonite: Chips or Granules

G BLANK CASING: BOT. 3.55 TOP 0.43 INTERVAL 3.12 FEET

H BENTONITE SEAL: BOT. NA TOP NA INTERVAL NA FEET

Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.2 FEET

J FILTER PACK: BOT. 14.0 TOP 3 INTERVAL 11.0 FEET

Material Type/ Quantity: ______

K SCREEN CASING: BOT. 13.55 TOP 3.55 INTERVAL 10.0 FEET

K1 SCREEN INTERVAL: BOT. 13.30 TOP 3.75 INTERVAL 9.55 FEET

Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 13.88 FEET

O TOTAL CASING LENGTH: 13.45 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. 16.5 TOP 14.0 INTERVAL 2.5 FEET

Material Type/ Quantity: slough

Q TOTAL BORING DEPTH: 16.5 FEET

DRILLED BY: Site Services LLC

LOGGED BY: Vincent Barlock C.P.G

DRILLING METHOD H.S.A or DPT ☒ ROTARY ☐

SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:

See map /photo on boring log. Well located on west side of property near perimeter wall, approximately 1/2-way north of southern access gate

Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE

FIRM

APPENDIX C

Development, Purge, and Sampling Records

GROUNDWATER SAMPLING DATA SHEET

BASELINE
Engineering · Planning · Surveying

Project Name: AvalonBay, Welby Garden, Phase II Inv.	Sampler Name(s): V.E.B / T.O.M
Project Number: 45038. Phase 002	Date: 01/08/2025
Monitoring Well I.D.: MW-01	Weather Conditions: 30 ~ ºF Sunny
Wellhead Inspection (note conditions): New 8-inch Steel, flush-mount vault Box with new J-plug cap.	

Groundwater Measurements and Purge Data:

Water Column Height = h
h = bottom of casing (ft.) minus static water level (ft.) = 3.7 ft.

1. Static Water Level[1] (±0.01ft.)	14.76	8. Purge Equipment Used	Disposable Bailer
2. Bottom of Casing[1] (±0.01ft.)	18.42	9. Dedicated? (Yes or [✓ No])	No, disposable
3. Casing Diameter (in.)	2.0	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	0.60	11. Time to Purge Well (min)	~33
5. 3 x Casing Volume (gallons)	1.8	12. Immiscible Layer Observed (yes or [✓ no])	N/A
6. Actual Volume of Water Purged	9.8	13. Thickness if Immiscible layer (if present)	N/A
7. Water Level Measuring Equip.	100-ft WLI	[1]Measured from a defined point on the edge of casing (surveyed top of casing)	

Purge Parameters:

1 millivolt = 1 microseimen/cm

Date	Time	Volume Purged (gallons)	Temp (ºC)	pH	Specific Conductivity (uS/cm)	Relative Turbidity	Other
01/08/25	12:00	2.8	12.6	7.9	-38	High	Brown
01/08/25	12:22	4.0	12.4	7.7	-33	High	Lt.brown
01/08/25	12:33	3.0	13.9	7.9	-36	Moderate	Lt.brown

Well Evacuated to Dryness? (Yes or [✓ No]) ______________________

Time to recharge? Approximately 8-10 min.

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (ºC)	pH	Specific Conductivity (__S/cm)	Relative Turbidity	Other
01/08/25	16:20	9.8	13.85	7.8	-34	Moderate	

1. Sampling Equipment Used	Disposable biler				**Other Information:**	
2. Pump Rate	N/A				**Decontamination Procedures**	[✓ Alconox, DI rinse]
3. Sample Appearance:	clear ☐	low ☐	medium ☒	high ☐		
Color	Dark brown changing to light tan				**Instrument Calibrations**	[✓ pH,] conductivity
4. Odor	none					
5. Method of Sample Preservation	H_2SO_4, ~~HNO_3~~, none				**Unusual Occurrences**	none

2-inch Casing Vol. = $\frac{7.48 \times 3.14 \times H}{144}$

= 0.60 gallons

2-inch Casing Vol. = 0.0218 ft³ = 0.163 gallons
4-inch Casing Vol. = 0.0873 ft³ = 0.683 gallons

7.48 gallons/cubic foot
Vol ft³ = 3.14 x (r²) ft² x h ft

GROUNDWATER SAMPLING DATA SHEET

Project Name:	AvalonBay, Welby Garden, Phase II Inv.	Sampler Name(s):	V.E.B / T.O.M
Project Number:	45038. Phase 002	Date:	01/08/2025
Monitoring Well I.D.:	MW-03	Weather Conditions:	36 ºF Sunny
Wellhead Inspection (note conditions):	New 8-inch Steel, flush-mount vault Box with new J-plug cap.		

Groundwater Measurements and Purge Data:

Water Column Height = h

h = bottom of casing (ft.) minus static water level (ft.) = 4.18 ft.

1. Static Water Level[1] (±0.01ft.)	10.85	8. Purge Equipment Used	Disposable Bailer
2. Bottom of Casing[1] (±0.01ft.)	15.03	9. Dedicated? (Yes or [✓ No])	No, disposable
3. Casing Diameter (in.)	2.0	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	0.68	11. Time to Purge Well (min)	~ 32
5. 3 x Casing Volume (gallons)	2.4	12. Immiscible Layer Observed (yes or [✓ no])	N/A
6. Actual Volume of Water Purged	10.0	13. Thickness if Immiscible layer (if present)	N/A
7. Water Level Measuring Equip.	100-ft WLI	[1] Measured from a defined point on the edge of casing (surveyed top of casing)	

Purge Parameters:

1 millivolt = 1 microseimen/cm

Date	Time	Volume Purged (gallons)	Temp (ºC)	pH	Specific Conductivity (uS/cm)	Relative Turbidity	Other
01/08/25	13:00	4.0	14.2	7.60	-22	High	Dark Brown
01/08/25	13:30	4.0	14.0	7.70	-11	Moderate	Lt. brown
01/08/25	14:00	2.0	13.9	7.50	-11	Moderate	Lt.tan

Well Evacuated to Dryness? ([✓ Yes] or No) ______________________

Time to recharge? Approximately 10 min.

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (ºC)	pH	Specific Conductivity (__S/cm)	Relative Turbidity	Other
01/08/25	15:40	10.0	13.3	7.50	-11	Moderate	

1. Sampling Equipment Used	Disposable biler	**Other Information:**	
2. Pump Rate	N/A	**Decontamination Procedures**	[✓ Alconox, DI rinse]
3. Sample Appearance:	clear ☐ low ☒ medium ☐ high ☐		
Color	light tan	**Instrument Calibrations**	[✓ pH], conductivity
4. Odor	none		
5. Method of Sample Preservation	H_2SO_4, ~~HNO_3~~, none	**Unusual Occurrences**	none

2-inch Casing Vol. = $\frac{7.48 \times 3.14 \times h}{144}$

= 0.68 gallons

2-inch Casing Vol. = 0.0218 ft^3 = 0.163 gallons
4-inch Casing Vol. = 0.0873 ft^3 = 0.683 gallons

7.48 gallons/cubic foot
Vol ft^3 = 3.14 x (r^2) ft^2 x h ft

GROUNDWATER SAMPLING DATA SHEET

BASELINE
Engineering · Planning · Surveying

Project Name: AvalonBay, Welby Garden, Phase II Inv.	Sampler Name(s): V.E.B / T.O.M
Project Number: 45038. Phase 002	Date: 01/08/2025
Monitoring Well I.D.: MW-04	Weather Conditions: 30 ~ ºF Sunny
Wellhead Inspection (note conditions): New 8-inch Steel, flush-mount vault Box with new J-plug cap.	

Groundwater Measurements and Purge Data:

Water Column Height = h

h = bottom of casing (ft.) minus static water level (ft.) = 6.8 ft.

1. Static Water Level[1] (±0.01ft.)	13.16	8. Purge Equipment Used	Disposable Bailer
2. Bottom of Casing[1] (±0.01ft.)	19.96	9. Dedicated? (Yes or [✓ No])	No, disposable
3. Casing Diameter (in.)	2.0	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	1.1	11. Time to Purge Well (min)	~ 32
5. 3 x Casing Volume (gallons)	3.3	12. Immiscible Layer Observed (yes or [✓ no])	N/A
6. Actual Volume of Water Purged	5.5	13. Thickness if Immiscible layer (if present)	N/A
7. Water Level Measuring Equip.	100-ft WLI	[1]Measured from a defined point on the edge of casing (surveyed top of casing)	

Purge Parameters:

1 millivolt = 1 microseimen/cm

Date	Time	Volume Purged (gallons)	Temp (ºC)	pH	Specific Conductivity (uS/cm)	Relative Turbidity	Other
01/08/25	14:20	0.5	20	7.55	-7	Moderate	Brown
01/08/25	14:45	3.0	15.4	7.44	-12	High	Lt.tan
01/08/25	14:50	1.0	15.5	7.53	-15	Moderate	Lt.tan
01/08/25	14:52	1.0	15.3	7.53	-15	Moderate	Lt.tan

Well Evacuated to Dryness? ([✓ Yes] or No) ________________________

Time to recharge? Approximately 30 min.

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (ºC)	pH	Specific Conductivity (__S/cm)	Relative Turbidity	Other
01/08/25	15:00	5.5	15.3	7.54	-15	clear	

1. Sampling Equipment Used	Disposable biler				**Other Information:**	
2. Pump Rate	N/A				**Decontamination Procedures**	[✓ Alconox, DI rinse]
3. Sample Appearance:	clear ☒	low ☐	medium ☐	high ☐		
Color	clear to very light tan				**Instrument Calibrations**	[✓ pH], conductivity
4. Odor	none					
5. Method of Sample Preservation	H_2SO_4, ~~HNO_3~~, none				**Unusual Occurrences**	none

2-inch Casing Vol. = $\frac{7.48 \times 3.14 \times h}{144}$ = 1.1 gallons

2-inch Casing Vol. = 0.0218 ft^3
4-inch Casing Vol. = 0.0873 ft^3

7.48 gallons/cubic foot
Vol ft^3 = 3.14 x (r^2) ft^2 x h ft

PURGE AND SAMPLING RECORD

Project Name: Welby Gardens

Well ID: MW-02

BASELINE
Engineering · Planning · Surveying

Project Number: 45038.002

Purging Method: Pump [✓ Bailer] Check Valve Other

Sampler's Name: Terry McGowan ~~Taylor Twohig~~

Date	Time	Initial Water Level	pH	Temp. °C	Specific Conductance (m-S or µ-S)	Dissolved Oxygen (ppm)/%	ORP (mV)	Volume Removed (gallons)	Casing Volumes Removed	Comments (Color, turbidity, odor, free products, etc.)
1-24-25	11:30	12.91	/	/	/	/	/			0.1 ppm PFP, fill VOC, 1,4-D, Pest., Metals (No preservative)
				Did not purge due to very slow recovery						nitrate/sulfate, and Herbs
										0.8 full before going dry
										Clear, no silts, Did not
1-23-25	1630	13.03	Note WL rose 0.12 feet over night, considerable							purge, No enough water
				snow melt occurring						for field parameters
										12:05 Sample time
										2-100 ml amber for 1,4-dioxane
										2-100 ml amber for pesticides
					Dumped ~~Rinsed~~ out the HNO_3 and triple rince bottle				→	1-250 HDPE for RCRA 8 metals
					w/DI water. LAB needs					3-40ml vials for VOCs
					to filter.					1-125 HDPE for Nitrate+Sulfate
										1-liter amber for herbicides

Casing Volume = 0.163 (for 2" diameter wells)x(Total depth of well at measuring point 14.91 - Initial Water Depth______) = _____x 3 well volumes = _____. Use 0.653 for 4" diameter wells or 1.469 for 6" diameter wells). Use 0.04 for 1" diameter wells.

PURGE AND SAMPLING RECORD

BASELINE Engineering · Planning · Surveying

Project Name: Welby Gardens

Well ID: MW-01

Project Number: 45038.002

Purging Method: Pump [✓ Bailer] Check Valve Other

Sampler's Name: Terry McGowan ~~Taylor Twohig~~

Date	Time	Initial Water Level	pH	Temp. °C	Specific Conductance (m-S or µ-S)	Dissolved Oxygen (ppm)/%	ORP (mV)	Volume Removed (gallons)	Casing Volumes Removed	Comments (Color, turbidity, odor, free products, etc.)
1-23-25	15:05	14.79						0	0	
	15:15		7.73	12.8	-29	—	~~-29~~	0	0	DK br to brown, no odor or sheen, plenty of silt
			7.73	12.9	-29	—	—	0.75	>1	lt br, less silt, no odor or sheen
	1520		7.77	13.1	-31	—	—	1.5	<3	lt br SAA
	1526		7.78	13.0	-32	—	—	2.25	>2	SAA, clearing
										Sample 15:35
										1-23-25
										2 100ml amber
										bottles for 1,4-dioxane

Casing Volume = 0.163 (for 2" diameter wells)x(Total depth of well at measuring point 18.35 - Initial Water Depth 14.79) = 0.58 (3.56) 3 well volumes = 1.74 Use 0.653 for 4" diameter wells or 1.469 for 6" diameter wells). Use 0.04 for 1" diameter wells.

PURGE AND SAMPLING RECORD

BASELINE
Engineering · Planning · Surveying

Project Name: Welby Gardens

Well ID: MW-3

Project Number: 45038.002

Purging Method: Pump [✓ Bailer] Check Valve Other

Sampler's Name: Terry McGowan ~~Taylor Twohig~~

Date	Time	Initial Water Level	pH	Temp. °C	Specific Conductance (m-S or µ-S)	Dissolved Oxygen (ppm)/%	ORP (mV)	Volume Removed (gallons)	Casing Volumes Removed	Comments (Color, turbidity, odor, free products, etc.)
1-23-25	14:15	11.16								
	1430		7.32	12.1	-7 mv	/	/	0		Brown silty no odor, No sheen
			7.42	12.6	-12	/	/	~.75	~1.2	Lt brown to brown silty (cloudy) no odor or sheen
			7.41	12.6	-12	/	/	~1.5	~2.2	~1/3 bailer, SAA
	1440		7.41	12.6	-12	/	/	~2.0	~3.1	SAA, let sit
										Sample @ 1600
										1-23-25
										2-100 ml amber bottles
										for 1,4-Dioxane

Casing Volume = 0.163 (for 2" diameter wells)x(Total depth of well at measuring point 15.02 - Initial Water Depth 11.16) = .629 x 3 well volumes = 1.89. Use 0.653 for 4" diameter wells or 1.469 for 6" diameter wells). Use 0.04 for 1" diameter wells.
3.86

PURGE AND SAMPLING RECORD

BASELINE
Engineering · Planning · Surveying

Project Name: Welby Gardens

Well ID: MW- 4

Project Number: 45038.002

Purging Method: Pump [✓ Bailer] Check Valve Other

Sampler's Name: Terry McGowan ~~Taylor Twohig~~

Date	Time	Initial Water Level	pH	Temp. °C	Specific Conductance (m-S or µ-S)	Dissolved Oxygen (ppm)/%	ORP (mV)	Volume Removed (gallons)	Casing Volumes Removed	Comments (Color, turbidity, odor, free products, etc.)
01-23-25	1330	13.24	7.36	13.9	-13 mV	/	/	0		slighty cloudy no odor no sheen
			7.25	14.5	-2	/	/	~1		SAA
			7.55	13.9	-20	/	/	~1.5		Well going dry, barely any water
	1400		7.48	13.7	15	/	/			
										Sample 1620
										1-23-25
										2-100 ml ambr bottles
										for 1, 4- dioxane

Casing Volume =0.163 (for 2" diameter wells)x(Total depth of well at measuring point 19.92 Initial Water Depth 13.24) = 1.08 x 3 well volumes = 3.24 Use 0.653 for 4" diameter wells or 1.469 for 6" diameter wells). Use 0.04 for 1" diameter wells.

TD 19.92 6.68 X .163

APPENDIX D

Laboratory Analytical Reports for Soil Samples

ANALYTICAL REPORT

January 20, 2025

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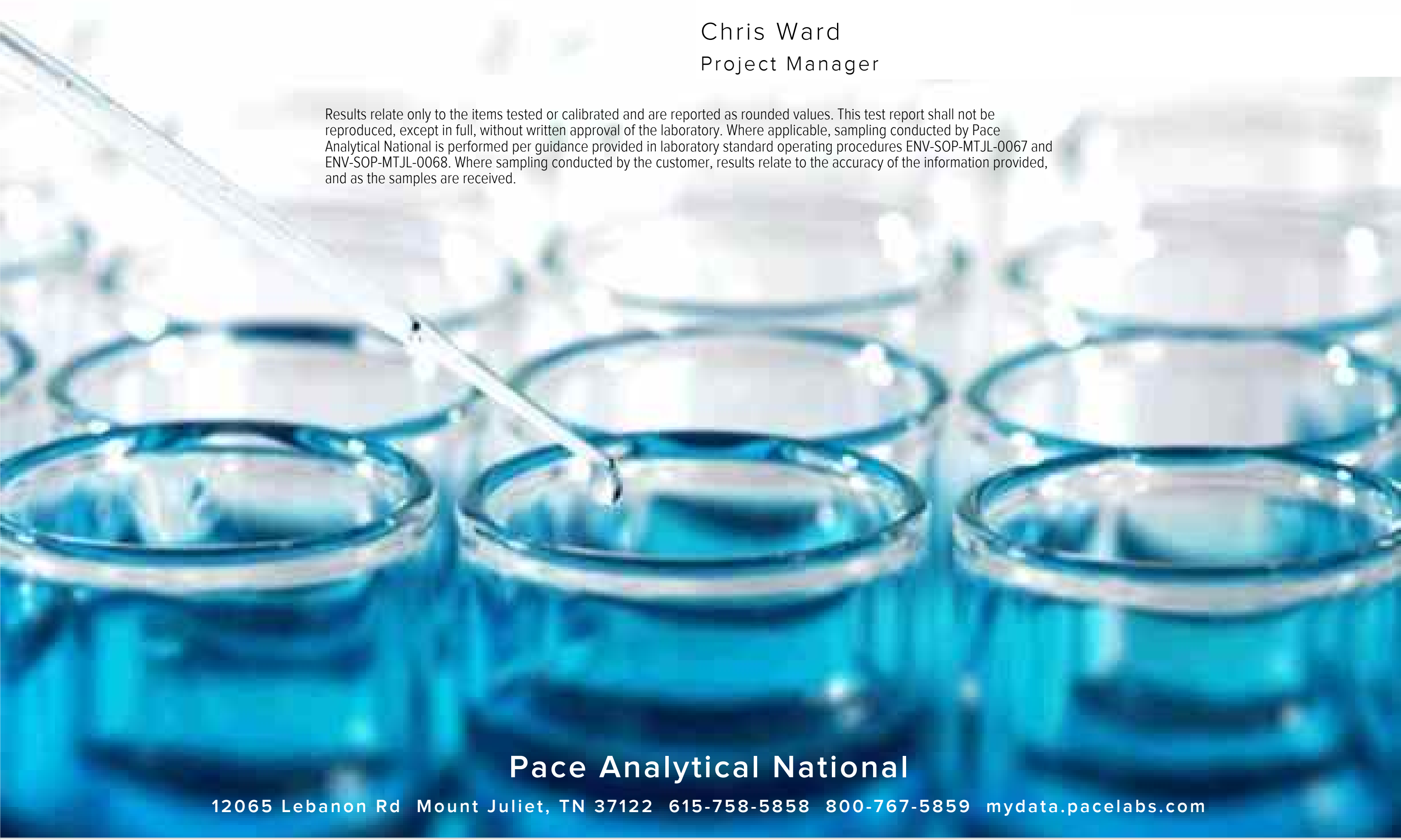
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Baseline Engineering

Sample Delivery Group:	L1815155
Samples Received:	01/07/2025
Project Number:	45038-001
Description:	Welby Gardens, Arvada, Colorodo
Site:	WELBY GARDENS
Report To:	Vincent Barlock 112 N Rubey Dr. , Unit 210 Golden, CO 80403

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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SAMPLE SUMMARY

MW-04 L1815155-01 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/02/25 08:45	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 13:08	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:22	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:14	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 18:06	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:41	MEW	Mt. Juliet, TN

MW-03 L1815155-02 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/02/25 13:30	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 14:19	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:25	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:15	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:41	01/14/25 18:16	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 04:00	MEW	Mt. Juliet, TN

MW-05 L1815155-03 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/02/25 14:57	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 14:37	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:27	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:17	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:41	01/14/25 18:26	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 02:46	MEW	Mt. Juliet, TN

WGB-10 L1815155-04 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 10:05	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 14:55	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:30	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:22	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2431468	1	01/09/25 11:51	01/09/25 22:28	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2431247	1	01/09/25 11:51	01/09/25 18:01	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	40	01/09/25 08:00	01/09/25 18:20	KDB	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	3.02	01/12/25 14:41	01/14/25 18:36	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 04:19	MEW	Mt. Juliet, TN

GHS1-3A L1815155-05 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 14:45	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 15:13	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5	01/09/25 09:39	01/09/25 15:31	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:32	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:24	MAP	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

SAMPLE SUMMARY

GHS1-3A L1815155-05 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 14:45	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 18:46	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:51	MEW	Mt. Juliet, TN

GHS1-3B L1815155-06 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 14:50	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 15:49	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5	01/09/25 09:39	01/09/25 16:07	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:35	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:25	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 19:26	HLA	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	2	01/12/25 14:40	01/15/25 06:13	BMC	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 04:09	MEW	Mt. Juliet, TN

GHS2-2B L1815155-07 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 15:10	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.01	01/09/25 09:39	01/09/25 16:24	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5.05	01/09/25 09:39	01/09/25 16:42	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:42	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:27	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 19:37	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:13	MEW	Mt. Juliet, TN

GHS2-2A L1815155-08 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 15:20	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 17:36	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:45	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:29	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 19:47	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:23	MEW	Mt. Juliet, TN

GHS3-1A L1815155-09 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 15:45	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.04	01/09/25 09:39	01/09/25 17:54	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:47	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:30	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 19:57	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:32	MEW	Mt. Juliet, TN

SAMPLE SUMMARY

GHS3-1B L1815155-10 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 15:55	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.01	01/09/25 09:39	01/09/25 18:12	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 14:07	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:05	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:07	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:04	LTB	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/12/25 15:17	NWH	Mt. Juliet, TN

GHS1-2A L1815155-11 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 16:10	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	52	01/09/25 09:39	01/13/25 10:23	ZSA	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 14:09	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:32	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:17	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:13	LTB	Mt. Juliet, TN

MW-02 L1815155-18 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/02/25 11:05	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 19:41	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 14:12	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:34	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:27	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:23	HCS	Mt. Juliet, TN

MW-01 L1815155-19 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/02/25 17:05	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.02	01/09/25 09:39	01/09/25 19:59	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:08	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:35	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:37	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 22:10	HCS	Mt. Juliet, TN

WGB-09 L1815155-20 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 11:05	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5	01/09/25 09:39	01/09/25 20:17	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:11	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:37	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2431468	1	01/09/25 11:51	01/09/25 22:50	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2431247	1	01/09/25 11:51	01/09/25 18:20	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	100	01/09/25 08:00	01/09/25 17:27	SGB	Mt. Juliet, TN

WGB-09 L1815155-20 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 11:05	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	500	01/09/25 08:00	01/09/25 21:53	JDJ	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:47	HLA	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/15/25 06:02	BMC	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 21:33	HCS	Mt. Juliet, TN

WGB-01 L1815155-21 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 12:30	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 20:35	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:13	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:42	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2431468	1	01/09/25 11:51	01/09/25 23:13	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2431247	1	01/09/25 11:51	01/09/25 18:39	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	1	01/09/25 08:00	01/09/25 21:27	KDB	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:57	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:32	HCS	Mt. Juliet, TN

WGB-01-A L1815155-22 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 13:00	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2431468	1	01/09/25 11:51	01/09/25 23:35	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2431247	1	01/09/25 11:51	01/09/25 18:59	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	5	01/09/25 08:00	01/09/25 15:30	KDB	Mt. Juliet, TN

WGB-02 L1815155-23 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 13:32	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 20:53	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:21	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:44	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2431927	1	01/14/25 07:05	01/15/25 15:14	HMH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 21:23	HCS	Mt. Juliet, TN

GHN2-5A L1815155-24 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 16:20	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.03	01/09/25 09:39	01/09/25 21:47	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:24	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:46	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2431927	1	01/14/25 07:05	01/15/25 15:24	HMH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:41	LTB	Mt. Juliet, TN

	Collected by	Collected date/time	Received date/time
GHN3-5A L1815155-25 Solid	VB/TM	01/03/25 16:30	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 22:05	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5	01/09/25 09:39	01/09/25 22:23	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:27	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:47	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2431927	1	01/14/25 07:05	01/15/25 15:34	HMH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:51	LTB	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/12/25 15:26	NWH	Mt. Juliet, TN

CASE NARRATIVE

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward

Chris Ward
Project Manager

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.62	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-01 WG2430703: 7.62 at 19.7C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	5.19	J	0.952	10.0	1	01/09/2025 13:08	WG2430732
Sulfate	10.8	J	8.24	50.0	1	01/09/2025 13:08	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/09/2025 13:22	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.72	J	0.837	2.00	1	01/09/2025 18:14	WG2430992
Barium	76.1		0.0850	0.500	1	01/09/2025 18:14	WG2430992
Cadmium	0.0746	J	0.0653	0.500	1	01/09/2025 18:14	WG2430992
Chromium	45.8		0.214	1.00	1	01/09/2025 18:14	WG2430992
Lead	6.70		0.326	0.500	1	01/09/2025 18:14	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:14	WG2430992
Silver	0.214	J	0.127	1.00	1	01/09/2025 18:14	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	0.0315	J	0.0257	0.0700	1	01/14/2025 18:06	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 18:06	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 18:06	WG2430807
Dicamba	0.0605	J	0.0226	0.0700	1	01/14/2025 18:06	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 18:06	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 18:06	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 18:06	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 18:06	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 18:06	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 18:06	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*63.9*			*22.0-132*		*01/14/2025 18:06*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:41	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:41	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:41	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:41	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:41	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:41	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:41	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 03:41	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:41	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 03:41	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 03:41	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:41	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:41	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:41	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:41	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:41	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:41	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:41	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:41	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:41	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:41	WG2430776
(S) Decachlorobiphenyl	*71.8*			*10.0-135*		*01/10/2025 03:41*	WG2430776
(S) Tetrachloro-m-xylene	*82.7*			*10.0-139*		*01/10/2025 03:41*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.81	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-02 WG2430703: 8.81 at 19.9C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	21.2		0.952	10.0	1	01/09/2025 14:19	WG2430732
Sulfate	95.1		8.24	50.0	1	01/09/2025 14:19	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/09/2025 13:25	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.05		0.837	2.00	1	01/09/2025 18:15	WG2430992
Barium	127		0.0850	0.500	1	01/09/2025 18:15	WG2430992
Cadmium	0.221	J	0.0653	0.500	1	01/09/2025 18:15	WG2430992
Chromium	44.6		0.214	1.00	1	01/09/2025 18:15	WG2430992
Lead	17.4		0.326	0.500	1	01/09/2025 18:15	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:15	WG2430992
Silver	0.393	J	0.127	1.00	1	01/09/2025 18:15	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 18:16	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 18:16	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 18:16	WG2430807
Dicamba	0.0333	J	0.0226	0.0700	1	01/14/2025 18:16	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 18:16	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 18:16	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 18:16	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 18:16	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 18:16	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 18:16	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*58.7*			*22.0-132*		*01/14/2025 18:16*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/10/2025 04:00	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 04:00	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 04:00	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 04:00	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 04:00	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 04:00	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 04:00	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 04:00	WG2430776

MW-03
Collected date/time: 01/02/25 13:30

SAMPLE RESULTS - 02

L1815155

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 04:00	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 04:00	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 04:00	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 04:00	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 04:00	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 04:00	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 04:00	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 04:00	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 04:00	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 04:00	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 04:00	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 04:00	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 04:00	WG2430776
(S) Decachlorobiphenyl	*75.2*			*10.0-135*		*01/10/2025 04:00*	WG2430776
(S) Tetrachloro-m-xylene	*81.0*			*10.0-139*		*01/10/2025 04:00*	WG2430776

Wet Chemistry by Method 9045D

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	su			date / time	
pH	8.24	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-03 WG2430703: 8.24 at 19.8C

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	5.48	J	0.952	10.0	1	01/09/2025 14:37	WG2430732
Sulfate	10.9	J	8.24	50.0	1	01/09/2025 14:37	WG2430732

Mercury by Method 7471B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:27	WG2430631

Metals (ICP) by Method 6010D

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.87		0.837	2.00	1	01/09/2025 18:17	WG2430992
Barium	75.4		0.0850	0.500	1	01/09/2025 18:17	WG2430992
Cadmium	0.174	J	0.0653	0.500	1	01/09/2025 18:17	WG2430992
Chromium	31.1		0.214	1.00	1	01/09/2025 18:17	WG2430992
Lead	13.2		0.326	0.500	1	01/09/2025 18:17	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:17	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:17	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 18:26	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 18:26	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 18:26	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 18:26	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 18:26	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 18:26	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 18:26	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 18:26	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 18:26	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 18:26	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*45.9*			*22.0-132*		*01/14/2025 18:26*	WG2430807

Pesticides (GC) by Method 8081B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/10/2025 02:46	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 02:46	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 02:46	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 02:46	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 02:46	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 02:46	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 02:46	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 02:46	WG2430776

MW-05

Collected date/time: 01/02/25 14:57

SAMPLE RESULTS - 03

L1815155

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 02:46	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 02:46	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 02:46	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 02:46	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 02:46	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 02:46	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 02:46	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 02:46	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 02:46	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 02:46	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 02:46	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 02:46	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 02:46	WG2430776
(S) Decachlorobiphenyl	*94.5*			*10.0-135*		*01/10/2025 02:46*	WG2430776
(S) Tetrachloro-m-xylene	*96.7*			*10.0-139*		*01/10/2025 02:46*	WG2430776

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.85	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-04 WG2430703: 7.85 at 19.7C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	U		0.952	10.0	1	01/09/2025 14:55	WG2430732
Sulfate	9.54	J	8.24	50.0	1	01/09/2025 14:55	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/09/2025 13:30	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.24		0.837	2.00	1	01/09/2025 18:22	WG2430992
Barium	72.5		0.0850	0.500	1	01/09/2025 18:22	WG2430992
Cadmium	0.570		0.0653	0.500	1	01/09/2025 18:22	WG2430992
Chromium	24.4		0.214	1.00	1	01/09/2025 18:22	WG2430992
Lead	20.3		0.326	0.500	1	01/09/2025 18:22	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:22	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:22	WG2430992

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.115	B	0.0217	0.100	1	01/09/2025 22:28	WG2431468
(S) a,a,a-Trifluorotoluene(FID)	*93.6*			*77.0-120*		*01/09/2025 22:28*	WG2431468

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	U		0.0365	0.0500	1	01/09/2025 18:01	WG2431247
Acrylonitrile	U		0.00361	0.0125	1	01/09/2025 18:01	WG2431247
Benzene	U		0.000467	0.00100	1	01/09/2025 18:01	WG2431247
Bromobenzene	U		0.000900	0.0125	1	01/09/2025 18:01	WG2431247
Bromodichloromethane	U		0.000725	0.00250	1	01/09/2025 18:01	WG2431247
Bromoform	U		0.00117	0.0250	1	01/09/2025 18:01	WG2431247
Bromomethane	U		0.00197	0.0125	1	01/09/2025 18:01	WG2431247
n-Butylbenzene	U		0.00525	0.0125	1	01/09/2025 18:01	WG2431247
sec-Butylbenzene	U		0.00288	0.0125	1	01/09/2025 18:01	WG2431247
tert-Butylbenzene	U		0.00195	0.00500	1	01/09/2025 18:01	WG2431247
Carbon tetrachloride	U		0.000898	0.00500	1	01/09/2025 18:01	WG2431247
Chlorobenzene	U		0.000210	0.00250	1	01/09/2025 18:01	WG2431247
Chlorodibromomethane	U		0.000612	0.00250	1	01/09/2025 18:01	WG2431247
Chloroethane	U		0.00170	0.00500	1	01/09/2025 18:01	WG2431247
Chloroform	U		0.00103	0.00250	1	01/09/2025 18:01	WG2431247
Chloromethane	U		0.00435	0.0125	1	01/09/2025 18:01	WG2431247
2-Chlorotoluene	U		0.000865	0.00250	1	01/09/2025 18:01	WG2431247

SAMPLE RESULTS - 04

L1815155

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.000450	0.00500	1	01/09/2025 18:01	WG2431247
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	01/09/2025 18:01	WG2431247
1,2-Dibromoethane	U		0.000648	0.00250	1	01/09/2025 18:01	WG2431247
Dibromomethane	U		0.000750	0.00500	1	01/09/2025 18:01	WG2431247
1,2-Dichlorobenzene	U		0.000425	0.00500	1	01/09/2025 18:01	WG2431247
1,3-Dichlorobenzene	U		0.000600	0.00500	1	01/09/2025 18:01	WG2431247
1,4-Dichlorobenzene	U		0.000700	0.00500	1	01/09/2025 18:01	WG2431247
Dichlorodifluoromethane	U		0.00161	0.00500	1	01/09/2025 18:01	WG2431247
1,1-Dichloroethane	U		0.000491	0.00250	1	01/09/2025 18:01	WG2431247
1,2-Dichloroethane	U		0.000649	0.00250	1	01/09/2025 18:01	WG2431247
1,1-Dichloroethene	U		0.000606	0.00250	1	01/09/2025 18:01	WG2431247
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	01/09/2025 18:01	WG2431247
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	01/09/2025 18:01	WG2431247
1,2-Dichloropropane	U		0.00142	0.00500	1	01/09/2025 18:01	WG2431247
1,1-Dichloropropene	U		0.000809	0.00250	1	01/09/2025 18:01	WG2431247
1,3-Dichloropropane	U		0.000501	0.00500	1	01/09/2025 18:01	WG2431247
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	01/09/2025 18:01	WG2431247
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	01/09/2025 18:01	WG2431247
2,2-Dichloropropane	U		0.00138	0.00250	1	01/09/2025 18:01	WG2431247
Di-isopropyl ether	U		0.000410	0.00100	1	01/09/2025 18:01	WG2431247
Ethylbenzene	U		0.000737	0.00250	1	01/09/2025 18:01	WG2431247
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	01/09/2025 18:01	WG2431247
Isopropylbenzene	U		0.000425	0.00250	1	01/09/2025 18:01	WG2431247
p-Isopropyltoluene	U		0.00255	0.00500	1	01/09/2025 18:01	WG2431247
2-Butanone (MEK)	U		0.0635	0.100	1	01/09/2025 18:01	WG2431247
Methylene Chloride	U		0.00664	0.0250	1	01/09/2025 18:01	WG2431247
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	01/09/2025 18:01	WG2431247
Methyl tert-butyl ether	U		0.000350	0.00100	1	01/09/2025 18:01	WG2431247
Naphthalene	U		0.00488	0.0125	1	01/09/2025 18:01	WG2431247
n-Propylbenzene	U		0.000950	0.00500	1	01/09/2025 18:01	WG2431247
Styrene	U		0.000229	0.0125	1	01/09/2025 18:01	WG2431247
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	01/09/2025 18:01	WG2431247
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	01/09/2025 18:01	WG2431247
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	01/09/2025 18:01	WG2431247
Tetrachloroethene	U		0.000896	0.00250	1	01/09/2025 18:01	WG2431247
Toluene	U		0.00130	0.00500	1	01/09/2025 18:01	WG2431247
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	01/09/2025 18:01	WG2431247
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	01/09/2025 18:01	WG2431247
1,1,1-Trichloroethane	U		0.000923	0.00250	1	01/09/2025 18:01	WG2431247
1,1,2-Trichloroethane	U		0.000597	0.00250	1	01/09/2025 18:01	WG2431247
Trichloroethene	U		0.000584	0.00100	1	01/09/2025 18:01	WG2431247
Trichlorofluoromethane	U		0.000827	0.00250	1	01/09/2025 18:01	WG2431247
1,2,3-Trichloropropane	U		0.00162	0.0125	1	01/09/2025 18:01	WG2431247
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:01	WG2431247
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:01	WG2431247
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	01/09/2025 18:01	WG2431247
Vinyl chloride	U		0.00116	0.00250	1	01/09/2025 18:01	WG2431247
Xylenes, Total	U		0.000880	0.00650	1	01/09/2025 18:01	WG2431247
(S) Toluene-d8	*97.4*			*75.0-131*		*01/09/2025 18:01*	WG2431247
(S) 4-Bromofluorobenzene	*98.8*			*67.0-138*		*01/09/2025 18:01*	WG2431247
(S) 1,2-Dichloroethane-d4	*94.6*			*70.0-130*		*01/09/2025 18:01*	WG2431247

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		64.4	160	40	01/09/2025 18:20	WG2430762
C28-C40 Oil Range	172		11.0	160	40	01/09/2025 18:20	WG2430762
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*01/09/2025 18:20*	WG2430762

Sample Narrative:

L1815155-04 WG2430762: Cannot run at lower dilution due to viscosity of extract.

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0776	0.211	3.02	01/14/2025 18:36	WG2430807
Dalapon	U		0.133	0.211	3.02	01/14/2025 18:36	WG2430807
2,4-DB	U		0.0562	0.211	3.02	01/14/2025 18:36	WG2430807
Dicamba	U		0.0683	0.211	3.02	01/14/2025 18:36	WG2430807
Dichloroprop	U		0.0553	0.211	3.02	01/14/2025 18:36	WG2430807
Dinoseb	U		0.0770	0.211	3.02	01/14/2025 18:36	WG2430807
MCPA	U		5.62	19.6	3.02	01/14/2025 18:36	WG2430807
MCPP	U		6.13	19.6	3.02	01/14/2025 18:36	WG2430807
2,4,5-T	U		0.0713	0.211	3.02	01/14/2025 18:36	WG2430807
2,4,5-TP (Silvex)	U		0.0565	0.211	3.02	01/14/2025 18:36	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*58.0*			*22.0-132*		*01/14/2025 18:36*	WG2430807

Sample Narrative:

L1815155-04 WG2430807: Dilution due to matrix impact during extraction procedure. Surrogate failure due to matrix.

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/10/2025 04:19	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 04:19	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 04:19	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 04:19	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 04:19	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 04:19	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 04:19	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 04:19	WG2430776
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 04:19	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 04:19	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 04:19	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 04:19	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 04:19	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 04:19	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 04:19	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 04:19	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 04:19	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 04:19	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 04:19	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 04:19	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 04:19	WG2430776
(S) Decachlorobiphenyl	*62.8*			*10.0-135*		*01/10/2025 04:19*	WG2430776
(S) Tetrachloro-m-xylene	*77.4*			*10.0-139*		*01/10/2025 04:19*	WG2430776

GHS1-3A

Collected date/time: 01/03/25 14:45

SAMPLE RESULTS - 05

L1815155

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.08	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-05 WG2430703: 7.08 at 19.6C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	292		4.76	50.0	5	01/09/2025 15:31	WG2430732
Sulfate	50.1		8.24	50.0	1	01/09/2025 15:13	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/09/2025 13:32	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.68		0.837	2.00	1	01/09/2025 18:24	WG2430992
Barium	68.4		0.0850	0.500	1	01/09/2025 18:24	WG2430992
Cadmium	0.211	J	0.0653	0.500	1	01/09/2025 18:24	WG2430992
Chromium	32.7		0.214	1.00	1	01/09/2025 18:24	WG2430992
Lead	12.7		0.326	0.500	1	01/09/2025 18:24	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:24	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:24	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 18:46	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 18:46	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 18:46	WG2430807
Dicamba	0.0903		0.0226	0.0700	1	01/14/2025 18:46	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 18:46	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 18:46	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 18:46	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 18:46	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 18:46	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 18:46	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*45.7*			*22.0-132*		*01/14/2025 18:46*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:51	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:51	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:51	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:51	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:51	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:51	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:51	WG2430776
4,4-DDE	0.0150	J	0.00673	0.0200	1	01/10/2025 03:51	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:51	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 03:51	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 03:51	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:51	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:51	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:51	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:51	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:51	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:51	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:51	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:51	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:51	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:51	WG2430776
(S) Decachlorobiphenyl	*82.8*			*10.0-135*		*01/10/2025 03:51*	WG2430776
(S) Tetrachloro-m-xylene	*86.4*			*10.0-139*		*01/10/2025 03:51*	WG2430776

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

GHS1-3B
Collected date/time: 01/03/25 14:50

SAMPLE RESULTS - 06
L1815155

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.00	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-06 WG2430703: 7 at 19.5C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	117		4.76	50.0	5	01/09/2025 16:07	WG2430732
Sulfate	66.5		8.24	50.0	1	01/09/2025 15:49	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/09/2025 13:35	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	U		0.837	2.00	1	01/09/2025 18:25	WG2430992
Barium	25.8		0.0850	0.500	1	01/09/2025 18:25	WG2430992
Cadmium	0.246	J	0.0653	0.500	1	01/09/2025 18:25	WG2430992
Chromium	17.4		0.214	1.00	1	01/09/2025 18:25	WG2430992
Lead	9.23		0.326	0.500	1	01/09/2025 18:25	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:25	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:25	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 19:26	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 19:26	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 19:26	WG2430807
Dicamba	0.164		0.0452	0.140	2	01/15/2025 06:13	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 19:26	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 19:26	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 19:26	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 19:26	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 19:26	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 19:26	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*88.9*			*22.0-132*		*01/14/2025 19:26*	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*74.7*			*22.0-132*		*01/15/2025 06:13*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/10/2025 04:09	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 04:09	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 04:09	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 04:09	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 04:09	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 04:09	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 04:09	WG2430776
4,4-DDE	0.0726	P	0.00673	0.0200	1	01/10/2025 04:09	WG2430776
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 04:09	WG2430776
Dieldrin	0.0734		0.00697	0.0200	1	01/10/2025 04:09	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 04:09	WG2430776
Endosulfan II	0.00782	J	0.00661	0.0200	1	01/10/2025 04:09	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 04:09	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 04:09	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 04:09	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 04:09	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 04:09	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 04:09	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 04:09	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 04:09	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 04:09	WG2430776
(S) Decachlorobiphenyl	*85.1*			*10.0-135*		*01/10/2025 04:09*	WG2430776
(S) Tetrachloro-m-xylene	*89.2*			*10.0-139*		*01/10/2025 04:09*	WG2430776

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.18	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-07 WG2430703: 7.18 at 19.6C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	115		4.81	50.5	5.05	01/09/2025 16:42	WG2430732
Sulfate	59.6		8.32	50.5	1.01	01/09/2025 16:24	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/09/2025 13:42	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.27		0.837	2.00	1	01/09/2025 18:27	WG2430992
Barium	111		0.0850	0.500	1	01/09/2025 18:27	WG2430992
Cadmium	0.194	J	0.0653	0.500	1	01/09/2025 18:27	WG2430992
Chromium	74.6		0.214	1.00	1	01/09/2025 18:27	WG2430992
Lead	14.0		0.326	0.500	1	01/09/2025 18:27	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:27	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:27	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 19:37	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 19:37	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 19:37	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 19:37	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 19:37	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 19:37	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 19:37	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 19:37	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 19:37	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 19:37	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*45.2*			*22.0-132*		*01/14/2025 19:37*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:13	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:13	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:13	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:13	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:13	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:13	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:13	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 03:13	WG2430776

GHS2-2B

Collected date/time: 01/03/25 15:10

SAMPLE RESULTS - 07

L1815155

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:13	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 03:13	WG2430776
Endosulfan I	0.00969	J	0.00604	0.0200	1	01/10/2025 03:13	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:13	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:13	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:13	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:13	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:13	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:13	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:13	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:13	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:13	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:13	WG2430776
(S) Decachlorobiphenyl	*70.3*			*10.0-135*		*01/10/2025 03:13*	WG2430776
(S) Tetrachloro-m-xylene	*83.3*			*10.0-139*		*01/10/2025 03:13*	WG2430776

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.39	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-08 WG2430703: 7.39 at 19.4C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	51.3		0.952	10.0	1	01/09/2025 17:36	WG2430732
Sulfate	44.2	J	8.24	50.0	1	01/09/2025 17:36	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/09/2025 13:45	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.35		0.837	2.00	1	01/09/2025 18:29	WG2430992
Barium	140		0.0850	0.500	1	01/09/2025 18:29	WG2430992
Cadmium	0.145	J	0.0653	0.500	1	01/09/2025 18:29	WG2430992
Chromium	71.8		0.214	1.00	1	01/09/2025 18:29	WG2430992
Lead	18.3		0.326	0.500	1	01/09/2025 18:29	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:29	WG2430992
Silver	0.145	J	0.127	1.00	1	01/09/2025 18:29	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 19:47	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 19:47	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 19:47	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 19:47	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 19:47	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 19:47	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 19:47	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 19:47	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 19:47	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 19:47	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*67.1*			*22.0-132*		*01/14/2025 19:47*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:23	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:23	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:23	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:23	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:23	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:23	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:23	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 03:23	WG2430776

GHS2-2A

Collected date/time: 01/03/25 15:20

SAMPLE RESULTS - 08

L1815155

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:23	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 03:23	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 03:23	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:23	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:23	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:23	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:23	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:23	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:23	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:23	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:23	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:23	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:23	WG2430776
(S) Decachlorobiphenyl	*69.2*			*10.0-135*		*01/10/2025 03:23*	WG2430776
(S) Tetrachloro-m-xylene	*83.5*			*10.0-139*		*01/10/2025 03:23*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	6.93	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-09 WG2430703: 6.93 at 19.5C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	17.6		0.990	10.4	1.04	01/09/2025 17:54	WG2430732
Sulfate	16.8	J	8.57	52.0	1.04	01/09/2025 17:54	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/09/2025 13:47	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	U		0.837	2.00	1	01/09/2025 18:30	WG2430992
Barium	31.8		0.0850	0.500	1	01/09/2025 18:30	WG2430992
Cadmium	0.0931	J	0.0653	0.500	1	01/09/2025 18:30	WG2430992
Chromium	8.35		0.214	1.00	1	01/09/2025 18:30	WG2430992
Lead	7.06		0.326	0.500	1	01/09/2025 18:30	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:30	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:30	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 19:57	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 19:57	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 19:57	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 19:57	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 19:57	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 19:57	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 19:57	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 19:57	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 19:57	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 19:57	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*77.3*			*22.0-132*		*01/14/2025 19:57*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:32	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:32	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:32	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:32	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:32	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:32	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:32	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 03:32	WG2430776

GHS3-1A

SAMPLE RESULTS - 09

Collected date/time: 01/03/25 15:45

L1815155

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:32	WG2430776
Dieldrin	0.0380		0.00697	0.0200	1	01/10/2025 03:32	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 03:32	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:32	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:32	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:32	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:32	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:32	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:32	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:32	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:32	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:32	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:32	WG2430776
(S) Decachlorobiphenyl	*89.4*			*10.0-135*		*01/10/2025 03:32*	WG2430776
(S) Tetrachloro-m-xylene	*92.6*			*10.0-139*		*01/10/2025 03:32*	WG2430776

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

GHS3-1B

Collected date/time: 01/03/25 15:55

SAMPLE RESULTS - 10

L1815155

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	su			date / time	
pH	7.11	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-10 WG2430703: 7.11 at 19.8C

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	86.3		0.962	10.1	1.01	01/09/2025 18:12	WG2430732
Sulfate	35.1	J	8.32	50.5	1.01	01/09/2025 18:12	WG2430732

Mercury by Method 7471B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 14:07	WG2430631

Metals (ICP) by Method 6010D

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.46		0.837	2.00	1	01/09/2025 18:05	WG2430992
Barium	59.7		0.0850	0.500	1	01/09/2025 18:05	WG2430992
Cadmium	0.235	J	0.0653	0.500	1	01/09/2025 18:05	WG2430992
Chromium	45.3	J6	0.214	1.00	1	01/09/2025 18:05	WG2430992
Lead	21.3	O1	0.326	0.500	1	01/09/2025 18:05	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:05	WG2430992
Silver	2.33		0.127	1.00	1	01/09/2025 18:05	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:07	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:07	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:07	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:07	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:07	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:07	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:07	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:07	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:07	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:07	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*94.0*			*22.0-132*		*01/14/2025 20:07*	WG2430807

Pesticides (GC) by Method 8081B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:04	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:04	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:04	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/12/2025 15:17	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:04	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:04	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:04	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:04	WG2430824

GHS3-1B

Collected date/time: 01/03/25 15:55

SAMPLE RESULTS - 10

L1815155

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:04	WG2430824
Dieldrin	0.0402		0.00697	0.0200	1	01/09/2025 19:04	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:04	WG2430824
Endosulfan II	0.0349		0.00661	0.0200	1	01/09/2025 19:04	WG2430824
Endosulfan sulfate	0.0204		0.00642	0.0200	1	01/09/2025 19:04	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:04	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:04	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:04	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:04	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:04	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:04	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:04	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:04	WG2430824
(S) Decachlorobiphenyl	*60.0*			*10.0-135*		*01/12/2025 15:17*	WG2430824
(S) Decachlorobiphenyl	*55.4*			*10.0-135*		*01/09/2025 19:04*	WG2430824
(S) Tetrachloro-m-xylene	*58.4*			*10.0-139*		*01/09/2025 19:04*	WG2430824
(S) Tetrachloro-m-xylene	*58.5*			*10.0-139*		*01/12/2025 15:17*	WG2430824

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

GHS1-2A
Collected date/time: 01/03/25 16:10

SAMPLE RESULTS - 11
L1815155

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	6.79	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-11 WG2430703: 6.79 at 19.9C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	2160	P1	49.5	520	52	01/13/2025 10:23	WG2430732
Sulfate	978	J P1	428	2600	52	01/13/2025 10:23	WG2430732

Sample Narrative:

L1815155-11 WG2430732: Dilution due to matrix impact on instrumentation at lower dilution

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/09/2025 14:09	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.72	J	0.837	2.00	1	01/09/2025 18:32	WG2430992
Barium	72.5		0.0850	0.500	1	01/09/2025 18:32	WG2430992
Cadmium	0.300	J	0.0653	0.500	1	01/09/2025 18:32	WG2430992
Chromium	13.2		0.214	1.00	1	01/09/2025 18:32	WG2430992
Lead	14.9		0.326	0.500	1	01/09/2025 18:32	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:32	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:32	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:17	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:17	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:17	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:17	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:17	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:17	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:17	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:17	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:17	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:17	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*82.3*			*22.0-132*		*01/14/2025 20:17*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:13	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:13	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:13	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 19:13	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:13	WG2430824

GHS1-2A

Collected date/time: 01/03/25 16:10

SAMPLE RESULTS - 11

L1815155

Pesticides (GC) by Method 8081B

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chlordane	U		0.0990	0.300	1	01/09/2025 19:13	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:13	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:13	WG2430824
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:13	WG2430824
Dieldrin	U		0.00697	0.0200	1	01/09/2025 19:13	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:13	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 19:13	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 19:13	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:13	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:13	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:13	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:13	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:13	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:13	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:13	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:13	WG2430824
(S) Decachlorobiphenyl	*68.3*			*10.0-135*		*01/09/2025 19:13*	WG2430824
(S) Tetrachloro-m-xylene	*82.2*			*10.0-139*		*01/09/2025 19:13*	WG2430824

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.50	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-18 WG2430703: 7.5 at 19.6C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	6.02	J	0.952	10.0	1	01/09/2025 19:41	WG2430732
Sulfate	17.9	J	8.24	50.0	1	01/09/2025 19:41	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 14:12	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.53		0.837	2.00	1	01/09/2025 18:34	WG2430992
Barium	78.4		0.0850	0.500	1	01/09/2025 18:34	WG2430992
Cadmium	0.141	J	0.0653	0.500	1	01/09/2025 18:34	WG2430992
Chromium	46.6		0.214	1.00	1	01/09/2025 18:34	WG2430992
Lead	12.5		0.326	0.500	1	01/09/2025 18:34	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:34	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:34	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:27	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:27	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:27	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:27	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:27	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:27	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:27	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:27	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:27	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:27	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*66.7*			*22.0-132*		*01/14/2025 20:27*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:23	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:23	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:23	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 19:23	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:23	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:23	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:23	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:23	WG2430824

MW-02

Collected date/time: 01/02/25 11:05

SAMPLE RESULTS - 18

L1815155

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:23	WG2430824
Dieldrin	0.0152	J	0.00697	0.0200	1	01/09/2025 19:23	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:23	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 19:23	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 19:23	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:23	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:23	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:23	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:23	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:23	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:23	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:23	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:23	WG2430824
(S) Decachlorobiphenyl	*69.2*			*10.0-135*		*01/09/2025 19:23*	WG2430824
(S) Tetrachloro-m-xylene	*80.4*			*10.0-139*		*01/09/2025 19:23*	WG2430824

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

MW-01

Collected date/time: 01/02/25 17:05

SAMPLE RESULTS - 19

L1815155

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.12	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-19 WG2430703: 8.12 at 19.5C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	3.21	J	0.971	10.2	1.02	01/09/2025 19:59	WG2430732
Sulfate	14.1	J	8.40	51.0	1.02	01/09/2025 19:59	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/11/2025 17:08	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.28		0.837	2.00	1	01/09/2025 18:35	WG2430992
Barium	89.4		0.0850	0.500	1	01/09/2025 18:35	WG2430992
Cadmium	0.126	J	0.0653	0.500	1	01/09/2025 18:35	WG2430992
Chromium	61.8		0.214	1.00	1	01/09/2025 18:35	WG2430992
Lead	15.5		0.326	0.500	1	01/09/2025 18:35	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:35	WG2430992
Silver	0.530	J	0.127	1.00	1	01/09/2025 18:35	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:37	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:37	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:37	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:37	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:37	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:37	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:37	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:37	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:37	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:37	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*64.8*			*22.0-132*		*01/14/2025 20:37*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/09/2025 22:10	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 22:10	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 22:10	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 22:10	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 22:10	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 22:10	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 22:10	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 22:10	WG2430824

MW-01

Collected date/time: 01/02/25 17:05

SAMPLE RESULTS - 19

L1815155

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 22:10	WG2430824
Dieldrin	U		0.00697	0.0200	1	01/09/2025 22:10	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 22:10	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 22:10	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 22:10	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 22:10	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 22:10	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 22:10	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 22:10	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 22:10	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 22:10	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 22:10	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 22:10	WG2430824
(S) Decachlorobiphenyl	*57.2*			*10.0-135*		*01/09/2025 22:10*	WG2430824
(S) Tetrachloro-m-xylene	*74.4*			*10.0-139*		*01/09/2025 22:10*	WG2430824

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.20	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-20 WG2430703: 7.2 at 20.6C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	U		4.76	50.0	5	01/09/2025 20:17	WG2430732
Sulfate	U		41.2	250	5	01/09/2025 20:17	WG2430732

Sample Narrative:

L1815155-20 WG2430732: Dilution due to matrix impact on instrumentation at lower dilution

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/11/2025 17:11	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.85		0.837	2.00	1	01/09/2025 18:37	WG2430992
Barium	73.8		0.0850	0.500	1	01/09/2025 18:37	WG2430992
Cadmium	0.0770	J	0.0653	0.500	1	01/09/2025 18:37	WG2430992
Chromium	31.4		0.214	1.00	1	01/09/2025 18:37	WG2430992
Lead	17.0		0.326	0.500	1	01/09/2025 18:37	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:37	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:37	WG2430992

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0966	B J	0.0217	0.100	1	01/09/2025 22:50	WG2431468
(S) a,a,a-Trifluorotoluene(FID)	*91.0*			*77.0-120*		*01/09/2025 22:50*	WG2431468

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	U		0.0365	0.0500	1	01/09/2025 18:20	WG2431247
Acrylonitrile	U		0.00361	0.0125	1	01/09/2025 18:20	WG2431247
Benzene	U		0.000467	0.00100	1	01/09/2025 18:20	WG2431247
Bromobenzene	U		0.000900	0.0125	1	01/09/2025 18:20	WG2431247
Bromodichloromethane	U		0.000725	0.00250	1	01/09/2025 18:20	WG2431247
Bromoform	U		0.00117	0.0250	1	01/09/2025 18:20	WG2431247
Bromomethane	U		0.00197	0.0125	1	01/09/2025 18:20	WG2431247
n-Butylbenzene	U		0.00525	0.0125	1	01/09/2025 18:20	WG2431247
sec-Butylbenzene	U		0.00288	0.0125	1	01/09/2025 18:20	WG2431247
tert-Butylbenzene	U		0.00195	0.00500	1	01/09/2025 18:20	WG2431247
Carbon tetrachloride	U		0.000898	0.00500	1	01/09/2025 18:20	WG2431247
Chlorobenzene	U		0.000210	0.00250	1	01/09/2025 18:20	WG2431247
Chlorodibromomethane	U		0.000612	0.00250	1	01/09/2025 18:20	WG2431247
Chloroethane	U		0.00170	0.00500	1	01/09/2025 18:20	WG2431247

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloroform	U		0.00103	0.00250	1	01/09/2025 18:20	WG2431247
Chloromethane	U		0.00435	0.0125	1	01/09/2025 18:20	WG2431247
2-Chlorotoluene	U		0.000865	0.00250	1	01/09/2025 18:20	WG2431247
4-Chlorotoluene	U		0.000450	0.00500	1	01/09/2025 18:20	WG2431247
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	01/09/2025 18:20	WG2431247
1,2-Dibromoethane	U		0.000648	0.00250	1	01/09/2025 18:20	WG2431247
Dibromomethane	U		0.000750	0.00500	1	01/09/2025 18:20	WG2431247
1,2-Dichlorobenzene	U		0.000425	0.00500	1	01/09/2025 18:20	WG2431247
1,3-Dichlorobenzene	U		0.000600	0.00500	1	01/09/2025 18:20	WG2431247
1,4-Dichlorobenzene	U		0.000700	0.00500	1	01/09/2025 18:20	WG2431247
Dichlorodifluoromethane	U		0.00161	0.00500	1	01/09/2025 18:20	WG2431247
1,1-Dichloroethane	U		0.000491	0.00250	1	01/09/2025 18:20	WG2431247
1,2-Dichloroethane	U		0.000649	0.00250	1	01/09/2025 18:20	WG2431247
1,1-Dichloroethene	U		0.000606	0.00250	1	01/09/2025 18:20	WG2431247
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	01/09/2025 18:20	WG2431247
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	01/09/2025 18:20	WG2431247
1,2-Dichloropropane	U		0.00142	0.00500	1	01/09/2025 18:20	WG2431247
1,1-Dichloropropene	U		0.000809	0.00250	1	01/09/2025 18:20	WG2431247
1,3-Dichloropropane	U		0.000501	0.00500	1	01/09/2025 18:20	WG2431247
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	01/09/2025 18:20	WG2431247
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	01/09/2025 18:20	WG2431247
2,2-Dichloropropane	U		0.00138	0.00250	1	01/09/2025 18:20	WG2431247
Di-isopropyl ether	U		0.000410	0.00100	1	01/09/2025 18:20	WG2431247
Ethylbenzene	U		0.000737	0.00250	1	01/09/2025 18:20	WG2431247
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	01/09/2025 18:20	WG2431247
Isopropylbenzene	U		0.000425	0.00250	1	01/09/2025 18:20	WG2431247
p-Isopropyltoluene	U		0.00255	0.00500	1	01/09/2025 18:20	WG2431247
2-Butanone (MEK)	U		0.0635	0.100	1	01/09/2025 18:20	WG2431247
Methylene Chloride	U		0.00664	0.0250	1	01/09/2025 18:20	WG2431247
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	01/09/2025 18:20	WG2431247
Methyl tert-butyl ether	0.000475	J	0.000350	0.00100	1	01/09/2025 18:20	WG2431247
Naphthalene	U		0.00488	0.0125	1	01/09/2025 18:20	WG2431247
n-Propylbenzene	U		0.000950	0.00500	1	01/09/2025 18:20	WG2431247
Styrene	U		0.000229	0.0125	1	01/09/2025 18:20	WG2431247
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	01/09/2025 18:20	WG2431247
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	01/09/2025 18:20	WG2431247
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	01/09/2025 18:20	WG2431247
Tetrachloroethene	U		0.000896	0.00250	1	01/09/2025 18:20	WG2431247
Toluene	U		0.00130	0.00500	1	01/09/2025 18:20	WG2431247
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	01/09/2025 18:20	WG2431247
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	01/09/2025 18:20	WG2431247
1,1,1-Trichloroethane	U		0.000923	0.00250	1	01/09/2025 18:20	WG2431247
1,1,2-Trichloroethane	U		0.000597	0.00250	1	01/09/2025 18:20	WG2431247
Trichloroethene	U		0.000584	0.00100	1	01/09/2025 18:20	WG2431247
Trichlorofluoromethane	U		0.000827	0.00250	1	01/09/2025 18:20	WG2431247
1,2,3-Trichloropropane	U		0.00162	0.0125	1	01/09/2025 18:20	WG2431247
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:20	WG2431247
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:20	WG2431247
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	01/09/2025 18:20	WG2431247
Vinyl chloride	U		0.00116	0.00250	1	01/09/2025 18:20	WG2431247
Xylenes, Total	0.00239	J	0.000880	0.00650	1	01/09/2025 18:20	WG2431247
(S) Toluene-d8	*99.2*			*75.0-131*		*01/09/2025 18:20*	WG2431247
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*01/09/2025 18:20*	WG2431247
(S) 1,2-Dichloroethane-d4	*91.1*			*70.0-130*		*01/09/2025 18:20*	WG2431247

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	11200	J3 V	161	400	100	01/09/2025 17:27	WG2430762
C28-C40 Oil Range	41200		137	2000	500	01/09/2025 21:53	WG2430762
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*01/09/2025 21:53*	WG2430762
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*01/09/2025 17:27*	WG2430762

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:47	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:47	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:47	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:47	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:47	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:47	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:47	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:47	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:47	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/15/2025 06:02	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*70.6*			*22.0-132*		*01/14/2025 20:47*	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*90.2*			*22.0-132*		*01/15/2025 06:02*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/09/2025 21:33	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 21:33	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 21:33	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 21:33	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 21:33	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 21:33	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 21:33	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 21:33	WG2430824
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 21:33	WG2430824
Dieldrin	U		0.00697	0.0200	1	01/09/2025 21:33	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 21:33	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 21:33	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 21:33	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 21:33	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 21:33	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 21:33	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 21:33	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 21:33	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 21:33	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 21:33	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 21:33	WG2430824
(S) Decachlorobiphenyl	*83.4*			*10.0-135*		*01/09/2025 21:33*	WG2430824
(S) Tetrachloro-m-xylene	*87.2*			*10.0-139*		*01/09/2025 21:33*	WG2430824

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.74	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-21 WG2430703: 7.74 at 20C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	37.0		0.952	10.0	1	01/09/2025 20:35	WG2430732
Sulfate	61.4		8.24	50.0	1	01/09/2025 20:35	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/11/2025 17:13	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.57		0.837	2.00	1	01/09/2025 18:42	WG2430992
Barium	77.3		0.0850	0.500	1	01/09/2025 18:42	WG2430992
Cadmium	0.360	J	0.0653	0.500	1	01/09/2025 18:42	WG2430992
Chromium	50.9		0.214	1.00	1	01/09/2025 18:42	WG2430992
Lead	24.6		0.326	0.500	1	01/09/2025 18:42	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:42	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:42	WG2430992

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0632	B J	0.0217	0.100	1	01/09/2025 23:13	WG2431468
(S) a,a,a-Trifluorotoluene(FID)	*94.3*			*77.0-120*		*01/09/2025 23:13*	WG2431468

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	U		0.0365	0.0500	1	01/09/2025 18:39	WG2431247
Acrylonitrile	U		0.00361	0.0125	1	01/09/2025 18:39	WG2431247
Benzene	U		0.000467	0.00100	1	01/09/2025 18:39	WG2431247
Bromobenzene	U		0.000900	0.0125	1	01/09/2025 18:39	WG2431247
Bromodichloromethane	U		0.000725	0.00250	1	01/09/2025 18:39	WG2431247
Bromoform	U		0.00117	0.0250	1	01/09/2025 18:39	WG2431247
Bromomethane	U		0.00197	0.0125	1	01/09/2025 18:39	WG2431247
n-Butylbenzene	U		0.00525	0.0125	1	01/09/2025 18:39	WG2431247
sec-Butylbenzene	U		0.00288	0.0125	1	01/09/2025 18:39	WG2431247
tert-Butylbenzene	U		0.00195	0.00500	1	01/09/2025 18:39	WG2431247
Carbon tetrachloride	U		0.000898	0.00500	1	01/09/2025 18:39	WG2431247
Chlorobenzene	U		0.000210	0.00250	1	01/09/2025 18:39	WG2431247
Chlorodibromomethane	U		0.000612	0.00250	1	01/09/2025 18:39	WG2431247
Chloroethane	U		0.00170	0.00500	1	01/09/2025 18:39	WG2431247
Chloroform	U		0.00103	0.00250	1	01/09/2025 18:39	WG2431247
Chloromethane	U		0.00435	0.0125	1	01/09/2025 18:39	WG2431247
2-Chlorotoluene	U		0.000865	0.00250	1	01/09/2025 18:39	WG2431247

Volatile Organic Compounds (GC/MS) by Method 8260B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
4-Chlorotoluene	U		0.000450	0.00500	1	01/09/2025 18:39	WG2431247
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	01/09/2025 18:39	WG2431247
1,2-Dibromoethane	U		0.000648	0.00250	1	01/09/2025 18:39	WG2431247
Dibromomethane	U		0.000750	0.00500	1	01/09/2025 18:39	WG2431247
1,2-Dichlorobenzene	U		0.000425	0.00500	1	01/09/2025 18:39	WG2431247
1,3-Dichlorobenzene	U		0.000600	0.00500	1	01/09/2025 18:39	WG2431247
1,4-Dichlorobenzene	U		0.000700	0.00500	1	01/09/2025 18:39	WG2431247
Dichlorodifluoromethane	U		0.00161	0.00500	1	01/09/2025 18:39	WG2431247
1,1-Dichloroethane	U		0.000491	0.00250	1	01/09/2025 18:39	WG2431247
1,2-Dichloroethane	U		0.000649	0.00250	1	01/09/2025 18:39	WG2431247
1,1-Dichloroethene	U		0.000606	0.00250	1	01/09/2025 18:39	WG2431247
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	01/09/2025 18:39	WG2431247
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	01/09/2025 18:39	WG2431247
1,2-Dichloropropane	U		0.00142	0.00500	1	01/09/2025 18:39	WG2431247
1,1-Dichloropropene	U		0.000809	0.00250	1	01/09/2025 18:39	WG2431247
1,3-Dichloropropane	U		0.000501	0.00500	1	01/09/2025 18:39	WG2431247
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	01/09/2025 18:39	WG2431247
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	01/09/2025 18:39	WG2431247
2,2-Dichloropropane	U		0.00138	0.00250	1	01/09/2025 18:39	WG2431247
Di-isopropyl ether	U		0.000410	0.00100	1	01/09/2025 18:39	WG2431247
Ethylbenzene	U		0.000737	0.00250	1	01/09/2025 18:39	WG2431247
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	01/09/2025 18:39	WG2431247
Isopropylbenzene	U		0.000425	0.00250	1	01/09/2025 18:39	WG2431247
p-Isopropyltoluene	U		0.00255	0.00500	1	01/09/2025 18:39	WG2431247
2-Butanone (MEK)	U		0.0635	0.100	1	01/09/2025 18:39	WG2431247
Methylene Chloride	U		0.00664	0.0250	1	01/09/2025 18:39	WG2431247
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	01/09/2025 18:39	WG2431247
Methyl tert-butyl ether	U		0.000350	0.00100	1	01/09/2025 18:39	WG2431247
Naphthalene	U		0.00488	0.0125	1	01/09/2025 18:39	WG2431247
n-Propylbenzene	U		0.000950	0.00500	1	01/09/2025 18:39	WG2431247
Styrene	U		0.000229	0.0125	1	01/09/2025 18:39	WG2431247
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	01/09/2025 18:39	WG2431247
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	01/09/2025 18:39	WG2431247
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	01/09/2025 18:39	WG2431247
Tetrachloroethene	U		0.000896	0.00250	1	01/09/2025 18:39	WG2431247
Toluene	U		0.00130	0.00500	1	01/09/2025 18:39	WG2431247
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	01/09/2025 18:39	WG2431247
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	01/09/2025 18:39	WG2431247
1,1,1-Trichloroethane	U		0.000923	0.00250	1	01/09/2025 18:39	WG2431247
1,1,2-Trichloroethane	U		0.000597	0.00250	1	01/09/2025 18:39	WG2431247
Trichloroethene	U		0.000584	0.00100	1	01/09/2025 18:39	WG2431247
Trichlorofluoromethane	U		0.000827	0.00250	1	01/09/2025 18:39	WG2431247
1,2,3-Trichloropropane	U		0.00162	0.0125	1	01/09/2025 18:39	WG2431247
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:39	WG2431247
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:39	WG2431247
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	01/09/2025 18:39	WG2431247
Vinyl chloride	U		0.00116	0.00250	1	01/09/2025 18:39	WG2431247
Xylenes, Total	U		0.000880	0.00650	1	01/09/2025 18:39	WG2431247
(S) Toluene-d8	*97.5*			*75.0-131*		*01/09/2025 18:39*	WG2431247
(S) 4-Bromofluorobenzene	*99.4*			*67.0-138*		*01/09/2025 18:39*	WG2431247
(S) 1,2-Dichloroethane-d4	*95.6*			*70.0-130*		*01/09/2025 18:39*	WG2431247

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	17.8		1.61	4.00	1	01/09/2025 21:27	WG2430762
C28-C40 Oil Range	22.5		0.274	4.00	1	01/09/2025 21:27	WG2430762
(S) o-Terphenyl	*84.4*			*18.0-148*		*01/09/2025 21:27*	WG2430762

Chlorinated Acid Herbicides (GC) by Method 8151A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:57	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:57	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:57	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:57	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:57	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:57	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:57	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:57	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:57	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:57	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*66.7*			*22.0-132*		*01/14/2025 20:57*	WG2430807

Pesticides (GC) by Method 8081B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:32	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:32	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:32	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 19:32	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:32	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:32	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:32	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:32	WG2430824
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:32	WG2430824
Dieldrin	0.321		0.00697	0.0200	1	01/09/2025 19:32	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:32	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 19:32	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 19:32	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:32	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:32	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:32	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:32	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:32	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:32	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:32	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:32	WG2430824
(S) Decachlorobiphenyl	*61.1*			*10.0-135*		*01/09/2025 19:32*	WG2430824
(S) Tetrachloro-m-xylene	*71.5*			*10.0-139*		*01/09/2025 19:32*	WG2430824

WGB-01-A

Collected date/time: 01/03/25 13:00

SAMPLE RESULTS - 22

L1815155

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.126	B	0.0217	0.100	1	01/09/2025 23:35	WG2431468
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*77.0-120*		*01/09/2025 23:35*	WG2431468

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	U		0.0365	0.0500	1	01/09/2025 18:59	WG2431247
Acrylonitrile	U		0.00361	0.0125	1	01/09/2025 18:59	WG2431247
Benzene	U		0.000467	0.00100	1	01/09/2025 18:59	WG2431247
Bromobenzene	U		0.000900	0.0125	1	01/09/2025 18:59	WG2431247
Bromodichloromethane	U		0.000725	0.00250	1	01/09/2025 18:59	WG2431247
Bromoform	U		0.00117	0.0250	1	01/09/2025 18:59	WG2431247
Bromomethane	U		0.00197	0.0125	1	01/09/2025 18:59	WG2431247
n-Butylbenzene	U		0.00525	0.0125	1	01/09/2025 18:59	WG2431247
sec-Butylbenzene	U		0.00288	0.0125	1	01/09/2025 18:59	WG2431247
tert-Butylbenzene	U		0.00195	0.00500	1	01/09/2025 18:59	WG2431247
Carbon tetrachloride	U		0.000898	0.00500	1	01/09/2025 18:59	WG2431247
Chlorobenzene	U		0.000210	0.00250	1	01/09/2025 18:59	WG2431247
Chlorodibromomethane	U		0.000612	0.00250	1	01/09/2025 18:59	WG2431247
Chloroethane	U		0.00170	0.00500	1	01/09/2025 18:59	WG2431247
Chloroform	U		0.00103	0.00250	1	01/09/2025 18:59	WG2431247
Chloromethane	U		0.00435	0.0125	1	01/09/2025 18:59	WG2431247
2-Chlorotoluene	U		0.000865	0.00250	1	01/09/2025 18:59	WG2431247
4-Chlorotoluene	U		0.000450	0.00500	1	01/09/2025 18:59	WG2431247
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	01/09/2025 18:59	WG2431247
1,2-Dibromoethane	U		0.000648	0.00250	1	01/09/2025 18:59	WG2431247
Dibromomethane	U		0.000750	0.00500	1	01/09/2025 18:59	WG2431247
1,2-Dichlorobenzene	U		0.000425	0.00500	1	01/09/2025 18:59	WG2431247
1,3-Dichlorobenzene	U		0.000600	0.00500	1	01/09/2025 18:59	WG2431247
1,4-Dichlorobenzene	U		0.000700	0.00500	1	01/09/2025 18:59	WG2431247
Dichlorodifluoromethane	U		0.00161	0.00500	1	01/09/2025 18:59	WG2431247
1,1-Dichloroethane	U		0.000491	0.00250	1	01/09/2025 18:59	WG2431247
1,2-Dichloroethane	U		0.000649	0.00250	1	01/09/2025 18:59	WG2431247
1,1-Dichloroethene	U		0.000606	0.00250	1	01/09/2025 18:59	WG2431247
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	01/09/2025 18:59	WG2431247
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	01/09/2025 18:59	WG2431247
1,2-Dichloropropane	U		0.00142	0.00500	1	01/09/2025 18:59	WG2431247
1,1-Dichloropropene	U		0.000809	0.00250	1	01/09/2025 18:59	WG2431247
1,3-Dichloropropane	U		0.000501	0.00500	1	01/09/2025 18:59	WG2431247
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	01/09/2025 18:59	WG2431247
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	01/09/2025 18:59	WG2431247
2,2-Dichloropropane	U		0.00138	0.00250	1	01/09/2025 18:59	WG2431247
Di-isopropyl ether	U		0.000410	0.00100	1	01/09/2025 18:59	WG2431247
Ethylbenzene	U		0.000737	0.00250	1	01/09/2025 18:59	WG2431247
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	01/09/2025 18:59	WG2431247
Isopropylbenzene	U		0.000425	0.00250	1	01/09/2025 18:59	WG2431247
p-Isopropyltoluene	U		0.00255	0.00500	1	01/09/2025 18:59	WG2431247
2-Butanone (MEK)	U		0.0635	0.100	1	01/09/2025 18:59	WG2431247
Methylene Chloride	U		0.00664	0.0250	1	01/09/2025 18:59	WG2431247
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	01/09/2025 18:59	WG2431247
Methyl tert-butyl ether	U		0.000350	0.00100	1	01/09/2025 18:59	WG2431247
Naphthalene	U		0.00488	0.0125	1	01/09/2025 18:59	WG2431247
n-Propylbenzene	U		0.000950	0.00500	1	01/09/2025 18:59	WG2431247
Styrene	U		0.000229	0.0125	1	01/09/2025 18:59	WG2431247
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	01/09/2025 18:59	WG2431247

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	01/09/2025 18:59	WG2431247
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	01/09/2025 18:59	WG2431247
Tetrachloroethene	U		0.000896	0.00250	1	01/09/2025 18:59	WG2431247
Toluene	U		0.00130	0.00500	1	01/09/2025 18:59	WG2431247
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	01/09/2025 18:59	WG2431247
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	01/09/2025 18:59	WG2431247
1,1,1-Trichloroethane	U		0.000923	0.00250	1	01/09/2025 18:59	WG2431247
1,1,2-Trichloroethane	U		0.000597	0.00250	1	01/09/2025 18:59	WG2431247
Trichloroethene	U		0.000584	0.00100	1	01/09/2025 18:59	WG2431247
Trichlorofluoromethane	U		0.000827	0.00250	1	01/09/2025 18:59	WG2431247
1,2,3-Trichloropropane	U		0.00162	0.0125	1	01/09/2025 18:59	WG2431247
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:59	WG2431247
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:59	WG2431247
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	01/09/2025 18:59	WG2431247
Vinyl chloride	U		0.00116	0.00250	1	01/09/2025 18:59	WG2431247
Xylenes, Total	U		0.000880	0.00650	1	01/09/2025 18:59	WG2431247
(S) Toluene-d8	*99.4*			*75.0-131*		*01/09/2025 18:59*	WG2431247
(S) 4-Bromofluorobenzene	*102*			*67.0-138*		*01/09/2025 18:59*	WG2431247
(S) 1,2-Dichloroethane-d4	*98.4*			*70.0-130*		*01/09/2025 18:59*	WG2431247

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1240		8.05	20.0	5	01/09/2025 15:30	WG2430762
C28-C40 Oil Range	13.7	J	1.37	20.0	5	01/09/2025 15:30	WG2430762
(S) o-Terphenyl	*71.9*			*18.0-148*		*01/09/2025 15:30*	WG2430762

Sample Narrative:

L1815155-22 WG2430762: Dilution due to matrix.

WGB-02

Collected date/time: 01/03/25 13:32

SAMPLE RESULTS - 23

L1815155

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.99	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-23 WG2430703: 7.99 at 19.9C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	20.4		0.952	10.0	1	01/09/2025 20:53	WG2430732
Sulfate	55.8		8.24	50.0	1	01/09/2025 20:53	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/11/2025 17:21	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.79		0.837	2.00	1	01/09/2025 18:44	WG2430992
Barium	71.9		0.0850	0.500	1	01/09/2025 18:44	WG2430992
Cadmium	0.306	J	0.0653	0.500	1	01/09/2025 18:44	WG2430992
Chromium	35.9		0.214	1.00	1	01/09/2025 18:44	WG2430992
Lead	19.4		0.326	0.500	1	01/09/2025 18:44	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:44	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:44	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/15/2025 15:14	WG2431927
Dalapon	U		0.0440	0.0700	1	01/15/2025 15:14	WG2431927
2,4-DB	U		0.0186	0.0700	1	01/15/2025 15:14	WG2431927
Dicamba	U		0.0226	0.0700	1	01/15/2025 15:14	WG2431927
Dichloroprop	U		0.0183	0.0700	1	01/15/2025 15:14	WG2431927
Dinoseb	U		0.0255	0.0700	1	01/15/2025 15:14	WG2431927
MCPA	U		1.86	6.50	1	01/15/2025 15:14	WG2431927
MCPP	U		2.03	6.50	1	01/15/2025 15:14	WG2431927
2,4,5-T	U		0.0236	0.0700	1	01/15/2025 15:14	WG2431927
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/15/2025 15:14	WG2431927
(S) 2,4-Dichlorophenyl Acetic Acid	*90.9*			*22.0-132*		*01/15/2025 15:14*	WG2431927

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/09/2025 21:23	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 21:23	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 21:23	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 21:23	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 21:23	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 21:23	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 21:23	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 21:23	WG2430824

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 21:23	WG2430824
Dieldrin	0.0125	J	0.00697	0.0200	1	01/09/2025 21:23	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 21:23	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 21:23	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 21:23	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 21:23	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 21:23	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 21:23	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 21:23	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 21:23	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 21:23	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 21:23	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 21:23	WG2430824
(S) Decachlorobiphenyl	*72.6*			*10.0-135*		*01/09/2025 21:23*	WG2430824
(S) Tetrachloro-m-xylene	*79.9*			*10.0-139*		*01/09/2025 21:23*	WG2430824

GHN2-5A

Collected date/time: 01/03/25 16:20

SAMPLE RESULTS - 24

L1815155

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.06	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-24 WG2430703: 8.06 at 19.6C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	6.76	J	0.980	10.3	1.03	01/09/2025 21:47	WG2430732
Sulfate	U		8.49	51.5	1.03	01/09/2025 21:47	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/11/2025 17:24	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	0.977	J	0.837	2.00	1	01/09/2025 18:46	WG2430992
Barium	50.6		0.0850	0.500	1	01/09/2025 18:46	WG2430992
Cadmium	0.163	J	0.0653	0.500	1	01/09/2025 18:46	WG2430992
Chromium	11.5		0.214	1.00	1	01/09/2025 18:46	WG2430992
Lead	11.9		0.326	0.500	1	01/09/2025 18:46	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:46	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:46	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/15/2025 15:24	WG2431927
Dalapon	U		0.0440	0.0700	1	01/15/2025 15:24	WG2431927
2,4-DB	U		0.0186	0.0700	1	01/15/2025 15:24	WG2431927
Dicamba	U		0.0226	0.0700	1	01/15/2025 15:24	WG2431927
Dichloroprop	U		0.0183	0.0700	1	01/15/2025 15:24	WG2431927
Dinoseb	U		0.0255	0.0700	1	01/15/2025 15:24	WG2431927
MCPA	U		1.86	6.50	1	01/15/2025 15:24	WG2431927
MCPP	U		2.03	6.50	1	01/15/2025 15:24	WG2431927
2,4,5-T	U		0.0236	0.0700	1	01/15/2025 15:24	WG2431927
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/15/2025 15:24	WG2431927
(S) 2,4-Dichlorophenyl Acetic Acid	*72.9*			*22.0-132*		*01/15/2025 15:24*	WG2431927

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:41	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:41	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:41	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 19:41	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:41	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:41	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:41	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:41	WG2430824

GHN2-5A

Collected date/time: 01/03/25 16:20

SAMPLE RESULTS - 24

L1815155

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:41	WG2430824
Dieldrin	U		0.00697	0.0200	1	01/09/2025 19:41	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:41	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 19:41	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 19:41	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:41	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:41	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:41	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:41	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:41	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:41	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:41	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:41	WG2430824
(S) Decachlorobiphenyl	*54.4*			*10.0-135*		*01/09/2025 19:41*	WG2430824
(S) Tetrachloro-m-xylene	*64.9*			*10.0-139*		*01/09/2025 19:41*	WG2430824

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	6.61	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-25 WG2430703: 6.61 at 19.4C

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	255		4.76	50.0	5	01/09/2025 22:23	WG2430732
Sulfate	62.1		8.24	50.0	1	01/09/2025 22:05	WG2430732

Mercury by Method 7471B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0206	0.0400	1	01/11/2025 17:27	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.18		0.837	2.00	1	01/09/2025 18:47	WG2430992
Barium	113		0.0850	0.500	1	01/09/2025 18:47	WG2430992
Cadmium	0.419	J	0.0653	0.500	1	01/09/2025 18:47	WG2430992
Chromium	68.9		0.214	1.00	1	01/09/2025 18:47	WG2430992
Lead	25.4		0.326	0.500	1	01/09/2025 18:47	WG2430992
Selenium	1.15	J	1.07	2.00	1	01/09/2025 18:47	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:47	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/15/2025 15:34	WG2431927
Dalapon	U		0.0440	0.0700	1	01/15/2025 15:34	WG2431927
2,4-DB	U		0.0186	0.0700	1	01/15/2025 15:34	WG2431927
Dicamba	U		0.0226	0.0700	1	01/15/2025 15:34	WG2431927
Dichloroprop	U		0.0183	0.0700	1	01/15/2025 15:34	WG2431927
Dinoseb	U		0.0255	0.0700	1	01/15/2025 15:34	WG2431927
MCPA	U		1.86	6.50	1	01/15/2025 15:34	WG2431927
MCPP	U		2.03	6.50	1	01/15/2025 15:34	WG2431927
2,4,5-T	U		0.0236	0.0700	1	01/15/2025 15:34	WG2431927
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/15/2025 15:34	WG2431927
(S) 2,4-Dichlorophenyl Acetic Acid	*123*			*22.0-132*		*01/15/2025 15:34*	WG2431927

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:51	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:51	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:51	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/12/2025 15:26	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:51	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:51	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:51	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:51	WG2430824

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:51	WG2430824
Dieldrin	0.0155	J	0.00697	0.0200	1	01/09/2025 19:51	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:51	WG2430824
Endosulfan II	0.0123	J	0.00661	0.0200	1	01/09/2025 19:51	WG2430824
Endosulfan sulfate	0.0288		0.00642	0.0200	1	01/09/2025 19:51	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:51	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:51	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:51	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:51	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:51	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:51	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:51	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:51	WG2430824
(S) Decachlorobiphenyl	*55.9*			*10.0-135*		*01/09/2025 19:51*	WG2430824
(S) Decachlorobiphenyl	*68.7*			*10.0-135*		*01/12/2025 15:26*	WG2430824
(S) Tetrachloro-m-xylene	*65.1*			*10.0-139*		*01/12/2025 15:26*	WG2430824
(S) Tetrachloro-m-xylene	*67.9*			*10.0-139*		*01/09/2025 19:51*	WG2430824

L1815155-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1815155-02 01/09/25 09:28 • (DUP) R4165745-2 01/09/25 09:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.81	8.80	1	0.114		1

Sample Narrative:

OS: 8.81 at 19.9C

DUP: 8.8 at 20.1C

L1815155-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1815155-18 01/09/25 09:28 • (DUP) R4165745-3 01/09/25 09:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.50	7.50	1	0.000		1

Sample Narrative:

OS: 7.5 at 19.6C

DUP: 7.5 at 19.6C

Laboratory Control Sample (LCS)

(LCS) R4165745-1 01/09/25 09:28

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.97	99.7	99.0-101	

Sample Narrative:

LCS: 9.97 at 19.7C

Method Blank (MB)

(MB) R4166077-1 01/09/25 12:32

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Nitrate as (N)	U		0.952	10.0
Sulfate	U		8.24	50.0

L1815155-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1815155-01 01/09/25 13:08 • (DUP) R4166077-3 01/09/25 13:25

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/kg	mg/kg		%		%
Nitrate as (N)	5.19	5.26	1	1.29	J	15
Sulfate	10.8	10.8	1	0.119	J	15

L1815155-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1815155-11 01/13/25 10:23 • (DUP) R4166490-1 01/13/25 10:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/kg	mg/kg		%		%
Nitrate as (N)	2160	1370	51.5	44.5	P1	15
Sulfate	978	659	51.5	38.9	J P1	15

Sample Narrative:

OS: Dilution due to matrix impact on instrumentation at lower dilution

Laboratory Control Sample (LCS)

(LCS) R4166077-2 01/09/25 12:50

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
Nitrate as (N)	20.0	18.2	91.1	80.0-120	
Sulfate	200	195	97.4	80.0-120	

L1815155-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-01 01/09/25 13:08 • (MS) R4166077-4 01/09/25 13:43 • (MSD) R4166077-5 01/09/25 14:01

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Nitrate as (N)	20.0	5.19	23.6	24.0	92.1	94.0	1	80.0-120			1.56	15
Sulfate	200	10.8	202	203	95.7	96.0	1	80.0-120			0.304	15

Method Blank (MB)

(MB) R4165938-1 01/09/25 13:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0206	0.0400

Laboratory Control Sample (LCS)

(LCS) R4165938-2 01/09/25 13:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.546	109	80.0-120	

L1815312-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815312-03 01/09/25 13:12 • (MS) R4165938-4 01/09/25 13:17 • (MSD) R4165938-5 01/09/25 13:20

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	U	0.543	0.647	109	129	1	75.0-125		J5	17.5	20

Method Blank (MB)

(MB) R4166204-1 01/11/25 16:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0206	0.0400

Laboratory Control Sample (LCS)

(LCS) R4166204-2 01/11/25 16:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.502	100	80.0-120	

L1815409-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815409-06 01/11/25 16:57 • (MS) R4166204-4 01/11/25 17:02 • (MSD) R4166204-5 01/11/25 17:05

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	0.361	0.722	1.18	72.2	163	1	75.0-125	J6	J3 J5	48.0	20

WG2430992

Metals (ICP) by Method 6010D

QUALITY CONTROL SUMMARY

L1815155-01,02,03,04,05,06,07,08,09,10,11,18,19,20,21,23,24,25

Method Blank (MB)

(MB) R4166009-1 01/09/25 18:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.837	2.00
Barium	U		0.0850	0.500
Cadmium	U		0.0653	0.500
Chromium	0.411	J	0.214	1.00
Lead	U		0.326	0.500
Selenium	U		1.07	2.00
Silver	U		0.127	1.00

Laboratory Control Sample (LCS)

(LCS) R4166009-2 01/09/25 18:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	106	106	80.0-120	
Barium	100	108	108	80.0-120	
Cadmium	100	103	103	80.0-120	
Chromium	100	106	106	80.0-120	
Lead	100	104	104	80.0-120	
Selenium	100	104	104	80.0-120	
Silver	20.0	21.1	105	80.0-120	

L1815155-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-10 01/09/25 18:05 • (MS) R4166009-5 01/09/25 18:10 • (MSD) R4166009-6 01/09/25 18:12

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	2.46	99.8	97.9	97.3	95.4	1	75.0-125			1.89	20
Barium	100	59.7	153	144	93.0	83.9	1	75.0-125			6.13	20
Cadmium	100	0.235	95.9	92.8	95.7	92.5	1	75.0-125			3.33	20
Chromium	100	45.3	130	120	84.6	74.4	1	75.0-125		J6	8.21	20
Lead	100	21.3	119	117	98.0	96.0	1	75.0-125			1.71	20
Selenium	100	U	96.7	94.4	96.7	94.4	1	75.0-125			2.47	20
Silver	20.0	2.33	22.2	21.7	99.6	96.9	1	75.0-125			2.41	20

Method Blank (MB)

(MB) R4166170-3 01/09/25 20:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0667	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.7*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4166170-1 01/09/25 19:50 • (LCSD) R4166170-2 01/09/25 20:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	4.94	4.96	98.8	99.2	72.0-127			0.404	20
(S) a,a,a-Trifluorotoluene(FID)				*100*	*101*	*77.0-120*				

Method Blank (MB)

(MB) R4165906-3 01/09/25 11:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00500
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

Method Blank (MB)

(MB) R4165906-3 01/09/25 11:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	U		0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*97.8*			*75.0-131*
(S) 4-Bromofluorobenzene	*101*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*91.9*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4165906-1 01/09/25 10:03 • (LCSD) R4165906-2 01/09/25 10:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.649	0.559	104	89.4	10.0-160			14.9	31
Acrylonitrile	0.625	0.691	0.649	111	104	45.0-153			6.27	22
Benzene	0.125	0.129	0.125	103	100	70.0-123			3.15	20
Bromobenzene	0.125	0.124	0.121	99.2	96.8	73.0-121			2.45	20
Bromodichloromethane	0.125	0.131	0.126	105	101	73.0-121			3.89	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4165906-1 01/09/25 10:03 • (LCSD) R4165906-2 01/09/25 10:23

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Bromoform	0.125	0.122	0.120	97.6	96.0	64.0-132			1.65	20
Bromomethane	0.125	0.103	0.119	82.4	95.2	56.0-147			14.4	20
n-Butylbenzene	0.125	0.125	0.118	100	94.4	68.0-135			5.76	20
sec-Butylbenzene	0.125	0.120	0.120	96.0	96.0	74.0-130			0.000	20
tert-Butylbenzene	0.125	0.119	0.115	95.2	92.0	75.0-127			3.42	20
Carbon tetrachloride	0.125	0.121	0.125	96.8	100	66.0-128			3.25	20
Chlorobenzene	0.125	0.124	0.121	99.2	96.8	76.0-128			2.45	20
Chlorodibromomethane	0.125	0.131	0.131	105	105	74.0-127			0.000	20
Chloroethane	0.125	0.120	0.121	96.0	96.8	61.0-134			0.830	20
Chloroform	0.125	0.120	0.119	96.0	95.2	72.0-123			0.837	20
Chloromethane	0.125	0.116	0.118	92.8	94.4	51.0-138			1.71	20
2-Chlorotoluene	0.125	0.110	0.111	88.0	88.8	75.0-124			0.905	20
4-Chlorotoluene	0.125	0.124	0.123	99.2	98.4	75.0-124			0.810	20
1,2-Dibromo-3-Chloropropane	0.125	0.119	0.110	95.2	88.0	59.0-130			7.86	20
1,2-Dibromoethane	0.125	0.128	0.121	102	96.8	74.0-128			5.62	20
Dibromomethane	0.125	0.125	0.130	100	104	75.0-122			3.92	20
1,2-Dichlorobenzene	0.125	0.121	0.115	96.8	92.0	76.0-124			5.08	20
1,3-Dichlorobenzene	0.125	0.120	0.119	96.0	95.2	76.0-125			0.837	20
1,4-Dichlorobenzene	0.125	0.121	0.118	96.8	94.4	77.0-121			2.51	20
Dichlorodifluoromethane	0.125	0.120	0.117	96.0	93.6	43.0-156			2.53	20
1,1-Dichloroethane	0.125	0.128	0.129	102	103	70.0-127			0.778	20
1,2-Dichloroethane	0.125	0.132	0.127	106	102	65.0-131			3.86	20
1,1-Dichloroethene	0.125	0.117	0.112	93.6	89.6	65.0-131			4.37	20
cis-1,2-Dichloroethene	0.125	0.126	0.124	101	99.2	73.0-125			1.60	20
trans-1,2-Dichloroethene	0.125	0.127	0.126	102	101	71.0-125			0.791	20
1,2-Dichloropropane	0.125	0.132	0.129	106	103	74.0-125			2.30	20
1,1-Dichloropropene	0.125	0.124	0.119	99.2	95.2	73.0-125			4.12	20
1,3-Dichloropropane	0.125	0.123	0.121	98.4	96.8	80.0-125			1.64	20
cis-1,3-Dichloropropene	0.125	0.131	0.130	105	104	76.0-127			0.766	20
trans-1,3-Dichloropropene	0.125	0.120	0.116	96.0	92.8	73.0-127			3.39	20
2,2-Dichloropropane	0.125	0.137	0.133	110	106	59.0-135			2.96	20
Di-isopropyl ether	0.125	0.142	0.139	114	111	60.0-136			2.14	20
Ethylbenzene	0.125	0.120	0.116	96.0	92.8	74.0-126			3.39	20
Hexachloro-1,3-butadiene	0.125	0.116	0.114	92.8	91.2	57.0-150			1.74	20
Isopropylbenzene	0.125	0.127	0.122	102	97.6	72.0-127			4.02	20
p-Isopropyltoluene	0.125	0.123	0.119	98.4	95.2	72.0-133			3.31	20
2-Butanone (MEK)	0.625	0.708	0.739	113	118	30.0-160			4.28	24
Methylene Chloride	0.125	0.124	0.125	99.2	100	68.0-123			0.803	20
4-Methyl-2-pentanone (MIBK)	0.625	0.666	0.629	107	101	56.0-143			5.71	20
Methyl tert-butyl ether	0.125	0.146	0.135	117	108	66.0-132			7.83	20

WG2431247

Volatile Organic Compounds (GC/MS) by Method 8260B

QUALITY CONTROL SUMMARY

L1815155-04,20,21,22

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4165906-1 01/09/25 10:03 • (LCSD) R4165906-2 01/09/25 10:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.125	0.120	0.115	96.0	92.0	59.0-130			4.26	20
n-Propylbenzene	0.125	0.123	0.119	98.4	95.2	74.0-126			3.31	20
Styrene	0.125	0.126	0.123	101	98.4	72.0-127			2.41	20
1,1,1,2-Tetrachloroethane	0.125	0.127	0.118	102	94.4	74.0-129			7.35	20
1,1,2,2-Tetrachloroethane	0.125	0.125	0.121	100	96.8	68.0-128			3.25	20
1,1,2-Trichlorotrifluoroethane	0.125	0.120	0.117	96.0	93.6	61.0-139			2.53	20
Tetrachloroethene	0.125	0.120	0.116	96.0	92.8	70.0-136			3.39	20
Toluene	0.125	0.124	0.118	99.2	94.4	75.0-121			4.96	20
1,2,3-Trichlorobenzene	0.125	0.116	0.110	92.8	88.0	59.0-139			5.31	20
1,2,4-Trichlorobenzene	0.125	0.119	0.116	95.2	92.8	62.0-137			2.55	20
1,1,1-Trichloroethane	0.125	0.125	0.125	100	100	69.0-126			0.000	20
1,1,2-Trichloroethane	0.125	0.120	0.115	96.0	92.0	78.0-123			4.26	20
Trichloroethene	0.125	0.126	0.124	101	99.2	76.0-126			1.60	20
Trichlorofluoromethane	0.125	0.106	0.105	84.8	84.0	61.0-142			0.948	20
1,2,3-Trichloropropane	0.125	0.123	0.117	98.4	93.6	67.0-129			5.00	20
1,2,4-Trimethylbenzene	0.125	0.125	0.119	100	95.2	70.0-126			4.92	20
1,2,3-Trimethylbenzene	0.125	0.126	0.121	101	96.8	74.0-124			4.05	20
1,3,5-Trimethylbenzene	0.125	0.123	0.118	98.4	94.4	73.0-127			4.15	20
Vinyl chloride	0.125	0.109	0.116	87.2	92.8	63.0-134			6.22	20
Xylenes, Total	0.375	0.378	0.359	101	95.7	72.0-127			5.16	20
(S) Toluene-d8				*96.9*	*97.0*	*75.0-131*				
(S) 4-Bromofluorobenzene				*101*	*101*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*107*	*105*	*70.0-130*				

Method Blank (MB)

(MB) R4165909-1 01/09/25 13:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*80.3*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4165909-2 01/09/25 13:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	43.4	86.8	50.0-150	
(S) o-Terphenyl			*107*	*18.0-148*	

L1815155-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-20 01/09/25 17:27 • (MS) R4165909-3 01/09/25 17:40 • (MSD) R4165909-4 01/09/25 17:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.7	11200	7950	6190	0.000	0.000	100	50.0-150	V	J3 V	24.9	20
(S) o-Terphenyl					*0.000*	*0.000*		*18.0-148*	J7	J7		

Method Blank (MB)

(MB) R4166968-1 01/14/25 16:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,4-D	U		0.0257	0.0700
Dalapon	U		0.0440	0.0700
2,4-DB	U		0.0186	0.0700
Dicamba	U		0.0226	0.0700
Dichloroprop	U		0.0183	0.0700
Dinoseb	U		0.0255	0.0700
MCPA	U		1.86	6.50
MCPP	U		2.03	6.50
2,4,5-T	U		0.0236	0.0700
2,4,5-TP (Silvex)	U		0.0187	0.0700
(S) 2,4-Dichlorophenyl Acetic Acid	*59.0*			*22.0-132*

Laboratory Control Sample (LCS)

(LCS) R4166968-2 01/14/25 16:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4-D	0.0833	0.0657	78.9	40.0-120	
Dalapon	0.0833	0.0274	0.000	15.0-120	
2,4-DB	0.0833	0.0613	73.6	25.0-143	
Dicamba	0.0833	0.0641	77.0	43.0-120	
Dichloroprop	0.0833	0.0588	70.6	32.0-129	
Dinoseb	0.0833	0.00834	0.000	10.0-120	
MCPA	8.33	4.34	52.1	31.0-121	
MCPP	8.33	5.24	62.9	28.0-133	
2,4,5-T	0.0833	0.0575	69.0	41.0-120	
2,4,5-TP (Silvex)	0.0833	0.0598	71.8	42.0-120	
(S) 2,4-Dichlorophenyl Acetic Acid			*58.6*	*22.0-132*	

L1815763-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815763-01 01/14/25 16:55 • (MS) R4166968-3 01/14/25 17:05 • (MSD) R4166968-4 01/14/25 17:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4-D	0.0825	U	0.0507	0.0499	61.5	60.5	1	10.0-160			1.59	24
Dalapon	0.0825	U	U	U	0.000	0.000	1	10.0-121			0.000	27
2,4-DB	0.0825	U	0.0502	0.0486	60.8	58.9	1	10.0-160			3.24	22
Dicamba	0.0825	U	0.0625	0.0481	75.8	58.3	1	10.0-154		J3	26.0	21

L1815763-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815763-01 01/14/25 16:55 • (MS) R4166968-3 01/14/25 17:05 • (MSD) R4166968-4 01/14/25 17:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dichloroprop	0.0825	U	0.0496	0.0441	60.1	53.5	1	10.0-158			11.7	20
Dinoseb	0.0825	U	0.0337	U	40.8	0.000	1	10.0-120		J3	200	40
MCPA	8.25	U	4.50	4.12	54.5	49.9	1	10.0-160			8.82	40
MCPP	8.25	U	4.97	4.77	60.2	57.8	1	10.0-160			4.11	40
2,4,5-T	0.0825	U	0.0461	0.0453	55.9	54.9	1	10.0-157			1.75	20
2,4,5-TP (Silvex)	0.0825	U	0.0464	0.0439	56.2	53.2	1	10.0-156			5.54	20
(S) 2,4-Dichlorophenyl Acetic Acid					*58.5*	*53.4*		*22.0-132*				

Method Blank (MB)

(MB) R4167588-1 01/15/25 14:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,4-D	U		0.0257	0.0700
Dalapon	U		0.0440	0.0700
2,4-DB	U		0.0186	0.0700
Dicamba	U		0.0226	0.0700
Dichloroprop	U		0.0183	0.0700
Dinoseb	U		0.0255	0.0700
MCPA	U		1.86	6.50
MCPP	U		2.03	6.50
2,4,5-T	U		0.0236	0.0700
2,4,5-TP (Silvex)	U		0.0187	0.0700
(S) 2,4-Dichlorophenyl Acetic Acid	*62.3*			*22.0-132*

Laboratory Control Sample (LCS)

(LCS) R4167588-2 01/15/25 14:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4-D	0.0833	0.0646	77.6	40.0-120	
Dalapon	0.0833	0.0232	0.000	15.0-120	
2,4-DB	0.0833	0.0616	73.9	25.0-143	
Dicamba	0.0833	0.0622	74.7	43.0-120	
Dichloroprop	0.0833	0.0634	76.1	32.0-129	
Dinoseb	0.0833	0.0231	0.000	10.0-120	
MCPA	8.33	4.85	58.2	31.0-121	
MCPP	8.33	6.23	74.8	28.0-133	
2,4,5-T	0.0833	0.0613	73.6	41.0-120	
2,4,5-TP (Silvex)	0.0833	0.0638	76.6	42.0-120	
(S) 2,4-Dichlorophenyl Acetic Acid			*69.5*	*22.0-132*	

L1815463-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815463-01 01/15/25 16:35 • (MS) R4167588-3 01/15/25 16:45 • (MSD) R4167588-4 01/15/25 16:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4-D	0.0823	U	0.0410	0.0454	49.8	55.2	1	10.0-160	J	J	10.2	24
Dalapon	0.0823	U	U	U	0.000	0.000	1	10.0-121	J	J J3	0.000	27
2,4-DB	0.0823	U	0.0951	0.0440	116	53.5	1	10.0-160	P	J J3	73.5	22
Dicamba	0.0823	U	0.0555	0.0524	67.4	63.7	1	10.0-154	J	J	5.75	21

L1815463-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815463-01 01/15/25 16:35 • (MS) R4167588-3 01/15/25 16:45 • (MSD) R4167588-4 01/15/25 16:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dichloroprop	0.0823	U	0.0540	0.0678	65.6	82.4	1	10.0-158	J	J J3	22.7	20
Dinoseb	0.0823	U	U	0.0291	0.000	35.4	1	10.0-120	J	J	200	40
MCPA	8.23	U	2.95	3.72	35.8	45.2	1	10.0-160	J	J	23.1	40
MCPP	8.23	U	7.88	4.86	95.7	59.1	1	10.0-160	P	J J3	47.4	40
2,4,5-T	0.0823	U	0.0371	0.0365	45.1	44.3	1	10.0-157	J	J	1.63	20
2,4,5-TP (Silvex)	0.0823	U	0.0359	0.0387	43.6	47.0	1	10.0-156	J	J	7.51	20
(S) 2,4-Dichlorophenyl Acetic Acid					*47.0*	*69.1*		*22.0-132*				

Method Blank (MB)

(MB) R4166208-1 01/10/25 02:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00645	0.0200
Alpha BHC	U		0.00637	0.0200
Beta BHC	U		0.00630	0.0200
Delta BHC	U		0.00635	0.0200
Gamma BHC	U		0.00676	0.0200
Chlordane	U		0.0990	0.300
4,4-DDD	U		0.00690	0.0200
4,4-DDE	U		0.00673	0.0200
4,4-DDT	U		0.00766	0.0200
Dieldrin	U		0.00697	0.0200
Endosulfan I	U		0.00604	0.0200
Endosulfan II	U		0.00661	0.0200
Endosulfan sulfate	U		0.00642	0.0200
Endrin	U		0.00746	0.0200
Endrin aldehyde	U		0.00590	0.0200
Endrin ketone	U		0.00695	0.0200
Hexachlorobenzene	U		0.00608	0.0200
Heptachlor	U		0.00693	0.0200
Heptachlor epoxide	U		0.00650	0.0200
Methoxychlor	U		0.00806	0.0200
Toxaphene	U		0.214	0.400
(S) Decachlorobiphenyl	*90.2*			*10.0-135*
(S) Tetrachloro-m-xylene	*92.6*			*10.0-139*

Laboratory Control Sample (LCS)

(LCS) R4166208-2 01/10/25 02:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aldrin	0.0666	0.0681	102	34.0-136	
Alpha BHC	0.0666	0.0696	105	34.0-139	
Beta BHC	0.0666	0.0656	98.5	34.0-133	
Delta BHC	0.0666	0.0578	86.8	34.0-135	
Gamma BHC	0.0666	0.0693	104	34.0-136	
4,4-DDD	0.0666	0.0733	110	33.0-141	
4,4-DDE	0.0666	0.0696	105	34.0-134	
4,4-DDT	0.0666	0.0689	103	30.0-143	
Dieldrin	0.0666	0.0723	109	35.0-137	
Endosulfan I	0.0666	0.0690	104	34.0-134	

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Laboratory Control Sample (LCS)

(LCS) R4166208-2 01/10/25 02:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Endosulfan II	0.0666	0.0705	106	35.0-132	
Endosulfan sulfate	0.0666	0.0678	102	35.0-132	
Endrin	0.0666	0.0705	106	34.0-137	
Endrin aldehyde	0.0666	0.0469	70.4	23.0-121	
Endrin ketone	0.0666	0.0734	110	35.0-144	
Hexachlorobenzene	0.0666	0.0626	94.0	33.0-129	
Heptachlor	0.0666	0.0665	99.8	36.0-141	
Heptachlor epoxide	0.0666	0.0681	102	36.0-134	
Methoxychlor	0.0666	0.0691	104	28.0-150	
(S) Decachlorobiphenyl			*94.7*	*10.0-135*	
(S) Tetrachloro-m-xylene			*94.6*	*10.0-139*	

L1815155-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-03 01/10/25 02:46 • (MS) R4166208-3 01/10/25 02:55 • (MSD) R4166208-4 01/10/25 03:04

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0646	U	0.0691	0.0574	107	87.5	1	20.0-135			18.5	37
Alpha BHC	0.0646	U	0.0713	0.0716	110	109	1	27.0-140			0.420	35
Beta BHC	0.0646	U	0.0665	0.0673	103	103	1	23.0-141			1.20	37
Delta BHC	0.0646	U	0.0593	0.0595	91.8	90.7	1	21.0-138			0.337	35
Gamma BHC	0.0646	U	0.0710	0.0714	110	109	1	27.0-137			0.562	36
4,4-DDD	0.0646	U	0.0743	0.0657	115	100	1	15.0-152			12.3	39
4,4-DDE	0.0646	U	0.0701	0.0596	109	90.9	1	10.0-152			16.2	40
4,4-DDT	0.0646	U	0.0718	0.0595	111	90.7	1	10.0-151			18.7	40
Dieldrin	0.0646	U	0.0737	0.0677	114	103	1	17.0-145			8.49	37
Endosulfan I	0.0646	U	0.0702	0.0656	109	100	1	20.0-137			6.77	36
Endosulfan II	0.0646	U	0.0717	0.0684	111	104	1	15.0-141			4.71	37
Endosulfan sulfate	0.0646	U	0.0695	0.0678	108	103	1	15.0-143			2.48	38
Endrin	0.0646	U	0.0717	0.0651	111	99.2	1	19.0-143			9.65	37
Endrin aldehyde	0.0646	U	0.0623	0.0577	96.4	88.0	1	10.0-139			7.67	40
Endrin ketone	0.0646	U	0.0746	0.0733	115	112	1	17.0-149			1.76	38
Hexachlorobenzene	0.0646	U	0.0637	0.0567	98.6	86.4	1	25.0-126			11.6	35
Heptachlor	0.0646	U	0.0679	0.0600	105	91.5	1	22.0-138			12.4	37
Heptachlor epoxide	0.0646	U	0.0697	0.0649	108	98.9	1	22.0-138			7.13	36
Methoxychlor	0.0646	U	0.0716	0.0619	111	94.4	1	10.0-159			14.5	40
(S) Decachlorobiphenyl					*93.8*	*80.9*		*10.0-135*				
(S) Tetrachloro-m-xylene					*94.3*	*87.3*		*10.0-139*				

QUALITY CONTROL SUMMARY

Method Blank (MB)

(MB) R4166214-1 01/09/25 18:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00645	0.0200
Alpha BHC	U		0.00637	0.0200
Beta BHC	U		0.00630	0.0200
Delta BHC	U		0.00635	0.0200
Gamma BHC	U		0.00676	0.0200
Chlordane	U		0.0990	0.300
4,4-DDD	U		0.00690	0.0200
4,4-DDE	U		0.00673	0.0200
4,4-DDT	U		0.00766	0.0200
Dieldrin	U		0.00697	0.0200
Endosulfan I	U		0.00604	0.0200
Endosulfan II	U		0.00661	0.0200
Endosulfan sulfate	U		0.00642	0.0200
Endrin	U		0.00746	0.0200
Endrin aldehyde	U		0.00590	0.0200
Endrin ketone	U		0.00695	0.0200
Hexachlorobenzene	U		0.00608	0.0200
Heptachlor	U		0.00693	0.0200
Heptachlor epoxide	U		0.00650	0.0200
Methoxychlor	U		0.00806	0.0200
Toxaphene	U		0.214	0.400
(S) Decachlorobiphenyl	*58.3*			*10.0-135*
(S) Tetrachloro-m-xylene	*61.6*			*10.0-139*

Laboratory Control Sample (LCS)

(LCS) R4166214-2 01/09/25 18:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aldrin	0.0666	0.0491	73.7	34.0-136	
Alpha BHC	0.0666	0.0516	77.5	34.0-139	
Beta BHC	0.0666	0.0483	72.5	34.0-133	
Delta BHC	0.0666	0.0413	62.0	34.0-135	
Gamma BHC	0.0666	0.0510	76.6	34.0-136	
4,4-DDD	0.0666	0.0498	74.8	33.0-141	
4,4-DDE	0.0666	0.0467	70.1	34.0-134	
4,4-DDT	0.0666	0.0472	70.9	30.0-143	
Dieldrin	0.0666	0.0489	73.4	35.0-137	
Endosulfan I	0.0666	0.0516	77.5	34.0-134	

QUALITY CONTROL SUMMARY

Laboratory Control Sample (LCS)

(LCS) R4166214-2 01/09/25 18:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Endosulfan II	0.0666	0.0484	72.7	35.0-132	
Endosulfan sulfate	0.0666	0.0455	68.3	35.0-132	
Endrin	0.0666	0.0486	73.0	34.0-137	
Endrin aldehyde	0.0666	0.0254	38.1	23.0-121	
Endrin ketone	0.0666	0.0488	73.3	35.0-144	
Hexachlorobenzene	0.0666	0.0462	69.4	33.0-129	
Heptachlor	0.0666	0.0453	68.0	36.0-141	
Heptachlor epoxide	0.0666	0.0481	72.2	36.0-134	
Methoxychlor	0.0666	0.0451	67.7	28.0-150	
(S) Decachlorobiphenyl			*60.1*	*10.0-135*	
(S) Tetrachloro-m-xylene			*69.1*	*10.0-139*	

L1815155-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-19 01/09/25 22:10 • (MS) R4166214-5 01/09/25 22:19 • (MSD) R4166214-6 01/09/25 22:28

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0653	U	0.0433	0.0347	66.3	53.1	1	20.0-135			22.1	37
Alpha BHC	0.0653	U	0.0496	0.0395	76.0	60.5	1	27.0-140			22.7	35
Beta BHC	0.0653	U	0.0435	0.0343	66.6	52.5	1	23.0-141			23.7	37
Delta BHC	0.0653	U	0.0377	0.0295	57.7	45.2	1	21.0-138			24.4	35
Gamma BHC	0.0653	U	0.0491	0.0386	75.2	59.1	1	27.0-137			23.9	36
4,4-DDD	0.0653	U	0.0425	0.0338	65.1	51.8	1	15.0-152			22.8	39
4,4-DDE	0.0653	U	0.0401	0.0322	61.4	49.3	1	10.0-152			21.9	40
4,4-DDT	0.0653	U	0.0388	0.0304	59.4	46.6	1	10.0-151			24.3	40
Dieldrin	0.0653	U	0.0428	0.0333	65.5	51.0	1	17.0-145			25.0	37
Endosulfan I	0.0653	U	0.0457	0.0362	70.0	55.4	1	20.0-137			23.2	36
Endosulfan II	0.0653	U	0.0412	0.0321	63.1	49.2	1	15.0-141			24.8	37
Endosulfan sulfate	0.0653	U	0.0412	0.0319	63.1	48.9	1	15.0-143			25.4	38
Endrin	0.0653	U	0.0425	0.0335	65.1	51.3	1	19.0-143			23.7	37
Endrin aldehyde	0.0653	U	0.0351	0.0272	53.8	41.7	1	10.0-139			25.4	40
Endrin ketone	0.0653	U	0.0417	0.0329	63.9	50.4	1	17.0-149			23.6	38
Hexachlorobenzene	0.0653	U	0.0437	0.0353	66.9	54.1	1	25.0-126			21.3	35
Heptachlor	0.0653	U	0.0446	0.0357	68.3	54.7	1	22.0-138			22.2	37
Heptachlor epoxide	0.0653	U	0.0430	0.0339	65.8	51.9	1	22.0-138			23.7	36
Methoxychlor	0.0653	U	0.0385	0.0301	59.0	46.1	1	10.0-159			24.5	40
(S) Decachlorobiphenyl					*49.2*	*41.2*		*10.0-135*				
(S) Tetrachloro-m-xylene					*65.2*	*51.8*		*10.0-139*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P	RPD between the primary and confirmatory analysis exceeded 40%.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1] [6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1] [4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock

Email To:
vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: Welby Gardens, Arvada, Colorado

City/State Collected:

Please Circle: PT MT CT ET

Phone: 303-940-9966

Client Project #
45038-001

Lab Project #

Collected by (print):
Vincent Barlock/Terry McGowan

Site/Facility ID #
Welby Gardens

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y ____

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed
STD

Chain of Custody Page 1 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
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SDG # L1815155

Table #

Acctnum: BASENGGCO
Template: T266091
Prelogin: P1123675
PM: 824 - Chris Ward
PB:

Shipped Via: FedEX Ground

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Sulfate, Nitrate - 4 oz jar	Pesticides - 4 oz jar	Chlorinated Herbicies - 4 oz jar	RCRA 8 Metals and pH/Alk - 2 oz jar	Volatile Organic Compounds - 2 oz jar	GRO/DRO/ORO - 4 oz jar	TCLP - 1 Liter jar 1) HOLD				Remarks	Sample # (lab only)
MW-04	Grab	SS	1-3'	01-02-2025	08:45	~~5~~ 4	X	X	X	X			X 1					-01
MW-02	Grab	SS	1-2'	01-02-2025	11:05	5	X	X	X	X			X 1					
MW-03	Grab	SS	1-2'	01-02-2025	13:30	~~5~~ 4	X	X	X	X			X 1					-02
MW-05	Grab	SS	1-2'	01-02-2025	14:57	5	X	X	X	X			X 1					-03
MW-01	Grab	SS	1-2'	01-02-2025	17:05	5	X	X	X	X			X 1					
WGB-10	Grab	SS	1-2'	01-03-2025	10:05	7	X	X	X	X	X	X	X 1					-04
WGB-09	Grab	SS	1-2'	01-03-2025	11:05	7	X	X	X	X	X	X	X 1					
WGB-01	Grab	SS	1-2'	01-03-2025	12:30	7	X	X	X	X	X	X	X 1					
WGB-01-A	Grab	SS	8.7'	01-03-2025	13:00	1					X	X					1 - 4 oz jar	
WGB-02	Grab	SS	1-2'	01-03-2025	13:32	5	X	X	X	X			X 1					

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks: 1) HOLD = Please report preliminary metal results to see if TCLP is necessary

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: _NP [✓ Y] _N
COC Signed/Accurate: [✓ Y] _N
Bottles arrive intact: [✓ Y] _N
Correct bottles used: [✓ Y] _N
Sufficient volume sent: [✓ Y] _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: [✓ Y] _N
RAD Screen <0.5 mR/hr: [✓ Y] _N

Relinquished by : (Signature) Terry O. McGowan	Date: 1-26-25	Time: 10:30	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR —
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 51
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) DeyanG	Date: 1.7.25 Time: 1000

If preservation required by Login: Date/Time

Hold:

Condition: [✓ NCF] / OK

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock

Email To:
vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: Welby Gardens, Arvada, Colorado

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project #
45038-001

Lab Project #

Collected by (print):
Vincent Barlock/Terry McGowan

Site/Facility ID #
Welby Gardens

P.O. #

Collected by (signature):

Immediately Packed on Ice N___ Y___

Rush? (Lab MUST Be Notified)
___Same Day ___Five Day
___Next Day ___5 Day (Rad Only)
___Two Day ___10 Day (Rad Only)
___Three Day

Quote #

Date Results Needed
STD

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

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SDG # L1815155

Table #

Acctnum: **BASENGGCO**
Template: **T266091**
Prelogin: **P1123675**
PM: **824 - Chris Ward**
PB:

Shipped Via: **FedEX Ground**

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Sulfate, Nitrate - 4 oz jar	Pesticides - 4 oz jar	Chlorinated Herbicies - 4 oz jar	RCRA 8 Metals and pH/Alk - 2 oz jar	Volatile Organic Compounds - 2 oz jar	GRO/DRO/ORO - 4 oz jar	TCLP - 1 Liter jar 1) HOLD	Remarks	Sample # (lab only)
GHS1-3A	Comp	SS	0-1'	01-03-2025	14:45	5	X	X	X	X			X [1]		-05
GHS1-3B	Comp	SS	0-1'	01-03-2025	14:50	5	X	X	X	X			X [1]		-06
GHS2-2B	Comp	SS	0-1'	01-03-2025	15:10	5	X	X	X	X			X [1]		-07
GHS2-2A	Comp	SS	0-1'	01-03-2025	15:20	5	X	X	X	X			X [1]		-08
GHS3-1A	Comp	SS	0-1'	01-03-2025	15:45	5	X	X	X	X			X [1]		-09
GHS3-1B	Comp	SS	0-1'	01-03-2025	15:55	5	X	X	X	X			X [1]		-10
GHN1-2A	Comp	SS	0-1'	01-03-2025	16:10	5	X	X	X	X			X [1]		-11
GHN2-5A	Comp	SS	0-1'	01-03-2025	16:20	5	X	X	X	X			X [1]		
GHN3-5A	Comp	SS	0-1'	01-03-2025	16:30	5	X	X	X	X			X [1]		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other______

Remarks: 1) HOLD = Please report preliminary metal results to see if TCLP is necessary

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__UPS __FedEx __Courier ______

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP [✓ Y] __N
COC Signed/Accurate: [✓ Y] __N
Bottles arrive intact: [✓ Y] __N
Correct bottles used: [✓ Y] __N
Sufficient volume sent: [✓ Y] __N
If Applicable
VOA Zero Headspace: __Y [✓ N]
Preservation Correct/Checked: [✓ Y] __N
RAD Screen <0.5 mR/hr: [✓ Y] __N

Relinquished by : (Signature) Tery O- McGowa	Date: 1-6-25	Time: 10:30	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR –	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 55	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Denyan G	Date: 1-7-25 Time: 1000	Hold: Condition: [✓ NCF] / OK

L# L1815155

Fed Ex tracking #	Gun ID	Temperature
425709361078	TLA4	21to=2.1
425709361089	TLA5	1.0to=1.0

Deman G
Name

1.7.25
Date

Company Name/Address: **Baseline Engineering** 112 N Rubey Dr Unit 210 Golden, CO 80403	Billing Information: Tiffany Love PO Box 312 Broomfield, CO 80403	Pres Chk	Chain of Custody Page 1 of 2
Report to: **Vincent Barlock**	Email To: vincentbarlock@baselinecorp.com;terry.mcgowa n@baselinecorp.com		
Project Description: **Welby Gardens, Arvada, Colorado**	City/State Collected:	Please Circle: PT MT CT ET	
Phone: **303-940-9966**	Client Project # 45038-001	Lab Project #	
Collected by (print): Vincent Barlock/Terry McGowan	Site/Facility ID # Welby Gardens	P.O. #	
Collected by (signature): Vincent Barlock Terry O McGowan Immediately Packed on Ice N ____ Y ____	***Rush?*** (Lab MUST Be Notified) ___ Same Day ___ Five Day ___ Next Day ___ 5 Day (Rad Only) ___ Two Day ___ 10 Day (Rad Only) ___ Three Day	**Quote #** Date Results Needed STD	

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

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SDG # L1815755

Table #

Acctnum: **BASENGGCO**
Template:**T266091**
Prelogin: **P1123675**
PM: **824 - Chris Ward**
PB:

Shipped Via: **FedEX Ground**

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Sulfate, Nitrate - 4 oz jar	Pesticides - 4 oz jar	Chlorinated Herbicies - 4 oz jar	RCRA 8 Metals and pH/Alk - 2 oz jar	Volatile Organic Compounds - 2 oz jar	GRO/DRO/ORO - 4 oz jar	TCLP - 1 Liter jar **1) HOLD**				Remarks	Sample # (lab only)
MW-04	Grab	SS	1-3'	01-02-2025	08:45	1 ~~5~~	X	X	X	X			X 1					
MW-02	Grab	SS	1-2'	01-02-2025	11:05	5	X	X	X	X			X 1					-18
MW-03	Grab	SS	1-2'	01-02-2025	13:30	1 ~~5~~	X	X	X	X			X 1					
MW-05	Grab	SS	1-2'	01-02-2025	14:57	5	X	X	X	X			X 1					
MW-01	Grab	SS	1-2'	01-02-2025	17:05	5	X	X	X	X			X 1					-19
WGB-10	Grab	SS	1-2'	01-03-2025	10:05	7	X	X	X	X	X	X	X 1					
WGB-09	Grab	SS	1-2'	01-03-2025	11:05	7	X	X	X	X	X	X	X 1					-20
WGB-01	Grab	SS	1-2'	01-03-2025	12:30	7	X	X	X	X	X	X	X 1					-21
WGB-01-A	Grab	SS	8.7'	01-03-2025	13:00	1					X	X					1 - 4 oz jar	-22
WGB-02	Grab	SS	1-2'	01-03-2025	13:32	5	X	X	X	X			X 1					-23

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks:1) HOLD = Please report preliminary metal results to see if TCLP is necessary

pH ______ Temp ________
Flow ______ Other ________

Samples returned via:
__ UPS __ FedEx __ Courier ____________

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature) Terry O. McGowan	Date: 06 TD 1-[illegible]-25	Time: 10:30	Received by: (Signature)	Trip Blank Received: Yes [✓ No] HCL / MeoH TBR
Relinquished by : (Signature)	Date: 1-06-25	Time: 18:00	Received by: (Signature) Fedex	Temp: °C Bottles Received: 42
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Burchfield	Date: 1/8/25 Time: 9:30

If preservation required by Login: Date/Time

Hold:

Condition:
[✓ NCF] / OK

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock

Email To:
vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project #
45038-001

Lab Project #

Collected by (print):
Vincent Barlock/Terry McGowan

Site/Facility ID #
Welby Gardens

P.O. #

Collected by (signature):
Vincent E Barlock Terry O McGowan

Immediately Packed on Ice N ____ Y ____

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed
STD

Chain of Custody Page 2 of 2

PEOPLE ADVANCING SCIENCE

MT JULIET, TN

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SDG # L1815155

Table #

Acctnum: **BASENGGCO**
Template: **T266091**
Prelogin: **P1123675**
PM: **824 - Chris Ward**
PB:

Shipped Via: **FedEX Ground**

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Sulfate, Nitrate - 4 oz jar	Pesticides - 4 oz jar	Chlorinated Herbicies - 4 oz jar	RCRA 8 Metals and pH/Alk - 2 oz jar	Volatile Organic Compounds - 2 oz jar	GRO/DRO/ORO - 4 oz jar	TCLP - 1 Liter jar **1) HOLD**				Remarks	Sample # (lab only)
GHS1-3A	Comp	SS	0-1'	01-03-2025	14:45	5	X	X	X	X			X 1					
GHS1-3B	Comp	SS	0-1'	01-03-2025	14:50	5	X	X	X	X			X 1					
GHS2-2B	Comp	SS	0-1'	01-03-2025	15:10	5	X	X	X	X			X 1					
GHS2-2A	Comp	SS	0-1'	01-03-2025	15:20	5	X	X	X	X			X 1					
GHS3-1A	Comp	SS	0-1'	01-03-2025	15:45	5	X	X	X	X			X 1					
GHS3-1B	Comp	SS	0-1'	01-03-2025	15:55	5	X	X	X	X			X 1					
GHN1-2A	Comp	SS	0-1'	01-03-2025	16:10	5	X	X	X	X			X 1					
GHN2-5A	Comp	SS	0-1'	01-03-2025	16:20	5	X	X	X	X			X 1					-24
GHN3-5A	Comp	SS	0-1'	01-03-2025	16:30	5	X	X	X	X			X 1					-25

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks:1) HOLD = Please report preliminary metal results to see if TCLP is necessary

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature) Terry O. McGowan	Date: 1-6-25	Time: 10:30	Received by: (Signature)
Relinquished by : (Signature)	Date: 1-6-25	Time: 18:00	Received by: (Signature) FedEx
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Carol Burchfiel

Trip Blank Received: Yes / [✓ No]
HCL / MeoH
TBR

Temp: °C Bottles Received: 42

Date: 1/8/25 Time: 9:30

If preservation required by Login: Date/Time

Hold:

Condition: [✓ NCF] / OK

U81555

Fed Ex tracking #	Gun ID	Temperature
4257 0936 1104	MS A9	0.7+0=0.7
4257 0936 1090	MS A9	1.6+0=1.6

Name

Date

1/7-NCF-BASENGGCO L1815155

R5

Time estimate: 0h **Time spent:** 0h

Members

Hailey Robertson (responsible) CW Chris Ward

Due on *10 January 2025 8:00 AM* for target *Done*

- ☐ Login Clarification needed
- ☐ Chain of custody is incomplete
- ☐ Please specify Metals requested
- ☐ Please specify TCLP requested
- ☐ Received additional samples not listed on COC
- ☐ Sample IDs on containers do not match IDs on COC
- ☐ Client did not "X" analysis
- ☑ Chain of Custody is missing
- ☑ If no COC: Received by:_Deryan G.__________________
- ☑ If no COC: Date/Time:_1/7/25 @ 1000__________________
- ☑ If no COC: Temp./Cont.Rec./pH:_2.1, 1.0______________
- ☑ If no COC: Carrier:_FedEx______________
- ☑ If no COC: Tracking #:_425709361078, 425709361089_______________
- ☐ Client informed by call
- ☐ Client informed by Email
- ☐ Client informed by Voicemail
- ☐ Date/Time:___________________
- ☐ PM initials:_________________
- ☐ Client Contact:_________Tery McGowan__________

Comments

Hailey Robertson *7 January 2025 1:44 PM*

Received the attached IDs and containers with no COC. Containers list P1123675 on the containers.

Chris Ward *7 January 2025 1:58 PM*

Reached out to the client, do the container count/types match the P# as well?

Chris Ward *7 January 2025 2:00 PM*

COC attached

Hailey Robertson *8 January 2025 8:31 AM*

I logged what we have and will add the rest when we received the missing IDS.

Troy Dunlap *8 January 2025 11:16 AM*

Missing cooler received. Samples added to SDG.

ANALYTICAL REPORT

February 27, 2025

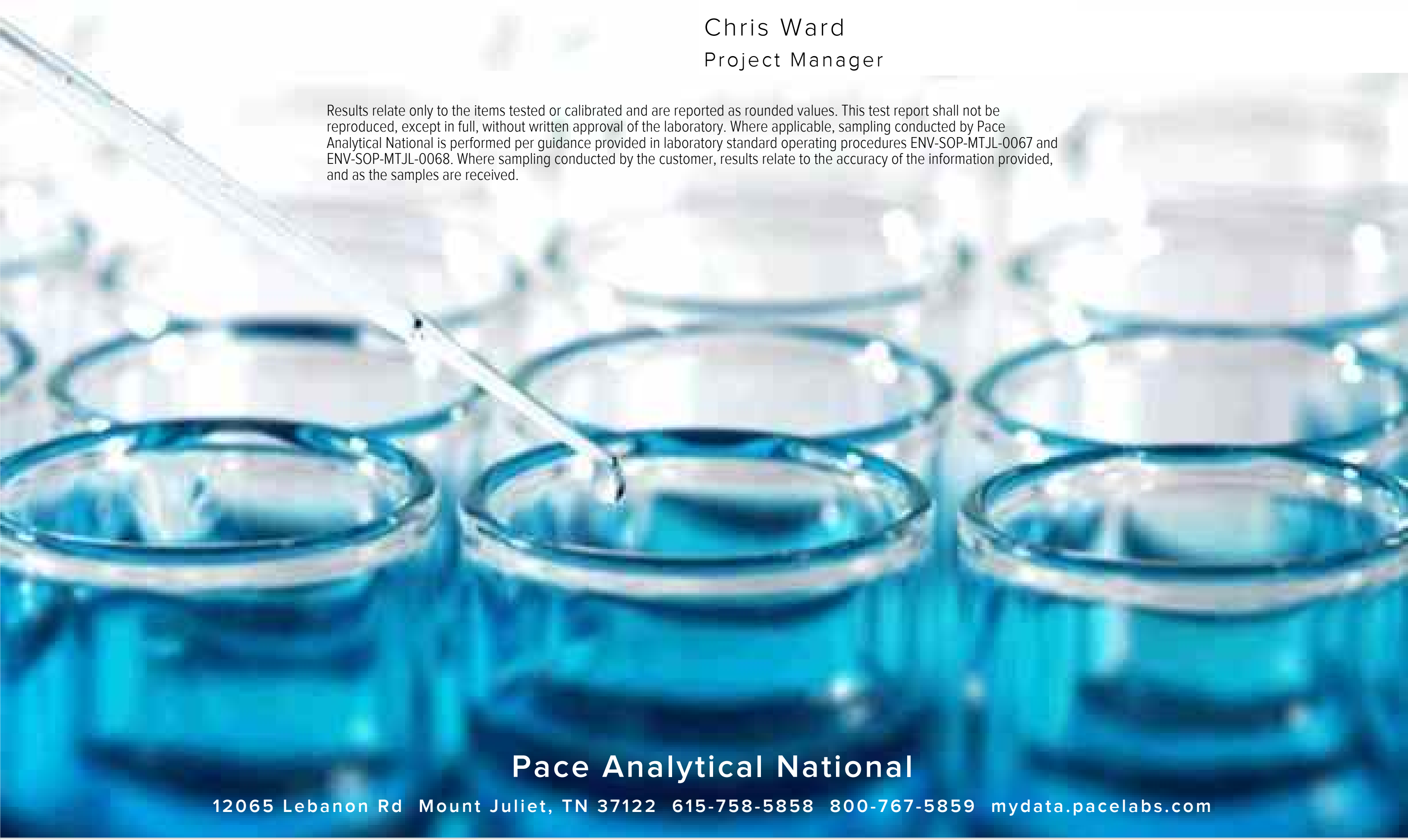
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Baseline Engineering

Sample Delivery Group:	L1828335
Samples Received:	02/20/2025
Project Number:	45038.002b
Description:	Welby Gardens - Add. Soil Sampling
Site:	WELBY GARDENS
Report To:	Vincent Barlock 112 N Rubey Dr. , Unit 210 Golden, CO 80403

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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SAMPLE SUMMARY

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

GHS1-3C-1 0-1.0 L1828335-01 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 09:24	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 15:38	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 18:46	HCS	Mt. Juliet, TN

GHS1-3C-2 1-1.5 L1828335-02 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 09:42	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 15:49	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 18:55	HCS	Mt. Juliet, TN

GHS1-3C-3 1.5-2.0 L1828335-03 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 09:58	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 15:59	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:03	HCS	Mt. Juliet, TN

GHS2-1A-1 0-1.0 L1828335-04 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 10:35	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 16:09	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:12	HCS	Mt. Juliet, TN

GHS2-1A-2 1-2 L1828335-05 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 10:52	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 16:19	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:21	HCS	Mt. Juliet, TN

GHS3-1C-1 0-1 L1828335-06 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 11:20	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 16:29	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:30	HCS	Mt. Juliet, TN

GHS3-1C-2 1-1.5 L1828335-07 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 11:36	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 16:40	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:39	HCS	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

GHS3-1C-3 1.5-2 L1828335-08 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 11:44	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 17:10	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:48	HCS	Mt. Juliet, TN

GHN1-1A-1 0-1 L1828335-09 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 12:15	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 17:51	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:57	HCS	Mt. Juliet, TN

GHN1-1A-2 1-2 L1828335-10 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 12:30	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 18:01	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 20:05	HCS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward

Chris Ward
Project Manager

GHS1-3C-1 0-1.0

Collected date/time: 02/18/25 09:24

SAMPLE RESULTS - 01

L1828335

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 15:38	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 15:38	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 15:38	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 15:38	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 15:38	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 15:38	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 15:38	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 15:38	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 15:38	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 15:38	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*89.7*			*22.0-132*		*02/26/2025 15:38*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 18:46	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 18:46	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 18:46	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 18:46	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 18:46	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 18:46	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 18:46	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 18:46	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 18:46	WG2456512
Dieldrin	0.0341		0.00697	0.0200	1	02/25/2025 18:46	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 18:46	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 18:46	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 18:46	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 18:46	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 18:46	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 18:46	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 18:46	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 18:46	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 18:46	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 18:46	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 18:46	WG2456512
(S) Decachlorobiphenyl	*61.9*			*10.0-135*		*02/25/2025 18:46*	WG2456512
(S) Tetrachloro-m-xylene	*77.3*			*10.0-139*		*02/25/2025 18:46*	WG2456512

GHS1-3C-2 1-1.5

Collected date/time: 02/18/25 09:42

SAMPLE RESULTS - 02

L1828335

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 15:49	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 15:49	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 15:49	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 15:49	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 15:49	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 15:49	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 15:49	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 15:49	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 15:49	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 15:49	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*73.3*			*22.0-132*		*02/26/2025 15:49*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 18:55	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 18:55	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 18:55	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 18:55	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 18:55	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 18:55	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 18:55	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 18:55	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 18:55	WG2456512
Dieldrin	0.0261		0.00697	0.0200	1	02/25/2025 18:55	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 18:55	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 18:55	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 18:55	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 18:55	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 18:55	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 18:55	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 18:55	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 18:55	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 18:55	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 18:55	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 18:55	WG2456512
(S) Decachlorobiphenyl	*59.6*			*10.0-135*		*02/25/2025 18:55*	WG2456512
(S) Tetrachloro-m-xylene	*79.3*			*10.0-139*		*02/25/2025 18:55*	WG2456512

GHS1-3C-3 1.5-2.0

Collected date/time: 02/18/25 09:58

SAMPLE RESULTS - 03

L1828335

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 15:59	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 15:59	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 15:59	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 15:59	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 15:59	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 15:59	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 15:59	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 15:59	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 15:59	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 15:59	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*78.2*			*22.0-132*		*02/26/2025 15:59*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:03	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:03	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:03	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:03	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:03	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:03	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:03	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:03	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:03	WG2456512
Dieldrin	0.0188	J	0.00697	0.0200	1	02/25/2025 19:03	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:03	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:03	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:03	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:03	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:03	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:03	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:03	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:03	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:03	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:03	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:03	WG2456512
(S) Decachlorobiphenyl	*59.8*			*10.0-135*		*02/25/2025 19:03*	WG2456512
(S) Tetrachloro-m-xylene	*77.7*			*10.0-139*		*02/25/2025 19:03*	WG2456512

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 16:09	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 16:09	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 16:09	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 16:09	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 16:09	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 16:09	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 16:09	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 16:09	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 16:09	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 16:09	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*70.9*			*22.0-132*		*02/26/2025 16:09*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:12	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:12	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:12	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:12	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:12	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:12	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:12	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:12	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:12	WG2456512
Dieldrin	0.256		0.00697	0.0200	1	02/25/2025 19:12	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:12	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:12	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:12	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:12	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:12	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:12	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:12	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:12	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:12	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:12	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:12	WG2456512
(S) Decachlorobiphenyl	*59.8*			*10.0-135*		*02/25/2025 19:12*	WG2456512
(S) Tetrachloro-m-xylene	*74.8*			*10.0-139*		*02/25/2025 19:12*	WG2456512

GHS2-1A-2 1-2

Collected date/time: 02/18/25 10:52

SAMPLE RESULTS - 05

L1828335

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 16:19	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 16:19	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 16:19	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 16:19	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 16:19	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 16:19	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 16:19	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 16:19	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 16:19	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 16:19	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*102*			*22.0-132*		*02/26/2025 16:19*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:21	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:21	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:21	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:21	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:21	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:21	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:21	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:21	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:21	WG2456512
Dieldrin	0.161		0.00697	0.0200	1	02/25/2025 19:21	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:21	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:21	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:21	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:21	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:21	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:21	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:21	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:21	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:21	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:21	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:21	WG2456512
(S) Decachlorobiphenyl	*62.9*			*10.0-135*		*02/25/2025 19:21*	WG2456512
(S) Tetrachloro-m-xylene	*80.1*			*10.0-139*		*02/25/2025 19:21*	WG2456512

GHS3-1C-1 0-1
Collected date/time: 02/18/25 11:20

SAMPLE RESULTS - 06

L1828335

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 16:29	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 16:29	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 16:29	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 16:29	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 16:29	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 16:29	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 16:29	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 16:29	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 16:29	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 16:29	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*127*			*22.0-132*		*02/26/2025 16:29*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:30	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:30	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:30	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:30	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:30	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:30	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:30	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:30	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:30	WG2456512
Dieldrin	0.198		0.00697	0.0200	1	02/25/2025 19:30	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:30	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:30	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:30	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:30	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:30	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:30	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:30	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:30	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:30	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:30	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:30	WG2456512
(S) Decachlorobiphenyl	*57.8*			*10.0-135*		*02/25/2025 19:30*	WG2456512
(S) Tetrachloro-m-xylene	*73.1*			*10.0-139*		*02/25/2025 19:30*	WG2456512

GHS3-1C-2 1-1.5

Collected date/time: 02/18/25 11:36

SAMPLE RESULTS - 07

L1828335

Chlorinated Acid Herbicides (GC) by Method 8151A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	02/26/2025 16:40	WG2456610
Dalapon	U	J3	0.0440	0.0700	1	02/26/2025 16:40	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 16:40	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 16:40	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 16:40	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 16:40	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 16:40	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 16:40	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 16:40	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 16:40	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*70.9*			*22.0-132*		*02/26/2025 16:40*	WG2456610

Pesticides (GC) by Method 8081B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:39	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:39	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:39	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:39	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:39	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:39	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:39	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:39	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:39	WG2456512
Dieldrin	0.184		0.00697	0.0200	1	02/25/2025 19:39	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:39	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:39	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:39	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:39	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:39	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:39	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:39	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:39	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:39	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:39	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:39	WG2456512
(S) Decachlorobiphenyl	*59.7*			*10.0-135*		*02/25/2025 19:39*	WG2456512
(S) Tetrachloro-m-xylene	*79.1*			*10.0-139*		*02/25/2025 19:39*	WG2456512

GHS3-1C-3 1.5-2

Collected date/time: 02/18/25 11:44

SAMPLE RESULTS - 08

L1828335

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	02/26/2025 17:10	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 17:10	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 17:10	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 17:10	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 17:10	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 17:10	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 17:10	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 17:10	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 17:10	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 17:10	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*93.9*			*22.0-132*		*02/26/2025 17:10*	WG2456610

Pesticides (GC) by Method 8081B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:48	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:48	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:48	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:48	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:48	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:48	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:48	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:48	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:48	WG2456512
Dieldrin	0.00790	J	0.00697	0.0200	1	02/25/2025 19:48	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:48	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:48	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:48	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:48	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:48	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:48	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:48	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:48	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:48	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:48	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:48	WG2456512
(S) Decachlorobiphenyl	*57.4*			*10.0-135*		*02/25/2025 19:48*	WG2456512
(S) Tetrachloro-m-xylene	*74.6*			*10.0-139*		*02/25/2025 19:48*	WG2456512

GHN1-1A-1 0-1
Collected date/time: 02/18/25 12:15

SAMPLE RESULTS - 09

L1828335

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 17:51	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 17:51	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 17:51	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 17:51	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 17:51	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 17:51	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 17:51	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 17:51	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 17:51	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 17:51	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*114*			*22.0-132*		*02/26/2025 17:51*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:57	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:57	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:57	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:57	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:57	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:57	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:57	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:57	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:57	WG2456512
Dieldrin	0.0171	J	0.00697	0.0200	1	02/25/2025 19:57	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:57	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:57	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:57	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:57	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:57	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:57	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:57	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:57	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:57	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:57	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:57	WG2456512
(S) Decachlorobiphenyl	*58.1*			*10.0-135*		*02/25/2025 19:57*	WG2456512
(S) Tetrachloro-m-xylene	*72.6*			*10.0-139*		*02/25/2025 19:57*	WG2456512

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 18:01	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 18:01	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 18:01	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 18:01	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 18:01	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 18:01	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 18:01	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 18:01	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 18:01	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 18:01	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*38.1*			*22.0-132*		*02/26/2025 18:01*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 20:05	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 20:05	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 20:05	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 20:05	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 20:05	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 20:05	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 20:05	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 20:05	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 20:05	WG2456512
Dieldrin	0.0270		0.00697	0.0200	1	02/25/2025 20:05	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 20:05	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 20:05	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 20:05	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 20:05	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 20:05	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 20:05	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 20:05	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 20:05	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 20:05	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 20:05	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 20:05	WG2456512
(S) Decachlorobiphenyl	*61.3*			*10.0-135*		*02/25/2025 20:05*	WG2456512
(S) Tetrachloro-m-xylene	*75.2*			*10.0-139*		*02/25/2025 20:05*	WG2456512

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4180611-1 02/26/25 14:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,4-D	U		0.0257	0.0700
Dalapon	U		0.0440	0.0700
2,4-DB	U		0.0186	0.0700
Dicamba	U		0.0226	0.0700
Dichloroprop	U		0.0183	0.0700
Dinoseb	U		0.0255	0.0700
MCPA	U		1.86	6.50
MCPP	U		2.03	6.50
2,4,5-T	U		0.0236	0.0700
2,4,5-TP (Silvex)	U		0.0187	0.0700
(S) 2,4-Dichlorophenyl Acetic Acid	*80.2*			*22.0-132*

Laboratory Control Sample (LCS)

(LCS) R4180611-2 02/26/25 14:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4-D	0.0833	0.0739	88.7	40.0-120	
Dalapon	0.0833	0.0323	38.8	15.0-120	
2,4-DB	0.0833	0.101	121	25.0-143	
Dicamba	0.0833	0.0665	79.8	43.0-120	
Dichloroprop	0.0833	0.0707	84.9	32.0-129	
Dinoseb	0.0833	0.0229	27.5	10.0-120	
MCPA	8.33	7.05	84.6	31.0-121	
MCPP	8.33	8.92	107	28.0-133	
2,4,5-T	0.0833	0.0707	84.9	41.0-120	
2,4,5-TP (Silvex)	0.0833	0.0696	83.6	42.0-120	
(S) 2,4-Dichlorophenyl Acetic Acid			*81.4*	*22.0-132*	

L1828335-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1828335-07 02/26/25 16:40 • (MS) R4180611-3 02/26/25 16:50 • (MSD) R4180611-4 02/26/25 17:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4-D	0.0818	U	0.0845	0.0972	103	119	1	10.0-160		P	14.0	24
Dalapon	0.0818	U	U	0.0442	38.3	54.0	1	10.0-121	J	J J3	34.2	27
2,4-DB	0.0818	U	0.0887	0.0810	108	99.0	1	10.0-160			9.07	22
Dicamba	0.0818	U	0.0600	0.0580	73.3	70.9	1	10.0-154	J	J	3.39	21

L1828335-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1828335-07 02/26/25 16:40 • (MS) R4180611-3 02/26/25 16:50 • (MSD) R4180611-4 02/26/25 17:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dichloroprop	0.0818	U	0.0873	0.0798	107	97.6	1	10.0-158	P	P	8.98	20
Dinoseb	0.0818	U	0.0451	0.0373	55.1	45.6	1	10.0-120	J	J	18.9	40
MCPA	8.18	U	6.30	6.86	77.0	83.9	1	10.0-160	J		8.51	40
MCPP	8.18	U	11.3	8.39	138	103	1	10.0-160			29.6	40
2,4,5-T	0.0818	U	0.0625	0.0570	76.4	69.7	1	10.0-157	J	J	9.21	20
2,4,5-TP (Silvex)	0.0818	U	0.0605	0.0550	74.0	67.2	1	10.0-156	J	J	9.52	20
(S) 2,4-Dichlorophenyl Acetic Acid					*82.3*	*78.7*		*22.0-132*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4180406-1 02/25/25 17:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00645	0.0200
Alpha BHC	U		0.00637	0.0200
Beta BHC	U		0.00630	0.0200
Delta BHC	U		0.00635	0.0200
Gamma BHC	U		0.00676	0.0200
Chlordane	U		0.0990	0.300
4,4-DDD	U		0.00690	0.0200
4,4-DDE	U		0.00673	0.0200
4,4-DDT	U		0.00766	0.0200
Dieldrin	U		0.00697	0.0200
Endosulfan I	U		0.00604	0.0200
Endosulfan II	U		0.00661	0.0200
Endosulfan sulfate	U		0.00642	0.0200
Endrin	U		0.00746	0.0200
Endrin aldehyde	U		0.00590	0.0200
Endrin ketone	U		0.00695	0.0200
Hexachlorobenzene	U		0.00608	0.0200
Heptachlor	U		0.00693	0.0200
Heptachlor epoxide	U		0.00650	0.0200
Methoxychlor	U		0.00806	0.0200
Toxaphene	U		0.214	0.400
(S) Decachlorobiphenyl	*53.2*			*10.0-135*
(S) Tetrachloro-m-xylene	*62.0*			*10.0-139*

Laboratory Control Sample (LCS)

(LCS) R4180406-2 02/25/25 17:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aldrin	0.0666	0.0521	78.2	34.0-136	
Alpha BHC	0.0666	0.0531	79.7	34.0-139	
Beta BHC	0.0666	0.0513	77.0	34.0-133	
Delta BHC	0.0666	0.0485	72.8	34.0-135	
Gamma BHC	0.0666	0.0544	81.7	34.0-136	
4,4-DDD	0.0666	0.0537	80.6	33.0-141	
4,4-DDE	0.0666	0.0548	82.3	34.0-134	
4,4-DDT	0.0666	0.0547	82.1	30.0-143	
Dieldrin	0.0666	0.0525	78.8	35.0-137	
Endosulfan I	0.0666	0.0497	74.6	34.0-134	

Laboratory Control Sample (LCS)

(LCS) R4180406-2 02/25/25 17:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Endosulfan II	0.0666	0.0520	78.1	35.0-132	
Endosulfan sulfate	0.0666	0.0501	75.2	35.0-132	
Endrin	0.0666	0.0537	80.6	34.0-137	
Endrin aldehyde	0.0666	0.0420	63.1	23.0-121	
Endrin ketone	0.0666	0.0520	78.1	35.0-144	
Hexachlorobenzene	0.0666	0.0497	74.6	33.0-129	
Heptachlor	0.0666	0.0536	80.5	36.0-141	
Heptachlor epoxide	0.0666	0.0519	77.9	36.0-134	
Methoxychlor	0.0666	0.0535	80.3	28.0-150	
(S) Decachlorobiphenyl			*61.9*	*10.0-135*	
(S) Tetrachloro-m-xylene			*70.3*	*10.0-139*	

L1828022-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1828022-01 02/25/25 18:02 • (MS) R4180406-3 02/25/25 18:10 • (MSD) R4180406-4 02/25/25 18:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0633	U	0.0491	0.0433	77.6	68.4	1	20.0-135			12.6	37
Alpha BHC	0.0633	U	0.0514	0.0459	81.2	72.5	1	27.0-140			11.3	35
Beta BHC	0.0633	U	0.0486	0.0438	76.8	69.2	1	23.0-141			10.4	37
Delta BHC	0.0633	U	0.0455	0.0408	71.9	64.5	1	21.0-138			10.9	35
Gamma BHC	0.0633	U	0.0512	0.0465	80.9	73.5	1	27.0-137			9.62	36
4,4-DDD	0.0633	U	0.0501	0.0443	79.1	70.0	1	15.0-152			12.3	39
4,4-DDE	0.0633	U	0.0511	0.0451	80.7	71.2	1	10.0-152			12.5	40
4,4-DDT	0.0633	U	0.0525	0.0453	82.9	71.6	1	10.0-151			14.7	40
Dieldrin	0.0633	U	0.0491	0.0442	77.6	69.8	1	17.0-145			10.5	37
Endosulfan I	0.0633	U	0.0475	0.0427	75.0	67.5	1	20.0-137			10.6	36
Endosulfan II	0.0633	U	0.0485	0.0437	76.6	69.0	1	15.0-141			10.4	37
Endosulfan sulfate	0.0633	U	0.0468	0.0422	73.9	66.7	1	15.0-143			10.3	38
Endrin	0.0633	U	0.0503	0.0448	79.5	70.8	1	19.0-143			11.6	37
Endrin aldehyde	0.0633	U	0.0461	0.0419	72.8	66.2	1	10.0-139			9.55	40
Endrin ketone	0.0633	U	0.0482	0.0436	76.1	68.9	1	17.0-149			10.0	38
Hexachlorobenzene	0.0633	U	0.0467	0.0418	73.8	66.0	1	25.0-126			11.1	35
Heptachlor	0.0633	U	0.0501	0.0438	79.1	69.2	1	22.0-138			13.4	37
Heptachlor epoxide	0.0633	U	0.0483	0.0430	76.3	67.9	1	22.0-138			11.6	36
Methoxychlor	0.0633	U	0.0519	0.0451	82.0	71.2	1	10.0-159			14.0	40
(S) Decachlorobiphenyl					*63.8*	*56.7*		*10.0-135*				
(S) Tetrachloro-m-xylene					*75.4*	*70.0*		*10.0-139*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
P	RPD between the primary and confirmatory analysis exceeded 40%.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1 6]	KY90010
Kentucky [2]	16
Louisiana	AI30792
Louisiana	LA018
Maine	TN00003
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05
Nevada	TN000032021-1
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico [1]	TN00003
New York	11742
North Carolina	Env375
North Carolina [1]	DW21704
North Carolina [3]	41
North Dakota	R-140
Ohio–VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004002
South Dakota	n/a
Tennessee [1 4]	2006
Texas	T104704245-20-18
Texas [5]	LAB0152
Utah	TN000032021-11
Vermont	VT2006
Virginia	110033
Washington	C847
West Virginia	233
Wisconsin	998093910
Wyoming	A2LA

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 [5]	1461.02
Canada	1461.01
EPA–Crypto	TN00003
AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address: **Baseline Engineering** **112 N Rubey Dr. , Unit 210** **Golden, CO 80403**	Billing Information: **Tiffany Love | Accounts Payable** **PO Box 312** **Broomfield, CO 80403**	Pres Chk
Report to: **Vincent Barlock 303-940-9966**	Email To: **terry.mcgowan@baselinecorp.com;vincent.barl**	
Project Description: **Welby Gardens - Add. Soil Sampling**	City/State Collected:	Please Circle: PT MT CT ET
Regulatory Program(DOD,RCRA,DW,etc): NA	Client Project # **45038.002b**	Lab Project # **BASENGGCO-45038 -**
Collected by (print): Terry McGowan	Site/Facility ID # Welby Gardens	P.O. # NA
Collected by (signature): Terry O. McGowan Immediately Packed on Ice N ___ Y X	**Rush?** (Lab MUST Be Notified) ___ Same Day X Five Day ___ Next Day ___ 5 Day (Rad Only) ___ Two Day ___ 10 Day (Rad Only) ___ Three Day ___ STD TAT	Quote # NA Date Results Needed

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1828335

C030

Acctnum: **BASENGGCO**
Template:**T268504**
Prelogin: **P1131957**
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

Analysis / Container / Preservative

Sample ID 3C	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	DRO, ORO 4ozClr-NoPres	Pest 8081,Herbs 8151 4ozClr-NoPres	V8260, GRO 2ozClr-NoPres							Remarks	Sample # (lab only)
GHS1-3C-1 0-1.0	Comp	SS	0-1	2-18-25	0924	1		X									-01
GHS1-3C-2 1-1.5	Comp	SS	1-1.5	2-18-25	0942	1		X									-02
GHS1-3C-3 1.5-2.0	Comp	SS	1.5-2.0	2-18-25	0958	1		X									-03
GHS2-1A-1 0-1.0	Comp	SS	0-1.0	2-18-25	1035	1		X									-04
GHS2-1A-2 1-2.0	Comp	SS	1.0-2.0	2-18-25	1052	1		X									-05
GHS3-1C-1 0-1	Comp	SS	0.0-1.0	2-18-25	1120	1		X									-06
GHS3-1C-2-1.0-1.5	Comp	SS	1.0-1.5	2-18-25	1136	1		X									-07
GHS3-1C-3 1.5-2.0	Comp	SS	1.5-2.0	2-18-25	1144	1		X									-08
GHN1-1A-1 0-1	Comp	SS	0-1.0	2-18-25	1215	1		X									[illegible]
GHN1-1A-2 1-2	Comp	SS	1.0-2.0	2-18-25	1230	1		X									-10

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks:

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking # 4208 1342 7815

Relinquished by : (Signature) Terry O. McGowan	Date: 2-18-25	Time: 13:37	Received by: (Signature) Dale Conning	Trip Blank Received: Yes / [✓ No] HCL / MeoH TBR
Relinquished by : (Signature) Dale Conning	Date: 2-18-25	Time: 1800	Received by: (Signature) FEDEX	Temp: °C EDR9 2.0+0.4=2.4 Bottles Received: 10
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Ashley Beato	Date: 02/20/2025 Time: 0945

Sample Receipt Checklist
COC Seal Present/Intact: __NP ☒ Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: ☒ Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ☒ Y __N

If preservation required by Login: Date/Time

Hold:

Condition:
NCF / OK

APPENDIX E

Laboratory Analytical Reports for Groundwater Samples

ANALYTICAL REPORT

January 20, 2025

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

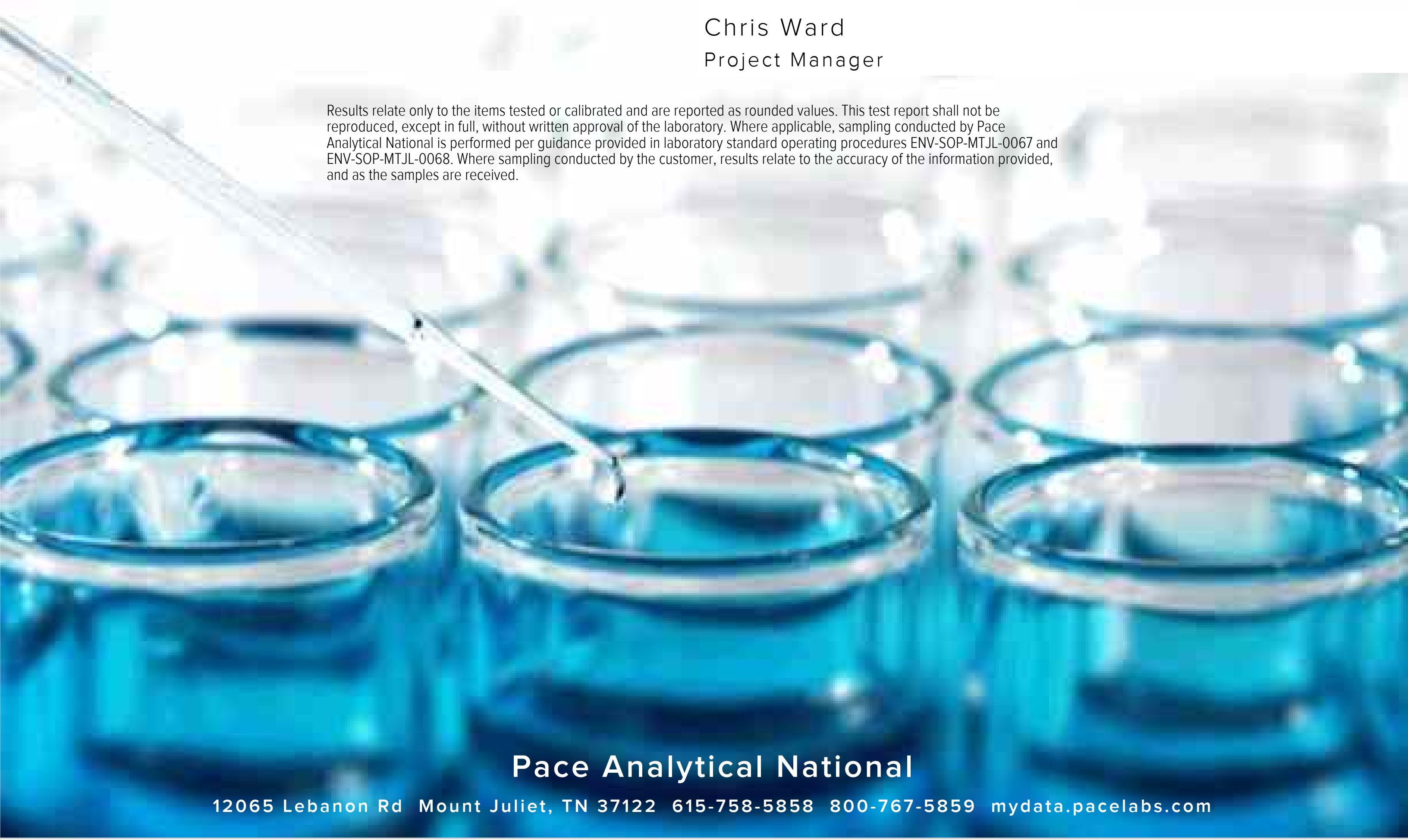
Baseline Engineering

Sample Delivery Group:	L1816112
Samples Received:	01/13/2025
Project Number:	45038-001
Description:	Welby Gardens Arvada Colorado
Report To:	Vincent Barlock 112 N Rubey Dr. , Unit 210 Golden, CO 80403

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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SAMPLE SUMMARY

	Collected by	Collected date/time	Received date/time
	VB/TM	01/08/25 15:00	01/13/25 09:00

MW-03 L1816112-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2431966	1	01/13/25 11:40	01/13/25 11:40	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2432507	1	01/13/25 19:40	01/13/25 19:40	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2434552	1	01/16/25 08:24	01/16/25 13:57	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2433589	1	01/15/25 11:14	01/15/25 11:14	RJP	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2432484	1	01/14/25 11:26	01/14/25 11:26	JAS	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2432764	1	01/14/25 12:30	01/14/25 12:30	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	1	01/14/25 01:07	01/14/25 01:07	AJC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	20	01/14/25 18:30	01/14/25 18:30	ZSA	Mt. Juliet, TN
Mercury by Method 7470A	WG2432539	1	01/14/25 17:21	01/15/25 15:31	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2433481	1	01/15/25 10:42	01/15/25 15:03	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2432455	1	01/13/25 18:00	01/13/25 18:00	DYW	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2432318	1	01/15/25 06:41	01/16/25 00:05	MEW	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2432279	1	01/14/25 05:32	01/14/25 15:46	NWH	Mt. Juliet, TN

	Collected by	Collected date/time	Received date/time
	VB/TM	01/08/25 15:40	01/13/25 09:00

MW-04 L1816112-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2431966	1	01/13/25 11:45	01/13/25 11:45	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2432507	1	01/13/25 19:46	01/13/25 19:46	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2434552	1	01/16/25 08:24	01/16/25 13:59	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2433589	1	01/15/25 11:14	01/15/25 11:14	RJP	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2432484	1	01/14/25 11:27	01/14/25 11:27	JAS	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2432764	5	01/14/25 12:30	01/14/25 12:30	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	1	01/14/25 01:42	01/14/25 01:42	AJC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	50	01/14/25 02:00	01/14/25 02:00	AJC	Mt. Juliet, TN
Mercury by Method 7470A	WG2432539	1	01/14/25 17:21	01/15/25 15:33	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2433481	1	01/15/25 10:42	01/15/25 15:09	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2432455	1	01/13/25 18:22	01/13/25 18:22	DYW	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2432318	1	01/15/25 06:41	01/16/25 05:08	MEW	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2432279	1	01/14/25 05:32	01/14/25 15:55	NWH	Mt. Juliet, TN

	Collected by	Collected date/time	Received date/time
	VB/TM	01/08/25 16:20	01/13/25 09:00

MW-01 L1816112-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2431966	1	01/13/25 11:51	01/13/25 11:51	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2432507	1	01/13/25 19:48	01/13/25 19:48	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2434552	1	01/16/25 08:24	01/16/25 14:01	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2433589	1	01/15/25 11:14	01/15/25 11:14	RJP	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2432484	1	01/14/25 11:27	01/14/25 11:27	JAS	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2432764	5	01/14/25 12:30	01/14/25 12:30	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	5	01/14/25 18:43	01/14/25 18:43	ZSA	Mt. Juliet, TN
Mercury by Method 7470A	WG2432539	1	01/14/25 17:21	01/15/25 15:21	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2433481	1	01/15/25 10:42	01/15/25 15:11	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2432455	1	01/13/25 18:45	01/13/25 18:45	DYW	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2432318	1	01/15/25 06:41	01/16/25 05:18	MEW	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2432279	1	01/14/25 05:32	01/15/25 02:04	AMM	Mt. Juliet, TN

LAB BLANK SUPPLIED WITH COOLER L1816112-04 GW	Collected by	Collected date/time	Received date/time
	VB/TM	01/08/25 00:00	01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2432455	1	01/13/25 15:48	01/13/25 15:48	DYW	Mt. Juliet, TN

CASE NARRATIVE

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward

Chris Ward
Project Manager

Sample Delivery Group (SDG) Narrative

Analysis was filtered in the laboratory.

Lab Sample ID	**Project Sample ID**	**Method**
L1816112-01	MW-03	6010D, 7470A
L1816112-02	MW-04	6010D, 7470A
L1816112-03	MW-01	6010D, 7470A
R4167229-3		6010D
R4167247-3		7470A

An aliquot for analysis was taken from the original container received due to the level of sediment present in the sample. Rinsing of the original sample container for inclusion in the sample extraction was not performed.

Lab Sample ID	**Project Sample ID**	**Method**
L1816112-02	MW-04	8151A

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Lab Sample ID	**Project Sample ID**	**Method**
L1816112-01	MW-03	4500S2 D-2011
L1816112-02	MW-04	4500S2 D-2011
L1816112-03	MW-01	4500S2 D-2011

MW-03
Collected date/time: 01/08/25 15:00

SAMPLE RESULTS - 01
L1816112

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	145		4.75	20.0	1	01/13/2025 11:40	WG2431966

Sample Narrative:

L1816112-01 WG2431966: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	8.68		0.0539	0.100	1	01/13/2025 19:40	WG2432507

Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	0.115	B P1	0.00373	0.100	1	01/16/2025 13:57	WG2434552

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.45	T8	1	01/15/2025 11:14	WG2433589

Sample Narrative:

L1816112-01 WG2433589: 7.45 at 18.1C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	01/14/2025 11:26	WG2432484

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfite	2.00	J T8	1.19	3.00	1	01/14/2025 12:30	WG2432764

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	27.6		0.547	1.00	1	01/14/2025 01:07	WG2432115
Nitrate as (N)	97.6	T8	1.77	2.00	20	01/14/2025 18:30	WG2432115
Nitrite as (N)	U	T8	0.0794	0.100	1	01/14/2025 01:07	WG2432115
Sulfate	89.1		0.637	5.00	1	01/14/2025 01:07	WG2432115

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury,Dissolved	U		0.0000700	0.000200	1	01/15/2025 15:31	WG2432539

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic,Dissolved	U		0.00783	0.0100	1	01/15/2025 15:03	WG2433481
Barium,Dissolved	0.276		0.000773	0.00500	1	01/15/2025 15:03	WG2433481
Cadmium,Dissolved	0.00125	B J	0.000538	0.00200	1	01/15/2025 15:03	WG2433481
Chromium,Dissolved	0.00162	J	0.00151	0.0100	1	01/15/2025 15:03	WG2433481
Lead,Dissolved	U		0.00243	0.00600	1	01/15/2025 15:03	WG2433481
Selenium,Dissolved	U		0.00616	0.0100	1	01/15/2025 15:03	WG2433481
Silver,Dissolved	U		0.00289	0.00500	1	01/15/2025 15:03	WG2433481

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/13/2025 18:00	WG2432455
Acrolein	U		0.00254	0.0500	1	01/13/2025 18:00	WG2432455
Acrylonitrile	U		0.000671	0.0100	1	01/13/2025 18:00	WG2432455
Benzene	U		0.0000941	0.00100	1	01/13/2025 18:00	WG2432455
Bromobenzene	U		0.000118	0.00100	1	01/13/2025 18:00	WG2432455
Bromodichloromethane	U		0.000136	0.00100	1	01/13/2025 18:00	WG2432455
Bromoform	U		0.000129	0.00100	1	01/13/2025 18:00	WG2432455
Bromomethane	U		0.000605	0.00500	1	01/13/2025 18:00	WG2432455
n-Butylbenzene	U		0.000157	0.00100	1	01/13/2025 18:00	WG2432455
sec-Butylbenzene	U		0.000125	0.00100	1	01/13/2025 18:00	WG2432455
tert-Butylbenzene	U		0.000127	0.00100	1	01/13/2025 18:00	WG2432455
Carbon tetrachloride	U		0.000128	0.00100	1	01/13/2025 18:00	WG2432455
Chlorobenzene	U		0.000116	0.00100	1	01/13/2025 18:00	WG2432455
Chlorodibromomethane	U		0.000140	0.00100	1	01/13/2025 18:00	WG2432455
Chloroethane	U		0.000192	0.00500	1	01/13/2025 18:00	WG2432455
Chloroform	U		0.000111	0.00500	1	01/13/2025 18:00	WG2432455
Chloromethane	U		0.000960	0.00250	1	01/13/2025 18:00	WG2432455
2-Chlorotoluene	U		0.000106	0.00100	1	01/13/2025 18:00	WG2432455
4-Chlorotoluene	U		0.000114	0.00100	1	01/13/2025 18:00	WG2432455
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500	1	01/13/2025 18:00	WG2432455
1,2-Dibromoethane	U		0.000126	0.00100	1	01/13/2025 18:00	WG2432455
Dibromomethane	U		0.000122	0.00100	1	01/13/2025 18:00	WG2432455
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/13/2025 18:00	WG2432455
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/13/2025 18:00	WG2432455
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/13/2025 18:00	WG2432455
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/13/2025 18:00	WG2432455
1,1-Dichloroethane	U		0.000100	0.00100	1	01/13/2025 18:00	WG2432455
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/13/2025 18:00	WG2432455
1,1-Dichloroethene	U		0.000188	0.00100	1	01/13/2025 18:00	WG2432455
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/13/2025 18:00	WG2432455
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/13/2025 18:00	WG2432455
1,2-Dichloropropane	U		0.000149	0.00100	1	01/13/2025 18:00	WG2432455
1,1-Dichloropropene	U		0.000142	0.00100	1	01/13/2025 18:00	WG2432455
1,3-Dichloropropane	U		0.000110	0.00100	1	01/13/2025 18:00	WG2432455
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/13/2025 18:00	WG2432455
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/13/2025 18:00	WG2432455
2,2-Dichloropropane	U		0.000161	0.00100	1	01/13/2025 18:00	WG2432455
Di-isopropyl ether	U		0.000105	0.00100	1	01/13/2025 18:00	WG2432455
Ethylbenzene	U		0.000137	0.00100	1	01/13/2025 18:00	WG2432455
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/13/2025 18:00	WG2432455
Isopropylbenzene	U		0.000105	0.00100	1	01/13/2025 18:00	WG2432455
p-Isopropyltoluene	U		0.000120	0.00100	1	01/13/2025 18:00	WG2432455
2-Butanone (MEK)	U		0.00119	0.0100	1	01/13/2025 18:00	WG2432455
Methylene Chloride	U		0.000430	0.00500	1	01/13/2025 18:00	WG2432455
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/13/2025 18:00	WG2432455

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	**Qualifier**	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	**Batch**
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/13/2025 18:00	WG2432455
Naphthalene	U		0.00100	0.00500	1	01/13/2025 18:00	WG2432455
n-Propylbenzene	U		0.0000993	0.00100	1	01/13/2025 18:00	WG2432455
Styrene	U		0.000118	0.00100	1	01/13/2025 18:00	WG2432455
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/13/2025 18:00	WG2432455
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/13/2025 18:00	WG2432455
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/13/2025 18:00	WG2432455
Tetrachloroethene	U		0.000300	0.00100	1	01/13/2025 18:00	WG2432455
Toluene	U		0.000278	0.00100	1	01/13/2025 18:00	WG2432455
1,2,3-Trichlorobenzene	U		0.000230	0.00100	1	01/13/2025 18:00	WG2432455
1,2,4-Trichlorobenzene	U		0.000481	0.00100	1	01/13/2025 18:00	WG2432455
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/13/2025 18:00	WG2432455
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/13/2025 18:00	WG2432455
Trichloroethene	U		0.000190	0.00100	1	01/13/2025 18:00	WG2432455
Trichlorofluoromethane	U		0.000160	0.00500	1	01/13/2025 18:00	WG2432455
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/13/2025 18:00	WG2432455
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/13/2025 18:00	WG2432455
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:00	WG2432455
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:00	WG2432455
Vinyl chloride	U		0.000234	0.00100	1	01/13/2025 18:00	WG2432455
Xylenes, Total	U		0.000174	0.00300	1	01/13/2025 18:00	WG2432455
(S) Toluene-d8	*107*			*80.0-120*		*01/13/2025 18:00*	WG2432455
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*01/13/2025 18:00*	WG2432455
(S) 1,2-Dichloroethane-d4	*94.1*			*70.0-130*		*01/13/2025 18:00*	WG2432455

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/l	**Qualifier**	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	**Batch**
2,4-D	U		0.000671	0.00200	1	01/16/2025 00:05	WG2432318
Dalapon	U		0.000734	0.00200	1	01/16/2025 00:05	WG2432318
2,4-DB	U		0.000686	0.00200	1	01/16/2025 00:05	WG2432318
Dicamba	U		0.000395	0.00200	1	01/16/2025 00:05	WG2432318
Dichloroprop	U		0.000954	0.00200	1	01/16/2025 00:05	WG2432318
Dinoseb	U		0.000455	0.00200	1	01/16/2025 00:05	WG2432318
MCPA	U		0.0858	0.100	1	01/16/2025 00:05	WG2432318
MCPP	U		0.0743	0.100	1	01/16/2025 00:05	WG2432318
2,4,5-T	U		0.000858	0.00200	1	01/16/2025 00:05	WG2432318
2,4,5-TP (Silvex)	U		0.000505	0.00200	1	01/16/2025 00:05	WG2432318
(S) 2,4-Dichlorophenyl Acetic Acid	*84.4*			*14.0-158*		*01/16/2025 00:05*	WG2432318

Pesticides (GC) by Method 8081B

Analyte	Result mg/l	**Qualifier**	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	**Batch**
Aldrin	U		0.0000249	0.0000500	1	01/14/2025 15:46	WG2432279
Alpha BHC	U		0.0000277	0.0000500	1	01/14/2025 15:46	WG2432279
Beta BHC	U		0.0000326	0.0000500	1	01/14/2025 15:46	WG2432279
Delta BHC	U		0.0000403	0.0000500	1	01/14/2025 15:46	WG2432279
Gamma BHC	U		0.0000267	0.0000500	1	01/14/2025 15:46	WG2432279
Chlordane	U		0.000700	0.00500	1	01/14/2025 15:46	WG2432279
4,4-DDD	U		0.0000297	0.0000500	1	01/14/2025 15:46	WG2432279
4,4-DDE	U		0.0000276	0.0000500	1	01/14/2025 15:46	WG2432279
4,4-DDT	U		0.0000211	0.0000500	1	01/14/2025 15:46	WG2432279
Dieldrin	U		0.0000298	0.0000500	1	01/14/2025 15:46	WG2432279
Endosulfan I	U		0.0000306	0.0000500	1	01/14/2025 15:46	WG2432279
Endosulfan II	U		0.0000311	0.0000500	1	01/14/2025 15:46	WG2432279

Pesticides (GC) by Method 8081B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Endosulfan sulfate	U		0.0000306	0.0000500	1	01/14/2025 15:46	WG2432279
Endrin	U		0.0000329	0.0000500	1	01/14/2025 15:46	WG2432279
Endrin aldehyde	U		0.0000358	0.0000500	1	01/14/2025 15:46	WG2432279
Endrin ketone	U		0.0000322	0.0000500	1	01/14/2025 15:46	WG2432279
Hexachlorobenzene	U		0.0000425	0.0000500	1	01/14/2025 15:46	WG2432279
Heptachlor	U		0.0000290	0.0000500	1	01/14/2025 15:46	WG2432279
Heptachlor epoxide	U		0.0000307	0.0000500	1	01/14/2025 15:46	WG2432279
Methoxychlor	U		0.0000400	0.0000500	1	01/14/2025 15:46	WG2432279
Toxaphene	U		0.000400	0.000500	1	01/14/2025 15:46	WG2432279
(S) Decachlorobiphenyl	*22.7*			*10.0-128*		*01/14/2025 15:46*	WG2432279
(S) Tetrachloro-m-xylene	*68.1*			*10.0-127*		*01/14/2025 15:46*	WG2432279

MW-04

Collected date/time: 01/08/25 15:40

SAMPLE RESULTS - 02

L1816112

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	221		4.75	20.0	1	01/13/2025 11:45	WG2431966

Sample Narrative:

L1816112-02 WG2431966: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	0.0590	J	0.0539	0.100	1	01/13/2025 19:46	WG2432507

Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	0.0568	B J	0.00373	0.100	1	01/16/2025 13:59	WG2434552

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.29	T8	1	01/15/2025 11:14	WG2433589

Sample Narrative:

L1816112-02 WG2433589: 7.29 at 19.7C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U	J6	0.0255	0.0500	1	01/14/2025 11:27	WG2432484

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfite	10.0	J T8	5.95	15.0	5	01/14/2025 12:30	WG2432764

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	16.6		0.547	1.00	1	01/14/2025 01:42	WG2432115
Nitrate as (N)	414	T8	4.42	5.00	50	01/14/2025 02:00	WG2432115
Nitrite as (N)	0.451	T8	0.0794	0.100	1	01/14/2025 01:42	WG2432115
Sulfate	43.6		0.637	5.00	1	01/14/2025 01:42	WG2432115

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury,Dissolved	U		0.0000700	0.000200	1	01/15/2025 15:33	WG2432539

MW-04

Collected date/time: 01/08/25 15:40

SAMPLE RESULTS - 02

L1816112

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic,Dissolved	U		0.00783	0.0100	1	01/15/2025 15:09	WG2433481
Barium,Dissolved	0.736		0.000773	0.00500	1	01/15/2025 15:09	WG2433481
Cadmium,Dissolved	0.00218	B	0.000538	0.00200	1	01/15/2025 15:09	WG2433481
Chromium,Dissolved	0.00155	J	0.00151	0.0100	1	01/15/2025 15:09	WG2433481
Lead,Dissolved	U		0.00243	0.00600	1	01/15/2025 15:09	WG2433481
Selenium,Dissolved	U		0.00616	0.0100	1	01/15/2025 15:09	WG2433481
Silver,Dissolved	0.00531		0.00289	0.00500	1	01/15/2025 15:09	WG2433481

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/13/2025 18:22	WG2432455
Acrolein	U		0.00254	0.0500	1	01/13/2025 18:22	WG2432455
Acrylonitrile	U		0.000671	0.0100	1	01/13/2025 18:22	WG2432455
Benzene	U		0.0000941	0.00100	1	01/13/2025 18:22	WG2432455
Bromobenzene	U		0.000118	0.00100	1	01/13/2025 18:22	WG2432455
Bromodichloromethane	U		0.000136	0.00100	1	01/13/2025 18:22	WG2432455
Bromoform	U		0.000129	0.00100	1	01/13/2025 18:22	WG2432455
Bromomethane	U		0.000605	0.00500	1	01/13/2025 18:22	WG2432455
n-Butylbenzene	U		0.000157	0.00100	1	01/13/2025 18:22	WG2432455
sec-Butylbenzene	U		0.000125	0.00100	1	01/13/2025 18:22	WG2432455
tert-Butylbenzene	U		0.000127	0.00100	1	01/13/2025 18:22	WG2432455
Carbon tetrachloride	U		0.000128	0.00100	1	01/13/2025 18:22	WG2432455
Chlorobenzene	U		0.000116	0.00100	1	01/13/2025 18:22	WG2432455
Chlorodibromomethane	U		0.000140	0.00100	1	01/13/2025 18:22	WG2432455
Chloroethane	U		0.000192	0.00500	1	01/13/2025 18:22	WG2432455
Chloroform	U		0.000111	0.00500	1	01/13/2025 18:22	WG2432455
Chloromethane	U		0.000960	0.00250	1	01/13/2025 18:22	WG2432455
2-Chlorotoluene	U		0.000106	0.00100	1	01/13/2025 18:22	WG2432455
4-Chlorotoluene	U		0.000114	0.00100	1	01/13/2025 18:22	WG2432455
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500	1	01/13/2025 18:22	WG2432455
1,2-Dibromoethane	U		0.000126	0.00100	1	01/13/2025 18:22	WG2432455
Dibromomethane	U		0.000122	0.00100	1	01/13/2025 18:22	WG2432455
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/13/2025 18:22	WG2432455
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/13/2025 18:22	WG2432455
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/13/2025 18:22	WG2432455
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/13/2025 18:22	WG2432455
1,1-Dichloroethane	U		0.000100	0.00100	1	01/13/2025 18:22	WG2432455
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/13/2025 18:22	WG2432455
1,1-Dichloroethene	U		0.000188	0.00100	1	01/13/2025 18:22	WG2432455
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/13/2025 18:22	WG2432455
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/13/2025 18:22	WG2432455
1,2-Dichloropropane	U		0.000149	0.00100	1	01/13/2025 18:22	WG2432455
1,1-Dichloropropene	U		0.000142	0.00100	1	01/13/2025 18:22	WG2432455
1,3-Dichloropropane	U		0.000110	0.00100	1	01/13/2025 18:22	WG2432455
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/13/2025 18:22	WG2432455
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/13/2025 18:22	WG2432455
2,2-Dichloropropane	U		0.000161	0.00100	1	01/13/2025 18:22	WG2432455
Di-isopropyl ether	U		0.000105	0.00100	1	01/13/2025 18:22	WG2432455
Ethylbenzene	U		0.000137	0.00100	1	01/13/2025 18:22	WG2432455
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/13/2025 18:22	WG2432455
Isopropylbenzene	U		0.000105	0.00100	1	01/13/2025 18:22	WG2432455
p-Isopropyltoluene	U		0.000120	0.00100	1	01/13/2025 18:22	WG2432455
2-Butanone (MEK)	U		0.00119	0.0100	1	01/13/2025 18:22	WG2432455
Methylene Chloride	U		0.000430	0.00500	1	01/13/2025 18:22	WG2432455
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/13/2025 18:22	WG2432455

MW-04

Collected date/time: 01/08/25 15:40

SAMPLE RESULTS - 02

L1816112

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/13/2025 18:22	WG2432455
Naphthalene	U		0.00100	0.00500	1	01/13/2025 18:22	WG2432455
n-Propylbenzene	U		0.0000993	0.00100	1	01/13/2025 18:22	WG2432455
Styrene	U		0.000118	0.00100	1	01/13/2025 18:22	WG2432455
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/13/2025 18:22	WG2432455
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/13/2025 18:22	WG2432455
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/13/2025 18:22	WG2432455
Tetrachloroethene	U		0.000300	0.00100	1	01/13/2025 18:22	WG2432455
Toluene	U		0.000278	0.00100	1	01/13/2025 18:22	WG2432455
1,2,3-Trichlorobenzene	U		0.000230	0.00100	1	01/13/2025 18:22	WG2432455
1,2,4-Trichlorobenzene	U		0.000481	0.00100	1	01/13/2025 18:22	WG2432455
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/13/2025 18:22	WG2432455
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/13/2025 18:22	WG2432455
Trichloroethene	U		0.000190	0.00100	1	01/13/2025 18:22	WG2432455
Trichlorofluoromethane	U		0.000160	0.00500	1	01/13/2025 18:22	WG2432455
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/13/2025 18:22	WG2432455
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/13/2025 18:22	WG2432455
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:22	WG2432455
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:22	WG2432455
Vinyl chloride	U		0.000234	0.00100	1	01/13/2025 18:22	WG2432455
Xylenes, Total	U		0.000174	0.00300	1	01/13/2025 18:22	WG2432455
(S) Toluene-d8	*106*			*80.0-120*		*01/13/2025 18:22*	WG2432455
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*01/13/2025 18:22*	WG2432455
(S) 1,2-Dichloroethane-d4	*92.1*			*70.0-130*		*01/13/2025 18:22*	WG2432455

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
2,4-D	U		0.000671	0.00200	1	01/16/2025 05:08	WG2432318
Dalapon	U		0.000734	0.00200	1	01/16/2025 05:08	WG2432318
2,4-DB	U		0.000686	0.00200	1	01/16/2025 05:08	WG2432318
Dicamba	U		0.000395	0.00200	1	01/16/2025 05:08	WG2432318
Dichloroprop	U		0.000954	0.00200	1	01/16/2025 05:08	WG2432318
Dinoseb	U		0.000455	0.00200	1	01/16/2025 05:08	WG2432318
MCPA	U		0.0858	0.100	1	01/16/2025 05:08	WG2432318
MCPP	U		0.0743	0.100	1	01/16/2025 05:08	WG2432318
2,4,5-T	U		0.000858	0.00200	1	01/16/2025 05:08	WG2432318
2,4,5-TP (Silvex)	U		0.000505	0.00200	1	01/16/2025 05:08	WG2432318
(S) 2,4-Dichlorophenyl Acetic Acid	*163*	J1		*14.0-158*		*01/16/2025 05:08*	WG2432318

Sample Narrative:

L1816112-02 WG2432318: Sample produced emulsion during Extraction process, low surr/spike recoveries due to matrix.

Pesticides (GC) by Method 8081B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Aldrin	U		0.0000249	0.0000500	1	01/14/2025 15:55	WG2432279
Alpha BHC	U		0.0000277	0.0000500	1	01/14/2025 15:55	WG2432279
Beta BHC	U		0.0000326	0.0000500	1	01/14/2025 15:55	WG2432279
Delta BHC	U		0.0000403	0.0000500	1	01/14/2025 15:55	WG2432279
Gamma BHC	U		0.0000267	0.0000500	1	01/14/2025 15:55	WG2432279
Chlordane	U		0.000700	0.00500	1	01/14/2025 15:55	WG2432279
4,4-DDD	U		0.0000297	0.0000500	1	01/14/2025 15:55	WG2432279
4,4-DDE	U		0.0000276	0.0000500	1	01/14/2025 15:55	WG2432279
4,4-DDT	U		0.0000211	0.0000500	1	01/14/2025 15:55	WG2432279

Pesticides (GC) by Method 8081B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Dieldrin	U		0.0000298	0.0000500	1	01/14/2025 15:55	WG2432279
Endosulfan I	U		0.0000306	0.0000500	1	01/14/2025 15:55	WG2432279
Endosulfan II	U		0.0000311	0.0000500	1	01/14/2025 15:55	WG2432279
Endosulfan sulfate	U		0.0000306	0.0000500	1	01/14/2025 15:55	WG2432279
Endrin	U		0.0000329	0.0000500	1	01/14/2025 15:55	WG2432279
Endrin aldehyde	U		0.0000358	0.0000500	1	01/14/2025 15:55	WG2432279
Endrin ketone	U		0.0000322	0.0000500	1	01/14/2025 15:55	WG2432279
Hexachlorobenzene	U		0.0000425	0.0000500	1	01/14/2025 15:55	WG2432279
Heptachlor	U		0.0000290	0.0000500	1	01/14/2025 15:55	WG2432279
Heptachlor epoxide	U		0.0000307	0.0000500	1	01/14/2025 15:55	WG2432279
Methoxychlor	U		0.0000400	0.0000500	1	01/14/2025 15:55	WG2432279
Toxaphene	U		0.000400	0.000500	1	01/14/2025 15:55	WG2432279
(S) Decachlorobiphenyl	*14.6*			*10.0-128*		*01/14/2025 15:55*	WG2432279
(S) Tetrachloro-m-xylene	*68.6*			*10.0-127*		*01/14/2025 15:55*	WG2432279

MW-01
Collected date/time: 01/08/25 16:20

SAMPLE RESULTS - 03

L1816112

Wet Chemistry by Method 2320 B-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l		date / time	
Alkalinity	402		4.75	20.0	1	01/13/2025 11:51	WG2431966

Sample Narrative:

L1816112-03 WG2431966: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	U		0.0539	0.100	1	01/13/2025 19:48	WG2432507

Wet Chemistry by Method 365.4

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l		date / time	
Phosphorus,Total	0.163	B	0.00373	0.100	1	01/16/2025 14:01	WG2434552

Wet Chemistry by Method 4500H+ B-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	su			date / time	
pH	7.74	T8	1	01/15/2025 11:14	WG2433589

Sample Narrative:

L1816112-03 WG2433589: 7.74 at 20.9C

Wet Chemistry by Method 4500S2 D-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l		date / time	
Sulfide	U		0.0255	0.0500	1	01/14/2025 11:27	WG2432484

Wet Chemistry by Method 4500SO3 B-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l		date / time	
Sulfite	10.0	J T8	5.95	15.0	5	01/14/2025 12:30	WG2432764

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l		date / time	
Chloride	41.6		2.74	5.00	5	01/14/2025 18:43	WG2432115
Nitrate as (N)	U	T8	0.442	0.500	5	01/14/2025 18:43	WG2432115
Nitrite as (N)	U	T8	0.397	0.500	5	01/14/2025 18:43	WG2432115
Sulfate	436		3.18	25.0	5	01/14/2025 18:43	WG2432115

Sample Narrative:

L1816112-03 WG2432115: Dilution due to matrix impact on instrumentation at lower dilution

Mercury by Method 7470A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l		date / time	
Mercury,Dissolved	U		0.0000700	0.000200	1	01/15/2025 15:21	WG2432539

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic,Dissolved	U		0.00783	0.0100	1	01/15/2025 15:11	WG2433481
Barium,Dissolved	0.241		0.000773	0.00500	1	01/15/2025 15:11	WG2433481
Cadmium,Dissolved	U		0.000538	0.00200	1	01/15/2025 15:11	WG2433481
Chromium,Dissolved	U		0.00151	0.0100	1	01/15/2025 15:11	WG2433481
Lead,Dissolved	U		0.00243	0.00600	1	01/15/2025 15:11	WG2433481
Selenium,Dissolved	U		0.00616	0.0100	1	01/15/2025 15:11	WG2433481
Silver,Dissolved	0.00314	J	0.00289	0.00500	1	01/15/2025 15:11	WG2433481

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/13/2025 18:45	WG2432455
Acrolein	U		0.00254	0.0500	1	01/13/2025 18:45	WG2432455
Acrylonitrile	U		0.000671	0.0100	1	01/13/2025 18:45	WG2432455
Benzene	U		0.0000941	0.00100	1	01/13/2025 18:45	WG2432455
Bromobenzene	U		0.000118	0.00100	1	01/13/2025 18:45	WG2432455
Bromodichloromethane	U		0.000136	0.00100	1	01/13/2025 18:45	WG2432455
Bromoform	U		0.000129	0.00100	1	01/13/2025 18:45	WG2432455
Bromomethane	U		0.000605	0.00500	1	01/13/2025 18:45	WG2432455
n-Butylbenzene	U		0.000157	0.00100	1	01/13/2025 18:45	WG2432455
sec-Butylbenzene	U		0.000125	0.00100	1	01/13/2025 18:45	WG2432455
tert-Butylbenzene	U		0.000127	0.00100	1	01/13/2025 18:45	WG2432455
Carbon tetrachloride	U		0.000128	0.00100	1	01/13/2025 18:45	WG2432455
Chlorobenzene	U		0.000116	0.00100	1	01/13/2025 18:45	WG2432455
Chlorodibromomethane	U		0.000140	0.00100	1	01/13/2025 18:45	WG2432455
Chloroethane	U		0.000192	0.00500	1	01/13/2025 18:45	WG2432455
Chloroform	U		0.000111	0.00500	1	01/13/2025 18:45	WG2432455
Chloromethane	U		0.000960	0.00250	1	01/13/2025 18:45	WG2432455
2-Chlorotoluene	U		0.000106	0.00100	1	01/13/2025 18:45	WG2432455
4-Chlorotoluene	U		0.000114	0.00100	1	01/13/2025 18:45	WG2432455
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500	1	01/13/2025 18:45	WG2432455
1,2-Dibromoethane	U		0.000126	0.00100	1	01/13/2025 18:45	WG2432455
Dibromomethane	U		0.000122	0.00100	1	01/13/2025 18:45	WG2432455
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/13/2025 18:45	WG2432455
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/13/2025 18:45	WG2432455
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/13/2025 18:45	WG2432455
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/13/2025 18:45	WG2432455
1,1-Dichloroethane	U		0.000100	0.00100	1	01/13/2025 18:45	WG2432455
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/13/2025 18:45	WG2432455
1,1-Dichloroethene	U		0.000188	0.00100	1	01/13/2025 18:45	WG2432455
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/13/2025 18:45	WG2432455
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/13/2025 18:45	WG2432455
1,2-Dichloropropane	U		0.000149	0.00100	1	01/13/2025 18:45	WG2432455
1,1-Dichloropropene	U		0.000142	0.00100	1	01/13/2025 18:45	WG2432455
1,3-Dichloropropane	U		0.000110	0.00100	1	01/13/2025 18:45	WG2432455
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/13/2025 18:45	WG2432455
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/13/2025 18:45	WG2432455
2,2-Dichloropropane	U		0.000161	0.00100	1	01/13/2025 18:45	WG2432455
Di-isopropyl ether	U		0.000105	0.00100	1	01/13/2025 18:45	WG2432455
Ethylbenzene	U		0.000137	0.00100	1	01/13/2025 18:45	WG2432455
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/13/2025 18:45	WG2432455
Isopropylbenzene	U		0.000105	0.00100	1	01/13/2025 18:45	WG2432455
p-Isopropyltoluene	U		0.000120	0.00100	1	01/13/2025 18:45	WG2432455
2-Butanone (MEK)	U		0.00119	0.0100	1	01/13/2025 18:45	WG2432455
Methylene Chloride	U		0.000430	0.00500	1	01/13/2025 18:45	WG2432455
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/13/2025 18:45	WG2432455

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/13/2025 18:45	WG2432455
Naphthalene	U		0.00100	0.00500	1	01/13/2025 18:45	WG2432455
n-Propylbenzene	U		0.0000993	0.00100	1	01/13/2025 18:45	WG2432455
Styrene	U		0.000118	0.00100	1	01/13/2025 18:45	WG2432455
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/13/2025 18:45	WG2432455
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/13/2025 18:45	WG2432455
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/13/2025 18:45	WG2432455
Tetrachloroethene	U		0.000300	0.00100	1	01/13/2025 18:45	WG2432455
Toluene	U		0.000278	0.00100	1	01/13/2025 18:45	WG2432455
1,2,3-Trichlorobenzene	U		0.000230	0.00100	1	01/13/2025 18:45	WG2432455
1,2,4-Trichlorobenzene	U		0.000481	0.00100	1	01/13/2025 18:45	WG2432455
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/13/2025 18:45	WG2432455
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/13/2025 18:45	WG2432455
Trichloroethene	U		0.000190	0.00100	1	01/13/2025 18:45	WG2432455
Trichlorofluoromethane	U		0.000160	0.00500	1	01/13/2025 18:45	WG2432455
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/13/2025 18:45	WG2432455
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/13/2025 18:45	WG2432455
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:45	WG2432455
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:45	WG2432455
Vinyl chloride	U		0.000234	0.00100	1	01/13/2025 18:45	WG2432455
Xylenes, Total	U		0.000174	0.00300	1	01/13/2025 18:45	WG2432455
(S) Toluene-d8	*107*			*80.0-120*		*01/13/2025 18:45*	WG2432455
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*01/13/2025 18:45*	WG2432455
(S) 1,2-Dichloroethane-d4	*95.6*			*70.0-130*		*01/13/2025 18:45*	WG2432455

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
2,4-D	U		0.000671	0.00200	1	01/16/2025 05:18	WG2432318
Dalapon	U		0.000734	0.00200	1	01/16/2025 05:18	WG2432318
2,4-DB	U		0.000686	0.00200	1	01/16/2025 05:18	WG2432318
Dicamba	U		0.000395	0.00200	1	01/16/2025 05:18	WG2432318
Dichloroprop	U		0.000954	0.00200	1	01/16/2025 05:18	WG2432318
Dinoseb	U		0.000455	0.00200	1	01/16/2025 05:18	WG2432318
MCPA	U		0.0858	0.100	1	01/16/2025 05:18	WG2432318
MCPP	U		0.0743	0.100	1	01/16/2025 05:18	WG2432318
2,4,5-T	U		0.000858	0.00200	1	01/16/2025 05:18	WG2432318
2,4,5-TP (Silvex)	U		0.000505	0.00200	1	01/16/2025 05:18	WG2432318
(S) 2,4-Dichlorophenyl Acetic Acid	*65.0*			*14.0-158*		*01/16/2025 05:18*	WG2432318

Pesticides (GC) by Method 8081B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Aldrin	U		0.0000249	0.0000500	1	01/15/2025 02:04	WG2432279
Alpha BHC	U		0.0000277	0.0000500	1	01/15/2025 02:04	WG2432279
Beta BHC	U		0.0000326	0.0000500	1	01/15/2025 02:04	WG2432279
Delta BHC	U		0.0000403	0.0000500	1	01/15/2025 02:04	WG2432279
Gamma BHC	U		0.0000267	0.0000500	1	01/15/2025 02:04	WG2432279
Chlordane	U		0.000700	0.00500	1	01/15/2025 02:04	WG2432279
4,4-DDD	U		0.0000297	0.0000500	1	01/15/2025 02:04	WG2432279
4,4-DDE	U		0.0000276	0.0000500	1	01/15/2025 02:04	WG2432279
4,4-DDT	U		0.0000211	0.0000500	1	01/15/2025 02:04	WG2432279
Dieldrin	U		0.0000298	0.0000500	1	01/15/2025 02:04	WG2432279
Endosulfan I	U		0.0000306	0.0000500	1	01/15/2025 02:04	WG2432279
Endosulfan II	U		0.0000311	0.0000500	1	01/15/2025 02:04	WG2432279

Pesticides (GC) by Method 8081B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Endosulfan sulfate	U		0.0000306	0.0000500	1	01/15/2025 02:04	WG2432279
Endrin	U		0.0000329	0.0000500	1	01/15/2025 02:04	WG2432279
Endrin aldehyde	U		0.0000358	0.0000500	1	01/15/2025 02:04	WG2432279
Endrin ketone	U		0.0000322	0.0000500	1	01/15/2025 02:04	WG2432279
Hexachlorobenzene	U		0.0000425	0.0000500	1	01/15/2025 02:04	WG2432279
Heptachlor	U		0.0000290	0.0000500	1	01/15/2025 02:04	WG2432279
Heptachlor epoxide	U		0.0000307	0.0000500	1	01/15/2025 02:04	WG2432279
Methoxychlor	U		0.0000400	0.0000500	1	01/15/2025 02:04	WG2432279
Toxaphene	U		0.000400	0.000500	1	01/15/2025 02:04	WG2432279
(S) Decachlorobiphenyl	*12.1*			*10.0-128*		*01/15/2025 02:04*	WG2432279
(S) Tetrachloro-m-xylene	*56.2*			*10.0-127*		*01/15/2025 02:04*	WG2432279

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/13/2025 15:48	WG2432455
Acrolein	U		0.00254	0.0500	1	01/13/2025 15:48	WG2432455
Acrylonitrile	U		0.000671	0.0100	1	01/13/2025 15:48	WG2432455
Benzene	U		0.0000941	0.00100	1	01/13/2025 15:48	WG2432455
Bromobenzene	U		0.000118	0.00100	1	01/13/2025 15:48	WG2432455
Bromodichloromethane	U		0.000136	0.00100	1	01/13/2025 15:48	WG2432455
Bromoform	U		0.000129	0.00100	1	01/13/2025 15:48	WG2432455
Bromomethane	U		0.000605	0.00500	1	01/13/2025 15:48	WG2432455
n-Butylbenzene	U		0.000157	0.00100	1	01/13/2025 15:48	WG2432455
sec-Butylbenzene	U		0.000125	0.00100	1	01/13/2025 15:48	WG2432455
tert-Butylbenzene	U		0.000127	0.00100	1	01/13/2025 15:48	WG2432455
Carbon tetrachloride	U		0.000128	0.00100	1	01/13/2025 15:48	WG2432455
Chlorobenzene	U		0.000116	0.00100	1	01/13/2025 15:48	WG2432455
Chlorodibromomethane	U		0.000140	0.00100	1	01/13/2025 15:48	WG2432455
Chloroethane	U		0.000192	0.00500	1	01/13/2025 15:48	WG2432455
Chloroform	U		0.000111	0.00500	1	01/13/2025 15:48	WG2432455
Chloromethane	U		0.000960	0.00250	1	01/13/2025 15:48	WG2432455
2-Chlorotoluene	U		0.000106	0.00100	1	01/13/2025 15:48	WG2432455
4-Chlorotoluene	U		0.000114	0.00100	1	01/13/2025 15:48	WG2432455
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500	1	01/13/2025 15:48	WG2432455
1,2-Dibromoethane	U		0.000126	0.00100	1	01/13/2025 15:48	WG2432455
Dibromomethane	U		0.000122	0.00100	1	01/13/2025 15:48	WG2432455
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/13/2025 15:48	WG2432455
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/13/2025 15:48	WG2432455
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/13/2025 15:48	WG2432455
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/13/2025 15:48	WG2432455
1,1-Dichloroethane	U		0.000100	0.00100	1	01/13/2025 15:48	WG2432455
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/13/2025 15:48	WG2432455
1,1-Dichloroethene	U		0.000188	0.00100	1	01/13/2025 15:48	WG2432455
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/13/2025 15:48	WG2432455
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/13/2025 15:48	WG2432455
1,2-Dichloropropane	U		0.000149	0.00100	1	01/13/2025 15:48	WG2432455
1,1-Dichloropropene	U		0.000142	0.00100	1	01/13/2025 15:48	WG2432455
1,3-Dichloropropane	U		0.000110	0.00100	1	01/13/2025 15:48	WG2432455
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/13/2025 15:48	WG2432455
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/13/2025 15:48	WG2432455
2,2-Dichloropropane	U		0.000161	0.00100	1	01/13/2025 15:48	WG2432455
Di-isopropyl ether	U		0.000105	0.00100	1	01/13/2025 15:48	WG2432455
Ethylbenzene	U		0.000137	0.00100	1	01/13/2025 15:48	WG2432455
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/13/2025 15:48	WG2432455
Isopropylbenzene	U		0.000105	0.00100	1	01/13/2025 15:48	WG2432455
p-Isopropyltoluene	U		0.000120	0.00100	1	01/13/2025 15:48	WG2432455
2-Butanone (MEK)	U		0.00119	0.0100	1	01/13/2025 15:48	WG2432455
Methylene Chloride	U		0.000430	0.00500	1	01/13/2025 15:48	WG2432455
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/13/2025 15:48	WG2432455
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/13/2025 15:48	WG2432455
Naphthalene	U		0.00100	0.00500	1	01/13/2025 15:48	WG2432455
n-Propylbenzene	U		0.0000993	0.00100	1	01/13/2025 15:48	WG2432455
Styrene	U		0.000118	0.00100	1	01/13/2025 15:48	WG2432455
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/13/2025 15:48	WG2432455
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/13/2025 15:48	WG2432455
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/13/2025 15:48	WG2432455
Tetrachloroethene	U		0.000300	0.00100	1	01/13/2025 15:48	WG2432455
Toluene	U		0.000278	0.00100	1	01/13/2025 15:48	WG2432455
1,2,3-Trichlorobenzene	U		0.000230	0.00100	1	01/13/2025 15:48	WG2432455
1,2,4-Trichlorobenzene	U		0.000481	0.00100	1	01/13/2025 15:48	WG2432455

Volatile Organic Compounds (GC/MS) by Method 8260B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l		date / time	
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/13/2025 15:48	WG2432455
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/13/2025 15:48	WG2432455
Trichloroethene	U		0.000190	0.00100	1	01/13/2025 15:48	WG2432455
Trichlorofluoromethane	U		0.000160	0.00500	1	01/13/2025 15:48	WG2432455
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/13/2025 15:48	WG2432455
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/13/2025 15:48	WG2432455
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 15:48	WG2432455
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 15:48	WG2432455
Vinyl chloride	U		0.000234	0.00100	1	01/13/2025 15:48	WG2432455
Xylenes, Total	U		0.000174	0.00300	1	01/13/2025 15:48	WG2432455
(S) Toluene-d8	*109*			*80.0-120*		*01/13/2025 15:48*	WG2432455
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*01/13/2025 15:48*	WG2432455
(S) 1,2-Dichloroethane-d4	*96.5*			*70.0-130*		*01/13/2025 15:48*	WG2432455

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4166428-2 01/13/25 10:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		4.75	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1815913-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1815913-01 01/13/25 10:53 • (DUP) R4166428-3 01/13/25 10:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	119	122	1	1.98		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1816201-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1816201-03 01/13/25 13:47 • (DUP) R4166428-4 01/13/25 14:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	72.8	72.8	1	0.00737		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4166428-1 01/13/25 10:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	97.1	97.1	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4166597-1 01/13/25 19:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	U		0.0539	0.100

L1815314-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1815314-24 01/13/25 19:12 • (DUP) R4166597-3 01/13/25 19:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	U	U	1	0.000		10

L1815314-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1815314-25 01/13/25 19:18 • (DUP) R4166597-6 01/13/25 19:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	U	U	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R4166597-2 01/13/25 19:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.48	99.8	90.0-110	

L1815314-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815314-24 01/13/25 19:12 • (MS) R4166597-4 01/13/25 19:15 • (MSD) R4166597-5 01/13/25 19:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	U	4.83	4.94	96.7	98.9	1	90.0-110			2.25	10

L1815314-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815314-25 01/13/25 19:18 • (MS) R4166597-7 01/13/25 19:21 • (MSD) R4166597-8 01/13/25 19:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	U	4.82	4.91	96.5	98.2	1	90.0-110			1.77	10

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4167531-1 01/16/25 13:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphorus,Total	0.0344	J	0.00373	0.100

L1815637-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1815637-01 01/16/25 13:53 • (DUP) R4167531-3 01/16/25 13:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	0.274	0.260	1	5.24		20

L1816112-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816112-01 01/16/25 13:57 • (DUP) R4167531-4 01/16/25 13:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	0.115	0.222	1	63.5	P1	20

Laboratory Control Sample (LCS)

(LCS) R4167531-2 01/16/25 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	4.30	4.10	95.3	85.0-115	

L1816409-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816409-01 01/16/25 14:11 • (MS) R4167531-5 01/16/25 14:12 • (MSD) R4167531-6 01/16/25 14:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2.50	0.655	1.58	1.58	37.0	37.0	1	90.0-110	J6	J6	0.000	20

L1816112-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816112-01 01/15/25 11:14 • (DUP) R4167097-2 01/15/25 11:14

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.45	7.41	1	0.538		1

Sample Narrative:

OS: 7.45 at 18.1C
DUP: 7.41 at 18.5C

Laboratory Control Sample (LCS)

(LCS) R4167097-1 01/15/25 11:14

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10 at 18.6C

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4166728-1 01/14/25 11:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0255	0.0500

L1816112-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816112-01 01/14/25 11:26 • (DUP) R4166728-3 01/14/25 11:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4166728-2 01/14/25 11:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.534	107	85.0-115	

L1816112-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816112-02 01/14/25 11:27 • (MS) R4166728-4 01/14/25 11:27 • (MSD) R4166728-5 01/14/25 11:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	0.500	U	0.366	0.343	73.2	68.6	1	80.0-120	J6	J6	6.49	20

Method Blank (MB)

(MB) R4166770-1 01/14/25 12:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfite	U		1.19	3.00

L1815576-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1815576-02 01/14/25 12:30 • (DUP) R4166770-5 01/14/25 12:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfite	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4166770-2 01/14/25 12:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfite	20.0	19.0	95.0	85.0-115	

L1815576-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815576-01 01/14/25 12:30 • (MS) R4166770-3 01/14/25 12:30 • (MSD) R4166770-4 01/14/25 12:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfite	20.0	2.00	20.0	20.0	90.0	90.0	1	85.0-115			0.000	20

Method Blank (MB)

(MB) R4166769-3 01/13/25 16:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.547	1.00
Nitrate as (N)	U		0.0884	0.100
Nitrite as (N)	U		0.0794	0.100
Sulfate	U		0.637	5.00

L1816136-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816136-01 01/13/25 17:17 • (DUP) R4166769-5 01/13/25 17:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	39.6	39.6	1	0.0164		15
Nitrite as (N)	U	U	1	0.000		15
Sulfate	19.3	19.3	1	0.00414		15

L1816138-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1816138-03 01/13/25 19:02 • (DUP) R4166769-9 01/13/25 19:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	90.6	89.9	1	0.790		15
Nitrate as (N)	2.57	2.52	1	2.21		15
Nitrite as (N)	U	U	1	0.000		15
Sulfate	37.2	37.2	1	0.0258		15

L1816136-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816136-01 01/14/25 18:03 • (DUP) R4166920-1 01/14/25 18:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate as (N)	8.38	9.46	5	12.1		15

Laboratory Control Sample (LCS)

(LCS) R4166769-4 01/13/25 17:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.0	100	80.0-120	
Nitrate as (N)	8.00	8.13	102	80.0-120	
Nitrite as (N)	8.00	7.64	95.5	80.0-120	
Sulfate	40.0	40.0	100	80.0-120	

L1816136-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816136-01 01/13/25 17:17 • (MS) R4166769-6 01/13/25 17:52 • (MSD) R4166769-7 01/13/25 18:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.6	72.2	71.8	81.5	80.6	1	80.0-120			0.529	15
Nitrate as (N)	8.00	10.4	16.6	16.4	77.4	76.0	1	80.0-120	E J6	E J6	0.699	15
Nitrite as (N)	8.00	U	9.22	9.21	115	115	1	80.0-120			0.154	15
Sulfate	40.0	19.3	55.6	55.0	90.6	89.2	1	80.0-120			0.998	15

L1816138-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1816138-03 01/13/25 19:02 • (MS) R4166769-10 01/13/25 19:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	90.6	111	50.5	1	80.0-120	E J6
Nitrate as (N)	8.00	2.57	10.3	96.7	1	80.0-120	E
Nitrite as (N)	8.00	U	9.15	114	1	80.0-120	
Sulfate	40.0	37.2	70.0	82.0	1	80.0-120	

Method Blank (MB)

(MB) R4167247-1 01/15/25 15:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury,Dissolved	U		0.0000700	0.000200

Laboratory Control Sample (LCS)

(LCS) R4167247-2 01/15/25 15:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury,Dissolved	0.00300	0.00297	99.0	80.0-120	

L1816112-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816112-03 01/15/25 15:21 • (MS) R4167247-4 01/15/25 15:26 • (MSD) R4167247-5 01/15/25 15:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury,Dissolved	0.00300	U	0.00292	0.00297	97.4	99.0	1	75.0-125			1.68	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4167229-1 01/15/25 14:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic,Dissolved	U		0.00783	0.0100
Barium,Dissolved	U		0.000773	0.00500
Cadmium,Dissolved	0.000662	J	0.000538	0.00200
Chromium,Dissolved	U		0.00151	0.0100
Lead,Dissolved	U		0.00243	0.00600
Selenium,Dissolved	U		0.00616	0.0100
Silver,Dissolved	U		0.00289	0.00500

Laboratory Control Sample (LCS)

(LCS) R4167229-2 01/15/25 15:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic,Dissolved	1.00	1.01	101	80.0-120	
Barium,Dissolved	1.00	1.04	104	80.0-120	
Cadmium,Dissolved	1.00	1.00	100	80.0-120	
Chromium,Dissolved	1.00	1.01	101	80.0-120	
Lead,Dissolved	1.00	1.01	101	80.0-120	
Selenium,Dissolved	1.00	0.966	96.6	80.0-120	
Silver,Dissolved	0.200	0.205	102	80.0-120	

L1816112-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816112-01 01/15/25 15:03 • (MS) R4167229-4 01/15/25 15:06 • (MSD) R4167229-5 01/15/25 15:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	1.00	U	1.03	1.02	103	102	1	75.0-125			0.0518	20
Barium,Dissolved	1.00	0.276	1.27	1.27	99.6	99.0	1	75.0-125			0.438	20
Cadmium,Dissolved	1.00	0.00125	0.994	0.996	99.3	99.4	1	75.0-125			0.161	20
Chromium,Dissolved	1.00	0.00162	0.994	0.984	99.2	98.3	1	75.0-125			0.966	20
Lead,Dissolved	1.00	U	1.01	1.01	101	101	1	75.0-125			0.0587	20
Selenium,Dissolved	1.00	U	0.984	0.975	98.4	97.5	1	75.0-125			0.957	20
Silver,Dissolved	0.200	U	0.205	0.205	102	103	1	75.0-125			0.198	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4166780-3 01/13/25 11:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0113	0.0500
Acrolein	U		0.00254	0.0500
Acrylonitrile	U		0.000671	0.0100
Benzene	U		0.0000941	0.00100
Bromobenzene	U		0.000118	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tert-Butylbenzene	U		0.000127	0.00100
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
2-Chlorotoluene	U		0.000106	0.00100
4-Chlorotoluene	U		0.000114	0.00100
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500
1,2-Dibromoethane	U		0.000126	0.00100
Dibromomethane	U		0.000122	0.00100
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
cis-1,2-Dichloroethene	U		0.000126	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
1,1-Dichloropropene	U		0.000142	0.00100
1,3-Dichloropropane	U		0.000110	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
2,2-Dichloropropane	U		0.000161	0.00100
Di-isopropyl ether	U		0.000105	0.00100
Ethylbenzene	U		0.000137	0.00100
Hexachloro-1,3-butadiene	U		0.000337	0.00100

Method Blank (MB)

(MB) R4166780-3 01/13/25 11:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Isopropylbenzene	U		0.000105	0.00100
p-Isopropyltoluene	U		0.000120	0.00100
2-Butanone (MEK)	U		0.00119	0.0100
Methylene Chloride	U		0.000430	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.0000993	0.00100
Styrene	U		0.000118	0.00100
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,2,3-Trichlorobenzene	U		0.000230	0.00100
1,2,4-Trichlorobenzene	U		0.000481	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
1,2,3-Trichloropropane	U		0.000237	0.00250
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,2,3-Trimethylbenzene	U		0.000104	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*107*			*80.0-120*
(S) 4-Bromofluorobenzene	*102*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*95.6*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4166780-1 01/13/25 10:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.0250	0.0263	105	19.0-160	J
Acrolein	0.0250	0.0310	124	10.0-160	J
Acrylonitrile	0.0250	0.0285	114	55.0-149	
Benzene	0.00500	0.00533	107	70.0-123	

QUALITY CONTROL SUMMARY

L1816112-01,02,03,04

Laboratory Control Sample (LCS)

(LCS) R4166780-1 01/13/25 10:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromobenzene	0.00500	0.00513	103	73.0-121	
Bromodichloromethane	0.00500	0.00534	107	75.0-120	
Bromoform	0.00500	0.00445	89.0	68.0-132	
Bromomethane	0.00500	0.00538	108	10.0-160	
n-Butylbenzene	0.00500	0.00527	105	73.0-125	
sec-Butylbenzene	0.00500	0.00538	108	75.0-125	
tert-Butylbenzene	0.00500	0.00531	106	76.0-124	
Carbon tetrachloride	0.00500	0.00514	103	68.0-126	
Chlorobenzene	0.00500	0.00524	105	80.0-121	
Chlorodibromomethane	0.00500	0.00488	97.6	77.0-125	
Chloroethane	0.00500	0.00499	99.8	47.0-150	J
Chloroform	0.00500	0.00542	108	73.0-120	
Chloromethane	0.00500	0.00524	105	41.0-142	
2-Chlorotoluene	0.00500	0.00518	104	76.0-123	
4-Chlorotoluene	0.00500	0.00523	105	75.0-122	
1,2-Dibromo-3-Chloropropane	0.00500	0.00496	99.2	58.0-134	J
1,2-Dibromoethane	0.00500	0.00519	104	80.0-122	
Dibromomethane	0.00500	0.00563	113	80.0-120	
1,2-Dichlorobenzene	0.00500	0.00548	110	79.0-121	
1,3-Dichlorobenzene	0.00500	0.00533	107	79.0-120	
1,4-Dichlorobenzene	0.00500	0.00530	106	79.0-120	
Dichlorodifluoromethane	0.00500	0.00566	113	51.0-149	
1,1-Dichloroethane	0.00500	0.00539	108	70.0-126	
1,2-Dichloroethane	0.00500	0.00544	109	70.0-128	
1,1-Dichloroethene	0.00500	0.00532	106	71.0-124	
cis-1,2-Dichloroethene	0.00500	0.00554	111	73.0-120	
trans-1,2-Dichloroethene	0.00500	0.00530	106	73.0-120	
1,2-Dichloropropane	0.00500	0.00544	109	77.0-125	
1,1-Dichloropropene	0.00500	0.00529	106	74.0-126	
1,3-Dichloropropane	0.00500	0.00539	108	80.0-120	
cis-1,3-Dichloropropene	0.00500	0.00553	111	80.0-123	
trans-1,3-Dichloropropene	0.00500	0.00539	108	78.0-124	
2,2-Dichloropropane	0.00500	0.00586	117	58.0-130	
Di-isopropyl ether	0.00500	0.00545	109	58.0-138	
Ethylbenzene	0.00500	0.00518	104	79.0-123	
Hexachloro-1,3-butadiene	0.00500	0.00535	107	54.0-138	
Isopropylbenzene	0.00500	0.00519	104	76.0-127	
p-Isopropyltoluene	0.00500	0.00546	109	76.0-125	
2-Butanone (MEK)	0.0250	0.0325	130	44.0-160	
Methylene Chloride	0.00500	0.00517	103	67.0-120	

Laboratory Control Sample (LCS)

(LCS) R4166780-1 01/13/25 10:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
4-Methyl-2-pentanone (MIBK)	0.0250	0.0275	110	68.0-142	
Methyl tert-butyl ether	0.00500	0.00564	113	68.0-125	
Naphthalene	0.00500	0.00528	106	54.0-135	
n-Propylbenzene	0.00500	0.00537	107	77.0-124	
Styrene	0.00500	0.00466	93.2	73.0-130	
1,1,1,2-Tetrachloroethane	0.00500	0.00513	103	75.0-125	
1,1,2,2-Tetrachloroethane	0.00500	0.00549	110	65.0-130	
1,1,2-Trichlorotrifluoroethane	0.00500	0.00600	120	69.0-132	
Tetrachloroethene	0.00500	0.00526	105	72.0-132	
Toluene	0.00500	0.00515	103	79.0-120	
1,2,3-Trichlorobenzene	0.00500	0.00506	101	50.0-138	
1,2,4-Trichlorobenzene	0.00500	0.00492	98.4	57.0-137	
1,1,1-Trichloroethane	0.00500	0.00551	110	73.0-124	
1,1,2-Trichloroethane	0.00500	0.00518	104	80.0-120	
Trichloroethene	0.00500	0.00529	106	78.0-124	
Trichlorofluoromethane	0.00500	0.00593	119	59.0-147	
1,2,3-Trichloropropane	0.00500	0.00596	119	73.0-130	
1,2,4-Trimethylbenzene	0.00500	0.00548	110	76.0-121	
1,2,3-Trimethylbenzene	0.00500	0.00535	107	77.0-120	
1,3,5-Trimethylbenzene	0.00500	0.00534	107	76.0-122	
Vinyl chloride	0.00500	0.00526	105	67.0-131	
Xylenes, Total	0.0150	0.0157	105	79.0-123	
(S) Toluene-d8			*98.8*	*80.0-120*	
(S) 4-Bromofluorobenzene			*99.2*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*94.4*	*70.0-130*	

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4167696-1 01/15/25 22:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
2,4-D	U		0.000671	0.00200
Dalapon	U		0.000734	0.00200
2,4-DB	U		0.000686	0.00200
Dicamba	U		0.000395	0.00200
Dichloroprop	U		0.000954	0.00200
Dinoseb	U		0.000455	0.00200
MCPA	U		0.0858	0.100
MCPP	U		0.0743	0.100
2,4,5-T	U		0.000858	0.00200
2,4,5-TP (Silvex)	U		0.000505	0.00200
(S) 2,4-Dichlorophenyl Acetic Acid	*94.4*			*14.0-158*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4167696-2 01/15/25 22:43 • (LCSD) R4167696-3 01/15/25 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4-D	0.00250	0.00258	0.00264	103	106	50.0-120			2.30	20
Dalapon	0.00250	0.00203	0.00192	81.2	76.8	32.0-120		J	5.57	20
2,4-DB	0.00250	0.00262	0.00254	105	102	53.0-140			3.10	20
Dicamba	0.00250	0.00241	0.00244	96.4	97.6	51.0-120			1.24	20
Dichloroprop	0.00250	0.00260	0.00253	104	101	55.0-127			2.73	20
Dinoseb	0.00250	0.00204	0.00229	81.6	91.6	36.0-134			11.5	20
MCPA	0.250	0.333	0.291	133	116	10.0-160	P		13.5	40
MCPP	0.250	0.199	0.221	79.6	88.4	10.0-160			10.5	23
2,4,5-T	0.00250	0.00261	0.00265	104	106	54.0-120			1.52	20
2,4,5-TP (Silvex)	0.00250	0.00252	0.00257	101	103	50.0-125			1.96	20
(S) 2,4-Dichlorophenyl Acetic Acid				*93.2*	*90.8*	*14.0-158*				

Method Blank (MB)

(MB) R4166891-1 01/14/25 15:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aldrin	U		0.0000249	0.0000500
Alpha BHC	U		0.0000277	0.0000500
Beta BHC	U		0.0000326	0.0000500
Delta BHC	U		0.0000403	0.0000500
Gamma BHC	U		0.0000267	0.0000500
Chlordane	U		0.000700	0.00500
4,4-DDD	U		0.0000297	0.0000500
4,4-DDE	U		0.0000276	0.0000500
4,4-DDT	U		0.0000211	0.0000500
Dieldrin	U		0.0000298	0.0000500
Endosulfan I	U		0.0000306	0.0000500
Endosulfan II	U		0.0000311	0.0000500
Endosulfan sulfate	U		0.0000306	0.0000500
Endrin	U		0.0000329	0.0000500
Endrin aldehyde	U		0.0000358	0.0000500
Endrin ketone	U		0.0000322	0.0000500
Hexachlorobenzene	U		0.0000425	0.0000500
Heptachlor	U		0.0000290	0.0000500
Heptachlor epoxide	U		0.0000307	0.0000500
Methoxychlor	U		0.0000400	0.0000500
Toxaphene	U		0.000400	0.000500
(S) Decachlorobiphenyl	*67.0*			*10.0-128*
(S) Tetrachloro-m-xylene	*96.8*			*10.0-127*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4166891-2 01/14/25 15:11 • (LCSD) R4166891-3 01/14/25 15:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aldrin	0.00100	0.00123	0.00116	123	116	22.0-124			5.86	34
Alpha BHC	0.00100	0.00129	0.00119	129	119	54.0-130			8.06	23
Beta BHC	0.00100	0.00121	0.00113	121	113	53.0-136			6.84	20
Delta BHC	0.00100	0.00116	0.00107	116	107	54.0-133			8.07	20
Gamma BHC	0.00100	0.00128	0.00119	128	119	55.0-129			7.29	20
4,4-DDD	0.00100	0.00123	0.00117	123	117	56.0-140			5.00	22
4,4-DDE	0.00100	0.00123	0.00115	123	115	52.0-128			6.72	22
4,4-DDT	0.00100	0.00115	0.00111	115	111	50.0-141			3.54	23
Dieldrin	0.00100	0.00125	0.00118	125	118	59.0-133			5.76	20
Endosulfan I	0.00100	0.00119	0.00113	119	113	57.0-131			5.17	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4166891-2 01/14/25 15:11 • (LCSD) R4166891-3 01/14/25 15:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Endosulfan II	0.00100	0.00119	0.00112	119	112	58.0-133			6.06	20
Endosulfan sulfate	0.00100	0.00110	0.00102	110	102	58.0-133			7.55	21
Endrin	0.00100	0.00121	0.00112	121	112	57.0-134			7.73	21
Endrin aldehyde	0.00100	0.000940	0.000883	94.0	88.3	53.0-129			6.25	20
Endrin ketone	0.00100	0.00116	0.00110	116	110	60.0-145			5.31	20
Hexachlorobenzene	0.00100	0.00110	0.00111	110	111	30.0-114			0.905	30
Heptachlor	0.00100	0.00116	0.00109	116	109	27.0-132			6.22	31
Heptachlor epoxide	0.00100	0.00125	0.00116	125	116	57.0-130			7.47	20
Methoxychlor	0.00100	0.00111	0.00106	111	106	54.0-155			4.61	24
(S) Decachlorobiphenyl				*63.7*	*66.8*	*10.0-128*				
(S) Tetrachloro-m-xylene				*96.5*	*91.2*	*10.0-127*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P	RPD between the primary and confirmatory analysis exceeded 40%.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1,6]	KY90010
Kentucky [2]	16
Louisiana	AI30792
Louisiana	LA018
Maine	TN00003
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05
Nevada	TN000032021-1
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico [1]	TN00003
New York	11742
North Carolina	Env375
North Carolina [1]	DW21704
North Carolina [3]	41
North Dakota	R-140
Ohio–VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004002
South Dakota	n/a
Tennessee [1,4]	2006
Texas	T104704245-20-18
Texas [5]	LAB0152
Utah	TN000032021-11
Vermont	VT2006
Virginia	110033
Washington	C847
West Virginia	233
Wisconsin	998093910
Wyoming	A2LA

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 [5]	1461.02
Canada	1461.01
EPA–Crypto	TN00003
AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock

Email To:
vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project #
45038-001

Lab Project #

Collected by (print):
Vincent Barlock/Terry McGowan

Site/Facility ID #
Welby Gardens

P.O. #

Collected by (signature):
Vincent E Barlock Terry O McGowan

Immediately Packed on Ice N____ Y x

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed
01/17/25 2)

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

L1816172

SDG #
C118

Acctnum: **BASENGGCO**
Template: **T266205**
Prelogin: **P1124047**
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	1,4-Dioxane - 8270-SIM - 1 liter amber bottle	Pesticides - 8081 100 ml amber - 2 bottles	Herbicies - 8151 -1 liter amber bottle	RCRA 8 Metals - 1-250 ml HDPE 1)	VOCs - 8260 - 3-40 ml abmber bottles	SUBPFAS - 1633 - 2-500 ml + 1-125 ml HDPE bottles	Sulfate and Nitrate - 1-125 HDPE bottle			Remarks	Sample # (lab only)
MW-03	Grab	GW		01-08-2025	15:00	12	X	X	X	X 1	X	X	X			1) need to filter	-01
MW-04	Grab	GW		01-08-2025	15:40	12	X	X	X	X 1	X	X	X			1) need to filter	-02
MW-01	Grab	GW		01-08-2025	16:20	12	X	X	X	X 1	X	X	X			1) need to filter	-03
Lab blank supplied with cooler		GW		01-02-2025	?	1					X						-04

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks: 1) HNO3 removed from bottles and triple rinsed. Needs to be lab filtered and preservative added. 2) We have to report as soon as possible, prior to the 22nd.

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking # 4257 0935 8472

Sample Receipt Checklist
COC Seal Present/Intact: _NP ✓ Y __N
COC Signed/Accurate: ✓ Y __N
Bottles arrive intact: ✓ Y __N
Correct bottles used: ✓ Y __N
Sufficient volume sent: ✓ Y __N
If Applicable
VOA Zero Headspace: ✓ Y __N
Preservation Correct/Checked: ✓ Y __N
RAD Screen <0.5 mR/hr: ✓ Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)		
Terry O. McGowan	01-9-2025	9:30		Trip Blank Received: [✓ Yes] / No [✓ HCL] / MeoH TBR	
Relinquished by : (Signature)	Date: 1-9-25	Time: 18:00	Received by: (Signature) FedEx	Temp: 1 °C Bottles Received: TLAG 11.3+0°=11.3 36	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Ashley Barrett	Date: 01/13/2025 Time: 0900	Hold: Condition: NCF / OK

01/13/25-NCF-L1816112/L1816114-BASENGGCO

R2/R3/R4/RX/EX

Time estimate: 0h **Time spent:** 0h **Grouping date:** 14 January 2025

Members

DP Devin Piedimonte (responsible) CW Chris Ward

☑ Login Clarification needed
☐ Chain of custody is incomplete
☐ Please specify Metals requested
☐ Please specify TCLP requested
☐ Received additional samples not listed on COC
☐ Sample IDs on containers do not match IDs on COC
☐ Client did not "X" analysis
☐ Chain of Custody is missing
☐ If no COC: Received by:____________________
☐ If no COC: Date/Time:____________________
☐ If no COC: Temp./Cont.Rec./pH:_______________
☐ If no COC: Carrier:_______________
☐ If no COC: Tracking #:________________
☐ Client informed by call
☐ Client informed by Email
☐ Client informed by Voicemail
☐ Date/Time:____________________
☐ PM initials:__________________
☐ Client Contact:_______Terry McGowan_____________

Comments

Devin Piedimonte *13 January 2025 10:21 AM*

OOT TLA9 11.3+0=11.3*C

Chris Ward *13 January 2025 11:31 AM*

Please proceed

Devin Piedimonte *14 January 2025 8:17 AM*

Thank you for your time and help. Completed!

ANALYTICAL REPORT

January 21, 2025

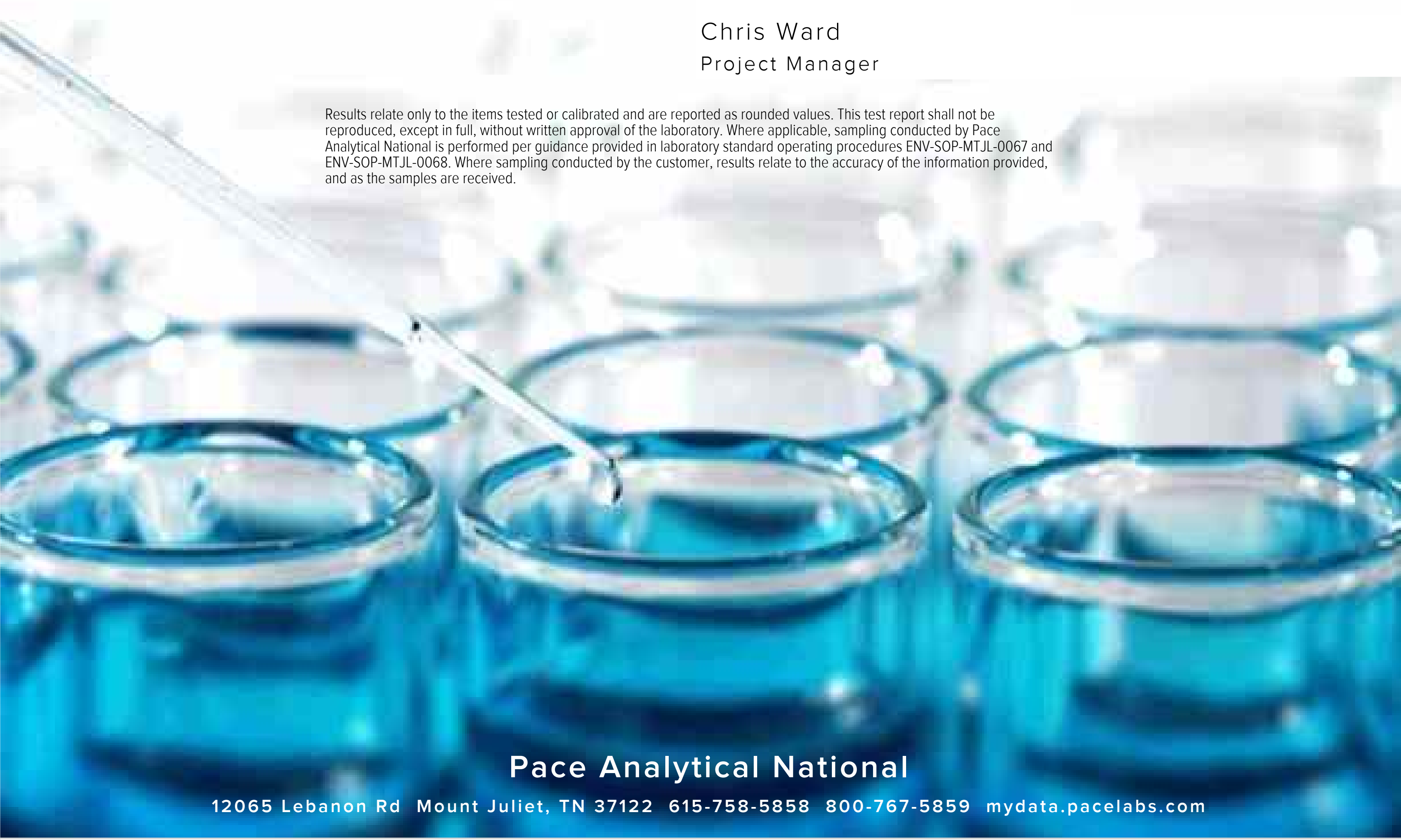
1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 Sc

Baseline Engineering

Sample Delivery Group:	L1816114
Samples Received:	01/13/2025
Project Number:	45038-001
Description:	Welby Gardens, Arvada Colorado
Report To:	Vincent Barlock 112 N Rubey Dr. , Unit 210 Golden, CO 80403

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

Cp: Cover Page 1

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Cn: Case Narrative 4

Gl: Glossary of Terms 5

Al: Accreditations & Locations 6

Sc: Sample Chain of Custody 7

SAMPLE SUMMARY

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2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 Sc

MW-03 L1816114-01 GW

Collected by	Collected date/time	Received date/time
VB/TM	01/08/25 15:00	01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2432365	1	01/21/25 00:00	01/21/25 00:00	-	Minneapolis, MN 55414

MW-04 L1816114-02 GW

Collected by	Collected date/time	Received date/time
VB/TM	01/08/25 15:40	01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2432365	1	01/21/25 00:00	01/21/25 00:00	-	Minneapolis, MN 55414

MW-01 L1816114-03 GW

Collected by	Collected date/time	Received date/time
VB/TM	01/08/25 16:20	01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2432365	1	01/21/25 00:00	01/21/25 00:00	-	Minneapolis, MN 55414

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward

Chris Ward
Project Manager

Project Narrative

L1816114 -01, -02, -03 contains subout data that is included after the chain of custody.

GLOSSARY OF TERMS

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Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 Sc

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1,6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1,4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden. CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

L1816114

SDG # **C118**

T

Acctnum: **BASENGGCO**
Template: **T266205**
Prelogin: **P1124047**
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

Report to: **Vincent Barlock**

Email To: vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project # **45038-001**

Lab Project #

Collected by (print): Vincent Barlock/Terry McGowan

Site/Facility ID # Welby Gardens

P.O. #

Collected by (signature): Vince E. Barlock

Immediately Packed on Ice N____ Y x

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed 01/17/25 2)

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	1,4-Dioxane - 8270-SIM - 1 liter amber bottle	Pesticides - 8081 100 ml amber - 2 bottles	Herbicies - 8151 -1 liter amber bottle	RCRA 8 Metals - 1-250 ml HDPE 1)	VOCs - 8260 - 3-40 ml abmber bottles	SUBPFAS - 1633 - 2-500 ml + 1-125 ml HDPE bottles	Sulfate and Nitrate - 1-125 HDPE bottle	Remarks	Sample # (lab only)
MW-03	Grab	GW		01-08-2025	15:00	12	X	X	X	X 1	X	X	X	1) need to filter	-01
MW-04	Grab	GW		01-08-2025	15:40	12	X	X	X	X 1	X	X	X	1) need to filter	-02
MW-01	Grab	GW		01-08-2025	16:20	12	X	X	X	X 1	X	X	X	1) need to filter	-03
Lab blank supplied with cooler		GW		01-02-2025	?	1					X				

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks:1) HNO3 removed from bottles and triple rinsed. Needs to be lab filtered and preservative added. 2) We have to report as soon as possible, prior to the 22nd.

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking # 4257 0935 8472

Sample Receipt Checklist
COC Seal Present/Intact: _NP ✓Y _N
COC Signed/Accurate: ✓Y _N
Bottles arrive intact: ✓Y _N
Correct bottles used: ✓Y _N
Sufficient volume sent: ✓Y _N
If Applicable
VOA Zero Headspace: ✓Y _N
Preservation Correct/Checked: ✓Y _N
RAD Screen <0.5 mR/hr: ✗Y _N

Relinquished by : (Signature) Tery O. McGow	Date: 01-9-2025	Time: 9:30	Received by: (Signature)	Trip Blank Received: [✓ Yes] / No [✓ HCL] / MeoH TBR 1	
Relinquished by : (Signature)	Date: 1-9-25	Time: 18:00	Received by: (Signature) Fedex	Temp: °C TRAG 11.3+0° 11.3 Bottles Received: 36	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Ashley Bartt	Date: 01/13/2025 Time: 0900	Hold:

Condition: NCF / OK

01/13/25-NCF-L1816112/L1816114-BASENGGCO

R2/R3/R4/RX/EX

Time estimate: 0h **Time spent:** 0h **Grouping date:** 14 January 2025

Members

DP Devin Piedimonte (responsible) CW Chris Ward

☑ Login Clarification needed
☐ Chain of custody is incomplete
☐ Please specify Metals requested
☐ Please specify TCLP requested
☐ Received additional samples not listed on COC
☐ Sample IDs on containers do not match IDs on COC
☐ Client did not "X" analysis
☐ Chain of Custody is missing
☐ If no COC: Received by:____________________
☐ If no COC: Date/Time:____________________
☐ If no COC: Temp./Cont.Rec./pH:______________
☐ If no COC: Carrier:_______________
☐ If no COC: Tracking #:________________
☐ Client informed by call
☐ Client informed by Email
☐ Client informed by Voicemail
☐ Date/Time:____________________
☐ PM initials:_________________
☐ Client Contact:_______Terry McGowan____________

Comments

Devin Piedimonte *13 January 2025 10:21 AM*

OOT TLA9 11.3+0=11.3*C

Chris Ward *13 January 2025 11:31 AM*

Please proceed

Devin Piedimonte *14 January 2025 8:17 AM*

Thank you for your time and help. Completed!

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

January 21, 2025

Client Services
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1816114 WG2432365
Pace Project No.: 10721086

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on January 15, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tong Lee
tong.lee@pacelabs.com
(612)473-6804
Project Manager

Enclosures

cc: Jimmy Huckaba, Pace Analytical National Center for Testing & Innovation

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CERTIFICATIONS

Project:	L1816114 WG2432365
Pace Project No.:	10721086

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
DoD Certification via A2LA #: 2926.01
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
ISO/IEC 17025 Certification via A2LA #: 2926.01
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification via A2LA #: 2926.01
USDA Permit #: P330-19-00208

SAMPLE SUMMARY

Project: L1816114 WG2432365
Pace Project No.: 10721086

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10721086001	**MW-03**	Water	01/08/25 15:00	01/15/25 08:55
10721086002	**MW-04**	Water	01/08/25 15:40	01/15/25 08:55
10721086003	**MW-01**	Water	01/08/25 16:20	01/15/25 08:55

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SAMPLE ANALYTE COUNT

Project: L1816114 WG2432365
Pace Project No.: 10721086

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10721086001	**MW-03**	EPA 1633 DRAFT	MJL	64	PASI-M
10721086002	**MW-04**	EPA 1633 DRAFT	MJL	64	PASI-M
10721086003	**MW-01**	EPA 1633 DRAFT	MJL	64	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

ANALYTICAL RESULTS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Sample: MW-03 **Lab ID: 10721086001** Collected: 01/08/25 15:00 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 24.6 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	763051-92-9	
3:3 FTCA	ND	ng/L	102	1	01/17/25 13:28	01/18/25 18:43	356-02-5	
4:2 FTS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	757124-72-4	
5:3 FTCA	ND	ng/L	508	1	01/17/25 13:28	01/18/25 18:43	914637-49-3	
6:2 FTS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	27619-97-2	
7:3 FTCA	ND	ng/L	508	1	01/17/25 13:28	01/18/25 18:43	812-70-4	
8:2 FTS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	39108-34-4	
9Cl-PF3ONS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	756426-58-1	
ADONA	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	919005-14-4	
HFPO-DA	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	13252-13-6	
NEtFOSAA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	2991-50-6	
NEtFOSA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	4151-50-2	
NEtFOSE	ND	ng/L	203	1	01/17/25 13:28	01/18/25 18:43	1691-99-2	
NFDHA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	151772-58-6	
NMeFOSAA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	2355-31-9	
NMeFOSA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	31506-32-8	
NMeFOSE	ND	ng/L	203	1	01/17/25 13:28	01/18/25 18:43	24448-09-7	
PFBS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	375-73-5	
PFDA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	335-76-2	
PFHxA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	307-24-4	
PFBA	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	375-22-4	
PFDS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	335-77-3	
PFDoS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	79780-39-5	
PFEESA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	113507-82-7	
PFHpS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	375-92-8	
PFMBA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	863090-89-5	
PFMPA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	377-73-1	
PFNS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	68259-12-1	
PFOSA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	754-91-6	
PFPeA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	2706-90-3	
PFPeS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	2706-91-4	
PFDoA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	307-55-1	
PFHpA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	375-85-9	
PFHxS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	355-46-4	
PFNA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	375-95-1	
PFOS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	1763-23-1	
PFOA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	335-67-1	
PFTeDA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	376-06-7	
PFTrDA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	72629-94-8	
PFUnA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	2058-94-8	
Surrogates								
13C2-PFDoA (S)	78	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		D3
13C3HFPO-DA (S)	93	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C3-PFBS (S)	87	%.	40-135	1	01/17/25 13:28	01/18/25 18:43		
13C3-PFHxS (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		

ANALYTICAL RESULTS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Sample: MW-03 **Lab ID: 10721086001** Collected: 01/08/25 15:00 Received: 01/15/25 08:55 Matrix: Water

EPA 1633 DRAFT Water Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT
Initial Volume/Weight: 24.6 mL Final Volume/Weight: 5 mL
Pace Analytical Services - Minneapolis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Surrogates								
13C4-PFBA (S)	85	%.	5-130	1	01/17/25 13:28	01/18/25 18:43		
13C4-PFHpA (S)	86	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C5-PFHxA (S)	88	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C5-PFPeA (S)	91	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C6-PFDA (S)	86	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C8-PFOA (S)	82	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C8-PFOS (S)	83	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C8-PFOSA (S)	82	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C9-PFNA (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
d3-MeFOSAA (S)	74	%.	40-170	1	01/17/25 13:28	01/18/25 18:43		
d3-NMeFOSA (S)	73	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
d5-EtFOSAA (S)	68	%.	25-135	1	01/17/25 13:28	01/18/25 18:43		
d5-NEtFOSA (S)	73	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
d7-NMeFOSE (S)	84	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
d9-NEtFOSE (S)	83	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
13C2-PFTA (S)	71	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
13C7-PFUdA (S)	82	%.	30-130	1	01/17/25 13:28	01/18/25 18:43		
13C24:2FTS (S)	60	%.	40-200	1	01/17/25 13:28	01/18/25 18:43		
13C26:2FTS (S)	71	%.	40-200	1	01/17/25 13:28	01/18/25 18:43		
13C28:2FTS (S)	73	%.	40-300	1	01/17/25 13:28	01/18/25 18:43		

Sample: MW-04 **Lab ID: 10721086002** Collected: 01/08/25 15:40 Received: 01/15/25 08:55 Matrix: Water

EPA 1633 DRAFT Water Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT
Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL
Pace Analytical Services - Minneapolis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
11Cl-PF3OUdS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	763051-92-9	
3:3 FTCA	ND	ng/L	500	1	01/17/25 13:28	01/18/25 18:59	356-02-5	
4:2 FTS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	757124-72-4	
5:3 FTCA	ND	ng/L	2500	1	01/17/25 13:28	01/18/25 18:59	914637-49-3	
6:2 FTS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	27619-97-2	
7:3 FTCA	ND	ng/L	2500	1	01/17/25 13:28	01/18/25 18:59	812-70-4	
8:2 FTS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	39108-34-4	
9Cl-PF3ONS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	756426-58-1	
ADONA	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	919005-14-4	
HFPO-DA	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	13252-13-6	
NEtFOSAA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	2991-50-6	
NEtFOSA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	4151-50-2	
NEtFOSE	ND	ng/L	1000	1	01/17/25 13:28	01/18/25 18:59	1691-99-2	
NFDHA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	151772-58-6	

ANALYTICAL RESULTS

Project:	L1816114 WG2432365
Pace Project No.:	10721086

Sample: MW-04 **Lab ID: 10721086002** Collected: 01/08/25 15:40 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
NMeFOSAA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	2355-31-9	
NMeFOSA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	31506-32-8	
NMeFOSE	ND	ng/L	1000	1	01/17/25 13:28	01/18/25 18:59	24448-09-7	
PFBS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	375-73-5	
PFDA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	335-76-2	
PFHxA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	307-24-4	
PFBA	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	375-22-4	
PFDS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	335-77-3	
PFDoS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	79780-39-5	
PFEESA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	113507-82-7	
PFHpS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	375-92-8	
PFMBA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	863090-89-5	
PFMPA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	377-73-1	
PFNS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	68259-12-1	
PFOSA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	754-91-6	
PFPeA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	2706-90-3	
PFPeS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	2706-91-4	
PFDoA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	307-55-1	
PFHpA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	375-85-9	
PFHxS	**270**	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	355-46-4	
PFNA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	375-95-1	
PFOS	**129**	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	1763-23-1	
PFOA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	335-67-1	
PFTeDA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	376-06-7	
PFTrDA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	72629-94-8	
PFUnA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	2058-94-8	
Surrogates								
13C2-PFDoA (S)	75	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
13C3HFPO-DA (S)	92	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C3-PFBS (S)	86	%.	40-135	1	01/17/25 13:28	01/18/25 18:59		
13C3-PFHxS (S)	85	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C4-PFBA (S)	86	%.	5-130	1	01/17/25 13:28	01/18/25 18:59		
13C4-PFHpA (S)	84	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C5-PFHxA (S)	85	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C5-PFPeA (S)	89	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C6-PFDA (S)	85	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C8-PFOA (S)	83	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C8-PFOS (S)	84	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C8-PFOSA (S)	82	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C9-PFNA (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
d3-MeFOSAA (S)	73	%.	40-170	1	01/17/25 13:28	01/18/25 18:59		
d3-NMeFOSA (S)	69	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
d5-EtFOSAA (S)	67	%.	25-135	1	01/17/25 13:28	01/18/25 18:59		
d5-NEtFOSA (S)	67	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
d7-NMeFOSE (S)	82	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		

ANALYTICAL RESULTS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Sample: MW-04 **Lab ID: 10721086002** Collected: 01/08/25 15:40 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
Surrogates								
d9-NEtFOSE (S)	81	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
13C2-PFTA (S)	67	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
13C7-PFUdA (S)	80	%.	30-130	1	01/17/25 13:28	01/18/25 18:59		
13C24:2FTS (S)	59	%.	40-200	1	01/17/25 13:28	01/18/25 18:59		
13C26:2FTS (S)	72	%.	40-200	1	01/17/25 13:28	01/18/25 18:59		
13C28:2FTS (S)	74	%.	40-300	1	01/17/25 13:28	01/18/25 18:59		

Sample: MW-01 **Lab ID: 10721086003** Collected: 01/08/25 16:20 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 9.6 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	763051-92-9	
3:3 FTCA	ND	ng/L	260	1	01/17/25 13:28	01/18/25 19:45	356-02-5	
4:2 FTS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	757124-72-4	
5:3 FTCA	ND	ng/L	1300	1	01/17/25 13:28	01/18/25 19:45	914637-49-3	
6:2 FTS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	27619-97-2	
7:3 FTCA	ND	ng/L	1300	1	01/17/25 13:28	01/18/25 19:45	812-70-4	
8:2 FTS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	39108-34-4	
9Cl-PF3ONS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	756426-58-1	
ADONA	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	919005-14-4	
HFPO-DA	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	13252-13-6	
NEtFOSAA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	2991-50-6	
NEtFOSA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	4151-50-2	
NEtFOSE	ND	ng/L	521	1	01/17/25 13:28	01/18/25 19:45	1691-99-2	
NFDHA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	151772-58-6	
NMeFOSAA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	2355-31-9	
NMeFOSA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	31506-32-8	
NMeFOSE	ND	ng/L	521	1	01/17/25 13:28	01/18/25 19:45	24448-09-7	
PFBS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	375-73-5	
PFDA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	335-76-2	
PFHxA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	307-24-4	
PFBA	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	375-22-4	
PFDS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	335-77-3	
PFDoS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	79780-39-5	
PFEESA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	113507-82-7	
PFHpS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	375-92-8	
PFMBA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	863090-89-5	
PFMPA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	377-73-1	
PFNS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	68259-12-1	

ANALYTICAL RESULTS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Sample: MW-01 **Lab ID: 10721086003** Collected: 01/08/25 16:20 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 9.6 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
PFOSA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	754-91-6	
PFPeA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	2706-90-3	
PFPeS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	2706-91-4	
PFDoA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	307-55-1	
PFHpA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	375-85-9	
PFHxS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	355-46-4	
PFNA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	375-95-1	
PFOS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	1763-23-1	
PFOA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	335-67-1	
PFTeDA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	376-06-7	
PFTrDA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	72629-94-8	
PFUnA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	2058-94-8	
Surrogates								
13C2-PFDoA (S)	75	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		D3
13C3HFPO-DA (S)	94	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C3-PFBS (S)	86	%.	40-135	1	01/17/25 13:28	01/18/25 19:45		
13C3-PFHxS (S)	89	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C4-PFBA (S)	85	%.	5-130	1	01/17/25 13:28	01/18/25 19:45		
13C4-PFHpA (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C5-PFHxA (S)	89	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C5-PFPeA (S)	92	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C6-PFDA (S)	86	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C8-PFOA (S)	89	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C8-PFOS (S)	86	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C8-PFOSA (S)	83	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C9-PFNA (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
d3-MeFOSAA (S)	76	%.	40-170	1	01/17/25 13:28	01/18/25 19:45		
d3-NMeFOSA (S)	75	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
d5-EtFOSAA (S)	71	%.	25-135	1	01/17/25 13:28	01/18/25 19:45		
d5-NEtFOSA (S)	73	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
d7-NMeFOSE (S)	87	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
d9-NEtFOSE (S)	84	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
13C2-PFTA (S)	71	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
13C7-PFUdA (S)	82	%.	30-130	1	01/17/25 13:28	01/18/25 19:45		
13C24:2FTS (S)	65	%.	40-200	1	01/17/25 13:28	01/18/25 19:45		
13C26:2FTS (S)	71	%.	40-200	1	01/17/25 13:28	01/18/25 19:45		
13C28:2FTS (S)	72	%.	40-300	1	01/17/25 13:28	01/18/25 19:45		

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QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

QC Batch: 988369
QC Batch Method: EPA 1633 DRAFT
Analysis Method: EPA 1633 DRAFT
Analysis Description: 1633 W
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10721086001, 10721086002, 10721086003

METHOD BLANK: 5161018
Matrix: Water
Associated Lab Samples: 10721086001, 10721086002, 10721086003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
11Cl-PF3OUdS	ng/L	ND	4.0	01/18/25 16:22	
3:3 FTCA	ng/L	ND	5.0	01/18/25 16:22	
4:2 FTS	ng/L	ND	4.0	01/18/25 16:22	
5:3 FTCA	ng/L	ND	25.0	01/18/25 16:22	
6:2 FTS	ng/L	ND	4.0	01/18/25 16:22	
7:3 FTCA	ng/L	ND	25.0	01/18/25 16:22	
8:2 FTS	ng/L	ND	4.0	01/18/25 16:22	
9Cl-PF3ONS	ng/L	ND	4.0	01/18/25 16:22	
ADONA	ng/L	ND	4.0	01/18/25 16:22	
HFPO-DA	ng/L	ND	4.0	01/18/25 16:22	
NEtFOSA	ng/L	ND	1.0	01/18/25 16:22	
NEtFOSAA	ng/L	ND	1.0	01/18/25 16:22	
NEtFOSE	ng/L	ND	10	01/18/25 16:22	
NFDHA	ng/L	ND	2.0	01/18/25 16:22	
NMeFOSA	ng/L	ND	1.0	01/18/25 16:22	
NMeFOSAA	ng/L	ND	1.0	01/18/25 16:22	
NMeFOSE	ng/L	ND	10	01/18/25 16:22	
PFBA	ng/L	ND	4.0	01/18/25 16:22	
PFBS	ng/L	ND	1.0	01/18/25 16:22	
PFDA	ng/L	ND	1.0	01/18/25 16:22	
PFDoA	ng/L	ND	1.0	01/18/25 16:22	
PFDoS	ng/L	ND	1.0	01/18/25 16:22	
PFDS	ng/L	ND	1.0	01/18/25 16:22	
PFEESA	ng/L	ND	2.0	01/18/25 16:22	
PFHpA	ng/L	ND	1.0	01/18/25 16:22	
PFHpS	ng/L	ND	1.0	01/18/25 16:22	
PFHxA	ng/L	ND	1.0	01/18/25 16:22	
PFHxS	ng/L	ND	1.0	01/18/25 16:22	
PFMBA	ng/L	ND	2.0	01/18/25 16:22	
PFMPA	ng/L	ND	2.0	01/18/25 16:22	
PFNA	ng/L	ND	1.0	01/18/25 16:22	
PFNS	ng/L	ND	1.0	01/18/25 16:22	
PFOA	ng/L	ND	1.0	01/18/25 16:22	
PFOS	ng/L	ND	1.0	01/18/25 16:22	
PFOSA	ng/L	ND	1.0	01/18/25 16:22	
PFPeA	ng/L	ND	2.0	01/18/25 16:22	
PFPeS	ng/L	ND	1.0	01/18/25 16:22	
PFTeDA	ng/L	ND	1.0	01/18/25 16:22	
PFTrDA	ng/L	ND	1.0	01/18/25 16:22	
PFUnA	ng/L	ND	1.0	01/18/25 16:22	

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QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

METHOD BLANK: 5161018 Matrix: Water
Associated Lab Samples: 10721086001, 10721086002, 10721086003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
13C2-PFDoA (S)	%.	92	10-130	01/18/25 16:22	
13C2-PFTA (S)	%.	80	10-130	01/18/25 16:22	
13C24:2FTS (S)	%.	89	40-200	01/18/25 16:22	
13C26:2FTS (S)	%.	90	40-200	01/18/25 16:22	
13C28:2FTS (S)	%.	84	40-300	01/18/25 16:22	
13C3-PFBS (S)	%.	103	40-135	01/18/25 16:22	
13C3-PFHxS (S)	%.	98	40-130	01/18/25 16:22	
13C3HFPO-DA (S)	%.	111	40-130	01/18/25 16:22	
13C4-PFBA (S)	%.	103	5-130	01/18/25 16:22	
13C4-PFHpA (S)	%.	101	40-130	01/18/25 16:22	
13C5-PFHxA (S)	%.	104	40-130	01/18/25 16:22	
13C5-PFPeA (S)	%.	108	40-130	01/18/25 16:22	
13C6-PFDA (S)	%.	101	40-130	01/18/25 16:22	
13C7-PFUdA (S)	%.	92	30-130	01/18/25 16:22	
13C8-PFOA (S)	%.	98	40-130	01/18/25 16:22	
13C8-PFOS (S)	%.	102	40-130	01/18/25 16:22	
13C8-PFOSA (S)	%.	96	40-130	01/18/25 16:22	
13C9-PFNA (S)	%.	103	40-130	01/18/25 16:22	
d3-MeFOSAA (S)	%.	95	40-170	01/18/25 16:22	
d3-NMeFOSA (S)	%.	79	10-130	01/18/25 16:22	
d5-EtFOSAA (S)	%.	89	25-135	01/18/25 16:22	
d5-NEtFOSA (S)	%.	77	10-130	01/18/25 16:22	
d7-NMeFOSE (S)	%.	103	10-130	01/18/25 16:22	
d9-NEtFOSE (S)	%.	101	10-130	01/18/25 16:22	

LABORATORY CONTROL SAMPLE & LCSD: 5161019 5161020

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
11Cl-PF3OUdS	ng/L	86.3	71.7	68.9	83	77	55-160	4	30	
3:3 FTCA	ng/L	114	91.4	88.6	80	75	65-130	3	30	
4:2 FTS	ng/L	85.7	72.0	72.7	84	82	70-145	1	30	
5:3 FTCA	ng/L	571	458	455	80	77	70-135	1	30	
6:2 FTS	ng/L	86.8	76.4	77.0	88	86	65-155	1	30	
7:3 FTCA	ng/L	571	449	440	79	74	50-145	2	30	
8:2 FTS	ng/L	88	76.2	79.7	87	87	60-150	4	30	
9Cl-PF3ONS	ng/L	85.7	73.1	72.1	85	81	70-155	1	30	
ADONA	ng/L	86.3	74.3	75.6	86	85	65-145	2	30	
HFPO-DA	ng/L	91.4	83.2	80.0	91	84	70-140	4	30	
NEtFOSA	ng/L	22.9	19.3	19.8	85	83	65-145	2	30	
NEtFOSAA	ng/L	22.9	20.0	19.8	88	83	70-145	1	30	
NEtFOSE	ng/L	229	194	197	85	83	70-135	1	30	
NFDHA	ng/L	45.7	45.5	42.4	99	90	50-150	7	30	
NMeFOSA	ng/L	22.9	19.1	20.3	83	86	60-150	6	30	
NMeFOSAA	ng/L	22.9	19.7	18.9	86	80	50-140	4	30	

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QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

LABORATORY CONTROL SAMPLE & LCSD: 5161019 5161020

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
NMeFOSE	ng/L	229	195	201	85	85	70-145	3	30	
PFBA	ng/L	91.4	76.2	78.2	83	83	70-140	3	30	
PFBS	ng/L	20.3	16.8	17.6	83	84	60-145	4	30	
PFDA	ng/L	22.9	19.6	19.2	86	81	70-140	2	30	
PFDoA	ng/L	22.9	19.3	18.8	84	79	70-140	3	30	
PFDoS	ng/L	22.2	16.2	16.0	73	70	50-145	1	30	
PFDS	ng/L	22.1	17.6	17.5	80	76	60-145	1	30	
PFEESA	ng/L	40.7	35.3	33.6	87	80	70-140	5	30	
PFHpA	ng/L	22.9	19.5	19.5	85	82	70-150	0	30	
PFHpS	ng/L	21.8	18.6	18.0	86	80	70-150	4	30	
PFHxA	ng/L	22.9	19.2	19.0	84	80	70-145	1	30	
PFHxS	ng/L	20.9	17.6	17.4	84	80	65-145	1	30	
PFMBA	ng/L	45.7	39.4	37.3	86	79	60-150	6	30	
PFMPA	ng/L	45.7	39.0	37.0	85	78	55-140	5	30	
PFNA	ng/L	22.9	18.5	19.0	81	80	70-150	3	30	
PFNS	ng/L	22	18.6	19.2	85	84	65-145	3	30	
PFOA	ng/L	22.9	19.3	19.6	84	83	70-150	2	30	
PFOS	ng/L	21.2	16.8	16.5	79	75	55-150	2	30	
PFOSA	ng/L	22.9	18.6	19.5	81	82	70-145	5	30	
PFPeA	ng/L	45.7	38.2	38.5	84	81	65-135	1	30	
PFPeS	ng/L	21.5	17.6	17.8	82	80	65-140	1	30	
PFTeDA	ng/L	22.9	19.5	19.5	85	82	60-140	0	30	
PFTrDA	ng/L	22.9	19.4	18.9	85	80	65-140	2	30	
PFUnA	ng/L	22.9	18.8	19.8	82	84	70-145	6	30	
13C2-PFDoA (S)	%.				81	80	10-130			
13C2-PFTA (S)	%.				77	72	10-130			
13C24:2FTS (S)	%.				70	71	40-200			
13C26:2FTS (S)	%.				71	73	40-200			
13C28:2FTS (S)	%.				74	75	40-300			
13C3-PFBS (S)	%.				86	85	40-135			
13C3-PFHxS (S)	%.				85	88	40-130			
13C3HFPO-DA (S)	%.				94	95	40-130			
13C4-PFBA (S)	%.				88	87	5-130			
13C4-PFHpA (S)	%.				87	85	40-130			
13C5-PFHxA (S)	%.				90	89	40-130			
13C5-PFPeA (S)	%.				92	92	40-130			
13C6-PFDA (S)	%.				84	87	40-130			
13C7-PFUdA (S)	%.				84	80	30-130			
13C8-PFOA (S)	%.				92	85	40-130			
13C8-PFOS (S)	%.				88	86	40-130			
13C8-PFOSA (S)	%.				87	85	40-130			
13C9-PFNA (S)	%.				89	86	40-130			
d3-MeFOSAA (S)	%.				83	79	40-170			
d3-NMeFOSA (S)	%.				74	74	10-130			
d5-EtFOSAA (S)	%.				75	73	25-135			
d5-NEtFOSA (S)	%.				72	74	10-130			
d7-NMeFOSE (S)	%.				92	90	10-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

LABORATORY CONTROL SAMPLE & LCSD: 5161019 5161020

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
d9-NEtFOSE (S)	%.				93	90	10-130			

LABORATORY CONTROL SAMPLE: 5161021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11Cl-PF3OUdS	ng/L	7.5	5.6	74	55-160	
3:3 FTCA	ng/L	10	8.4	84	65-130	
4:2 FTS	ng/L	7.5	6.6	88	70-145	
5:3 FTCA	ng/L	50	39.1	78	70-135	
6:2 FTS	ng/L	7.6	6.8	89	65-155	
7:3 FTCA	ng/L	50	38.9	78	50-145	
8:2 FTS	ng/L	7.7	7.1	93	60-150	
9Cl-PF3ONS	ng/L	7.5	6.0	80	70-155	
ADONA	ng/L	7.5	6.4	84	65-145	
HFPO-DA	ng/L	8	7.2	90	70-140	
NEtFOSA	ng/L	2	1.8	89	65-145	
NEtFOSAA	ng/L	2	1.7	85	70-145	
NEtFOSE	ng/L	20	17.4	87	70-135	
NFDHA	ng/L	4	4.3	108	50-150	
NMeFOSA	ng/L	2	1.7	86	60-150	
NMeFOSAA	ng/L	2	1.8	92	50-140	
NMeFOSE	ng/L	20	17.8	89	70-145	
PFBA	ng/L	8	7.3	91	70-140	
PFBS	ng/L	1.8	1.6	88	60-145	
PFDA	ng/L	2	1.7	87	70-140	
PFDoA	ng/L	2	1.7	87	70-140	
PFDoS	ng/L	1.9	1.3	67	50-145	
PFDS	ng/L	1.9	1.5	79	60-145	
PFEESA	ng/L	3.6	3.0	83	70-140	
PFHpA	ng/L	2	1.8	88	70-150	
PFHpS	ng/L	1.9	1.7	89	70-150	
PFHxA	ng/L	2	1.7	83	70-145	
PFHxS	ng/L	1.8	1.5	82	65-145	
PFMBA	ng/L	4	3.5	87	60-150	
PFMPA	ng/L	4	3.5	89	55-140	
PFNA	ng/L	2	1.6	82	70-150	
PFNS	ng/L	1.9	1.7	90	65-145	
PFOA	ng/L	2	1.8	92	70-150	
PFOS	ng/L	1.9	2.0	107	55-150	
PFOSA	ng/L	2	1.8	92	70-145	
PFPeA	ng/L	4	3.4	84	65-135	
PFPeS	ng/L	1.9	1.7	92	65-140	
PFTeDA	ng/L	2	1.7	85	60-140	
PFTrDA	ng/L	2	1.6	79	65-140	
PFUnA	ng/L	2	1.7	85	70-145	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

LABORATORY CONTROL SAMPLE: 5161021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
13C2-PFDoA (S)	%.			77	10-130	
13C2-PFTA (S)	%.			68	10-130	
13C24:2FTS (S)	%.			76	40-200	
13C26:2FTS (S)	%.			77	40-200	
13C28:2FTS (S)	%.			77	40-300	
13C3-PFBS (S)	%.			86	40-135	
13C3-PFHxS (S)	%.			89	40-130	
13C3HFPO-DA (S)	%.			97	40-130	
13C4-PFBA (S)	%.			90	5-130	
13C4-PFHpA (S)	%.			87	40-130	
13C5-PFHxA (S)	%.			89	40-130	
13C5-PFPeA (S)	%.			93	40-130	
13C6-PFDA (S)	%.			83	40-130	
13C7-PFUdA (S)	%.			79	30-130	
13C8-PFOA (S)	%.			86	40-130	
13C8-PFOS (S)	%.			87	40-130	
13C8-PFOSA (S)	%.			81	40-130	
13C9-PFNA (S)	%.			90	40-130	
d3-MeFOSAA (S)	%.			77	40-170	
d3-NMeFOSA (S)	%.			71	10-130	
d5-EtFOSAA (S)	%.			69	25-135	
d5-NEtFOSA (S)	%.			70	10-130	
d7-NMeFOSE (S)	%.			86	10-130	
d9-NEtFOSE (S)	%.			84	10-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project: L1816114 WG2432365
Pace Project No.: 10721086

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	L1816114 WG2432365
Pace Project No.:	10721086

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10721086001	**MW-03**	EPA 1633 DRAFT	988369	EPA 1633 DRAFT	988805
10721086002	**MW-04**	EPA 1633 DRAFT	988369	EPA 1633 DRAFT	988805
10721086003	**MW-01**	EPA 1633 DRAFT	988369	EPA 1633 DRAFT	988805

Sub-Contract Chain of Custody

Batch Date/Time: 01/13/25 13:20
Sub-Contract Lab: PACEMN
Address: 1700 Elm Street Suite 200
SE
City/State: Minneapolis, MN 55414
Contact: Tong.Lee@pacelabs.com
Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG2432365
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 01/20/25
ESC Purchase Order #: L1816114
Send Reports to: James C Huckaba

Pace Analytical®
12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only	
MW-03 PFAS(2)500ml(1)125ml - 50503449 PFAS(2)500ml(1)125ml - 50503450 PFAS(2)500ml(1)125ml - 50503451	GW	CO	01/08/25 15:00	PFAS1633	1. L1816114-01		001
MW-04 PFAS(2)500ml(1)125ml - 50503458 PFAS(2)500ml(1)125ml - 50503459 PFAS(2)500ml(1)125ml - 50503460	GW	CO	01/08/25 15:40	PFAS1633	2. L1816114-02		002
MW-01 PFAS(2)500ml(1)125ml - 50503419	GW	CO	01/08/25 16:20	PFAS1633	3. L1816114-03		003

*= Container used for multiple Samples and/or Analyses

Relinquished by: Date 1-14-25

Received by: Date 1/15/25 855

2.6

Relinquished by: Date

Received by: Date

RUSH

WO#: 10721086
10721086

ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: Pace National **PROJECT #:**

WO#: 10721086
PM: TKL **Due Date:** 01/22/25
CLIENT: PASI-TN

COURIER: ☐ Client ☐ Commercial ☑ FedEx ☐ Pace ☐ SpeeDee ☐ UPS ☐ USPS

TRACKING NUMBER: 4208 1343 5662 ☐ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: ☑ YES ☐ NO **Seals Intact:** ☑ YES ☐ NO **Biological Tissue Frozen:** ☐ YES ☐ NO ☑ N/A

Packing Material: ☑ Bubble Bags ☐ Bubble Wrap ☐ None ☐ Other **Temp Blank:** ☑ YES ☐ NO **Type of Ice:** ☐ Blue ☐ Dry ☑ Wet ☐ Melted ☐ None

Thermometer: ☑ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☐ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ T9 (0727) ☐ 01339252 (1710)

Did Samples Originate in West Virginia: ☐ YES ☑ NO	**Were All Container Temps taken:** ☐ YES ☐ NO ☑ N/A
Correction Factor: +0.1 **Cooler Temp Read w/Temp Blank:** 2.5 °C **Cooler Temp Corrected w/Temp Blank:** 2.6 °C ***NOTE:*** *Temp should be above freezing to 6°C.*	**Average Corrected Temp (no Temp Blank Only):** ______ °C ☐ See Exceptions Form ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: ☑ N/A – Water Sample/Other (describe): ______	**Initials & Date of Person Examining Contents:** DGS 1/15/25
Did Samples originate from one of the following states (check maps) – AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: ☐ YES ☐ NO	Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): ☐ YES ☐ NO

NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

LOCATION (check one): ☐ **DULUTH** ☑ **MINNEAPOLIS** ☐ **VIRGINIA**	**YES**	**NO**	**N/A**	**COMMENT(S)**
Chain of Custody Present and Filled Out?	☑	☐		1.
Chain of Custody Relinquished?	☑	☐		2.
Sampler Name and/or Signature on COC?	☐	☐	☑	3.
Samples Arrived within Hold Time?	☑	☐		4. If Fecal: ☐ <8 hrs ☐ >8 hr, <24 hr ☐ No
Short Hold Time Analysis (<72 hr)?	☐	☑		5. ☐ BOD / cBOD ☐ Fecal coliform ☐ Hex Chrom ☐ HPC ☐ Nitrate ☐ Nitrite ☐ Ortho Phos ☐ Total coliform/*E. coli* ☐ Other: ______
Rush Turn Around Time Requested?	☑	☐		6.
Sufficient Sample Volume?	☑	☐		7.
Correct Containers Used? – Pace Containers Used?	☑ ☑	☐ ☐	☐	8.
Containers Intact?	☑	☐		9.
Field Filtered Volume Received for Dissolved Tests?	☐	☐	☑	10. Is sediment visible in the dissolved container: ☐ YES ☐ NO
Is sufficient information available to reconcile the samples to the COC? **NOTE:** If ID/Date/Time don't match fill out section 11. Matrix: ☐ Oil ☐ Soil ☑ Water ☐ Other	☑	☐		**11. If NO, write ID/Date/Time of container below:** ☐ See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked? All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS **NOTE:** If adding preservation to the container, **verify with the PM first.** Clients may require adding preservative to the field and equipment blanks when this occurs.	☐ ☐ ☐	☐ ☐ ☐	☑ ☑ ☑	12. Sample #: ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ Zinc Acetate Positive for Residual Chlorine: ☐ YES ☐ NO **pH Paper Lot #**

Residual Chlorine	**0-6 Roll**	**0-6 Strip**	**0-14 Strip**

☐ See Exceptions form ENV-FRM-MIN4-0142

	YES	**NO**	**N/A**	**COMMENT(S)**
Headspace in Methyl Mercury Container?	☐	☐	☑	13.
Extra labels present on soil VOA or WIDRO containers? Headspace in VOA Vials (greater than 6mm)?	☐ ☐	☐ ☐	☑ ☑	14. ☐ See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present? Trip Blank Custody Seals Present?	☐ ☐	☐ ☐	☑ ☑	15. Pace Trip Blank Lot # (if purchased): ______

CLIENT NOTIFICATION / RESOLUTION **FIELD DATA REQUIRED:** ☐ YES ☐ NO

Person Contacted: ______ Date & Time: ______

Comments / Resolution: ______

Project Manager Review: ______ **Date:** 1/15/25

NOTE: *When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).*

Labeled By: DGS **Line:** 2

ANALYTICAL REPORT

January 30, 2025

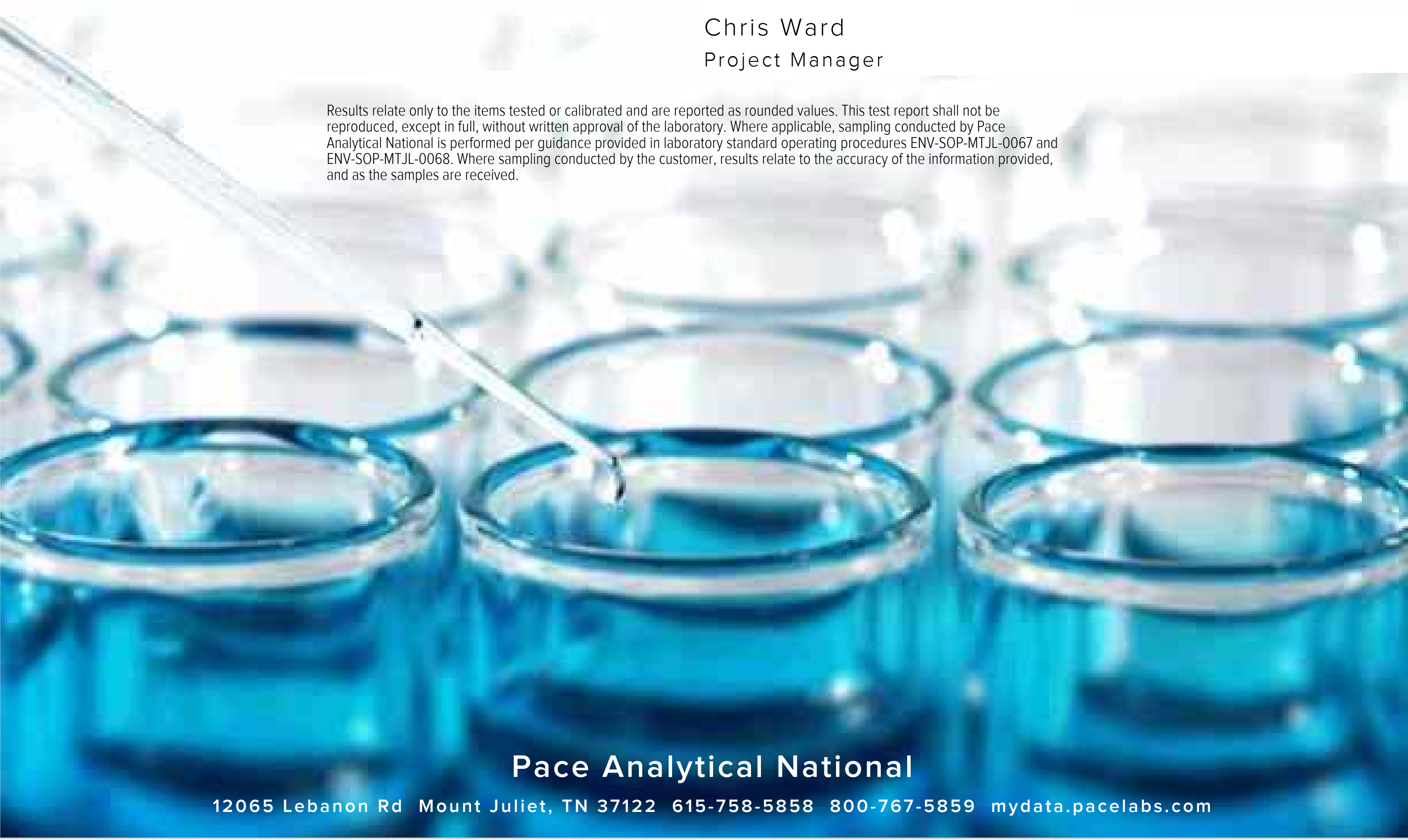
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Baseline Engineering

Sample Delivery Group:	L1820110
Samples Received:	01/25/2025
Project Number:	45038-002
Description:	Welby Gardens, Arvada, Canada
Site:	WELBY GARDENS
Report To:	Vincent Barlock 112 N Rubey Dr. , Unit 210 Golden, CO 80403

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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MW-2 L1820110-01 GW

Collected by	Collected date/time	Received date/time
VB/TM	01/24/25 12:05	01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2439734	1	01/25/25 14:46	01/25/25 14:46	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2439734	10	01/25/25 14:32	01/25/25 14:32	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2439885	1	01/27/25 22:40	01/29/25 11:11	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2440361	1	01/27/25 21:54	01/28/25 02:54	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2440179	1	01/28/25 17:19	01/28/25 17:19	DYW	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2439178	1.15	01/27/25 16:13	01/29/25 20:48	RDH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2439996	1	01/27/25 06:06	01/27/25 17:24	AMB	Mt. Juliet, TN

LAB BLANK SUPPLIED WITH COOLER L1820110-02 GW

Collected by	Collected date/time	Received date/time
VB/TM	01/24/25 00:00	01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2440179	1	01/28/25 15:37	01/28/25 15:37	DYW	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward

Chris Ward
Project Manager

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate as (N)	43.9		0.884	1.00	10	01/25/2025 14:32	WG2439734
Sulfate	U		0.637	5.00	1	01/25/2025 14:46	WG2439734

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	0.0000913	J	0.0000700	0.000200	1	01/29/2025 11:11	WG2439885

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic	U		0.00783	0.0100	1	01/28/2025 02:54	WG2440361
Barium	0.0644		0.000773	0.00500	1	01/28/2025 02:54	WG2440361
Cadmium	U		0.000538	0.00200	1	01/28/2025 02:54	WG2440361
Chromium	U		0.00151	0.0100	1	01/28/2025 02:54	WG2440361
Lead	U		0.00243	0.00600	1	01/28/2025 02:54	WG2440361
Selenium	0.0690		0.00616	0.0100	1	01/28/2025 02:54	WG2440361
Silver	U		0.00289	0.00500	1	01/28/2025 02:54	WG2440361

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/28/2025 17:19	WG2440179
Acrolein	U	C3	0.00254	0.0500	1	01/28/2025 17:19	WG2440179
Acrylonitrile	U		0.000671	0.0100	1	01/28/2025 17:19	WG2440179
Benzene	U		0.0000941	0.00100	1	01/28/2025 17:19	WG2440179
Bromobenzene	U		0.000118	0.00100	1	01/28/2025 17:19	WG2440179
Bromodichloromethane	U		0.000136	0.00100	1	01/28/2025 17:19	WG2440179
Bromoform	U		0.000129	0.00100	1	01/28/2025 17:19	WG2440179
Bromomethane	U		0.000605	0.00500	1	01/28/2025 17:19	WG2440179
n-Butylbenzene	U		0.000157	0.00100	1	01/28/2025 17:19	WG2440179
sec-Butylbenzene	U		0.000125	0.00100	1	01/28/2025 17:19	WG2440179
tert-Butylbenzene	U		0.000127	0.00100	1	01/28/2025 17:19	WG2440179
Carbon tetrachloride	U		0.000128	0.00100	1	01/28/2025 17:19	WG2440179
Chlorobenzene	U		0.000116	0.00100	1	01/28/2025 17:19	WG2440179
Chlorodibromomethane	U		0.000140	0.00100	1	01/28/2025 17:19	WG2440179
Chloroethane	U		0.000192	0.00500	1	01/28/2025 17:19	WG2440179
Chloroform	U		0.000111	0.00500	1	01/28/2025 17:19	WG2440179
Chloromethane	U		0.000960	0.00250	1	01/28/2025 17:19	WG2440179
2-Chlorotoluene	U		0.000106	0.00100	1	01/28/2025 17:19	WG2440179
4-Chlorotoluene	U		0.000114	0.00100	1	01/28/2025 17:19	WG2440179
1,2-Dibromo-3-Chloropropane	U	C3	0.000276	0.00500	1	01/28/2025 17:19	WG2440179
1,2-Dibromoethane	U		0.000126	0.00100	1	01/28/2025 17:19	WG2440179
Dibromomethane	U		0.000122	0.00100	1	01/28/2025 17:19	WG2440179
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/28/2025 17:19	WG2440179
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/28/2025 17:19	WG2440179
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/28/2025 17:19	WG2440179
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/28/2025 17:19	WG2440179
1,1-Dichloroethane	U		0.000100	0.00100	1	01/28/2025 17:19	WG2440179
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/28/2025 17:19	WG2440179
1,1-Dichloroethene	U		0.000188	0.00100	1	01/28/2025 17:19	WG2440179
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/28/2025 17:19	WG2440179
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/28/2025 17:19	WG2440179
1,2-Dichloropropane	U		0.000149	0.00100	1	01/28/2025 17:19	WG2440179

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,1-Dichloropropene	U		0.000142	0.00100	1	01/28/2025 17:19	WG2440179
1,3-Dichloropropane	U		0.000110	0.00100	1	01/28/2025 17:19	WG2440179
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/28/2025 17:19	WG2440179
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/28/2025 17:19	WG2440179
2,2-Dichloropropane	U		0.000161	0.00100	1	01/28/2025 17:19	WG2440179
Di-isopropyl ether	U		0.000105	0.00100	1	01/28/2025 17:19	WG2440179
Ethylbenzene	U		0.000137	0.00100	1	01/28/2025 17:19	WG2440179
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/28/2025 17:19	WG2440179
Isopropylbenzene	U		0.000105	0.00100	1	01/28/2025 17:19	WG2440179
p-Isopropyltoluene	U		0.000120	0.00100	1	01/28/2025 17:19	WG2440179
2-Butanone (MEK)	U		0.00119	0.0100	1	01/28/2025 17:19	WG2440179
Methylene Chloride	U		0.000430	0.00500	1	01/28/2025 17:19	WG2440179
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/28/2025 17:19	WG2440179
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/28/2025 17:19	WG2440179
Naphthalene	U	C3	0.00100	0.00500	1	01/28/2025 17:19	WG2440179
n-Propylbenzene	U		0.0000993	0.00100	1	01/28/2025 17:19	WG2440179
Styrene	U		0.000118	0.00100	1	01/28/2025 17:19	WG2440179
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/28/2025 17:19	WG2440179
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/28/2025 17:19	WG2440179
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/28/2025 17:19	WG2440179
Tetrachloroethene	U		0.000300	0.00100	1	01/28/2025 17:19	WG2440179
Toluene	U		0.000278	0.00100	1	01/28/2025 17:19	WG2440179
1,2,3-Trichlorobenzene	U	C3	0.000230	0.00100	1	01/28/2025 17:19	WG2440179
1,2,4-Trichlorobenzene	U	C3	0.000481	0.00100	1	01/28/2025 17:19	WG2440179
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/28/2025 17:19	WG2440179
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/28/2025 17:19	WG2440179
Trichloroethene	U		0.000190	0.00100	1	01/28/2025 17:19	WG2440179
Trichlorofluoromethane	U		0.000160	0.00500	1	01/28/2025 17:19	WG2440179
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/28/2025 17:19	WG2440179
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/28/2025 17:19	WG2440179
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/28/2025 17:19	WG2440179
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/28/2025 17:19	WG2440179
Vinyl chloride	U		0.000234	0.00100	1	01/28/2025 17:19	WG2440179
Xylenes, Total	U		0.000174	0.00300	1	01/28/2025 17:19	WG2440179
(S) Toluene-d8	*101*			*80.0-120*		*01/28/2025 17:19*	WG2440179
(S) 4-Bromofluorobenzene	*99.0*			*77.0-126*		*01/28/2025 17:19*	WG2440179
(S) 1,2-Dichloroethane-d4	*97.2*			*70.0-130*		*01/28/2025 17:19*	WG2440179

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
2,4-D	U	J3 J4	0.000772	0.00230	1.15	01/29/2025 20:48	WG2439178
Dalapon	U		0.000844	0.00230	1.15	01/29/2025 20:48	WG2439178
2,4-DB	U		0.000789	0.00230	1.15	01/29/2025 20:48	WG2439178
Dicamba	U		0.000454	0.00230	1.15	01/29/2025 20:48	WG2439178
Dichloroprop	U		0.00110	0.00230	1.15	01/29/2025 20:48	WG2439178
Dinoseb	U		0.000523	0.00230	1.15	01/29/2025 20:48	WG2439178
MCPA	U		0.0987	0.115	1.15	01/29/2025 20:48	WG2439178
MCPP	U		0.0854	0.115	1.15	01/29/2025 20:48	WG2439178
2,4,5-T	U		0.000987	0.00230	1.15	01/29/2025 20:48	WG2439178
2,4,5-TP (Silvex)	U		0.000581	0.00230	1.15	01/29/2025 20:48	WG2439178
(S) 2,4-Dichlorophenyl Acetic Acid	*88.7*			*14.0-158*		*01/29/2025 20:48*	WG2439178

Sample Narrative:

L1820110-01 WG2439178: Dilution due to matrix impact during extraction procedure

Pesticides (GC) by Method 8081B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Aldrin	U		0.0000249	0.0000500	1	01/27/2025 17:24	WG2439996
Alpha BHC	U		0.0000277	0.0000500	1	01/27/2025 17:24	WG2439996
Beta BHC	U		0.0000326	0.0000500	1	01/27/2025 17:24	WG2439996
Delta BHC	U		0.0000403	0.0000500	1	01/27/2025 17:24	WG2439996
Gamma BHC	U		0.0000267	0.0000500	1	01/27/2025 17:24	WG2439996
Chlordane	U		0.000700	0.00500	1	01/27/2025 17:24	WG2439996
4,4-DDD	U		0.0000297	0.0000500	1	01/27/2025 17:24	WG2439996
4,4-DDE	U		0.0000276	0.0000500	1	01/27/2025 17:24	WG2439996
4,4-DDT	U		0.0000211	0.0000500	1	01/27/2025 17:24	WG2439996
Dieldrin	U		0.0000298	0.0000500	1	01/27/2025 17:24	WG2439996
Endosulfan I	U		0.0000306	0.0000500	1	01/27/2025 17:24	WG2439996
Endosulfan II	U		0.0000311	0.0000500	1	01/27/2025 17:24	WG2439996
Endosulfan sulfate	U		0.0000306	0.0000500	1	01/27/2025 17:24	WG2439996
Endrin	U		0.0000329	0.0000500	1	01/27/2025 17:24	WG2439996
Endrin aldehyde	U		0.0000358	0.0000500	1	01/27/2025 17:24	WG2439996
Endrin ketone	U		0.0000322	0.0000500	1	01/27/2025 17:24	WG2439996
Hexachlorobenzene	U		0.0000425	0.0000500	1	01/27/2025 17:24	WG2439996
Heptachlor	U		0.0000290	0.0000500	1	01/27/2025 17:24	WG2439996
Heptachlor epoxide	U		0.0000307	0.0000500	1	01/27/2025 17:24	WG2439996
Methoxychlor	U		0.0000400	0.0000500	1	01/27/2025 17:24	WG2439996
Toxaphene	U		0.000400	0.000500	1	01/27/2025 17:24	WG2439996
(S) Decachlorobiphenyl	*41.2*			*10.0-128*		*01/27/2025 17:24*	WG2439996
(S) Tetrachloro-m-xylene	*75.9*			*10.0-127*		*01/27/2025 17:24*	WG2439996

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/28/2025 15:37	WG2440179
Acrolein	U	C3	0.00254	0.0500	1	01/28/2025 15:37	WG2440179
Acrylonitrile	U		0.000671	0.0100	1	01/28/2025 15:37	WG2440179
Benzene	U		0.0000941	0.00100	1	01/28/2025 15:37	WG2440179
Bromobenzene	U		0.000118	0.00100	1	01/28/2025 15:37	WG2440179
Bromodichloromethane	U		0.000136	0.00100	1	01/28/2025 15:37	WG2440179
Bromoform	U		0.000129	0.00100	1	01/28/2025 15:37	WG2440179
Bromomethane	U		0.000605	0.00500	1	01/28/2025 15:37	WG2440179
n-Butylbenzene	U		0.000157	0.00100	1	01/28/2025 15:37	WG2440179
sec-Butylbenzene	U		0.000125	0.00100	1	01/28/2025 15:37	WG2440179
tert-Butylbenzene	U		0.000127	0.00100	1	01/28/2025 15:37	WG2440179
Carbon tetrachloride	U		0.000128	0.00100	1	01/28/2025 15:37	WG2440179
Chlorobenzene	U		0.000116	0.00100	1	01/28/2025 15:37	WG2440179
Chlorodibromomethane	U		0.000140	0.00100	1	01/28/2025 15:37	WG2440179
Chloroethane	U		0.000192	0.00500	1	01/28/2025 15:37	WG2440179
Chloroform	U		0.000111	0.00500	1	01/28/2025 15:37	WG2440179
Chloromethane	U		0.000960	0.00250	1	01/28/2025 15:37	WG2440179
2-Chlorotoluene	U		0.000106	0.00100	1	01/28/2025 15:37	WG2440179
4-Chlorotoluene	U		0.000114	0.00100	1	01/28/2025 15:37	WG2440179
1,2-Dibromo-3-Chloropropane	U	C3	0.000276	0.00500	1	01/28/2025 15:37	WG2440179
1,2-Dibromoethane	U		0.000126	0.00100	1	01/28/2025 15:37	WG2440179
Dibromomethane	U		0.000122	0.00100	1	01/28/2025 15:37	WG2440179
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/28/2025 15:37	WG2440179
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/28/2025 15:37	WG2440179
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/28/2025 15:37	WG2440179
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/28/2025 15:37	WG2440179
1,1-Dichloroethane	U		0.000100	0.00100	1	01/28/2025 15:37	WG2440179
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/28/2025 15:37	WG2440179
1,1-Dichloroethene	U		0.000188	0.00100	1	01/28/2025 15:37	WG2440179
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/28/2025 15:37	WG2440179
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/28/2025 15:37	WG2440179
1,2-Dichloropropane	U		0.000149	0.00100	1	01/28/2025 15:37	WG2440179
1,1-Dichloropropene	U		0.000142	0.00100	1	01/28/2025 15:37	WG2440179
1,3-Dichloropropane	U		0.000110	0.00100	1	01/28/2025 15:37	WG2440179
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/28/2025 15:37	WG2440179
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/28/2025 15:37	WG2440179
2,2-Dichloropropane	U		0.000161	0.00100	1	01/28/2025 15:37	WG2440179
Di-isopropyl ether	U		0.000105	0.00100	1	01/28/2025 15:37	WG2440179
Ethylbenzene	U		0.000137	0.00100	1	01/28/2025 15:37	WG2440179
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/28/2025 15:37	WG2440179
Isopropylbenzene	U		0.000105	0.00100	1	01/28/2025 15:37	WG2440179
p-Isopropyltoluene	U		0.000120	0.00100	1	01/28/2025 15:37	WG2440179
2-Butanone (MEK)	U		0.00119	0.0100	1	01/28/2025 15:37	WG2440179
Methylene Chloride	U		0.000430	0.00500	1	01/28/2025 15:37	WG2440179
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/28/2025 15:37	WG2440179
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/28/2025 15:37	WG2440179
Naphthalene	U	C3	0.00100	0.00500	1	01/28/2025 15:37	WG2440179
n-Propylbenzene	U		0.0000993	0.00100	1	01/28/2025 15:37	WG2440179
Styrene	U		0.000118	0.00100	1	01/28/2025 15:37	WG2440179
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/28/2025 15:37	WG2440179
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/28/2025 15:37	WG2440179
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/28/2025 15:37	WG2440179
Tetrachloroethene	U		0.000300	0.00100	1	01/28/2025 15:37	WG2440179
Toluene	U		0.000278	0.00100	1	01/28/2025 15:37	WG2440179
1,2,3-Trichlorobenzene	U	C3	0.000230	0.00100	1	01/28/2025 15:37	WG2440179
1,2,4-Trichlorobenzene	U	C3	0.000481	0.00100	1	01/28/2025 15:37	WG2440179

LAB BLANK SUPPLIED WITH COOLER

Collected date/time: 01/24/25 00:00

SAMPLE RESULTS - 02

L1820110

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/28/2025 15:37	WG2440179
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/28/2025 15:37	WG2440179
Trichloroethene	U		0.000190	0.00100	1	01/28/2025 15:37	WG2440179
Trichlorofluoromethane	U		0.000160	0.00500	1	01/28/2025 15:37	WG2440179
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/28/2025 15:37	WG2440179
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/28/2025 15:37	WG2440179
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/28/2025 15:37	WG2440179
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/28/2025 15:37	WG2440179
Vinyl chloride	U		0.000234	0.00100	1	01/28/2025 15:37	WG2440179
Xylenes, Total	U		0.000174	0.00300	1	01/28/2025 15:37	WG2440179
(S) Toluene-d8	*101*			*80.0-120*		*01/28/2025 15:37*	WG2440179
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*01/28/2025 15:37*	WG2440179
(S) 1,2-Dichloroethane-d4	*97.4*			*70.0-130*		*01/28/2025 15:37*	WG2440179

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4170563-1 01/25/25 10:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate as (N)	U		0.0884	0.100
Sulfate	U		0.637	5.00

L1820086-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1820086-01 01/25/25 12:31 • (DUP) R4170563-3 01/25/25 12:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate as (N)	2.24	2.26	1	1.01		15

Laboratory Control Sample (LCS)

(LCS) R4170563-2 01/25/25 10:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate as (N)	8.00	8.25	103	80.0-120	
Sulfate	40.0	42.6	106	80.0-120	

L1820086-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820086-01 01/25/25 12:31 • (MS) R4170563-4 01/25/25 12:58 • (MSD) R4170563-5 01/25/25 13:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate as (N)	8.00	2.24	9.86	9.83	95.3	94.9	1	80.0-120			0.378	15
Sulfate	40.0	157	162	162	11.0	11.9	1	80.0-120	E J6	E J6	0.240	15

Method Blank (MB)

(MB) R4171406-1 01/29/25 00:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.0000700	0.000200

Laboratory Control Sample (LCS)

(LCS) R4171406-2 01/29/25 00:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00344	115	80.0-120	

L1820050-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820050-02 01/29/25 00:29 • (MS) R4171406-4 01/29/25 00:34 • (MSD) R4171406-5 01/29/25 00:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	U	0.00338	0.00343	113	114	1	75.0-125			1.49	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4170882-1 01/28/25 02:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.00783	0.0100
Barium	U		0.000773	0.00500
Cadmium	U		0.000538	0.00200
Chromium	U		0.00151	0.0100
Lead	U		0.00243	0.00600
Selenium	U		0.00616	0.0100
Silver	U		0.00289	0.00500

Laboratory Control Sample (LCS)

(LCS) R4170882-2 01/28/25 02:27

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	1.00	0.963	96.3	80.0-120	
Barium	1.00	1.01	101	80.0-120	
Cadmium	1.00	0.978	97.8	80.0-120	
Chromium	1.00	0.989	98.9	80.0-120	
Lead	1.00	0.957	95.7	80.0-120	
Selenium	1.00	0.937	93.7	80.0-120	
Silver	0.200	0.193	96.6	80.0-120	

L1820181-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820181-06 01/28/25 02:29 • (MS) R4170882-4 01/28/25 02:33 • (MSD) R4170882-5 01/28/25 02:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	U	0.945	0.967	94.5	96.7	1	75.0-125			2.37	20
Barium	1.00	0.139	1.12	1.15	98.1	101	1	75.0-125			2.14	20
Cadmium	1.00	U	0.970	0.984	97.0	98.4	1	75.0-125			1.44	20
Chromium	1.00	U	0.973	0.991	97.3	99.1	1	75.0-125			1.78	20
Lead	1.00	U	0.938	0.955	93.8	95.5	1	75.0-125			1.78	20
Selenium	1.00	0.00801	0.927	0.952	91.9	94.4	1	75.0-125			2.63	20
Silver	0.200	U	0.193	0.197	96.6	98.7	1	75.0-125			2.14	20

Method Blank (MB)

(MB) R4171439-3 01/28/25 13:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0113	0.0500
Acrolein	U		0.00254	0.0500
Acrylonitrile	U		0.000671	0.0100
Benzene	U		0.0000941	0.00100
Bromobenzene	U		0.000118	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tert-Butylbenzene	U		0.000127	0.00100
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
2-Chlorotoluene	U		0.000106	0.00100
4-Chlorotoluene	U		0.000114	0.00100
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500
1,2-Dibromoethane	U		0.000126	0.00100
Dibromomethane	U		0.000122	0.00100
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
cis-1,2-Dichloroethene	U		0.000126	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
1,1-Dichloropropene	U		0.000142	0.00100
1,3-Dichloropropane	U		0.000110	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
2,2-Dichloropropane	U		0.000161	0.00100
Di-isopropyl ether	U		0.000105	0.00100
Ethylbenzene	U		0.000137	0.00100
Hexachloro-1,3-butadiene	U		0.000337	0.00100

Method Blank (MB)

(MB) R4171439-3 01/28/25 13:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Isopropylbenzene	U		0.000105	0.00100
p-Isopropyltoluene	U		0.000120	0.00100
2-Butanone (MEK)	U		0.00119	0.0100
Methylene Chloride	U		0.000430	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.0000993	0.00100
Styrene	U		0.000118	0.00100
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,2,3-Trichlorobenzene	U		0.000230	0.00100
1,2,4-Trichlorobenzene	U		0.000481	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
1,2,3-Trichloropropane	U		0.000237	0.00250
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,2,3-Trimethylbenzene	U		0.000104	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*101*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*98.1*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4171439-1 01/28/25 12:03 • (LCSD) R4171439-2 01/28/25 12:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.0250	0.0294	0.0295	118	118	19.0-160	J	J	0.340	27
Acrolein	0.0250	0.0165	0.0165	66.0	66.0	10.0-160	J	J	0.000	26
Acrylonitrile	0.0250	0.0283	0.0279	113	112	55.0-149			1.42	20
Benzene	0.00500	0.00540	0.00543	108	109	70.0-123			0.554	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4171439-1 01/28/25 12:03 • (LCSD) R4171439-2 01/28/25 12:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromobenzene	0.00500	0.00478	0.00481	95.6	96.2	73.0-121			0.626	20
Bromodichloromethane	0.00500	0.00518	0.00506	104	101	75.0-120			2.34	20
Bromoform	0.00500	0.00427	0.00419	85.4	83.8	68.0-132			1.89	20
Bromomethane	0.00500	0.00640	0.00680	128	136	10.0-160			6.06	25
n-Butylbenzene	0.00500	0.00491	0.00506	98.2	101	73.0-125			3.01	20
sec-Butylbenzene	0.00500	0.00504	0.00510	101	102	75.0-125			1.18	20
tert-Butylbenzene	0.00500	0.00494	0.00497	98.8	99.4	76.0-124			0.605	20
Carbon tetrachloride	0.00500	0.00531	0.00519	106	104	68.0-126			2.29	20
Chlorobenzene	0.00500	0.00483	0.00479	96.6	95.8	80.0-121			0.832	20
Chlorodibromomethane	0.00500	0.00454	0.00463	90.8	92.6	77.0-125			1.96	20
Chloroethane	0.00500	0.00646	0.00624	129	125	47.0-150			3.46	20
Chloroform	0.00500	0.00526	0.00519	105	104	73.0-120			1.34	20
Chloromethane	0.00500	0.00679	0.00667	136	133	41.0-142			1.78	20
2-Chlorotoluene	0.00500	0.00496	0.00499	99.2	99.8	76.0-123			0.603	20
4-Chlorotoluene	0.00500	0.00486	0.00488	97.2	97.6	75.0-122			0.411	20
1,2-Dibromo-3-Chloropropane	0.00500	0.00343	0.00384	68.6	76.8	58.0-134	J	J	11.3	20
1,2-Dibromoethane	0.00500	0.00478	0.00484	95.6	96.8	80.0-122			1.25	20
Dibromomethane	0.00500	0.00541	0.00520	108	104	80.0-120			3.96	20
1,2-Dichlorobenzene	0.00500	0.00463	0.00485	92.6	97.0	79.0-121			4.64	20
1,3-Dichlorobenzene	0.00500	0.00474	0.00479	94.8	95.8	79.0-120			1.05	20
1,4-Dichlorobenzene	0.00500	0.00462	0.00466	92.4	93.2	79.0-120			0.862	20
Dichlorodifluoromethane	0.00500	0.00651	0.00635	130	127	51.0-149			2.49	20
1,1-Dichloroethane	0.00500	0.00552	0.00559	110	112	70.0-126			1.26	20
1,2-Dichloroethane	0.00500	0.00551	0.00542	110	108	70.0-128			1.65	20
1,1-Dichloroethene	0.00500	0.00558	0.00559	112	112	71.0-124			0.179	20
cis-1,2-Dichloroethene	0.00500	0.00528	0.00517	106	103	73.0-120			2.11	20
trans-1,2-Dichloroethene	0.00500	0.00521	0.00514	104	103	73.0-120			1.35	20
1,2-Dichloropropane	0.00500	0.00546	0.00554	109	111	77.0-125			1.45	20
1,1-Dichloropropene	0.00500	0.00582	0.00566	116	113	74.0-126			2.79	20
1,3-Dichloropropane	0.00500	0.00521	0.00521	104	104	80.0-120			0.000	20
cis-1,3-Dichloropropene	0.00500	0.00523	0.00520	105	104	80.0-123			0.575	20
trans-1,3-Dichloropropene	0.00500	0.00495	0.00486	99.0	97.2	78.0-124			1.83	20
2,2-Dichloropropane	0.00500	0.00546	0.00548	109	110	58.0-130			0.366	20
Di-isopropyl ether	0.00500	0.00571	0.00561	114	112	58.0-138			1.77	20
Ethylbenzene	0.00500	0.00471	0.00474	94.2	94.8	79.0-123			0.635	20
Hexachloro-1,3-butadiene	0.00500	0.00441	0.00437	88.2	87.4	54.0-138			0.911	20
Isopropylbenzene	0.00500	0.00478	0.00480	95.6	96.0	76.0-127			0.418	20
p-Isopropyltoluene	0.00500	0.00479	0.00495	95.8	99.0	76.0-125			3.29	20
2-Butanone (MEK)	0.0250	0.0377	0.0378	151	151	44.0-160			0.265	20
Methylene Chloride	0.00500	0.00546	0.00534	109	107	67.0-120			2.22	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4171439-1 01/28/25 12:03 • (LCSD) R4171439-2 01/28/25 12:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	0.0250	0.0258	0.0261	103	104	68.0-142			1.16	20
Methyl tert-butyl ether	0.00500	0.00551	0.00553	110	111	68.0-125			0.362	20
Naphthalene	0.00500	0.00301	0.00328	60.2	65.6	54.0-135	J	J	8.59	20
n-Propylbenzene	0.00500	0.00496	0.00508	99.2	102	77.0-124			2.39	20
Styrene	0.00500	0.00452	0.00444	90.4	88.8	73.0-130			1.79	20
1,1,1,2-Tetrachloroethane	0.00500	0.00474	0.00469	94.8	93.8	75.0-125			1.06	20
1,1,2,2-Tetrachloroethane	0.00500	0.00481	0.00494	96.2	98.8	65.0-130			2.67	20
1,1,2-Trichlorotrifluoroethane	0.00500	0.00574	0.00564	115	113	69.0-132			1.76	20
Tetrachloroethene	0.00500	0.00483	0.00499	96.6	99.8	72.0-132			3.26	20
Toluene	0.00500	0.00504	0.00494	101	98.8	79.0-120			2.00	20
1,2,3-Trichlorobenzene	0.00500	0.00284	0.00316	56.8	63.2	50.0-138			10.7	20
1,2,4-Trichlorobenzene	0.00500	0.00349	0.00355	69.8	71.0	57.0-137			1.70	20
1,1,1-Trichloroethane	0.00500	0.00537	0.00536	107	107	73.0-124			0.186	20
1,1,2-Trichloroethane	0.00500	0.00500	0.00502	100	100	80.0-120			0.399	20
Trichloroethene	0.00500	0.00548	0.00534	110	107	78.0-124			2.59	20
Trichlorofluoromethane	0.00500	0.00608	0.00594	122	119	59.0-147			2.33	20
1,2,3-Trichloropropane	0.00500	0.00494	0.00484	98.8	96.8	73.0-130			2.04	20
1,2,4-Trimethylbenzene	0.00500	0.00478	0.00488	95.6	97.6	76.0-121			2.07	20
1,2,3-Trimethylbenzene	0.00500	0.00465	0.00478	93.0	95.6	77.0-120			2.76	20
1,3,5-Trimethylbenzene	0.00500	0.00485	0.00487	97.0	97.4	76.0-122			0.412	20
Vinyl chloride	0.00500	0.00589	0.00583	118	117	67.0-131			1.02	20
Xylenes, Total	0.0150	0.0144	0.0143	96.0	95.3	79.0-123			0.697	20
(S) Toluene-d8				*99.1*	*98.6*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*99.1*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*95.9*	*95.1*	*70.0-130*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4171443-1 01/29/25 15:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
2,4-D	U		0.000671	0.00200
Dalapon	U		0.000734	0.00200
2,4-DB	U		0.000686	0.00200
Dicamba	U		0.000395	0.00200
Dichloroprop	U		0.000954	0.00200
Dinoseb	U		0.000455	0.00200
MCPA	U		0.0858	0.100
MCPP	U		0.0743	0.100
2,4,5-T	U		0.000858	0.00200
2,4,5-TP (Silvex)	U		0.000505	0.00200
(S) 2,4-Dichlorophenyl Acetic Acid	*85.6*			*14.0-158*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4171443-2 01/29/25 16:09 • (LCSD) R4171443-3 01/29/25 16:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4-D	0.00250	0.00705	0.00288	282	115	50.0-120	E J4	J3	84.0	20
Dalapon	0.00250	0.00198	0.00225	79.2	90.0	32.0-120	J		12.8	20
2,4-DB	0.00250	0.00207	0.00223	82.8	89.2	53.0-140			7.44	20
Dicamba	0.00250	0.00236	0.00237	94.4	94.8	51.0-120			0.423	20
Dichloroprop	0.00250	0.00234	0.00224	93.6	89.6	55.0-127			4.37	20
Dinoseb	0.00250	0.00157	0.00183	62.8	73.2	36.0-134	J	J	15.3	20
MCPA	0.250	0.318	0.239	127	95.6	10.0-160			28.4	40
MCPP	0.250	0.246	0.210	98.4	84.0	10.0-160			15.8	23
2,4,5-T	0.00250	0.00231	0.00227	92.4	90.8	54.0-120			1.75	20
2,4,5-TP (Silvex)	0.00250	0.00235	0.00230	94.0	92.0	50.0-125			2.15	20
(S) 2,4-Dichlorophenyl Acetic Acid				*83.8*	*82.2*	*14.0-158*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4171156-1 01/27/25 12:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aldrin	U		0.0000249	0.0000500
Alpha BHC	U		0.0000277	0.0000500
Beta BHC	U		0.0000326	0.0000500
Delta BHC	U		0.0000403	0.0000500
Gamma BHC	U		0.0000267	0.0000500
Chlordane	U		0.000700	0.00500
4,4-DDD	U		0.0000297	0.0000500
4,4-DDE	U		0.0000276	0.0000500
4,4-DDT	U		0.0000211	0.0000500
Dieldrin	U		0.0000298	0.0000500
Endosulfan I	U		0.0000306	0.0000500
Endosulfan II	U		0.0000311	0.0000500
Endosulfan sulfate	U		0.0000306	0.0000500
Endrin	U		0.0000329	0.0000500
Endrin aldehyde	U		0.0000358	0.0000500
Endrin ketone	U		0.0000322	0.0000500
Hexachlorobenzene	U		0.0000425	0.0000500
Heptachlor	U		0.0000290	0.0000500
Heptachlor epoxide	U		0.0000307	0.0000500
Methoxychlor	U		0.0000400	0.0000500
Toxaphene	U		0.000400	0.000500
(S) Decachlorobiphenyl	*56.5*			*10.0-128*
(S) Tetrachloro-m-xylene	*74.7*			*10.0-127*

Laboratory Control Sample (LCS)

(LCS) R4171156-2 01/27/25 12:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aldrin	0.00100	0.00114	114	22.0-124	
Alpha BHC	0.00100	0.00121	121	54.0-130	
Beta BHC	0.00100	0.00114	114	53.0-136	
Delta BHC	0.00100	0.00109	109	54.0-133	
Gamma BHC	0.00100	0.00121	121	55.0-129	
4,4-DDD	0.00100	0.00121	121	56.0-140	
4,4-DDE	0.00100	0.00103	103	52.0-128	
4,4-DDT	0.00100	0.00116	116	50.0-141	
Dieldrin	0.00100	0.00112	112	59.0-133	
Endosulfan I	0.00100	0.00125	125	57.0-131	

Laboratory Control Sample (LCS)

(LCS) R4171156-2 01/27/25 12:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Endosulfan II	0.00100	0.00116	116	58.0-133	
Endosulfan sulfate	0.00100	0.00119	119	58.0-133	
Endrin	0.00100	0.00117	117	57.0-134	
Endrin aldehyde	0.00100	0.00107	107	53.0-129	
Endrin ketone	0.00100	0.00123	123	60.0-145	
Hexachlorobenzene	0.00100	0.00109	109	30.0-114	
Heptachlor	0.00100	0.00119	119	27.0-132	
Heptachlor epoxide	0.00100	0.00114	114	57.0-130	
Methoxychlor	0.00100	0.00122	122	54.0-155	
(S) Decachlorobiphenyl			*55.8*	*10.0-128*	
(S) Tetrachloro-m-xylene			*99.9*	*10.0-127*	

L1820019-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820019-04 01/27/25 17:52 • (MS) R4171156-3 01/27/25 18:01 • (MSD) R4171156-4 01/27/25 18:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.000854	U	0.000828	0.000804	97.0	91.0	1	10.0-141			2.94	40
Alpha BHC	0.000854	U	0.000945	0.000990	111	112	1	10.0-145			4.65	40
Beta BHC	0.000854	U	0.000897	0.000943	105	107	1	14.0-146			5.00	35
Delta BHC	0.000854	U	0.000843	0.000870	98.7	98.4	1	17.0-143			3.15	38
Gamma BHC	0.000854	U	0.000948	0.000997	111	113	1	14.0-141			5.04	40
4,4-DDD	0.000854	U	0.000944	0.000941	111	106	1	10.0-160			0.318	38
4,4-DDE	0.000854	U	0.000752	0.000732	88.1	82.8	1	10.0-159			2.70	35
4,4-DDT	0.000854	U	0.000871	0.000831	102	94.0	1	10.0-160			4.70	38
Dieldrin	0.000854	U	0.000889	0.000838	104	94.8	1	10.0-158			5.91	38
Endosulfan I	0.000854	U	0.000978	0.000976	115	110	1	10.0-153			0.205	36
Endosulfan II	0.000854	U	0.000967	0.000982	113	111	1	10.0-159			1.54	39
Endosulfan sulfate	0.000854	U	0.00101	0.000892	118	101	1	23.0-147			12.4	35
Endrin	0.000854	U	0.000883	0.000886	103	100	1	10.0-160			0.339	39
Endrin aldehyde	0.000854	U	0.000876	0.000754	103	85.3	1	10.0-148			15.0	38
Endrin ketone	0.000854	U	0.00102	0.000979	119	111	1	10.0-160			4.10	40
Hexachlorobenzene	0.000854	U	0.000819	0.000839	95.9	94.9	1	10.0-130			2.41	40
Heptachlor	0.000854	U	0.000897	0.000884	105	100	1	16.0-136			1.46	40
Heptachlor epoxide	0.000854	U	0.000918	0.000870	107	98.4	1	10.0-160			5.37	36
Methoxychlor	0.000854	U	0.000934	0.000898	109	102	1	10.0-160			3.93	34
(S) Decachlorobiphenyl					*39.2*	*39.5*		*10.0-128*				
(S) Tetrachloro-m-xylene					*83.6*	*79.1*		*10.0-127*				

GLOSSARY OF TERMS

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
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Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1 6]	KY90010
Kentucky [2]	16
Louisiana	AI30792
Louisiana	LA018
Maine	TN00003
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05
Nevada	TN000032021-1
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico [1]	TN00003
New York	11742
North Carolina	Env375
North Carolina [1]	DW21704
North Carolina [3]	41
North Dakota	R-140
Ohio–VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004002
South Dakota	n/a
Tennessee [1 4]	2006
Texas	T104704245-20-18
Texas [5]	LAB0152
Utah	TN000032021-11
Vermont	VT2006
Virginia	110033
Washington	C847
West Virginia	233
Wisconsin	998093910
Wyoming	A2LA
A2LA – ISO 17025	1461.01
A2LA – ISO 17025 [5]	1461.02
Canada	1461.01
EPA–Crypto	TN00003
AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address: **Baseline Engineering** 112 N Rubey Dr Unit 210 Golden, CO 80403	Billing Information: **Tiffany Love** **PO Box 312** **Broomfield, CO 80403**
Report to: **Vincent Barlock**	Email To: **vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com**
Project Description: **Welby Gardens, Arvada, Colorado**	City/State Collected:

Pres Chk

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project # **45038-002**

Lab Project #

Collected by (print): Vincent Barlock/Terry McGowan

Site/Facility ID # Welby Gardens

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed ~~01/17/25~~ As soon as possible

Immediately Packed on Ice N ____ Y x

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1820110
B177

Acctnum: **BASENGGCO**
Template: **T266205**
Prelogin: **P1124047**
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Sulfate and Nitrate - 1-125 HDPE bottle	Pesticides - 8081 100 ml amber - 2 bottles	Herbicies - 8151 -1 liter amber bottle	RCRA 8 Metals - 1-250 ml HDPE 1)	VOCs - 8260 - 3-40 ml abmber bottles	Remarks	Sample # (lab only)
Pres Chk										<2			
MW-02	Grab	GW		01-24-2025	12:05	8	X	X	X	X 1	X	1) need to filter	-01
Lab blank supplied with cooler	Grab	GW		01-24-2025	?	1					X		-02

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks: 1) HNO3 removed from bottles and triple rinsed. Needs to be lab filtered and preservative added. 2) We have to report as soon as possible. 5-day should work. 1,4-Dioxane included on second COC for MW-02.

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking #

Relinquished by : (Signature) Terry O. McGowan	Date: 1-24-25	Time: 1430	Received by: (Signature)
Relinquished by : (Signature)	Date: 1-24-25	Time: 18:00	Received by: (Signature) Fedex
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Christoph L. Gallin

Trip Blank Received: [✓ Yes] / No
[✓ HCL] / MeoH
TBR
1

Temp: °C Bottles Received: 8

Date: 0.6+0.4=1.0 1/25/25 Time: 0930

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: X Y __N

If preservation required by Login: Date/Time

Hold:

Condition: NCF / [✓ OK]

ANALYTICAL REPORT

January 30, 2025

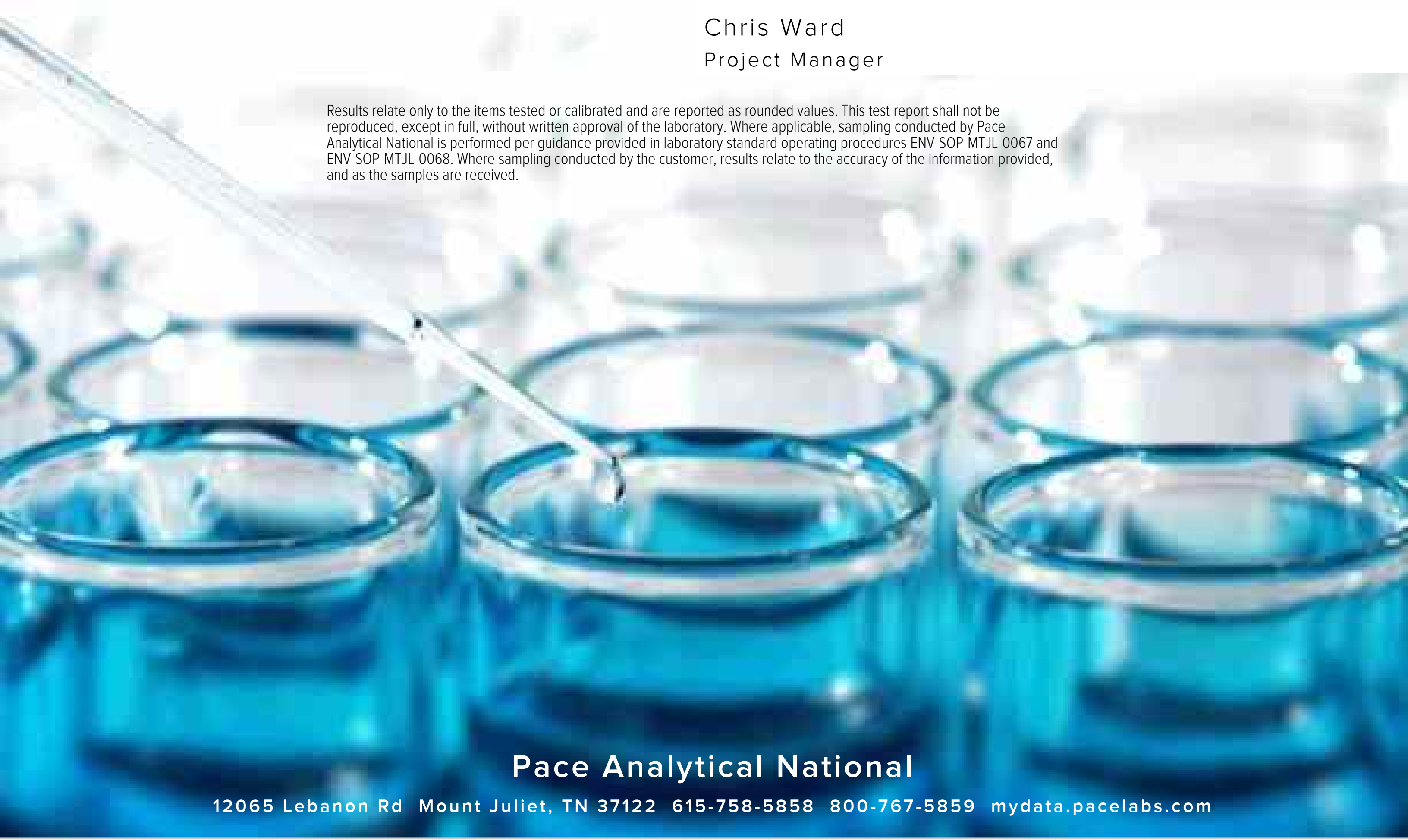
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Baseline Engineering

Sample Delivery Group:	L1820112
Samples Received:	01/25/2025
Project Number:	45038.002
Description:	Welby Gardens
Report To:	Vincent Barlock 112 N Rubey Dr. , Unit 210 Golden, CO 80403

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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Cn: Case Narrative 4

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- MW-03 L1820112-02 6
- MW-01 L1820112-03 7
- MW-02 L1820112-04 8

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- Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM 9

Gl: Glossary of Terms 10

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SAMPLE SUMMARY

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9 Sc

MW-04 L1820112-01 GW

Collected by	Collected date/time	Received date/time
Terry O. McGowan	01/23/25 16:20	01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2441418	1	01/28/25 19:21	01/29/25 03:41	LS	Mt. Juliet, TN

MW-03 L1820112-02 GW

Collected by	Collected date/time	Received date/time
Terry O. McGowan	01/23/25 16:00	01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2441418	1	01/28/25 19:21	01/29/25 04:00	LS	Mt. Juliet, TN

MW-01 L1820112-03 GW

Collected by	Collected date/time	Received date/time
Terry O. McGowan	01/23/25 15:35	01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2441418	1	01/28/25 19:21	01/29/25 04:19	LS	Mt. Juliet, TN

MW-02 L1820112-04 GW

Collected by	Collected date/time	Received date/time
Terry O. McGowan	01/24/25 12:05	01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2441418	1	01/28/25 19:21	01/29/25 04:39	LS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward

Chris Ward
Project Manager

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.000300	0.000400	1	01/29/2025 03:41	WG2441418
(S) Nitrobenzene-d5	*53.7*			*10.0-120*		*01/29/2025 03:41*	WG2441418

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.000300	0.000400	1	01/29/2025 04:00	WG2441418
(S) Nitrobenzene-d5	*61.6*			*10.0-120*		*01/29/2025 04:00*	WG2441418

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.000300	0.000400	1	01/29/2025 04:19	WG2441418
(S) Nitrobenzene-d5	*56.8*			*10.0-120*		*01/29/2025 04:19*	WG2441418

SAMPLE RESULTS - 04

L1820112

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.000300	0.000400	1	01/29/2025 04:39	WG2441418
(S) Nitrobenzene-d5	*54.9*			*10.0-120*		*01/29/2025 04:39*	WG2441418

Method Blank (MB)

(MB) R4171475-2 01/29/25 00:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,4-Dioxane	U		0.000300	0.000400
(S) Nitrobenzene-d5	*67.4*			*10.0-120*

Laboratory Control Sample (LCS)

(LCS) R4171475-1 01/29/25 00:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,4-Dioxane	0.0500	0.0537	107	73.0-146	
(S) Nitrobenzene-d5			*52.1*	*10.0-120*	

L1820289-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820289-04 01/29/25 02:25 • (MS) R4171475-3 01/29/25 02:44 • (MSD) R4171475-4 01/29/25 03:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,4-Dioxane	0.0500	U	0.0543	0.0556	109	111	1	38.0-160			2.37	21
(S) Nitrobenzene-d5					*43.5*	*69.6*		*10.0-120*				

GLOSSARY OF TERMS

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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico[1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina[1]	DW21704
Georgia	NELAP	North Carolina[3]	41
Georgia[1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky[1,6]	KY90010	South Carolina	84004002
Kentucky[2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee[1,4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas[5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025[5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering
112 N Rubey Dr. , Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love | Accounts Payable
PO Box 312
Broomfield, CO 80403

Pres Chk

Chain of Custody Page ___ of ___

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MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1820112
B178

Acctnum: **BASENGGCO**
Template: **T267228**
Prelogin: **P1127354**
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

Report to:
Vincent Barlock 303-940-9966

Email To:
terry.mcgowan@baselinecorp.com;vincent.barl

Project Description: Welby Gardens
City/State Collected: Arvada Colorado
Please Circle: PT MT CT ET

Regulatory Program(DOD,RCRA,DW,etc): None
Client Project # 45038.002
Lab Project #

Collected by (print): Terry McGowan
Site/Facility ID #
P.O. #

Collected by (signature): Terry D. McGowan
Quote #

Rush? (Lab MUST Be Notified)
___ Same Day ☒ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Date Results Needed: As soon as possible

Immediately Packed on Ice N ___ Y ☒

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270DIOXANE 100ml Amb-NoPres	SV8270DIOXANE 4ozAmb-NoPres	Remarks	Sample # (lab only)
MW-04	Grab	GW	—	1-23-25	1620	2	X			-01
MW-03	"	GW	—	1-23-25	1600	2	X			-02
MW-01	"	GW	—	1-23-25	1535	2	X			-03
MW-02	Grab	GW	—	1-24-25	1205	2	X			-04
		~~GW~~				~~2~~	~~X~~	TM 1/24/25		
		~~SS~~ TM 1-24-25				~~2~~		~~X~~		
		~~SS~~				~~2~~		~~X~~		
		~~SS~~				~~2~~		~~X~~		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other ________

Remarks: Soil not collected, MW-05 Dry

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
___ UPS ___ FedEx ___ Courier ________

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature) Terry D. McGowan
Date: 1-24-25
Time: 1430
Received by: (Signature)

Trip Blank Received: Yes / [✓ No]
HCL / MeoH
TBR

Relinquished by : (Signature)
Date: 1-24-25
Time: 15:00
Received by: (Signature) Fedex

Temp: 0.6+0.4=1.0 °C
Bottles Received: 8

If preservation required by Login: Date/Time

Relinquished by : (Signature)
Date:
Time:
Received for lab by: (Signature) Christoph L. Gallin

Date: 1/25/25
Time: 0930

Hold:

Condition: NCF / [✓ OK]

ANALYTICAL REPORT

February 12, 2025

1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 Sc

Baseline Engineering

Sample Delivery Group:	L1822859
Samples Received:	02/04/2025
Project Number:	45058.002A
Description:	Welby Garden: PFAS Sampling

Report To:

Vincent Barlock
112 N Rubey Dr. , Unit 210
Golden, CO 80403

Entire Report Reviewed By: Shane Gambill

Shane Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Gl: Glossary of Terms 5

Al: Accreditations & Locations 6

Sc: Sample Chain of Custody 7

SAMPLE SUMMARY

1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 Sc

MW-04 L1822859-01 GW

Collected by	Collected date/time	Received date/time
VEB/TOM	02/03/25 14:20	02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

REEL RB L1822859-02 GW

Collected by	Collected date/time	Received date/time
VEB/TOM	02/03/25 13:05	02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

TWINE RB L1822859-03 GW

Collected by	Collected date/time	Received date/time
VEB/TOM	02/03/25 13:25	02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

BAILER RB L1822859-04 GW

Collected by	Collected date/time	Received date/time
VEB/TOM	02/03/25 13:35	02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

MW-4 FB L1822859-05 GW

Collected by	Collected date/time	Received date/time
VEB/TOM	02/03/25 14:30	02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

TRIP BLANK L1822859-06 GW

Collected by	Collected date/time	Received date/time
VEB/TOM	02/03/25 00:00	02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

CASE NARRATIVE

1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Shane Gambill

Shane Gambill
Project Manager

Project Narrative

L1822859 -01, -02, -03, -04, -05, -06 contains subout data that is included after the chain of custody.

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

SDG	Sample Delivery Group.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

Pace Analytical National   12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1,6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1,4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering

112 N Rubey Dr., Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love | Accounts Payable
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock 303-940-9966

Email To:
terry.mcgowan@baselinecorp.com;vincent.barlock@baselinecorp.com

Project Description: WELBY GARDEN: PFAS SAMPLING

City/State Collected: ARVADA, CO.

Please Circle: PT [✓ MT] CT ET

Regulatory Program(DOD,RCRA,DW,etc):

Client Project # 45038.002a

Lab Project #

Collected by (print): VEB/TOM

Site/Facility ID #

P.O. #

Collected by (signature): TERRY McGOWAN
Terry O McGowan

Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed 02/11/25

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	SUBPFAS1633 PFAS(2)500ml(1)125ml	Remarks	Sample # (lab only)
MW-04	GRAB	GW	/	2/3/25	14:20	3	X		
REEL RB	GRAB	GW	/	2/3/25	13:05	3	X		
TWINE RB	GRAB	GW	/	2/3/25	13:25	3	X		
BAILER RB	GRAB	GW	/	2/3/25	13:35	3	X		
MW-4 FB	GRAB	GW	/	2/3/25	14:30	3	X		
~~MW-4 FB~~									

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1822859

Table #

Acctnum: BASENGGCO
Template: T267486
Prelogin: P1129635
PM: 824 - Chris Ward
PB: LM 1/31/25
Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
[✓ GW] - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks: GO to MN

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
___ UPS ___ FedEx ___ Courier ______

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: ___NP ___Y ___N
COC Signed/Accurate: ___Y ___N
Bottles arrive intact: ___Y ___N
Correct bottles used: ___Y ___N
Sufficient volume sent: ___Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Preservation Correct/Checked: ___Y ___N
RAD Screen <0.5 mR/hr: ___Y ___N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Terry O. McGowan	2-3-25	1535	
	2-3-25	18:00	FedEx
PACE	2-4-25	900	Received for lab by: (Signature)

PNDCO

temp 24

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Date: Time:

Hold:

Condition: NCF / OK

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

February 11, 2025

Client Services
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1822859 WG2445636
Pace Project No.: 10722836

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tong Lee
tong.lee@pacelabs.com
(612)473-6804
Project Manager

Enclosures

cc: Jimmy Huckaba, Pace Analytical National Center for Testing & Innovation

CERTIFICATIONS

Project:	L1822859 WG2445636
Pace Project No.:	10722836

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

Alabama Certification #:	40770
Alaska Contaminated Sites Certification #:	17-009
Alaska DW Certification #:	MN00064
Arizona Certification #:	AZ0014
Arkansas DW Certification #:	MN00064
Arkansas WW Certification #:	88-0680
California Certification #:	2929
Colorado Certification #:	MN00064
Connecticut Certification #:	PH-0256
DoD Certification via A2LA #:	2926.01
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #:	via MN 027-053-137
Florida Certification #:	E87605
Georgia Certification #:	959
GMP+ Certification #:	GMP050884
Hawaii Certification #:	MN00064
Idaho Certification #:	MN00064
Illinois Certification #:	200011
Indiana Certification #:	C-MN-01
Iowa Certification #:	368
ISO/IEC 17025 Certification via A2LA #:	2926.01
Kansas Certification #:	E-10167
Kentucky DW Certification #:	90062
Kentucky WW Certification #:	90062
Louisiana DEQ Certification #:	AI-03086
Louisiana DW Certification #:	MN00064
Maine Certification #:	MN00064
Maryland Certification #:	322
Michigan Certification #:	9909
Minnesota Certification #:	027-053-137
Minnesota Dept of Ag Approval:	via MN 027-053-137
Minnesota Petrofund Registration #:	1240
Mississippi Certification #:	MN00064
Missouri Certification #:	10100
Montana Certification #:	CERT0092
Nebraska Certification #:	NE-OS-18-06
Nevada Certification #:	MN00064
New Hampshire Certification #:	2081
New Jersey Certification #:	MN002
New York Certification #:	11647
North Carolina DW Certification #:	27700
North Carolina WW Certification #:	530
North Dakota Certification (A2LA) #:	R-036
North Dakota Certification (MN) #:	R-036
Ohio DW Certification #:	41244
Ohio VAP Certification (1700) #:	CL101
Oklahoma Certification #:	9507
Oregon Primary Certification #:	MN300001
Oregon Secondary Certification #:	MN200001
Pennsylvania Certification #:	68-00563
Puerto Rico Certification #:	MN00064
South Carolina Certification #:	74003001
Tennessee Certification #:	TN02818
Texas Certification #:	T104704192
Utah Certification #:	MN00064
Vermont Certification #:	VT-027053137
Virginia Certification #:	460163
Washington Certification #:	C486
West Virginia DEP Certification #:	382
West Virginia DW Certification #:	9952 C
Wisconsin Certification #:	999407970
Wyoming UST Certification via A2LA #:	2926.01
USDA Permit #:	P330-19-00208

SAMPLE SUMMARY

Project: L1822859 WG2445636
Pace Project No.: 10722836

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10722836001	**MW-04**	Water	02/03/25 14:20	02/04/25 09:00
10722836002	**REEL RB**	Water	02/03/25 13:05	02/04/25 09:00
10722836003	**TWINE RB**	Water	02/03/25 13:25	02/04/25 09:00
10722836004	**BAILER RB**	Water	02/03/25 13:35	02/04/25 09:00
10722836005	**MW-4 FB**	Water	02/03/25 14:30	02/04/25 09:00
10722836006	**TRIP BLANK**	Water	02/03/25 00:01	02/04/25 09:00

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without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: L1822859 WG2445636
Pace Project No.: 10722836

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10722836001	**MW-04**	EPA 1633	MC5	65	PASI-M
10722836002	**REEL RB**	EPA 1633	MC5	65	PASI-M
10722836003	**TWINE RB**	EPA 1633	MC5	65	PASI-M
10722836004	**BAILER RB**	EPA 1633	MC5	65	PASI-M
10722836005	**MW-4 FB**	EPA 1633	MC5	65	PASI-M
10722836006	**TRIP BLANK**	EPA 1633	MC5	65	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

ANALYTICAL RESULTS

Site specific GW Standard Proposed Reporting Level by CDPHE use the sum of PFOA + PFOS = 70 ppt (ng/L)

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: MW-04 **Lab ID: 10722836001** Collected: 02/03/25 14:20 Received: 02/04/25 09:00 Matrix: Water

EPA 1633F Water

Analytical Method: EPA 1633 Preparation Method: EPA 1633
Initial Volume/Weight: 522.2 mL Final Volume/Weight: 4 mL
Pace Analytical Services - Minneapolis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
11Cl-PF3OUdS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	763051-92-9	
3:3 FTCA	ND	ng/L	7.7	1	02/06/25 14:19	02/07/25 14:01	356-02-5	
4:2 FTS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	757124-72-4	
5:3 FTCA	ND	ng/L	38.3	1	02/06/25 14:19	02/07/25 14:01	914637-49-3	
6:2 FTS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	27619-97-2	
7:3 FTCA	ND	ng/L	38.3	1	02/06/25 14:19	02/07/25 14:01	812-70-4	
8:2 FTS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	756426-58-1	
ADONA	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	919005-14-4	
HFPO-DA	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	13252-13-6	
NEtFOSAA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	2991-50-6	
NEtFOSA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	4151-50-2	
NEtFOSE	ND	ng/L	15.3	1	02/06/25 14:19	02/07/25 14:01	1691-99-2	
NFDHA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	151772-58-6	
NMeFOSAA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	2355-31-9	
NMeFOSA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	31506-32-8	
NMeFOSE	ND	ng/L	15.3	1	02/06/25 14:19	02/07/25 14:01	24448-09-7	
PFBS	**3.9**	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	375-73-5	
PFDA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	335-76-2	
PFHxA	**2.1**	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	307-24-4	
PFBA	**13.0**	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	375-22-4	
PFDS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	335-77-3	
PFDoS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	79780-39-5	
PFEESA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	113507-82-7	
PFHpS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	375-92-8	
PFMBA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	863090-89-5	
PFMPA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	377-73-1	
PFNS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	68259-12-1	
PFOSA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	754-91-6	
PFPeA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	2706-90-3	
PFPeS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	2706-91-4	
PFDoA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	307-55-1	
PFHpA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	375-85-9	
PFHxS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	355-46-4	
PFNA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	375-95-1	
PFOS	**3.6**	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	1763-23-1	
PFOA	**4.0**	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	335-67-1	
PFTeDA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	376-06-7	
PFTrDA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	72629-94-8	
PFUnA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	2058-94-8	
Surrogates								
13C2-PFDoA (S)	88	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
13C3HFPO-DA (S)	107	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C3-PFBS (S)	73	%.	40-135	1	02/06/25 14:19	02/07/25 14:01		
13C3-PFHxS (S)	88	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		

Sum = 7.6

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: MW-04 **Lab ID: 10722836001** Collected: 02/03/25 14:20 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 522.2 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
Surrogates								
13C4-PFBA (S)	85	%.	5-130	1	02/06/25 14:19	02/07/25 14:01		
13C4-PFHpA (S)	103	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C5-PFHxA (S)	87	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C5-PFPeA (S)	100	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C6-PFDA (S)	81	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C8-PFOA (S)	86	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C8-PFOS (S)	87	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C8-PFOSA (S)	84	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C9-PFNA (S)	88	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
d3-MeFOSAA (S)	67	%.	40-170	1	02/06/25 14:19	02/07/25 14:01		
d3-NMeFOSA (S)	82	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
d5-EtFOSAA (S)	70	%.	25-135	1	02/06/25 14:19	02/07/25 14:01		
d5-NEtFOSA (S)	81	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
d7-NMeFOSE (S)	94	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
d9-NEtFOSE (S)	92	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
13C2-PFTA (S)	81	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
13C7-PFUdA (S)	86	%.	30-130	1	02/06/25 14:19	02/07/25 14:01		
13C24:2FTS (S)	70	%.	40-200	1	02/06/25 14:19	02/07/25 14:01		
13C26:2FTS (S)	84	%.	40-200	1	02/06/25 14:19	02/07/25 14:01		
13C28:2FTS (S)	88	%.	40-300	1	02/06/25 14:19	02/07/25 14:01		
13C3-PFPrA (S)	9	%.	5-130	1	02/06/25 14:19	02/07/25 14:01		

Sample: REEL RB **Lab ID: 10722836002** Collected: 02/03/25 13:05 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 508.1 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	763051-92-9	
3:3 FTCA	ND	ng/L	7.9	1	02/06/25 14:19	02/07/25 13:34	356-02-5	
4:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	757124-72-4	
5:3 FTCA	ND	ng/L	39.4	1	02/06/25 14:19	02/07/25 13:34	914637-49-3	
6:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	27619-97-2	
7:3 FTCA	ND	ng/L	39.4	1	02/06/25 14:19	02/07/25 13:34	812-70-4	
8:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	756426-58-1	
ADONA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	919005-14-4	
HFPO-DA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	4151-50-2	
NEtFOSE	ND	ng/L	15.7	1	02/06/25 14:19	02/07/25 13:34	1691-99-2	

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: REEL RB **Lab ID: 10722836002** Collected: 02/03/25 13:05 Received: 02/04/25 09:00 Matrix: Water

EPA 1633F Water

Analytical Method: EPA 1633 Preparation Method: EPA 1633
Initial Volume/Weight: 508.1 mL Final Volume/Weight: 4 mL
Pace Analytical Services - Minneapolis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NFDHA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	31506-32-8	
NMeFOSE	ND	ng/L	15.7	1	02/06/25 14:19	02/07/25 13:34	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	307-24-4	
PFBA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	79780-39-5	
PFEESA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	375-92-8	
PFMBA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	863090-89-5	
PFMPA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	754-91-6	
PFPeA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	2058-94-8	
Surrogates								
13C2-PFDoA (S)	94	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
13C3HFPO-DA (S)	100	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C3-PFBS (S)	100	%.	40-135	1	02/06/25 14:19	02/07/25 13:34		
13C3-PFHxS (S)	98	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C4-PFBA (S)	96	%.	5-130	1	02/06/25 14:19	02/07/25 13:34		
13C4-PFHpA (S)	93	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C5-PFHxA (S)	97	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C5-PFPeA (S)	98	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C6-PFDA (S)	101	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C8-PFOA (S)	87	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C8-PFOS (S)	94	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C8-PFOSA (S)	85	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C9-PFNA (S)	95	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
d3-MeFOSAA (S)	72	%.	40-170	1	02/06/25 14:19	02/07/25 13:34		
d3-NMeFOSA (S)	65	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
d5-EtFOSAA (S)	84	%.	25-135	1	02/06/25 14:19	02/07/25 13:34		
d5-NEtFOSA (S)	60	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		

ANALYTICAL RESULTS

Project:	L1822859 WG2445636
Pace Project No.:	10722836

Sample: REEL RB **Lab ID: 10722836002** Collected: 02/03/25 13:05 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 508.1 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
Surrogates								
d7-NMeFOSE (S)	73	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
d9-NEtFOSE (S)	70	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
13C2-PFTA (S)	79	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
13C7-PFUdA (S)	102	%.	30-130	1	02/06/25 14:19	02/07/25 13:34		
13C24:2FTS (S)	118	%.	40-200	1	02/06/25 14:19	02/07/25 13:34		
13C26:2FTS (S)	119	%.	40-200	1	02/06/25 14:19	02/07/25 13:34		
13C28:2FTS (S)	133	%.	40-300	1	02/06/25 14:19	02/07/25 13:34		
13C3-PFPrA (S)	32	%.	5-130	1	02/06/25 14:19	02/07/25 13:34		

Sample: TWINE RB **Lab ID: 10722836003** Collected: 02/03/25 13:25 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 514.4 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	763051-92-9	
3:3 FTCA	ND	ng/L	7.8	1	02/06/25 14:19	02/07/25 13:43	356-02-5	
4:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	757124-72-4	
5:3 FTCA	ND	ng/L	38.9	1	02/06/25 14:19	02/07/25 13:43	914637-49-3	
6:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	27619-97-2	
7:3 FTCA	ND	ng/L	38.9	1	02/06/25 14:19	02/07/25 13:43	812-70-4	
8:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	756426-58-1	
ADONA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	919005-14-4	
HFPO-DA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	4151-50-2	
NEtFOSE	ND	ng/L	15.6	1	02/06/25 14:19	02/07/25 13:43	1691-99-2	
NFDHA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	31506-32-8	
NMeFOSE	ND	ng/L	15.6	1	02/06/25 14:19	02/07/25 13:43	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	307-24-4	
PFBA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	79780-39-5	
PFEESA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	375-92-8	
PFMBA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	863090-89-5	

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: TWINE RB **Lab ID: 10722836003** Collected: 02/03/25 13:25 Received: 02/04/25 09:00 Matrix: Water

EPA 1633F Water

Analytical Method: EPA 1633 Preparation Method: EPA 1633
Initial Volume/Weight: 514.4 mL Final Volume/Weight: 4 mL
Pace Analytical Services - Minneapolis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
PFMPA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	754-91-6	
PFPeA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	2058-94-8	
Surrogates								
13C2-PFDoA (S)	102	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
13C3HFPO-DA (S)	105	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C3-PFBS (S)	112	%.	40-135	1	02/06/25 14:19	02/07/25 13:43		
13C3-PFHxS (S)	110	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C4-PFBA (S)	108	%.	5-130	1	02/06/25 14:19	02/07/25 13:43		
13C4-PFHpA (S)	100	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C5-PFHxA (S)	112	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C5-PFPeA (S)	110	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C6-PFDA (S)	105	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C8-PFOA (S)	110	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C8-PFOS (S)	106	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C8-PFOSA (S)	118	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C9-PFNA (S)	109	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
d3-MeFOSAA (S)	117	%.	40-170	1	02/06/25 14:19	02/07/25 13:43		
d3-NMeFOSA (S)	101	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
d5-EtFOSAA (S)	122	%.	25-135	1	02/06/25 14:19	02/07/25 13:43		
d5-NEtFOSA (S)	98	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
d7-NMeFOSE (S)	122	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
d9-NEtFOSE (S)	111	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
13C2-PFTA (S)	105	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
13C7-PFUdA (S)	109	%.	30-130	1	02/06/25 14:19	02/07/25 13:43		
13C24:2FTS (S)	279	%.	40-200	1	02/06/25 14:19	02/07/25 13:43		S3
13C26:2FTS (S)	217	%.	40-200	1	02/06/25 14:19	02/07/25 13:43		S3
13C28:2FTS (S)	222	%.	40-300	1	02/06/25 14:19	02/07/25 13:43		
13C3-PFPrA (S)	56	%.	5-130	1	02/06/25 14:19	02/07/25 13:43		

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: BAILER RB **Lab ID: 10722836004** Collected: 02/03/25 13:35 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 506.9 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	763051-92-9	
3:3 FTCA	ND	ng/L	7.9	1	02/06/25 14:19	02/07/25 13:52	356-02-5	
4:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	757124-72-4	
5:3 FTCA	ND	ng/L	39.5	1	02/06/25 14:19	02/07/25 13:52	914637-49-3	
6:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	27619-97-2	
7:3 FTCA	ND	ng/L	39.5	1	02/06/25 14:19	02/07/25 13:52	812-70-4	
8:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	756426-58-1	
ADONA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	919005-14-4	
HFPO-DA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	4151-50-2	
NEtFOSE	ND	ng/L	15.8	1	02/06/25 14:19	02/07/25 13:52	1691-99-2	
NFDHA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	31506-32-8	
NMeFOSE	ND	ng/L	15.8	1	02/06/25 14:19	02/07/25 13:52	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	307-24-4	
PFBA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	79780-39-5	
PFEESA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	375-92-8	
PFMBA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	863090-89-5	
PFMPA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	754-91-6	
PFPeA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	2058-94-8	
Surrogates								
13C2-PFDoA (S)	108	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
13C3HFPO-DA (S)	109	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C3-PFBS (S)	107	%.	40-135	1	02/06/25 14:19	02/07/25 13:52		
13C3-PFHxS (S)	109	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: BAILER RB **Lab ID: 10722836004** Collected: 02/03/25 13:35 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 506.9 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
Surrogates								
13C4-PFBA (S)	108	%.	5-130	1	02/06/25 14:19	02/07/25 13:52		
13C4-PFHpA (S)	112	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C5-PFHxA (S)	110	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C5-PFPeA (S)	111	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C6-PFDA (S)	107	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C8-PFOA (S)	106	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C8-PFOS (S)	107	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C8-PFOSA (S)	115	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C9-PFNA (S)	103	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
d3-MeFOSAA (S)	84	%.	40-170	1	02/06/25 14:19	02/07/25 13:52		
d3-NMeFOSA (S)	92	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
d5-EtFOSAA (S)	96	%.	25-135	1	02/06/25 14:19	02/07/25 13:52		
d5-NEtFOSA (S)	86	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
d7-NMeFOSE (S)	106	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
d9-NEtFOSE (S)	98	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
13C2-PFTA (S)	112	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
13C7-PFUdA (S)	114	%.	30-130	1	02/06/25 14:19	02/07/25 13:52		
13C24:2FTS (S)	116	%.	40-200	1	02/06/25 14:19	02/07/25 13:52		
13C26:2FTS (S)	135	%.	40-200	1	02/06/25 14:19	02/07/25 13:52		
13C28:2FTS (S)	156	%.	40-300	1	02/06/25 14:19	02/07/25 13:52		
13C3-PFPrA (S)	86	%.	5-130	1	02/06/25 14:19	02/07/25 13:52		

Sample: MW-4 FB **Lab ID: 10722836005** Collected: 02/03/25 14:30 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 513.2 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	763051-92-9	
3:3 FTCA	ND	ng/L	7.8	1	02/06/25 14:19	02/07/25 14:10	356-02-5	
4:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	757124-72-4	
5:3 FTCA	ND	ng/L	39.0	1	02/06/25 14:19	02/07/25 14:10	914637-49-3	
6:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	27619-97-2	
7:3 FTCA	ND	ng/L	39.0	1	02/06/25 14:19	02/07/25 14:10	812-70-4	
8:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	756426-58-1	
ADONA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	919005-14-4	
HFPO-DA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	4151-50-2	
NEtFOSE	ND	ng/L	15.6	1	02/06/25 14:19	02/07/25 14:10	1691-99-2	

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: MW-4 FB **Lab ID: 10722836005** Collected: 02/03/25 14:30 Received: 02/04/25 09:00 Matrix: Water

EPA 1633F Water

Analytical Method: EPA 1633 Preparation Method: EPA 1633
Initial Volume/Weight: 513.2 mL Final Volume/Weight: 4 mL
Pace Analytical Services - Minneapolis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NFDHA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	31506-32-8	
NMeFOSE	ND	ng/L	15.6	1	02/06/25 14:19	02/07/25 14:10	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	307-24-4	
PFBA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	79780-39-5	
PFEESA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	375-92-8	
PFMBA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	863090-89-5	
PFMPA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	754-91-6	
PFPeA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	2058-94-8	
Surrogates								
13C2-PFDoA (S)	91	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
13C3HFPO-DA (S)	102	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C3-PFBS (S)	106	%.	40-135	1	02/06/25 14:19	02/07/25 14:10		
13C3-PFHxS (S)	102	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C4-PFBA (S)	105	%.	5-130	1	02/06/25 14:19	02/07/25 14:10		
13C4-PFHpA (S)	101	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C5-PFHxA (S)	105	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C5-PFPeA (S)	106	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C6-PFDA (S)	99	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C8-PFOA (S)	98	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C8-PFOS (S)	103	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C8-PFOSA (S)	102	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C9-PFNA (S)	104	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
d3-MeFOSAA (S)	98	%.	40-170	1	02/06/25 14:19	02/07/25 14:10		
d3-NMeFOSA (S)	86	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
d5-EtFOSAA (S)	91	%.	25-135	1	02/06/25 14:19	02/07/25 14:10		
d5-NEtFOSA (S)	88	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: MW-4 FB **Lab ID: 10722836005** Collected: 02/03/25 14:30 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 513.2 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
Surrogates								
d7-NMeFOSE (S)	101	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
d9-NEtFOSE (S)	107	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
13C2-PFTA (S)	92	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
13C7-PFUdA (S)	105	%.	30-130	1	02/06/25 14:19	02/07/25 14:10		
13C24:2FTS (S)	113	%.	40-200	1	02/06/25 14:19	02/07/25 14:10		
13C26:2FTS (S)	100	%.	40-200	1	02/06/25 14:19	02/07/25 14:10		
13C28:2FTS (S)	103	%.	40-300	1	02/06/25 14:19	02/07/25 14:10		
13C3-PFPrA (S)	89	%.	5-130	1	02/06/25 14:19	02/07/25 14:10		

Sample: TRIP BLANK **Lab ID: 10722836006** Collected: 02/03/25 00:01 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 495.4 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	763051-92-9	
3:3 FTCA	ND	ng/L	8.1	1	02/06/25 14:19	02/07/25 13:24	356-02-5	
4:2 FTS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	757124-72-4	
5:3 FTCA	ND	ng/L	40.4	1	02/06/25 14:19	02/07/25 13:24	914637-49-3	
6:2 FTS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	27619-97-2	
7:3 FTCA	ND	ng/L	40.4	1	02/06/25 14:19	02/07/25 13:24	812-70-4	
8:2 FTS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	756426-58-1	
ADONA	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	919005-14-4	
HFPO-DA	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	4151-50-2	
NEtFOSE	ND	ng/L	16.1	1	02/06/25 14:19	02/07/25 13:24	1691-99-2	
NFDHA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	31506-32-8	
NMeFOSE	ND	ng/L	16.1	1	02/06/25 14:19	02/07/25 13:24	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	307-24-4	
PFBA	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	79780-39-5	
PFEESA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	375-92-8	
PFMBA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	863090-89-5	

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: TRIP BLANK **Lab ID: 10722836006** Collected: 02/03/25 00:01 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 495.4 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
PFMPA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	754-91-6	
PFPeA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	2058-94-8	
Surrogates								
13C2-PFDoA (S)	68	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
13C3HFPO-DA (S)	77	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C3-PFBS (S)	82	%.	40-135	1	02/06/25 14:19	02/07/25 13:24		
13C3-PFHxS (S)	77	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C4-PFBA (S)	77	%.	5-130	1	02/06/25 14:19	02/07/25 13:24		
13C4-PFHpA (S)	74	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C5-PFHxA (S)	76	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C5-PFPeA (S)	78	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C6-PFDA (S)	75	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C8-PFOA (S)	80	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C8-PFOS (S)	76	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C8-PFOSA (S)	63	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C9-PFNA (S)	77	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
d3-MeFOSAA (S)	68	%.	40-170	1	02/06/25 14:19	02/07/25 13:24		
d3-NMeFOSA (S)	58	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
d5-EtFOSAA (S)	65	%.	25-135	1	02/06/25 14:19	02/07/25 13:24		
d5-NEtFOSA (S)	56	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
d7-NMeFOSE (S)	65	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
d9-NEtFOSE (S)	64	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
13C2-PFTA (S)	66	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
13C7-PFUdA (S)	73	%.	30-130	1	02/06/25 14:19	02/07/25 13:24		
13C24:2FTS (S)	89	%.	40-200	1	02/06/25 14:19	02/07/25 13:24		
13C26:2FTS (S)	85	%.	40-200	1	02/06/25 14:19	02/07/25 13:24		
13C28:2FTS (S)	79	%.	40-300	1	02/06/25 14:19	02/07/25 13:24		
13C3-PFPrA (S)	58	%.	5-130	1	02/06/25 14:19	02/07/25 13:24		

QUALITY CONTROL DATA

Project:	L1822859 WG2445636
Pace Project No.:	10722836

QC Batch:	990994	Analysis Method:	EPA 1633
QC Batch Method:	EPA 1633	Analysis Description:	EPA 1633F Water
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10722836001, 10722836002, 10722836003, 10722836004, 10722836005, 10722836006

METHOD BLANK: 5172025 Matrix: Water

Associated Lab Samples: 10722836001, 10722836002, 10722836003, 10722836004, 10722836005, 10722836006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
11Cl-PF3OUdS	ng/L	ND	6.1	02/07/25 12:57	
3:3 FTCA	ng/L	ND	7.7	02/07/25 12:57	
4:2 FTS	ng/L	ND	6.1	02/07/25 12:57	
5:3 FTCA	ng/L	ND	38.4	02/07/25 12:57	
6:2 FTS	ng/L	ND	6.1	02/07/25 12:57	
7:3 FTCA	ng/L	ND	38.4	02/07/25 12:57	
8:2 FTS	ng/L	ND	6.1	02/07/25 12:57	
9Cl-PF3ONS	ng/L	ND	6.1	02/07/25 12:57	
ADONA	ng/L	ND	6.1	02/07/25 12:57	
HFPO-DA	ng/L	ND	6.1	02/07/25 12:57	
NEtFOSA	ng/L	ND	1.5	02/07/25 12:57	
NEtFOSAA	ng/L	ND	1.5	02/07/25 12:57	
NEtFOSE	ng/L	ND	15.4	02/07/25 12:57	
NFDHA	ng/L	ND	3.1	02/07/25 12:57	
NMeFOSA	ng/L	ND	1.5	02/07/25 12:57	
NMeFOSAA	ng/L	ND	1.5	02/07/25 12:57	
NMeFOSE	ng/L	ND	15.4	02/07/25 12:57	
PFBA	ng/L	ND	6.1	02/07/25 12:57	
PFBS	ng/L	ND	1.5	02/07/25 12:57	
PFDA	ng/L	ND	1.5	02/07/25 12:57	
PFDoA	ng/L	ND	1.5	02/07/25 12:57	
PFDoS	ng/L	ND	1.5	02/07/25 12:57	
PFDS	ng/L	ND	1.5	02/07/25 12:57	
PFEESA	ng/L	ND	3.1	02/07/25 12:57	
PFHpA	ng/L	ND	1.5	02/07/25 12:57	
PFHpS	ng/L	ND	1.5	02/07/25 12:57	
PFHxA	ng/L	ND	1.5	02/07/25 12:57	
PFHxS	ng/L	ND	1.5	02/07/25 12:57	
PFMBA	ng/L	ND	3.1	02/07/25 12:57	
PFMPA	ng/L	ND	3.1	02/07/25 12:57	
PFNA	ng/L	ND	1.5	02/07/25 12:57	
PFNS	ng/L	ND	1.5	02/07/25 12:57	
PFOA	ng/L	ND	1.5	02/07/25 12:57	
PFOS	ng/L	ND	1.5	02/07/25 12:57	
PFOSA	ng/L	ND	1.5	02/07/25 12:57	
PFPeA	ng/L	ND	3.1	02/07/25 12:57	
PFPeS	ng/L	ND	1.5	02/07/25 12:57	
PFTeDA	ng/L	ND	1.5	02/07/25 12:57	
PFTrDA	ng/L	ND	1.5	02/07/25 12:57	
PFUnA	ng/L	ND	1.5	02/07/25 12:57	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: L1822859 WG2445636
Pace Project No.: 10722836

METHOD BLANK: 5172025 Matrix: Water

Associated Lab Samples: 10722836001, 10722836002, 10722836003, 10722836004, 10722836005, 10722836006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
13C2-PFDoA (S)	%.	120	10-130	02/07/25 12:57	
13C2-PFTA (S)	%.	107	10-130	02/07/25 12:57	
13C24:2FTS (S)	%.	151	40-200	02/07/25 12:57	
13C26:2FTS (S)	%.	141	40-200	02/07/25 12:57	
13C28:2FTS (S)	%.	134	40-300	02/07/25 12:57	
13C3-PFBS (S)	%.	137	40-135	02/07/25 12:57	S3
13C3-PFHxS (S)	%.	130	40-130	02/07/25 12:57	
13C3-PFPrA (S)	%.	94	5-130	02/07/25 12:57	
13C3HFPO-DA (S)	%.	132	40-130	02/07/25 12:57	S3
13C4-PFBA (S)	%.	127	5-130	02/07/25 12:57	
13C4-PFHpA (S)	%.	129	40-130	02/07/25 12:57	
13C5-PFHxA (S)	%.	128	40-130	02/07/25 12:57	
13C5-PFPeA (S)	%.	130	40-130	02/07/25 12:57	
13C6-PFDA (S)	%.	127	40-130	02/07/25 12:57	
13C7-PFUdA (S)	%.	125	30-130	02/07/25 12:57	
13C8-PFOA (S)	%.	129	40-130	02/07/25 12:57	
13C8-PFOS (S)	%.	117	40-130	02/07/25 12:57	
13C8-PFOSA (S)	%.	102	40-130	02/07/25 12:57	
13C9-PFNA (S)	%.	131	40-130	02/07/25 12:57	S3
d3-MeFOSAA (S)	%.	113	40-170	02/07/25 12:57	
d3-NMeFOSA (S)	%.	88	10-130	02/07/25 12:57	
d5-EtFOSAA (S)	%.	113	25-135	02/07/25 12:57	
d5-NEtFOSA (S)	%.	87	10-130	02/07/25 12:57	
d7-NMeFOSE (S)	%.	98	10-130	02/07/25 12:57	
d9-NEtFOSE (S)	%.	95	10-130	02/07/25 12:57	

LABORATORY CONTROL SAMPLE: 5172026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11Cl-PF3OUdS	ng/L	73.1	94.7	130	55-160	
3:3 FTCA	ng/L	96.5	110	114	65-130	
4:2 FTS	ng/L	73.1	87.3	119	70-145	
5:3 FTCA	ng/L	482	570	118	70-135	
6:2 FTS	ng/L	74.7	89.0	119	65-155	
7:3 FTCA	ng/L	482	524	109	50-145	
8:2 FTS	ng/L	74.7	105	140	60-150	
9Cl-PF3ONS	ng/L	73.1	94.1	129	70-155	
ADONA	ng/L	73.1	96.8	132	65-145	
HFPO-DA	ng/L	77.8	98.2	126	70-140	
NEtFOSA	ng/L	18.7	24.8	133	65-145	
NEtFOSAA	ng/L	18.7	25.6	137	70-145	
NEtFOSE	ng/L	187	237	127	70-135	
NFDHA	ng/L	38.9	45.8	118	50-150	
NMeFOSA	ng/L	18.7	21.8	117	60-150	

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QUALITY CONTROL DATA

Project: L1822859 WG2445636
Pace Project No.: 10722836

LABORATORY CONTROL SAMPLE: 5172026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
NMeFOSAA	ng/L	18.7	24.1	129	50-140	
NMeFOSE	ng/L	187	224	120	70-145	
PFBA	ng/L	77.8	94.6	122	70-140	
PFBS	ng/L	17.1	21.3	124	60-145	
PFDA	ng/L	18.7	23.5	126	70-140	
PFDoA	ng/L	18.7	24.0	129	70-140	
PFDoS	ng/L	18.7	22.5	120	50-145	
PFDS	ng/L	18.7	22.5	120	60-145	
PFEESA	ng/L	34.2	43.9	128	70-140	
PFHpA	ng/L	18.7	24.2	130	70-150	
PFHpS	ng/L	18.7	23.3	125	70-150	
PFHxA	ng/L	18.7	23.1	124	70-145	
PFHxS	ng/L	17.1	21.4	125	65-145	
PFMBA	ng/L	38.9	46.2	119	60-150	
PFMPA	ng/L	38.9	44.4	114	55-140	
PFNA	ng/L	18.7	22.5	120	70-150	
PFNS	ng/L	18.7	23.8	128	65-145	
PFOA	ng/L	18.7	23.2	124	70-150	
PFOS	ng/L	18.7	21.5	115	55-150	
PFOSA	ng/L	18.7	24.4	131	70-145	
PFPeA	ng/L	38.9	45.6	117	65-135	
PFPeS	ng/L	18.7	23.3	125	65-140	
PFTeDA	ng/L	18.7	23.6	127	60-140	
PFTrDA	ng/L	18.7	23.5	126	65-140	
PFUnA	ng/L	18.7	23.7	127	70-145	
13C2-PFDoA (S)	%.			101	10-130	
13C2-PFTA (S)	%.			100	10-130	
13C24:2FTS (S)	%.			129	40-200	
13C26:2FTS (S)	%.			130	40-200	
13C28:2FTS (S)	%.			104	40-300	
13C3-PFBS (S)	%.			114	40-135	
13C3-PFHxS (S)	%.			110	40-130	
13C3-PFPrA (S)	%.			74	5-130	
13C3HFPO-DA (S)	%.			108	40-130	
13C4-PFBA (S)	%.			108	5-130	
13C4-PFHpA (S)	%.			107	40-130	
13C5-PFHxA (S)	%.			109	40-130	
13C5-PFPeA (S)	%.			111	40-130	
13C6-PFDA (S)	%.			103	40-130	
13C7-PFUdA (S)	%.			109	30-130	
13C8-PFOA (S)	%.			104	40-130	
13C8-PFOS (S)	%.			102	40-130	
13C8-PFOSA (S)	%.			87	40-130	
13C9-PFNA (S)	%.			103	40-130	
d3-MeFOSAA (S)	%.			96	40-170	
d3-NMeFOSA (S)	%.			87	10-130	
d5-EtFOSAA (S)	%.			92	25-135	

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QUALITY CONTROL DATA

Project: L1822859 WG2445636
Pace Project No.: 10722836

LABORATORY CONTROL SAMPLE: 5172026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
d5-NEtFOSA (S)	%.			81	10-130	
d7-NMeFOSE (S)	%.			94	10-130	
d9-NEtFOSE (S)	%.			95	10-130	

LABORATORY CONTROL SAMPLE: 5172027

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11Cl-PF3OUdS	ng/L	11.9	15.5	130	55-160	
3:3 FTCA	ng/L	15.7	20.1	128	65-130	
4:2 FTS	ng/L	11.9	14.1	119	70-145	
5:3 FTCA	ng/L	78.3	92.2	118	70-135	
6:2 FTS	ng/L	12.1	13.6	112	65-155	
7:3 FTCA	ng/L	78.3	87.3	112	50-145	
8:2 FTS	ng/L	12.1	13.4	111	60-150	
9Cl-PF3ONS	ng/L	11.9	15.8	133	70-155	
ADONA	ng/L	11.9	15.0	127	65-145	
HFPO-DA	ng/L	12.6	16.0	126	70-140	
NEtFOSA	ng/L	3	3.8	126	65-145	
NEtFOSAA	ng/L	3	3.6	118	70-145	
NEtFOSE	ng/L	30.3	38.0	125	70-135	
NFDHA	ng/L	6.3	6.8	108	50-150	
NMeFOSA	ng/L	3	3.4	113	60-150	
NMeFOSAA	ng/L	3	4.0	131	50-140	
NMeFOSE	ng/L	30.3	37.4	123	70-145	
PFBA	ng/L	12.6	15.0	118	70-140	
PFBS	ng/L	2.8	3.4	122	60-145	
PFDA	ng/L	3	3.5	114	70-140	
PFDoA	ng/L	3	4.1	134	70-140	
PFDoS	ng/L	3	3.9	127	50-145	
PFDS	ng/L	3	3.8	126	60-145	
PFEESA	ng/L	5.6	7.1	129	70-140	
PFHpA	ng/L	3	3.6	117	70-150	
PFHpS	ng/L	3	3.6	120	70-150	
PFHxA	ng/L	3	3.9	128	70-145	
PFHxS	ng/L	2.8	3.4	124	65-145	
PFMBA	ng/L	6.3	7.5	118	60-150	
PFMPA	ng/L	6.3	6.9	110	55-140	
PFNA	ng/L	3	4.1	135	70-150	
PFNS	ng/L	3	3.9	129	65-145	
PFOA	ng/L	3	3.8	125	70-150	
PFOS	ng/L	3	3.6	120	55-150	
PFOSA	ng/L	3	3.5	117	70-145	
PFPeA	ng/L	6.3	7.4	117	65-135	
PFPeS	ng/L	3	3.3	110	65-140	
PFTeDA	ng/L	3	4.1	135	60-140	

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QUALITY CONTROL DATA

Project: L1822859 WG2445636
Pace Project No.: 10722836

LABORATORY CONTROL SAMPLE: 5172027

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PFTrDA	ng/L	3	3.8	124	65-140	
PFUnA	ng/L	3	3.8	126	70-145	
13C2-PFDoA (S)	%.			79	10-130	
13C2-PFTA (S)	%.			77	10-130	
13C24:2FTS (S)	%.			103	40-200	
13C26:2FTS (S)	%.			95	40-200	
13C28:2FTS (S)	%.			98	40-300	
13C3-PFBS (S)	%.			90	40-135	
13C3-PFHxS (S)	%.			87	40-130	
13C3-PFPrA (S)	%.			68	5-130	
13C3HFPO-DA (S)	%.			91	40-130	
13C4-PFBA (S)	%.			90	5-130	
13C4-PFHpA (S)	%.			91	40-130	
13C5-PFHxA (S)	%.			89	40-130	
13C5-PFPeA (S)	%.			94	40-130	
13C6-PFDA (S)	%.			88	40-130	
13C7-PFUdA (S)	%.			83	30-130	
13C8-PFOA (S)	%.			88	40-130	
13C8-PFOS (S)	%.			86	40-130	
13C8-PFOSA (S)	%.			78	40-130	
13C9-PFNA (S)	%.			88	40-130	
d3-MeFOSAA (S)	%.			90	40-170	
d3-NMeFOSA (S)	%.			70	10-130	
d5-EtFOSAA (S)	%.			84	25-135	
d5-NEtFOSA (S)	%.			64	10-130	
d7-NMeFOSE (S)	%.			76	10-130	
d9-NEtFOSE (S)	%.			74	10-130	

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QUALIFIERS

Project:	L1822859 WG2445636
Pace Project No.:	10722836

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1822859 WG2445636
Pace Project No.: 10722836

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10722836006	**TRIP BLANK**	EPA 1633	990994	EPA 1633	991805
10722836002	**REEL RB**	EPA 1633	990994	EPA 1633	991805
10722836003	**TWINE RB**	EPA 1633	990994	EPA 1633	991805
10722836004	**BAILER RB**	EPA 1633	990994	EPA 1633	991805
10722836001	**MW-04**	EPA 1633	990994	EPA 1633	991805
10722836005	**MW-4 FB**	EPA 1633	990994	EPA 1633	991805

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WO#: 10722836
10722836

CHAIN-OF-CUSTO

The Chain-of-Custody is a LE

Page : 1 Of 1

Section A
Required Client Information:

Company:	Pace Analytical
Address:	12065 Lebanon Rd.
Mt. Juliet, TN 37122	
Email:	MTJLSuboutTeam@pacelabs.com
Phone:	(615) 773-9756 Fax: (615) 758-5859
Requested Due Date:	11-Feb

Section B
Required Project Information:

Report To:	Pace Analytical Subout Team
Copy To:	
Purchase Order #:	L1822859
Project Name:	L1822859 WG2445636
Project #:	

Section C
Invoice Info

Attention:	Vincent Barlock
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Tong Lee
Pace Profile #:	38076

Regulatory Agency
State / Location
CO

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	PFAS1633	Residual Chlorine (Y/N)	
1	MW-04	WT				03-Feb	14:20		1								1		X		001
2	REEL RB	WT				03-Feb	13:05		1								1		X		002
3	TWINE RB	WT				03-Feb	13:25		1								1		X		003
4	BAILER RB	WT				03-Feb	13:35		1								1		X		004
5	MW-4 FB	WT				03-Feb	14:30		1								1		X		005
6	TRIP BLANK	WT				03-Feb	0:01		1								1		X		006
7																					
8																					
9																					
10																					
11																					
12																					

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	James C Huckaba	4-Feb	15:16	PACE	2/4/25	0900	2.4	Y	Y	Y
Pace Analytical Batch: WG2445636										
Pace Analytical SDGs: L1822859										
Location: Minneapolis, MN 55414										

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER:
DATE Signed:

Company Name/Address:
Baseline Engineering

112 N Rubey Dr. , Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love | Accounts Payable
PO Box 312
Broomfield, CO 80403

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Report to:
Vincent Barlock 303-940-9966

Email To:
terry.mcgowan@baselinecorp.com;vincent.barlock@baselinecorp.com

Project Description: WELBY GARDEN: PFAS SAMPLING

City/State Collected: ARVADA, CO.

Please Circle: PT [✓ MT] CT ET

Regulatory Program(DOD,RCRA,DW,etc):

Client Project # 45038.002a

Lab Project #

Collected by (print): VEB/TOM

Site/Facility ID #

P.O. #

Collected by (signature): TERRY McGOWAN

Rush? (Lab MUST Be Notified)
___ Same Day ☒ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed 02/11/25

Immediately Packed on Ice N ___ Y X

SDG #

Table #

Acctnum: **BASENGGCO**
Template: **T267486**
Prelogin: **P1129635**
PM: **824 - Chris Ward**
PB: LU 1/31/25
Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	SUBPFAS1633 PFAS(2)500ml(1)125ml	Remarks	Sample # (lab only)
MW-04	GRAB	GW	/	2/3/25	14:20	3	X		001
REEL RB	GRAB	GW	/	2/3/25	13:05	3	X		002
TWINE RB	GRAB	GW	/	2/3/25	13:25	3	X		003
BAILER RB	GRAB	GW	/	2/3/25	13:35	3	X		004
MW-4 FB	GRAB	GW	/	2/3/25	14:30	3	X		005
MN+4 VEB									

* Matrix:
SS - Soil AIR - Air F - Filter
[✓ GW] - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks: GO to MN

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	
T. O. McGowan	2-3-25	1535		Trip Blank Received: Yes / No HCL / MeoH TBR
	2-3-25	18:00	FedEx	Temp: °C Bottles Received:
PACE	2-4-25	900	Received for lab by: (Signature) PACE	Date: 2/4/25 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

temp 24

PNDCO

ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: BASELINE ENGINEERING

PROJECT #:

WO#:10722836
PM: TKL Due Date: 02/25/25
CLIENT: PASI-TN

COURIER: ☐ Client ☐ Commercial ☒ FedEx ☐ Pace ☐ SpeeDee ☐ UPS ☐ USPS

TRACKING NUMBER: 5405 1822 2600 ☐ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: ☒ YES ☐ NO **Seals Intact:** ☒ YES ☐ NO **Biological Tissue Frozen:** ☐ YES ☐ NO ☒ N/A

Packing Material: ☐ Bubble Bags ☒ Bubble Wrap ☐ None ☐ Other **Temp Blank:** ☐ YES ☒ NO **Type of Ice:** ☐ Blue ☐ Dry ☒ Wet ☐ Melted ☐ None

Thermometer: ☒ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☐ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ T9 (0727) ☐ 01339252 (1710)

Did Samples Originate in West Virginia: ☐ YES ☒ NO

Correction Factor: -0.1 **Cooler Temp Read w/Temp Blank:** ______ °C

Cooler Temp Corrected w/Temp Blank: ______ °C

***NOTE:** Temp should be above freezing to 6°C.*

Were All Container Temps taken: ☐ YES ☐ NO ☒ N/A

Average Corrected Temp (no Temp Blank Only): 2.4 °C

☐ See Exceptions Form ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: ☒ N/A [✓ Water Sample]/Other (describe): ______

Did Samples originate from one of the following states (check maps) – AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: ☐ YES ☐ NO

Initials & Date of Person Examining Contents: ______

Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): ☐ YES ☐ NO

NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

LOCATION (check one): ☐ **DULUTH** ☐ **MINNEAPOLIS** ☐ **VIRGINIA**	**YES**	**NO**	**N/A**	**COMMENT(S)**
Chain of Custody Present and Filled Out?	☒	☐		1.
Chain of Custody Relinquished?	☒	☐		2.
Sampler Name and/or Signature on COC?	☒	☐	☐	3.
Samples Arrived within Hold Time?	☒	☐		4. If Fecal: ☐ <8 hrs ☐ >8 hr, <24 hr ☐ No
Short Hold Time Analysis (<72 hr)?	☐	☒		5. ☐ BOD / cBOD ☐ Fecal coliform ☐ Hex Chrom ☐ HPC ☐ Nitrate ☐ Nitrite ☐ Ortho Phos ☐ Total coliform/*E. coli* ☐ Other: ______
Rush Turn Around Time Requested?	☒	☐		6. 5DAY
Sufficient Sample Volume?	☒	☐		7.
Correct Containers Used?	☒	☐	☐	8.
– Pace Containers Used?	☒	☐		
Containers Intact?	☒	☐		9.
Field Filtered Volume Received for Dissolved Tests?	☐	☐	☒	10. Is sediment visible in the dissolved container: ☐ YES ☐ NO
Is sufficient information available to reconcile the samples to the COC? **NOTE:** If ID/Date/Time don't match fill out section 11. Matrix: ☐ Oil ☐ Soil ☒ Water ☐ Other	☐	☒		11. **If NO, write ID/Date/Time of container below:** MORE SAMPLES THAN LISTED ON COC ☒ See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐	☐	☒	12. Sample #:
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide)	☐	☐	☒	☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ Zinc Acetate Positive for Residual Chlorine: ☐ YES ☐ NO
Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/[✓ PFAS] **NOTE:** If adding preservation to the container, **verify with the PM first.** Clients may require adding preservative to the field and equipment blanks when this occurs.	☒	☐	☐	**pH Paper Lot #**

Residual Chlorine	0-6 Roll	0-6 Strip	0-14 Strip

☐ See Exceptions form ENV-FRM-MIN4-0142

Headspace in Methyl Mercury Container?	☐	☐	☒	13.
Extra labels present on soil VOA or WIDRO containers?	☐	☐	☒	14.
Headspace in VOA Vials (greater than 6mm)?	☐	☐	☒	☐ See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present?	☐	☐	☒	15.
Trip Blank Custody Seals Present?	☐	☐	☒	Pace Trip Blank Lot # (if purchased): ______

CLIENT NOTIFICATION / RESOLUTION **FIELD DATA REQUIRED:** ☐ YES ☐ NO

Person Contacted: ______ Date & Time: ______

Comments / Resolution: ______

Project Manager Review: ______ **Date:** 2/4/25

***NOTE:** When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).*

Labeled By: CMI **Line:** 2

ENV-FRM-MIN4-0142 v03_Sample Condition Upon Receipt - Exceptions

Workorder #: 10722836

No Temp Blank		
Read Temp	**Corrected Temp**	**Average temp**
3.3	3.2	2.4
2.5	2.4	
2.3	2.2	
1.9	1.8	

PM Notified of Out of Temp Cooler? ☐ YES ☐ NO

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

Multiple Cooler Project? ☐ YES ☐ NO

If anything is OVER 6.0°C, you MUST document containers in this section HERE

Tracking Number	Temperature

~~Out of Temp~~ Extra Sample ID CMI 2/4/25	Container Type	# of Containers
Trip Blank	NT2U	2
	NT4U	1

pH Adjustment Log for Preserved Samples

Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition? YES	In Compliance After Addition? NO	Initials
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	

Comments:
Sample TWINE RB is labeled as Rope RB with same collected date/time

APPENDIX F

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Sampling Protocol

From: Murray - CDPHE He Him, Richard <richard.murray@state.co.us>
Sent: Friday, January 31, 2025 1:25 PM
To: Terry McGowan
Subject: Re: PFAS GW sampling SAP

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Terry - Nice speaking with you on the phone. I approve of your approach for collecting PFAS samples as outlined over the phone and in your prior email. Your procedures for sample/blank collection, decontamination, and general prevention of possible cross-contamination are in alignment with current best practices.

Please reach out if you have any additional questions. Have a nice weekend,

Rich Murray, P.E.
PFAS and Emerging Contaminants Coordinator
P 303.968.8940 |
4300 Cherry Creek Drive South, Denver, CO 80246
richard.murray@state.co.us|www.colorado.gov/cdphe/hm|

On Fri, Jan 31, 2025 at 11:40 AM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> Thank you. I will call you .
>
> Sent from Samsung Galaxy smartphone.
>
> -------- Original message --------
> From: "Murray - CDPHE He Him, Richard" <richard.murray@state.co.us>
> Date: 1/31/25 11:00 AM (GMT-07:00)
> To: Terry McGowan <terry.mcgowan@baselinecorp.com>
> Subject: Re: PFAS GW sampling SAP

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

> Hi Terry - 1pm works for me. The procedure you outline is very good and in alignment with guidance. My only add is to have field staff keep any snacks/refreshments in the vehicle and consume them there (and wash hands before returning to sampling). This includes drinking water they bring with them.
>
> talk to you at 1.
>
> Rich Murray, P.E.
> PFAS and Emerging Contaminants Coordinator
>
> P 303.968.8940 |
> 4300 Cherry Creek Drive South, Denver, CO 80246
> richard.murray@state.co.us|www.colorado.gov/cdphe/hm|
>
> On Fri, Jan 31, 2025 at 10:48 AM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:
>
>> Rick, no need to apologize. Please note that we did not have a budget to develop a formal Sampling and Analysis Plan. We reviewed the guidelines that you provided to Fonda and came up with the following procedure that was provided to the client as this is all new to them.
>>
>> - We will wear powder free nitrile gloves (standard for all sampling). We will wash our hands (PFAS free DI) before donning and replace the gloves often if necessary. Each time we change, we wash.
>> - Our bailers that we use are certified as PFAS free. These are individually wrapped and stay “clean” until used. The bailer will be triple rinsed with PFAS free DI water and then an equipment blank collected, prior to sample collection.
>> - We use nylon rope to lower the bailers (nylon is acceptable). We ordered a new 250-foot roll (stated as PFAS free) which will be stored in a Ziplock bag (acceptable) after opening, as long as we triple rinse with PFAS free DI water before use. We will collect an equipment blank after rinsing and before use.
>> - Our sampling buckets are PVC and I have cleaned them with tap water, standard DI with Alconox (an acceptable soap), and again with standard DI water. Before use, we will triple rinse with PFAS free DI water. We will not collect an equipment blank from the PVC bucket, as the bailer should not touch the bucket.
>> - We use a PVC cord reel to assist in bailing. This reduces the chance that the bailer rope touches the ground. The reel was washed similar to the PVC bucket and will be triple rinsed with PFAS free DI water and an equipment blank collected before use.
>> - The water level meter was decontaminated similar to the reel. It will be triple rinsed with PFAS free DI water before it will be used. Since we already know the depth of the well; only the sensor tip with touch the groundwater in the well. As such, an equipment blank will not be collected.

- The sampling vehicle will be cleaned prior to travel and sampling. The vehicle will be parked at least 20 feet from the monitoring well. If we have to lay any equipment down on the tail gate, it will be placed on cotton towels that have been washed without soap and air dried.
- We will wear mostly 100% cotton clothing, although some clothing may contain a percentage of synthetic fibers. None of the clothing will have been treated with water repellent, insect repellent, or stain resistant chemicals. The clothing worn will have been previously washed and dried at least six times; however, in most cases softeners were used. That said, the clothing we will wear will be washed without soap and then placed to air dry.
- We will not sample if snowing, raining, or windy conditions.
- A trip blank for analysis of PFAS will be used.
- A field blank prepared by the laboratory with PFAS free DI water will be opened at the monitoring well location and left open for the same time period as it takes to pull groundwater from the monitoring well and fill PFAS sampling containers.
- If more than one monitoring well is sampled, a duplicate sample should be prepared.
- All samples will be placed on ice in the sample cooler and transported on the same day to the laboratory.

Can we schedule a call for this afternoon after 1:00 PM? I can do a Zoom invite. I cannot complete a Google meet for some reason. Someone else's email shows up and I do not know how to change it.

Thanks for getting back to me. Look forward to discussing this plan. Again, we had not planned on sampling PFAS so we had to scramble to come up with this procedure.

BASELINE

Terry O. McGowan, P. G. | Senior Geologist/Hydrogeologist

Environmental Division

303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

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and please delete the original message. Thank you.

From: Murray - CDPHE He Him, Richard <richard.murray@state.co.us>
Sent: Friday, January 31, 2025 10:08 AM

To: Terry McGowan <terry.mcgowan@baselinecorp.com>
Subject: Re: PFAS GW sampling SAP

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Terry - Sorry for my delayed response. I am available today to discuss. You can call me on my cell 303-968-8940.

Do you have a plan I can review in advance or do you prefer to discuss the plan over the phone?

Rich Murray, P.E.

PFAS and Emerging Contaminants Coordinator

P 303.968.8940 |

4300 Cherry Creek Drive South, Denver, CO 80246

richard.murray@state.co.us|www.colorado.gov/cdphe/hm|

On Fri, Jan 31, 2025 at 10:03 AM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> Rick, I hope that the surgery went well and you are recovering quickly. I do need to ask you a few questions regarding sampling. Sampling is scheduled for Monday for a project that I can't give you any information on unfortunately. I need to know if my sampling plan/procedure is adequate, if I am missing anything, and if you would be willing to approve or just comment.
>
> Thank you. I have my grandson to today and will respond as quickly as I can.

BASELINE

Terry O. McGowan, P. G. | **Senior Geologist/Hydrogeologist**

Environmental Division

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communication in error, please notify us immediately by return e-mail

and please delete the original message. Thank you.

From: Terry McGowan
Sent: Tuesday, January 28, 2025 10:45 AM
To: Richard Murray - CDPHE He Him <richard.murray@state.co.us>
Subject: RE: PFAS GW sampling SAP

Rich, good morning. You and I have not met before, but I have known Fonda for a very long time. Last week he requested from you guidelines for sampling for PFAS. Do you have time today for a quick call or Zoom to discuss sampling?

Thank you.

Terry O. McGowan, P. G. | Senior Geologist/Hydrogeologist

Environmental Division

303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

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communication in error, please notify us immediately by return e-mail

and please delete the original message. Thank you.

From: Apostolopoulos - CDPHE, Fonda <fonda.apostolopoulos@state.co.us>
Sent: Thursday, January 23, 2025 3:49 PM
To: Richard Murray - CDPHE He Him <richard.murray@state.co.us>; Terry McGowan <terry.mcgowan@baselinecorp.com>
Subject: PFAS GW sampling SAP

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Rich.

Do you have a good reference on GW sampling protocols for PFAS, which you can share with me?

> > > I used to have one, but I can't find it.
> > >
> > > Fonda
> > >
> > > --
> > >
> > > Mr. Fonda Apostolopoulos, P.E.
> > >
> > > Colorado Department of Public Health and Environment
> > >
> > > 4300 Cherry Creek Drive South
> > >
> > > Denver, CO 80246
> > >
> > > 303-692-3411
> > >
> > > Fonda.Apostolopoulos@State.co.us

Example of Recent
Greenhouse Cleanup in CO

ERO Resources Corporation

Denver 1626 Cole Boulevard, Suite 100, Lakewood, CO 80401
Durango 835 East 2nd Avenue, Suite 314, Durango, CO 81301
Grand Junction 715 Horizon Drive, Unit 301, Grand Junction, CO 81506
Idaho 7154 West State Street, Suite 398, Boise, ID 83714

TO: Andrew Johnson, AvalonBay Communities, Inc.
FROM: Jack Denman, Senior Geologist, ERO Resources Corporation

ERO reviewed files for the following site maintained by the Colorado Department of Public Health and Environment's Voluntary Cleanup Program and have prepared the following site summary for the site.

Former Greenhouse and Nursery Supply, 4255 Yarrow Street, Arvada (CDPHE VCP Site: RV180508)

The site consisted of a 4.5-acre site with a 106,063-square foot greenhouse generally located southwest of West 44th Avenue and Wadsworth Boulevard in Wheat Ridge, Colorado. The site was used for flower and tomato growing operations since at least 1937. The site is bounded on the south by houses and the Wilmore Davis Elementary School with residential development to the east and west. Environmental assessments between 2014 and 2017 identified on-site soils contaminated with aldrin, dieldrin, DDT, arsenic, and lead as well as petroleum-contaminated soils associated with at least one historical diesel fuel tank. A brief summary of site contaminant concentrations and cleanup levels is presented below.

Contaminant	Maximum Site Concentration	Cleanup Level
Pesticides		
Aldrin	0.290	0.039
Dieldrin	20.0	0.034
DDT	2.4	1.9
Metals		
Arsenic	17	11
Lead	1,300	200

All concentrations in ppm

As part of site remediation activities, 11,326 cubic yards of pesticide-contaminated soils were removed and disposed off-site at Tower Landfill in Commerce City. In addition, three historical fuel tanks were removed and petroleum-contaminated soils remediated in under the approved remediation plan.

Site remediation was approved and documented under the CDPHE Voluntary Cleanup Program and a No Action Determination for unrestricted residential land use was issued in June 2018. The site has since been redeveloped for residential land use.

Photos from SWC of West 42nd Avenue and Yarrow Street, looking northwest (Google StreetView).

2012

2025

AVALON ARVADA

CONDITIONAL USE PLAN

BLOCK , VELDKAMP MINOR SUB 1ST AMD SUBDIVISION, LOCATED IN THE SOUTHWEST QUARTER OF
SECTION 02, TOWNSHIP 3 SOUTH,
IN THE CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO
SHEET 1 OF 8

PROJECT SUMMARY

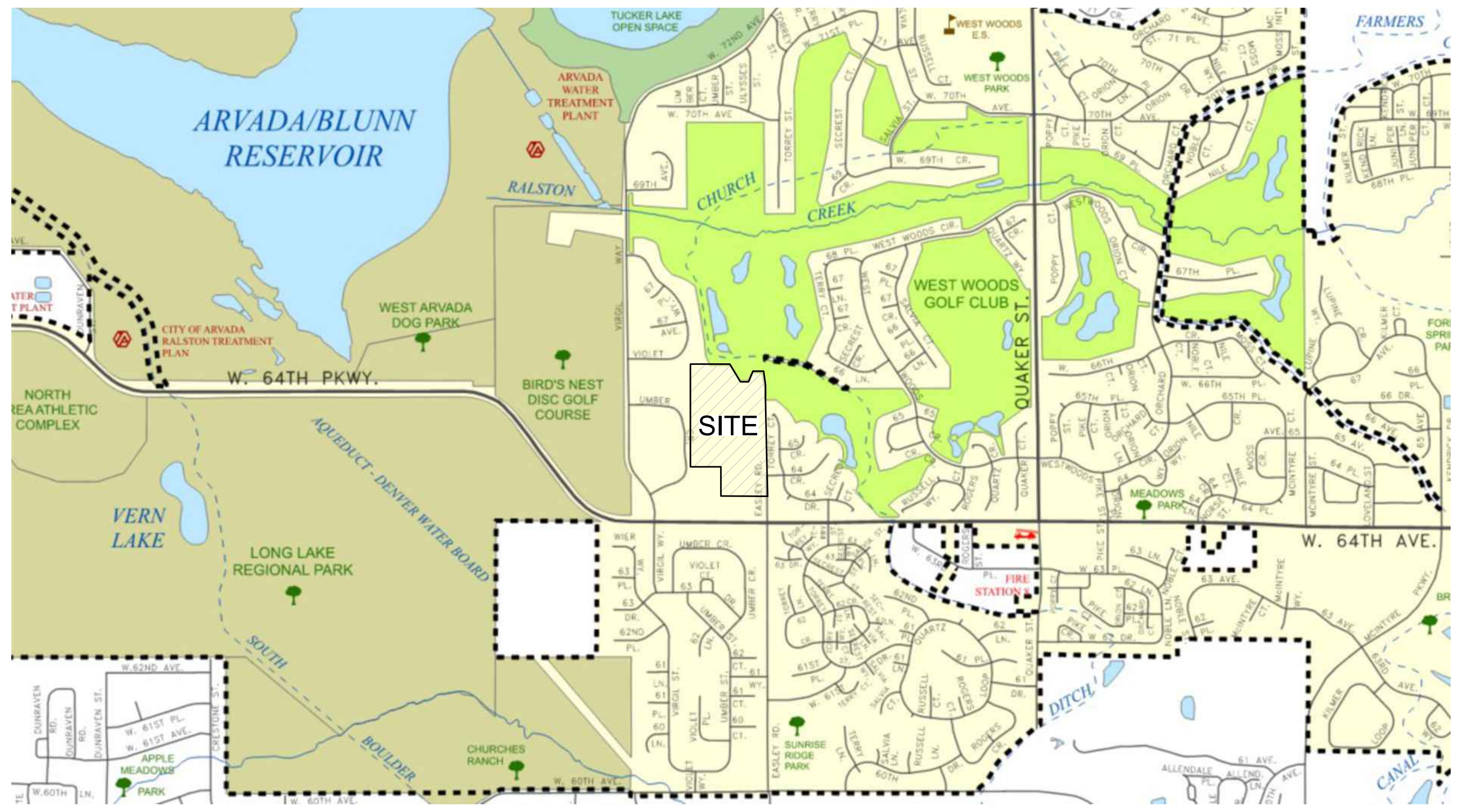
THE APPLICANT IS PROPOSING A RESIDENTIAL COMMUNITY LOCATED WITHIN THE VELDKAMP MINOR SUBDIVISION. THE SITE IS CURRENTLY ZONED MIXED-USE SUBURBAN (MX-S) AND HAS A COMPREHENSIVE PLAN LAND USE DESIGNATION OF MIXED-USE. PRESENTLY, THE PROPERTY IS OCCUPIED BY THE WELBY GARDENS WHOLESALE CENTER AND IS IN ACTIVE COMMERCIAL USE.

THE SURROUNDING CONTEXT INCLUDES THE WEST WOODS GOLF COURSE TO THE NORTH, SENIOR LIVING DEVELOPMENTS TO THE SOUTH ALONG W. 64TH AVENUE, AND SINGLE-FAMILY RESIDENTIAL USES TO THE EAST AND WEST. THE PROPOSED RESIDENTIAL COMMUNITY WILL BE BORDERED BY BOTH SINGLE-FAMILY DETACHED HOMES AND SENIOR LIVING RESIDENTIAL DEVELOPMENTS, ENSURING COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD CHARACTER.

LEGAL DESCRIPTION

LOTS 1 AND 2, VELDKAMP MINOR SUBDIVISION - FIRST AMENDMENT, COUNTY OF JEFFERSON, STATE OF COLORADO.

VICINITY MAP



NOTE: ALL SITE PLANS, SITE DATA AND IMAGES PROVIDED IN THIS PLAN SET ARE CONCEPTUAL AND WILL BE FINALIZED AT TIME OF SITE PLAN REVIEW.

PROJECT TEAM

APPLICANT
AVALON BAY COMMUNITIES, INC.
5050 S. SYRACUSE ST, SUITE 1025
DENVER, COLORADO 80237
720-245-6941
CONTACT: TODD NICOTRA

PLANNER/ LANDSCAPE ARCHITECT
NORRIS DESIGN
1101 BANNOCK ST.
DENVER, CO 80204
303-892-1166
CONTACT: LEANNE VIELEHR/DYLAN DETTMANN

ARCHITECT
STUDIO PBA
1575 GILPIN ST.
DENVER, CO 80218
720-376-6844
CONTACT: ROBERT MIILLER/DAVID LASH

CIVIL ENGINEER
HARRIS KOCHER SMITH
1120 LINCOLN ST. SUITE 1000
DENVER, CO 80203
303-623-6300
CONTACT: STEVE KOCHER

SHEET INDEX

1	COVER SHEET
2	CIVIL SITE PLAN
3	OVERALL UTILITY PLAN
4	OVERALL UTILITY PLAN
5	OVERALL GRADING PLAN
6	LANDSCAPE PLAN
7	SITE AERIAL - SOUTH EAST
8	SITE AERIAL - SOUTH WEST

SITE DATA TABLE - OVERALL

ZONE DISTRICT	MX-S (MIXED USE SUBURBAN)	
HOUSING PALETTE LOT TYPE	SUBURBAN TOWNHOMES, MULTIFAMILY	
TOTAL PROJECT AREA	874,263 SF (20.07 AC.)	
TOTAL UNITS	**435 UNITS (MULTIFAMILY - 384, TOWNHOME - 51)**	
SITE STANDARDS	**REQUIRED (STANDARD)**	**PROVIDED (SITE)**
LANDSCAPE SURFACE AREA (MIN)	25%	25%
SMALL URBAN PARK	10% (87,555 Sf/ 2.0 AC.)	87,555 Sf 2.0 AC.
BUILDING STANDARDS		
HEIGHT (MAX)	45 Ft	45 Ft
HEIGHT ACCESSORY BUILDINGS (MAX)	18 Ft	18 Ft
HEIGHT TRANSITION ZONE DEPTH (MIN)	35 Ft	35 Ft
DENSITY STANDARDS		
MAX. DENSITY	NONE	20.5 DU/AC

SITE DATA TABLE - MULTIFAMILY

MULTIFAMILY DEVELOPMENT STANDARDS	**REQUIRED (STANDARD)**	**PROVIDED (SITE)**
LOT STANDARDS		
LOT COVERAGE (MAX)	60%	22.6%
TOTAL UNITS	384	
BUILDING FOOTPRINT	159,765 SF	
HARDSCAPE	282,244 SF	
PARK	87,555 SF	
ADDITIONAL LANDSCAPE	176,863 SF	
TOTAL PROJECT AREA	**706,427 SF (16.2 AC.)**	
BUILDING AND PARKING SITING STANDARDS		
FRONTAGE ZONE (MIN/MAX)	35 Ft	35 Ft
FAÇADE IN FRONTAGE ZONE (MIN)	20%	20%
FRONT SETBACK (MIN)	20 Ft	20 Ft
SIDE SETBACK, STREET (MIN)	15 Ft	15 Ft
SIDE SETBACK, INTERIOR (MIN)	6 Ft	6 Ft
REAR SETBACK (MIN)	10 Ft	10 Ft
FRONT PARKING SETBACK (MIN)	20 Ft	20 Ft
DENSITY STANDARDS		
MAX. DENSITY	NONE	16.0 DU/AC
PARKING STANDARDS		
STUDIO - 28 UNITS @ 1.4 SPACES/UNIT	40	-
1 BED - 176 UNITS @ 1.6 SPACES/UNIT	282	-
2 BED - 152 UNITS @ 2.1 SPACES/UNIT	320	-
3 BED - 28 UNITS @ 2.5 SPACES/UNIT	70	-
PARKING TOTAL	**712**	**796**
SURFACE PARKING (INCLUDING TANDEM)	N/A	440
COVERED PARKING (GARAGE OR CARPORT) - 50% OF THE REQUIRED TOTAL (712)	356 (50%)	356
MULTIFAMILY BIKE PARKING (20% SHALL BE LONG-TERM AND 50% SHALL BE COVERED)		
BIKE PARKING (1 PER 4 UNITS)	96	96

SITE DATA TABLE - TOWNHOME

TOWNHOME DEVELOPMENT STANDARDS	**REQUIRED (STANDARD)**	**PROVIDED (SITE)**
LOT STANDARDS		
TOWNHOME LOT AREA (MIN)	15 Ft	15 Ft
TOWNHOME LOT WIDTH (MIN)	20 Ft	20 Ft
TOWNHOME LOT WIDTH, STREET CORNER (MIN)	35 Ft	35 Ft
LOT COVERAGE (MAX)	100%	29.4%
TOTAL UNITS	51	
BUILDING FOOTPRINT	49,342 SF	
HARDSCAPE	56,983 SF	
LANDSCAPE	61,511 SF	
TOTAL PROJECT AREA	**167,836 SF (3.8 AC.)**	
BUILDING AND PARKING STANDARDS (SUBURBAN)		
FRONTAGE ZONE (MIN/MAX)	10-25 Ft	10-25 Ft
FAÇADE IN FRONTAGE ZONE (MIN)	20%	20%
NON - STREET FRONTAGE PERIMETER SETBACK (MIN)	15 Ft	15 Ft
FRONT PARKING SETBACK (MIN)	5 Ft	5 Ft
ALLEY GARAGE SETBACK (MIN)	2 Ft	2 Ft
BUILDING SEPARATION SIDE TO SIDE	10 Ft	10 Ft
DENSITY STANDARDS		
MAX. DENSITY	NONE	3.8 DU/AC
PARKING STANDARDS		
52 UNITS @ 2.2 SPACES/UNIT	**113**	**-**
PARKING TOTAL	**113**	**117**
SURFACE PARKING (INCLUDING TANDEM)	N/A	15
COVERED PARKING (GARAGE) - 50% OF THE REQUIRED TOTAL (113)	57 (50%)	102
TOWNHOME BIKE PARKING		
BIKE PARKING	NOT REQUIRED	

NORRIS DESIGN
PEOPLE + PLACEMAKING
1101 BANNOCK STREET
DENVER, CO 80204
P 303.892.1166

NORRIS-DESIGN.COM

AVALON ARVADA
CONDITIONAL USE PERMIT
17201 W. 64TH AVE. ARVADA, CO

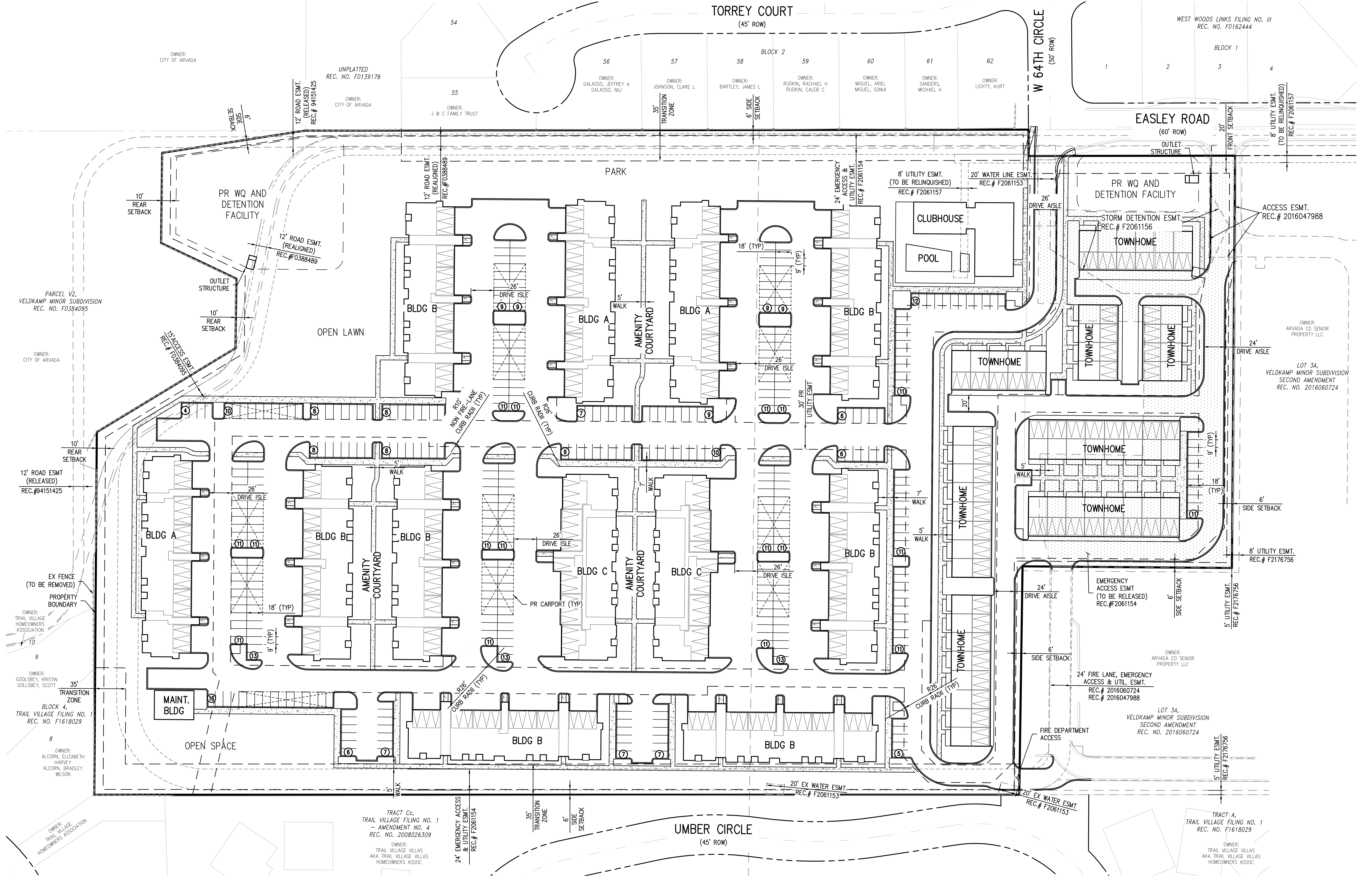
OWNER:
WELBY GARDENS CO LLC
17201 W. 64TH AVE.
ARVADA, CO 80007

NOT FOR CONSTRUCTION

DATE:
5/23/2025 - CUP 01
07/08/2025 CUP 02
10/16/2025 CUP 03

SHEET TITLE:
COVER SHEET

CHECKED BY: DD
DRAWN BY: KR


TORREY COURT
(45' ROW)
W 64TH CIRCLE
(50' ROW)
EASLEY ROAD
(60' ROW)
UMBER CIRCLE
(45' ROW)
OWNER:
CITY OF ARVADA
UNPLATTED
REC. NO. F0139176
OWNER:
CITY OF ARVADA
54
55
OWNER:
J & C FAMILY TRUST
BLOCK 2
56
OWNER:
GALASSO, JEFFREY A
GALASSO, NILI
57
OWNER:
JOHNSON, CLARE L
58
OWNER:
BARTLEY, JAMES L
59
OWNER:
RUDKIN, RACHAEL H
RUDKIN, CALEB C
60
OWNER:
MIGUEL, ARIEL
MIGUEL, SONIA
61
OWNER:
SANDERS,
MICHAEL H
62
OWNER:
LICHTY, KURT
WEST WOODS LINKS FILING NO. III
REC. NO. F0162444
BLOCK 1
1
2
3
4
6' SIDE SETBACK
12' ROAD ESMT. (RELEASED) REC.# 94151425
10' REAR SETBACK
PR WQ AND DETENTION FACILITY
12' ROAD ESMT. (REALIGNED) REC.#F0388489
OUTLET STRUCTURE
10' REAR SETBACK
PARCEL V2,
VELDKAMP MINOR SUBDIVISION
REC. NO. F0384095
OWNER:
CITY OF ARVADA
15' ACCESS ESMT. REC.# F0384095
OPEN LAWN
12' ROAD ESMT. (REALIGNED) REC.#F0388489
PARK
35' TRANSITION ZONE
6' SIDE SETBACK
24' EMERGENCY ACCESS & UTILITY ESMT. REC.# F2061154
8' UTILITY ESMT.
(TO BE RELINQUISHED)
REC.# F2061157
20' WATER LINE ESMT.
REC.# F2061153
26' DRIVE AISLE
CLUBHOUSE
POOL
20' FRONT SETBACK
8' UTILITY ESMT. (TO BE RELINQUISHED) REC.# F2061157
OUTLET STRUCTURE
PR WQ AND DETENTION FACILITY
STORM DETENTION ESMT.
REC.# F2061156
ACCESS ESMT.
REC.# 2016047988
TOWNHOME
TOWNHOME
TOWNHOME
TOWNHOME
24' DRIVE AISLE
OWNER:
ARVADA CO SENIOR
PROPERTY LLC
LOT 3A,
VELDKAMP MINOR SUBDIVISION
SECOND AMENDMENT
REC. NO. 2016060724
BLDG B
26' DRIVE ISLE
BLDG A
5' WALK
AMENITY COURTYARD
BLDG A
18' (TYP)
9' (TYP)
26' DRIVE ISLE
BLDG B
30' PR UTILITY ESMT
20'
TOWNHOME
TOWNHOME
5' WALK
9' (TYP)
18' (TYP)
6' SIDE SETBACK
R10' NON FIRE-LANE CURB RADII (TYP)
R26' CURB RADII (TYP)
10' REAR SETBACK
12' ROAD ESMT (RELEASED)
REC.#94151425
26' DRIVE ISLE
BLDG A
5' WALK
BLDG B
AMENITY COURTYARD
BLDG B
26' DRIVE ISLE
BLDG C
AMENITY COURTYARD
WALK
BLDG C
26' DRIVE ISLE
7' WALK
5' WALK
BLDG B
18' (TYP)
9' (TYP)
PR CARPORT (TYP)
TOWNHOME
8' UTILITY ESMT.
REC.# F2176756
EX FENCE
(TO BE REMOVED)
PROPERTY BOUNDARY
OWNER:
TRAIL VILLAGE
HOMEOWNERS
ASSOCIATION
10
9
OWNER:
GOOLSBEY, KRISTIN
GOLLSBEY, SCOTT
35' TRANSITION ZONE
BLOCK 4,
TRAIL VILLAGE FILING NO. 1
REC. NO. F1618029
8
OWNER:
ALCORN, ELIZABETH
HARVEY
ALCORN, BRADLEY
WILSON
MAINT. BLDG
OPEN SPACE
R26' CURB RADII (TYP)
BLDG B
BLDG B
R26' CURB RADII (TYP)
24' DRIVE AISLE
EMERGENCY ACCESS ESMT
(TO BE RELEASED)
REC.#F2061154
6' SIDE SETBACK
5' UTILITY ESMT. REC.# F2176756
6' SIDE SETBACK
24' FIRE LANE, EMERGENCY
ACCESS & UTIL. ESMT.
REC.# 2016060724
REC.# 2016047988
OWNER:
ARVADA CO SENIOR
PROPERTY LLC
LOT 3A,
VELDKAMP MINOR SUBDIVISION
SECOND AMENDMENT
REC. NO. 2016060724
FIRE DEPARTMENT ACCESS
5' UTILITY ESMT. REC.# F2176756
5' WALK
20' EX WATER ESMT
REC.# F2061153
20' EX WATER ESMT
REC.# F2061153
24' EMERGENCY ACCESS & UTILITY ESMT. REC.# F2061154
35' TRANSITION ZONE
6' SIDE SETBACK
OWNER:
TRAIL VILLAGE
HOMEOWNERS ASSOCIATION
TRACT Cc,
TRAIL VILLAGE FILING NO. 1
– AMENDMENT NO. 4
REC. NO. 2008026309
OWNER:
TRAIL VILLAGE VILLAS
AKA TRAIL VILLAGE VILLAS
HOMEOWNERS ASSOC
TRACT A,
TRAIL VILLAGE FILING NO. 1
REC. NO. F1618029
OWNER:
TRAIL VILLAGE VILLAS
AKA TRAIL VILLAGE VILLAS
HOMEOWNERS ASSOC
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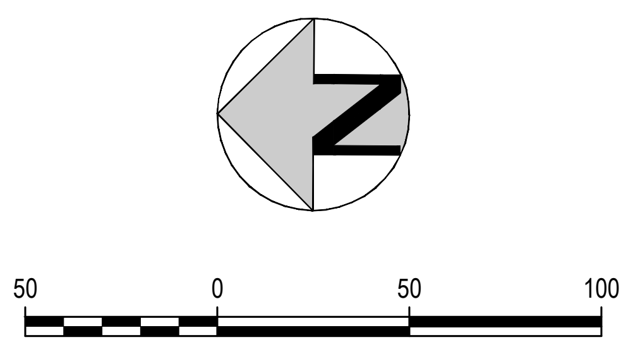
LEGEND:

PARKING COUNT	①
GARAGE ENTRY	◁
CONCRETE WALK	▨

ABBREVIATIONS	
BLDG	BUILDING
ESMT	EASEMENT
EX	EXISTING
ROW	RIGHT OF WAY
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
HORZ	HORIZONTAL
MH	MANHOLE
N	NORTH, NORTHING
PR	PROPOSED
PVC	POLYVINYL CHLORIDE

RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SAN	SANITARY
SS	SANITARY SEWER
STM	STORM
TYP	TYPICAL
UTIL	UTILITY
VERT	VERTICAL
WAT	WATER



SCALE: 1" = 50'

Know what's below.
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DRAWN BY: TVG

HARRIS
KOCHER
SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

AVALON ARVADA
CONDITIONAL USE PERMIT

OWNER:

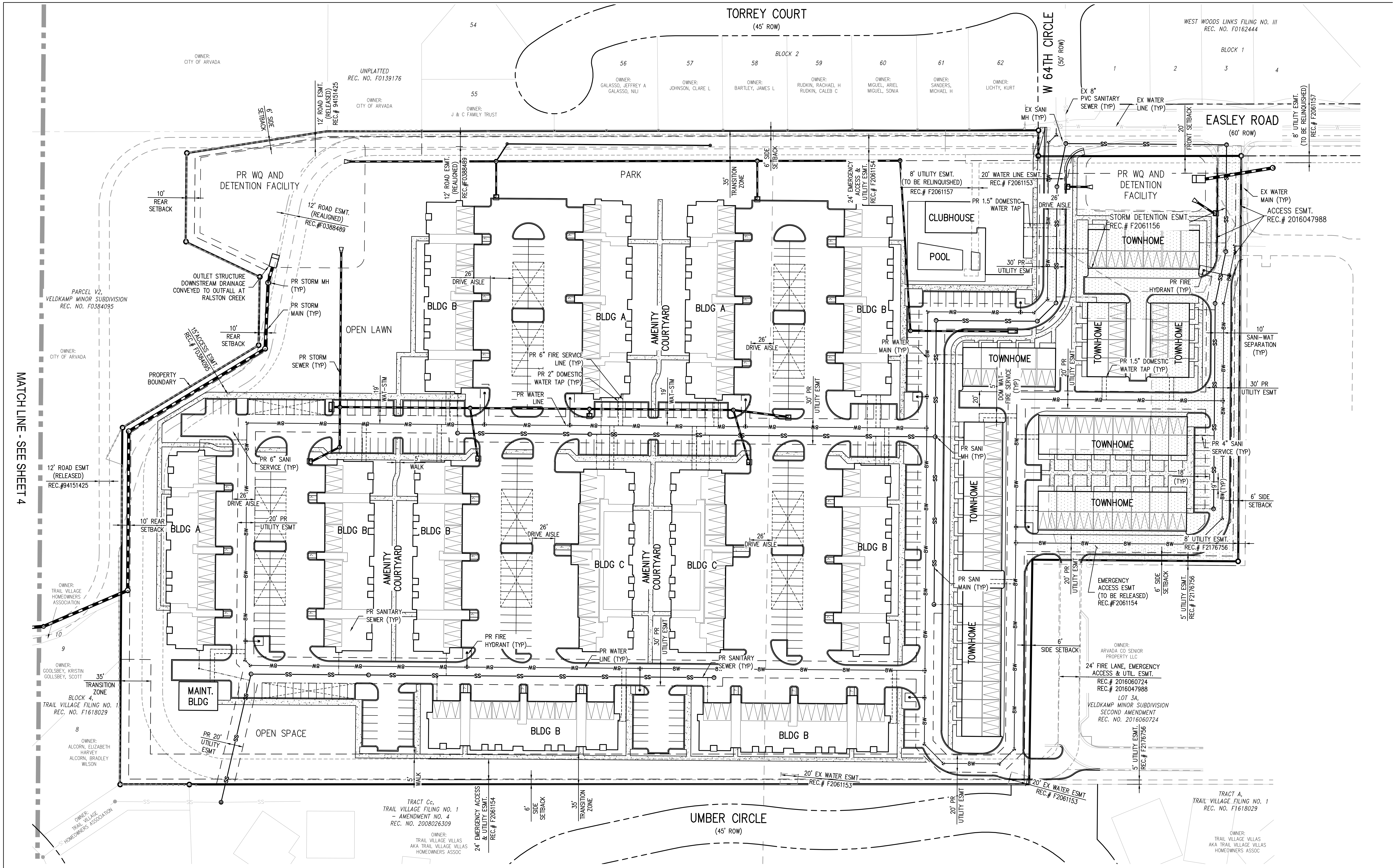
NOT FOR CONSTRUCTION

DATE:

05/23/2025 - CUP 01
07/08/2025 - CUP 02
09/12/2025 - CUP 03

SHEET TITLE:
CIVIL SITE PLAN

2 OF 8

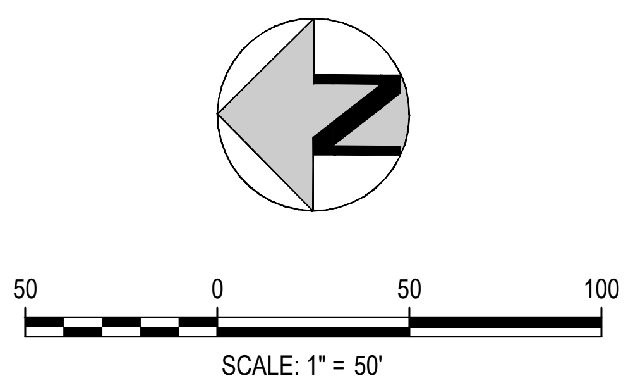

TORREY COURT
(45' ROW)
W 64TH CIRCLE
(50' ROW)
EASLEY ROAD
(60' ROW)
UMBER CIRCLE
(45' ROW)
MATCH LINE - SEE SHEET 4
PR WQ AND DETENTION FACILITY
PARK
OPEN LAWN
CLUBHOUSE
POOL
TOWNHOME
BLDG A
BLDG B
BLDG C
AMENITY COURTYARD
MAINT. BLDG
OPEN SPACE
26' DRIVE AISLE
PR STORM MH (TYP)
PR STORM MAIN (TYP)
PR STORM SEWER (TYP)
OUTLET STRUCTURE DOWNSTREAM DRAINAGE CONVEYED TO OUTFALL AT RALSTON CREEK
PROPERTY BOUNDARY
PR 6" FIRE SERVICE LINE (TYP)
PR 2" DOMESTIC WATER TAP (TYP)
PR WATER LINE
PR WATER MAIN (TYP)
PR FIRE HYDRANT (TYP)
PR SANITARY SEWER (TYP)
PR 6" SANI SERVICE (TYP)
PR SANI MH (TYP)
PR SANI MAIN (TYP)
PR 4" SANI SERVICE (TYP)
PR 1.5" DOMESTIC WATER TAP
EX 8" PVC SANITARY SEWER (TYP)
EX WATER LINE (TYP)
EX SANI MH (TYP)
EX WATER MAIN (TYP)
ACCESS ESMT. REC.# 2016047988
STORM DETENTION ESMT. REC.# F2061156
20' WATER LINE ESMT. REC.# F2061153
8' UTILITY ESMT. (TO BE RELINQUISHED) REC.# F2061157
24' EMERGENCY ACCESS & UTILITY ESMT. REC.# F2061154
12' ROAD ESMT. (REALIGNED) REC.#F0388489
12' ROAD ESMT (RELEASED) REC.#94151425
15' ACCESS ESMT REC.# F0384095
20' EX WATER ESMT REC.# F2061153
8' UTILITY ESMT. REC.# F2176756
5' UTILITY ESMT. REC.# F2176756
EMERGENCY ACCESS ESMT (TO BE RELEASED) REC.#F2061154
24' FIRE LANE, EMERGENCY ACCESS & UTIL. ESMT. REC.# 2016060724 REC.# 2016047988
10' SANI-WAT SEPARATION (TYP)
30' PR UTILITY ESMT
20' PR UTILITY ESMT
10' REAR SETBACK
6' SIDE SETBACK
20' FRONT SETBACK
35' TRANSITION ZONE
OWNER: CITY OF ARVADA
UNPLATTED REC. NO. F0139176
OWNER: J & C FAMILY TRUST
BLOCK 2
OWNER: GALASSO, JEFFREY A GALASSO, NILI
OWNER: JOHNSON, CLARE L
OWNER: BARTLEY, JAMES L
OWNER: RUDKIN, RACHAEL H RUDKIN, CALEB C
OWNER: MIGUEL, ARIEL MIGUEL, SONIA
OWNER: SANDERS, MICHAEL H
OWNER: LICHTY, KURT
WEST WOODS LINKS FILING NO. III REC. NO. F0162444
BLOCK 1
PARCEL V2, VELDKAMP MINOR SUBDIVISION REC. NO. F0384095
OWNER: TRAIL VILLAGE HOMEOWNERS ASSOCIATION
OWNER: GOOLSBEY, KRISTIN GOLLSBEY, SCOTT
BLOCK 4, TRAIL VILLAGE FILING NO. 1 REC. NO. F1618029
OWNER: ALCORN, ELIZABETH HARVEY ALCORN, BRADLEY WILSON
OWNER: ARVADA CO SENIOR PROPERTY LLC
LOT 3A, VELDKAMP MINOR SUBDIVISION SECOND AMENDMENT REC. NO. 2016060724
TRACT Cc, TRAIL VILLAGE FILING NO. 1 - AMENDMENT NO. 4 REC. NO. 2008026309
OWNER: TRAIL VILLAGE VILLAS AKA TRAIL VILLAGE VILLAS HOMEOWNERS ASSOC
TRACT A, TRAIL VILLAGE FILING NO. 1 REC. NO. F1618029

LEGEND:

EXISTING SANITARY SEWER	——SS——
EXISTING WATER LINE	——W——W——
EXISTING NATURAL GAS	——G——
EXISTING TELEPHONE	——T——
EXISTING STREET LIGHT	○⊸
EXISTING FIRE HYDRANT	●
PROPOSED SANITARY SEWER	——SS——
PROPOSED SANITARY SEWER MANHOLE	◉
PROPOSED SANITARY SEWER SERVICE LINE	—··—··—··—
PROPOSED FIRE HYDRANT	●
PROPOSED WATER MAIN	——W——W——
PROPOSED WATER SERVICE LINE	- - - - - - -
PROPOSED FIRE SERVICE LINE	—-—-—-—-

ABBREVIATIONS

BLDG	BUILDING
ESMT	EASEMENT
EX	EXISTING
ROW	RIGHT OF WAY
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
HORZ	HORIZONTAL
MH	MANHOLE
N	NORTH, NORTHING
PR	PROPOSED
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SAN	SANITARY
SS	SANITARY SEWER
STM	STORM
TYP	TYPICAL
UTIL	UTILITY
VERT	VERTICAL
WAT	WATER


N
50
0
50
100
SCALE: 1" = 50'

Know what's below.
Call before you dig.

CHECKED BY: JG
DRAWN BY: TVG

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

AVALON ARVADA
CONDITIONAL USE PERMIT

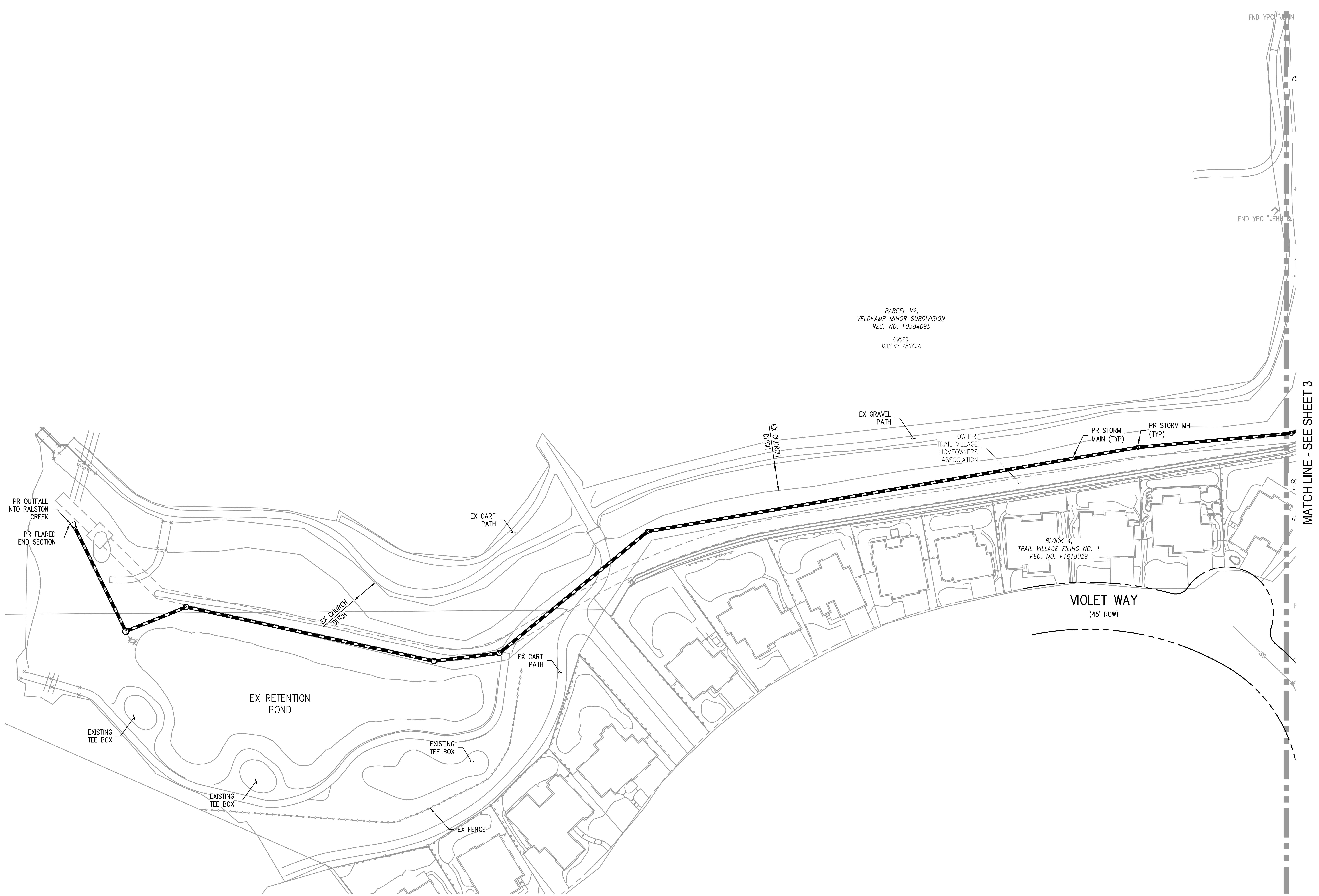
OWNER:

NOT FOR CONSTRUCTION

DATE:
05/23/2025 - CUP 01
07/08/2025 - CUP 02
09/12/2025 - CUP 03

SHEET TITLE:
OVERALL UTILITY PLAN

3 OF 8


FND YPC "JEHN
FND YPC "JEHN &
PARCEL V2,
VELDKAMP MINOR SUBDIVISION
REC. NO. F0384095
OWNER:
CITY OF ARVADA
EX GRAVEL PATH
EX CHURCH DITCH
OWNER:
TRAIL VILLAGE
HOMEOWNERS
ASSOCIATION
PR STORM MAIN (TYP)
PR STORM MH (TYP)
MATCH LINE - SEE SHEET 3
PR OUTFALL INTO RALSTON CREEK
PR FLARED END SECTION
EX CART PATH
EX CHURCH DITCH
BLOCK 4,
TRAIL VILLAGE FILING NO. 1
REC. NO. F1618029
VIOLET WAY
(45' ROW)
EX CART PATH
EX RETENTION POND
EXISTING TEE BOX
EXISTING TEE BOX
EXISTING TEE BOX
EX FENCE

LEGEND:

EXISTING SANITARY SEWER	——SS——
EXISTING WATER LINE	——W——W——
EXISTING NATURAL GAS	——G——
EXISTING TELEPHONE	——T——
EXISTING STREET LIGHT	○⊸
EXISTING FIRE HYDRANT	●
PROPOSED SANITARY SEWER	——SS——
PROPOSED SANITARY SEWER MANHOLE	◉
PROPOSED SANITARY SEWER SERVICE LINE	—··—··—··—
PROPOSED FIRE HYDRANT	●
PROPOSED WATER MAIN	——W——W——
PROPOSED WATER SERVICE LINE	- - - - - - - -
PROPOSED FIRE SERVICE LINE	-·-·-·-·-·-·

ABBREVIATIONS	
BLDG	BUILDING
ESMT	EASEMENT
EX	EXISTING
ROW	RIGHT OF WAY
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
HORZ	HORIZONTAL
MH	MANHOLE
N	NORTH, NORTHING
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PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SAN	SANITARY
SS	SANITARY SEWER
STM	STORM
TYP	TYPICAL
UTIL	UTILITY
VERT	VERTICAL
WAT	WATER

N

50 0 50 100

SCALE: 1" = 50'

Know what's below. Call before you dig.

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SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
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HarrisKocherSmith.com

AVALON ARVADA
CONDITIONAL USE PERMIT

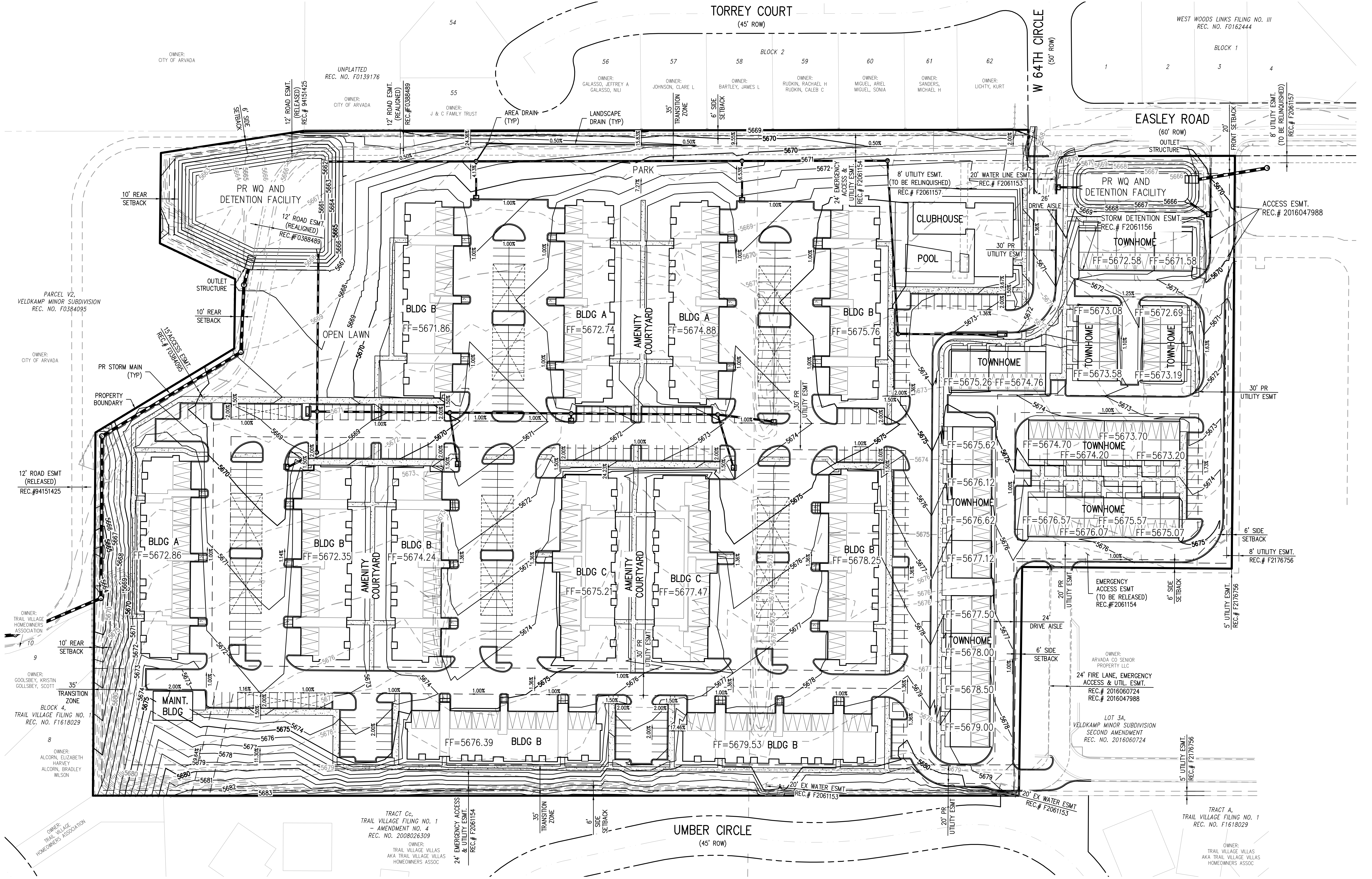
OWNER:

NOT FOR CONSTRUCTION

DATE:

05/23/2025 - CUP 01
07/08/2025 - CUP 02
09/12/2025 - CUP 03

SHEET TITLE:
OVERALL UTILITY PLAN


TORREY COURT
(45' ROW)
W 64TH CIRCLE
(50' ROW)
EASLEY ROAD
(60' ROW)
UMBER CIRCLE
(45' ROW)
WEST WOODS LINKS FILING NO. III
REC. NO. F0162444
BLOCK 1
BLOCK 2
UNPLATTED
REC. NO. F0139176
OWNER: CITY OF ARVADA
OWNER: J & C FAMILY TRUST
OWNER: GALASSO, JEFFREY A GALASSO, NILI
OWNER: JOHNSON, CLARE L
OWNER: BARTLEY, JAMES L
OWNER: RUDKIN, RACHAEL H RUDKIN, CALEB C
OWNER: MIGUEL, ARIEL MIGUEL, SONIA
OWNER: SANDERS, MICHAEL H
OWNER: LICHTY, KURT
PARCEL V2, VELDKAMP MINOR SUBDIVISION REC. NO. F0384095
OWNER: TRAIL VILLAGE HOMEOWNERS ASSOCIATION
OWNER: GOOLSBEY, KRISTIN GOLLSBEY, SCOTT
BLOCK 4, TRAIL VILLAGE FILING NO. 1 REC. NO. F1618029
OWNER: ALCORN, ELIZABETH HARVEY ALCORN, BRADLEY WILSON
TRACT Cc, TRAIL VILLAGE FILING NO. 1 - AMENDMENT NO. 4 REC. NO. 2008026309
OWNER: TRAIL VILLAGE VILLAS AKA TRAIL VILLAGE VILLAS HOMEOWNERS ASSOC
OWNER: ARVADA CO SENIOR PROPERTY LLC
LOT 3A, VELDKAMP MINOR SUBDIVISION SECOND AMENDMENT REC. NO. 2016060724
TRACT A, TRAIL VILLAGE FILING NO. 1 REC. NO. F1618029
PR WQ AND DETENTION FACILITY
OUTLET STRUCTURE
OPEN LAWN
PARK
AREA DRAIN (TYP)
LANDSCAPE DRAIN (TYP)
PR STORM MAIN (TYP)
PROPERTY BOUNDARY
10' REAR SETBACK
6' SIDE SETBACK
35' TRANSITION ZONE
20' FRONT SETBACK
12' ROAD ESMT. (RELEASED) REC.# 94151425
12' ROAD ESMT. (REALIGNED) REC.#F0388489
15' ACCESS ESMT REC.# F0384095
8' UTILITY ESMT. (TO BE RELINQUISHED) REC.# F2061157
20' WATER LINE ESMT. REC.# F2061153
24' EMERGENCY ACCESS & UTILITY ESMT. REC.# F2061154
26' DRIVE AISLE
24' DRIVE AISLE
30' PR UTILITY ESMT
20' PR UTILITY ESMT
ACCESS ESMT. REC.# 2016047988
STORM DETENTION ESMT. REC.# F2061156
8' UTILITY ESMT. REC.# F2176756
5' UTILITY ESMT. REC.# F2176756
EMERGENCY ACCESS ESMT (TO BE RELEASED) REC.#F2061154
24' FIRE LANE, EMERGENCY ACCESS & UTIL. ESMT. REC.# 2016060724 REC.# 2016047988
20' EX WATER ESMT REC.# F2061153
CLUBHOUSE
POOL
MAINT. BLDG
AMENITY COURTYARD
BLDG A FF=5672.86
BLDG B FF=5672.35
BLDG B FF=5674.24
BLDG C FF=5675.21
BLDG C FF=5677.47
BLDG B FF=5678.25
BLDG B FF=5671.86
BLDG A FF=5672.74
BLDG A FF=5674.88
BLDG B FF=5675.76
FF=5676.39 BLDG B
FF=5679.53 BLDG B
TOWNHOME FF=5672.58 FF=5671.58
TOWNHOME FF=5673.08 FF=5673.58
TOWNHOME FF=5672.69 FF=5673.19
TOWNHOME FF=5675.26 FF=5674.76
TOWNHOME FF=5674.70 FF=5673.70 FF=5674.20 FF=5673.20
TOWNHOME FF=5676.57 FF=5675.57 FF=5676.07 FF=5675.07
TOWNHOME FF=5675.62 FF=5676.12 FF=5676.62 FF=5677.12
TOWNHOME FF=5677.50 FF=5678.00 FF=5678.50 FF=5679.00

LEGEND

EXISTING CONTOURS — 5170 5171

PROPOSED CONTOURS — 5170 5171

PR STORM SEWER W/ INLET AND FES

ABBREVIATIONS	
BLDG	BUILDING
ESMT	EASEMENT
EX	EXISTING
ROW	RIGHT OF WAY
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
HORZ	HORIZONTAL
MH	MANHOLE
N	NORTH, NORTHING
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PVC	POLYVINYL CHLORIDE

RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SAN	SANITARY
SS	SANITARY SEWER
STM	STORM
TYP	TYPICAL
UTIL	UTILITY
VERT	VERTICAL
WAT	WATER

50 0 50 100
SCALE: 1" = 50'

811
Know what's below. Call before you dig.

CHECKED BY:
DRAWN BY:

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

AVALON ARVADA
CONDITIONAL USE PERMIT

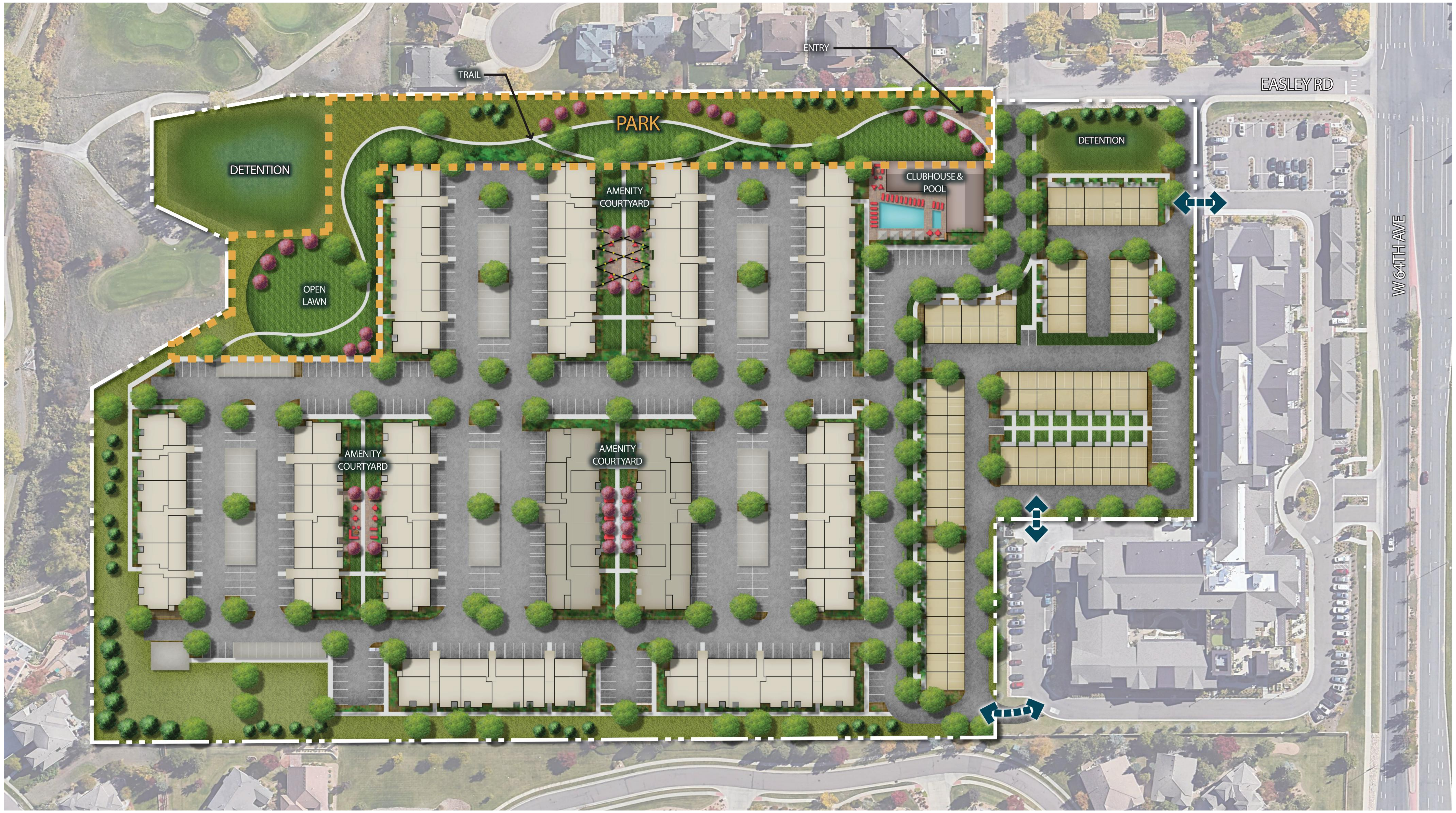
OWNER:

NOT FOR CONSTRUCTION

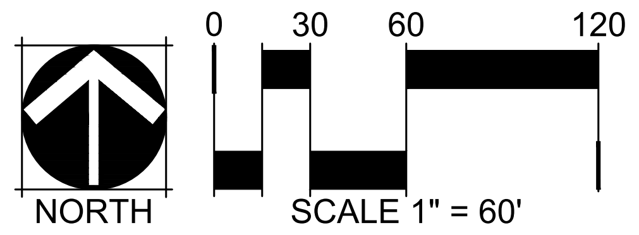
DATE:
05/23/2025 - CUP 01
07/08/2025 - CUP 02
09/12/2025 - CUP 03

SHEET TITLE:
OVERALL GRADING PLAN

5 OF 8


ENTRY
TRAIL
EASLEY RD
PARK
DETENTION
DETENTION
CLUBHOUSE & POOL
AMENITY COURTYARD
OPEN LAWN
AMENITY COURTYARD
AMENITY COURTYARD
W 64TH AVE

SMALL URBAN PARK		
	REQUIRED	PROPOSED*
SMALL URBAN PARK	10% OF PROJECT AREA	10.00%
	87,555 SF	87,555 SF
* SITE PLAN IS CONCEPTUAL IN NATURE FINAL DESIGN WILL BE PROVIDED AT TIME OF SITE PLAN REVIEW		


NORTH
0
30
60
120
SCALE 1" = 60'

NORRIS DESIGN
PEOPLE + PLACEMAKING
1101 BANNOCK STREET
DENVER, CO 80204
P 303.892.1166

NORRIS-DESIGN.COM

AVALON ARVADA
CONDITIONAL USE PERMIT
17201 W. 64TH AVE. ARVADA, CO

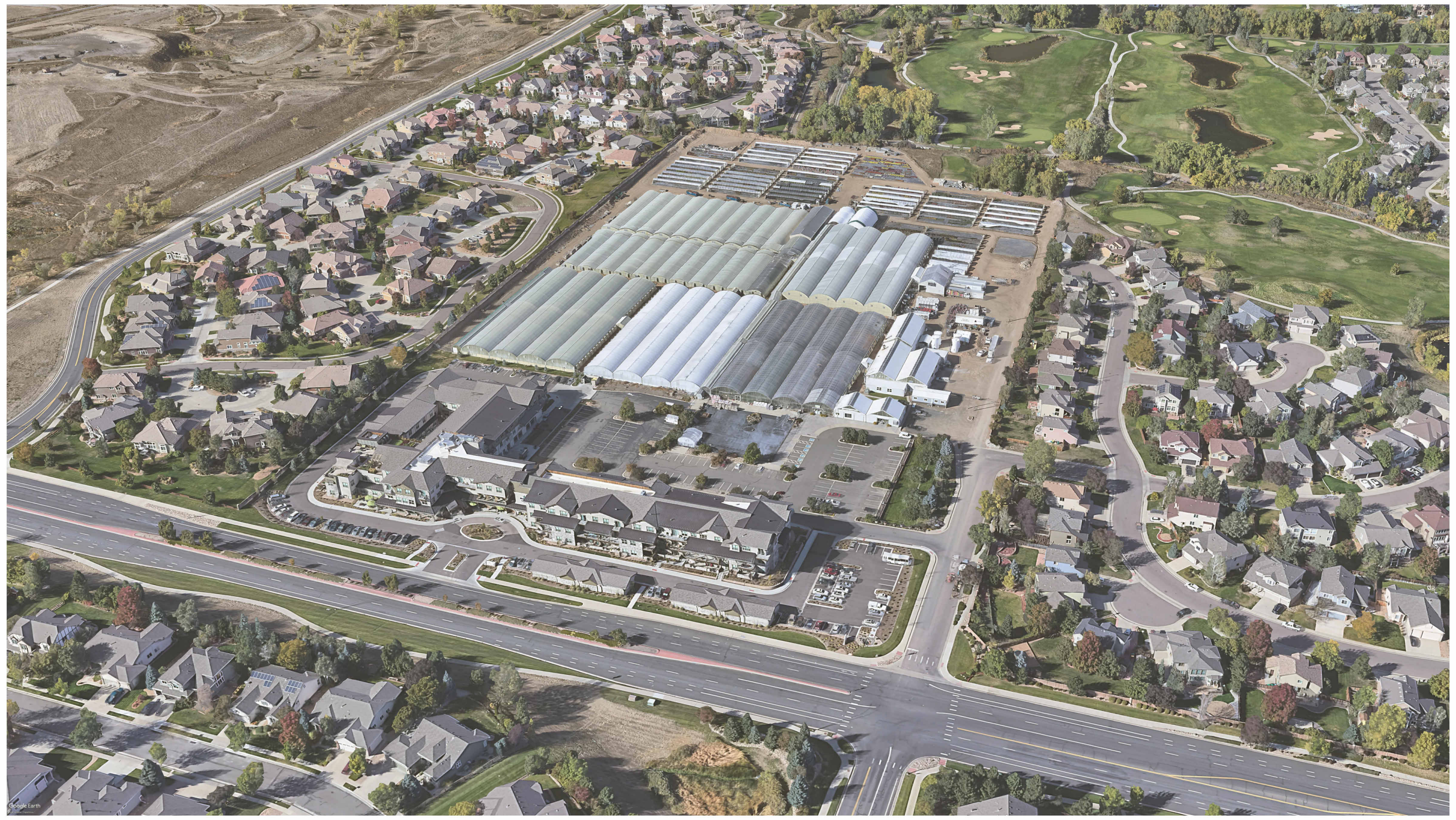
OWNER:
WELBY GARDENS CO LLC
17201 W. 64TH AVE.
ARVADA, CO 80007

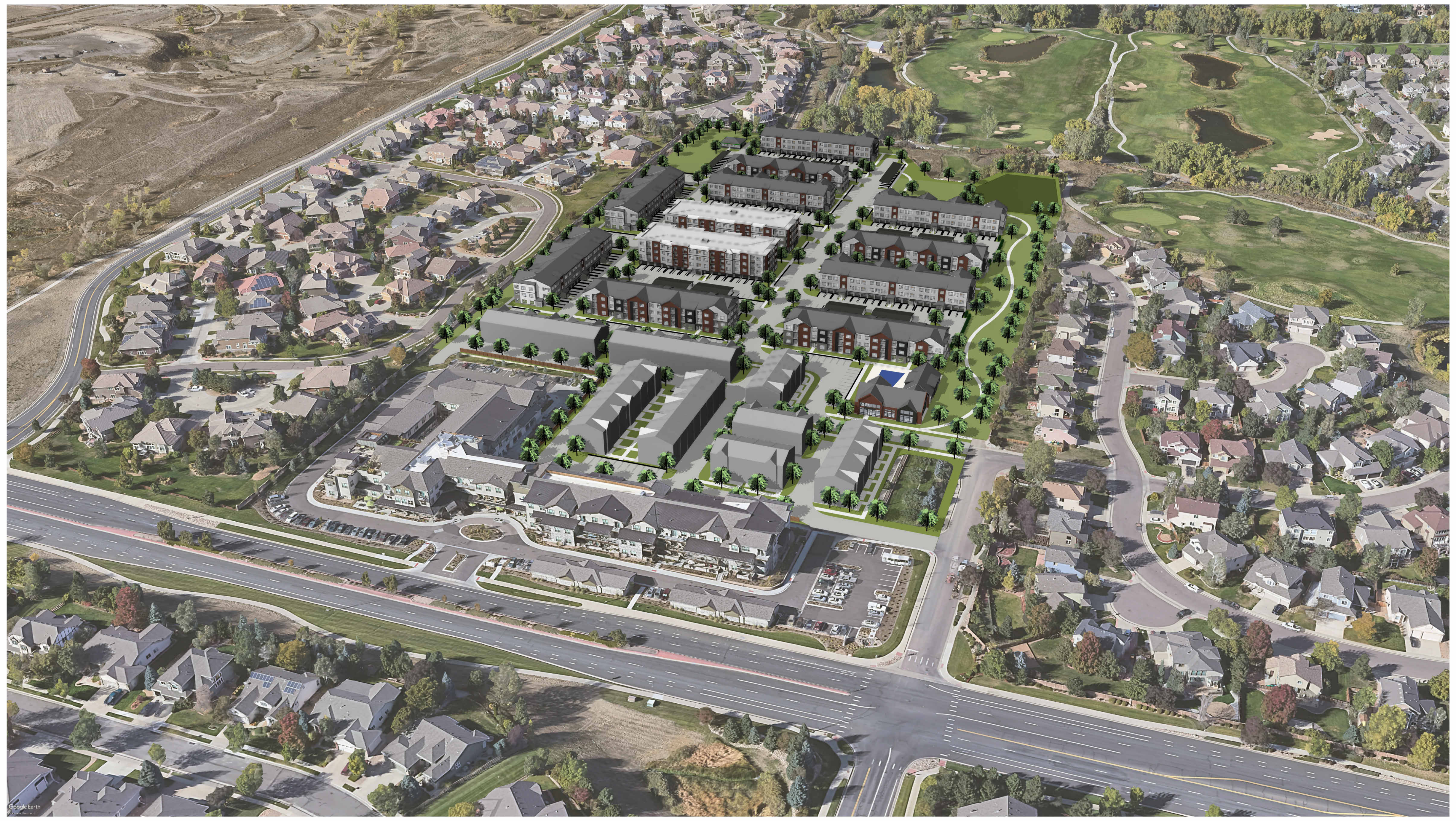
NOT FOR CONSTRUCTION

DATE:
5/23/2025 - CUP 01
07/08/2025 CUP 02
10/16/2025 CUP 03

SHEET TITLE:
LANDSCAPE PLAN

CHECKED BY: DD
DRAWN BY: KR





studio PBA
1575 GILPIN STREET DENVER, CO 80218
PH: 303.592.2904 FX: 303.592.2387
www.studiopba.com

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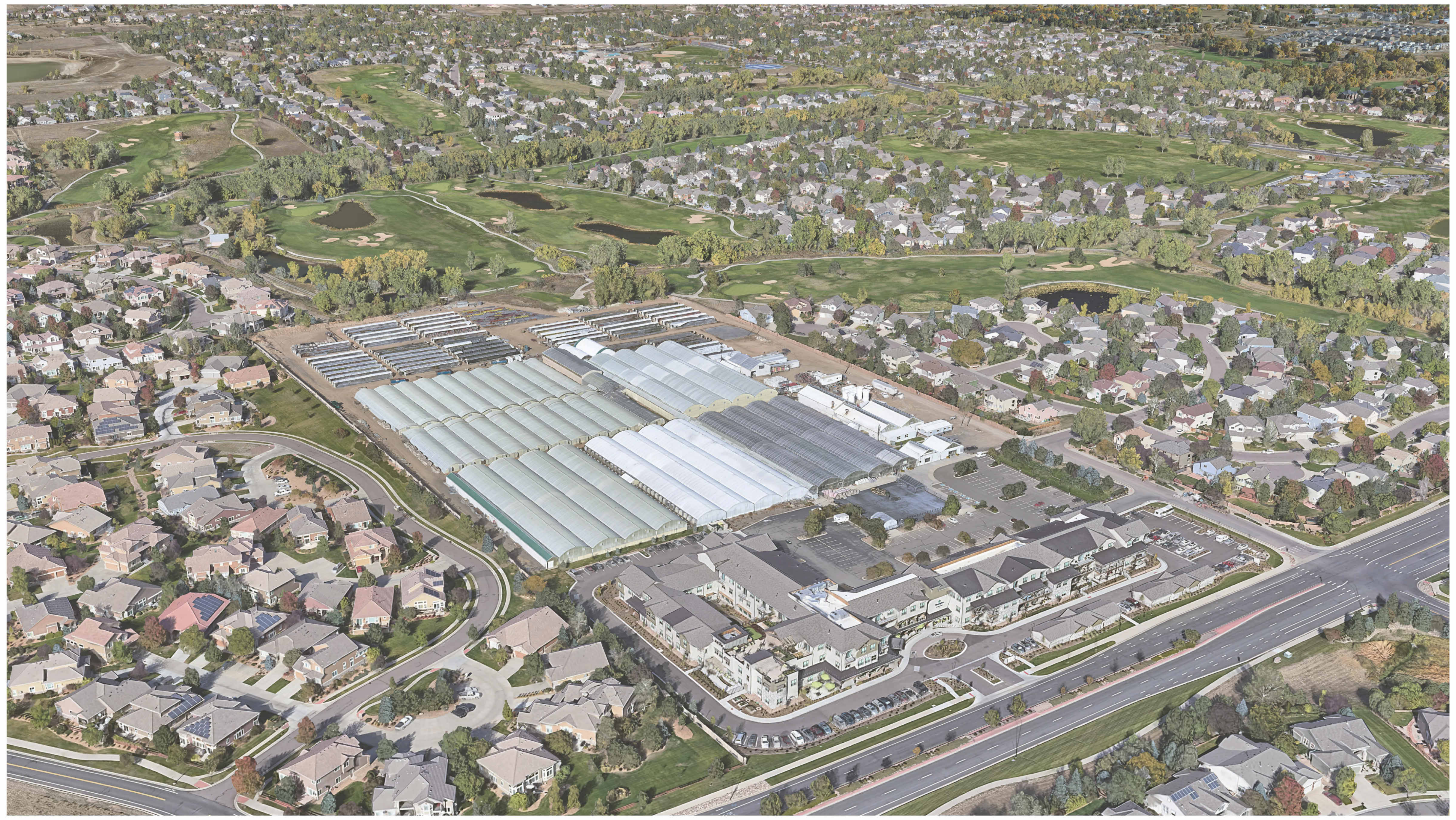
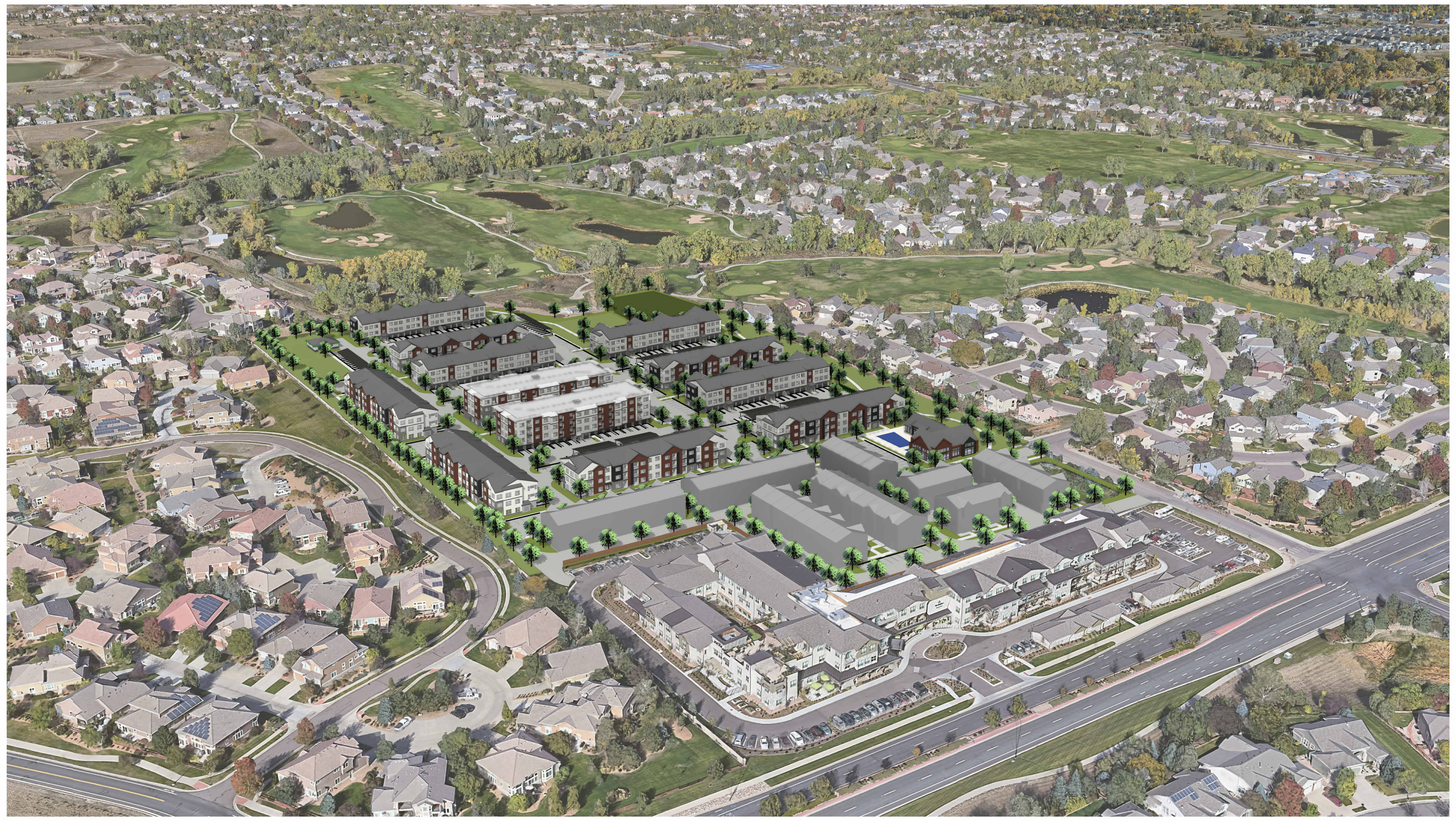
DATE:
5/26/2025 - CUP 01
7/08/2025 - CUP 02
10/16/2025 - CUP 03

SHEET TITLE:
SITE AERIAL - SOUTHEAST





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DATE:
5/26/2025 - CUP 01
7/08/2025 - CUP 02
10/16/2025 - CUP 03

SHEET TITLE:
SITE AERIAL - SOUTHWEST

CED Boards and Commission <cedboardsandcommission@arvada.org>

Pre-Proposal for Welby Gardens by The Pachner Co

1 message

ANNE EARL [redacted] Wed, Jan 15, 2025 at 3:55 PM
To: cedboardsandcommission@arvada.org

They contacted Westwoods about their pre-proposal to build multi family housing and townhomes. 390 apartments and 50 townhomes (1,000 cars?) on Welby Gardens, which they have not yet bought. Please do not allow them to buy this property which should be used for one-family homes similar to Westwoods. This is not appropriate to be next to the $1M homes of Westwoods, and
this would create a pile- up of traffic on the short Street of Easley, trying to get on to 64th Welby gardens should be used for homes similar to Westwoods. This is not an area for apartments. It is across 64th Ave from Fieldstones prestigious homes. It also seems that they would take away parking from Morningstar. Have there been any other proposals for Welby Gardens ?

CED Boards and Commission <cedboardsandcommission@arvada.org>

No development on Easley

1 message

Anastasia Horwith [redacted] Fri, Jan 9, 2026 at 10:14 AM
To: Cedboardsandcommission@arvada.org

Please don’t allow all these high density properties to be built in this location. Arvada has a serious problem in that they keep building tons more high density housing but don’t have the resources or infrastructure to support it. We have water issues, road issues and lack of good management of development so far. I understand that this property will be developed eventually but please no high density housing. This approach to development, especially in west Arvada, is destroying the quality of life and our property values.
Sent from my iPhone

CED Boards and Commission <cedboardsandcommission@arvada.org>

Opposing Development at Welby Gardens

1 message

Ard [redacted] Mon, Jan 12, 2026 at 12:37 PM
To: "C sion@arvada.org" <Cedboardsandcommission@arvada.org>

This email is to express to you that my family and I vehemently disagree with the planned, new development at Welby Gardens. We have been residents in this area for 50 years. We have seen Quaker street go from dirt road to paved, farm land lost, and suffered a slew of new residents moving in over the years. We have put up with the added traffic and crime that has entered into our lives. Now you want to add more people and traffic and problems. This is very sad for us (again) to have to put up with and experience. Our quiet residential area is no longer the place we delighted in living. More taxes, higher energy costs, water, noise and lack of road egress. This adds no value to anyone. Please do not build here.

Regards,

A. Kesson & family

17351 W 64th Ave Suite
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Councilman Fifer,

I am a resident of MorningStar Arvada Senior Living facility at 64th Street and Easley Road and I respectfully request that you reject approval of the Welby Gardens Development Project. As currently proposed, this mega apartment project (435 living units with over 650 automobiles) would add only one new exit to Easley Road in addition to the existing outlet we share with Welby Gardens resulting in overwhelming the intersection of 64th Street and Easley Road.

Our senior residents (approximately 160 with a average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially through our private parking lot.

I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully,
Ann E Marion

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

17351 W 64th Ave Suite
Arvada CO 80007

October 3, 2025

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8101 Ralston Road
Arvada, CO 80002.

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Respectfully,
Ann E Marion

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

CED Boards and Commission <cedboardsandcommission@arvada.org>

Avalon Arvada

1 message

Andy McAvi [redacted] Wed, Jan 14, 2026 at 8:16 AM
To: "cedboards" <cedboardsandcommission@arvada.org>

Dear, Community and Economic Development Department:

Does Arvada really need any more Multi-Family?

One of my main concerns is the traffic of course, McIntyre is already constantly in gridlock and I doubt the Northwest Parkway will ever get approved. (Someone put up a sign that says “Think Traffic is Bad now Just Wait”) How true is that statement?

Another concern is Avilla Mesa Vista at 5400 McIntyre with 128 Units to be delivered soon and by the way the Community and Board recommended a no vote and yet the Commission voted in favor and then increased the Density, so is this where we are headed here by saying approximately 384 Multi-Family and approximately 51 Townhomes?

Let’s not forget Golden Technology Center to be built at 60th and McIntyre those three buildings totaling 512,321 S/F, once they get their water issues solved. You can bet Amazon will be occupying one of those buildings, you know how bad Amazon wants an Arvada presence.

Thanks in advance for your time reading my commits and look forward to your solutions.

Regards,

Andy McAvin

16864 W 71st Ave

Arvada, Co. 80007

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Development project #DA2025-0035 on West 64th - Scary!

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 15, 2026 at 2:26 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Hi Dixie,

Here is another emailed comment.

Rozalynne

---------- Forwarded messa
From: **Anthony Pankratz** [redacted] >
Date: Thu, Jan 15, 2026 at
Subject: Development project #DA2025-0035 on West 64th - Scary!
To: RThompson@arvada.org <RThompson@arvada.org>

Dear Rozalynne Thompson,

Project # DA2025-0035

I am writing to encourage you and the city council to oppose and reject the current development plan listed above.

I am a proud native of Jefferson County and have lived in the great city of Arvada for over 30 years. This development proposal is bad news and ugly architecture for our beautiful city. I am not opposed to intelligent, well-thought-out housing being built on this land, but the current plan is quite awful. At Village of Five Parks off 88th, the planning was well-designed, and I hope the city will require the developer to submit similar renewal plans that honor the beauty and design of the surroundings. In its current state, the proposal is far too dense to enhance or protect the beauty of the surrounding neighborhoods.

There are many reasons my community and I oppose the current plan. The buildings' architecture features flat roofs, and they will tower over the current home styles by 3 stories. The building should be limited in height so we can all enjoy the foothill views and colorful sunsets. I do not want our community to look and feel like a dense urban city street. The western landscape should be valued and protected for future generations. Please have the developer limit the housing development to 2 stories tall. It is up to our city leaders to design joyful and desirable neighborhoods. Please do not let a wealthy development company stuff such dense housing into our western landscape. Clearly, their current design proposal puts their own profits ahead of the desires of sensible housing development or the surrounding homeowners.

Another significant failure in the current proposal is that traffic congestion will be unsafe and difficult to navigate for people using 64th. The lack of multiple entrances is unsafe for traffic flow. The density should be very low so that far fewer cars use our streets. The developer has not completed the traffic study thoroughly and has misled our city council. The current design forces spillover traffic through a quiet neighborhood street. In the event of a fire, there is no safe street to use for emergency evacuation. Our city and fire department should not be granting a special variance, as fire danger is increasing in this area.

The site is currently zoned Arvada MX-S, which is a mixed-use suburban designation. The Arvada Comprehensive Plan states that these types of sites should "be strategically located, pedestrian-oriented activity centers" and should "be located in urban centers or designated corridors" and that they should demonstrate the following characteristics: transit supportive mix of retail and employment, streets that define the center or amenities, pedestrian-oriented, and interconnected to multiple streets. This proposal falls short on all these items. Even though the site is zoned Mixed Use, the proposal differs significantly from the Arvada Comprehensive Plan.

Finally, our citizens are deeply concerned about the toxic chemicals from the former greenhouse that was on this site for 50 years. Many highly toxic and carcinogenic chemicals, including Chlorodane, Nitrofen, Paraquat, and Asbestos. The developer has stated that the site will need environmental cleanup. The developer also plans to extend the water runoff plan to drain contaminated water into Ralston Creek. This is unacceptable. Our city leaders need to stand up for responsible and intelligent housing development.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Fwd: Bad development project # DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 15, 2026 at 2:54 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Hi Dixie,

I think this is a duplicate of the last one that I sent to you.

Rozalynne

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Thu, Jan 15, 2026 at 2:50 PM
Subject: Fwd: Bad development project # DA2025-0035
To: Rozalynne Thompson <rthompson@arvada.org>

For the record.

---------- Forwarded messa
From: **Anthony Pankratz** [redacted]
Date: Thu, Jan 15, 2026 at
Subject: Bad development project # DA2025-0035
To: JEGarner@arvada.org <JEGarner@arvada.org>

Dear Jessica Garner,

Project # DA2025-0035

I am writing to encourage you and the city council to oppose and reject the current development plan listed above.

I am a proud native of Jefferson County and have lived in the great city of Arvada for over 30 years. This development proposal is bad news and ugly architecture for our beautiful city. I am not opposed to intelligent, well-thought-out housing being built on this land, but the current plan is quite awful. At Village of Five Parks off 88th, the planning was well-designed, and I hope the city will require the developer to submit similar renewal plans that honor the beauty and design of the surroundings. In its current state, the proposal is far too dense to enhance or protect the beauty of the surrounding neighborhoods.

There are many reasons my community and I oppose the current plan. The buildings' architecture features flat roofs, and they will tower over the current home styles by 3 stories. The building should be limited in height so we can all enjoy the foothill views and colorful sunsets. I do not want our community to look and feel like a dense urban city street. The western landscape should be valued and protected for future generations. Please have the developer limit the housing development to 2 stories tall. It is up to our city leaders to design joyful and desirable neighborhoods. Please do not let a wealthy development company stuff such dense housing into our western landscape. Clearly, their current design proposal puts their own profits ahead of the desires of sensible housing development or the surrounding homeowners.

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--

Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm
CITY OF ARVADA

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CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: My terror about development plan on 64th

1 message

Josie Suk <jsuk@arvada.org> Thu, Jan 15, 2026 at 1:35 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Thu, Jan 15, 2026 at 1:32 PM
Subject: Fwd: My terror about development plan on 64th
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Michael Griffith** <mgriffith@arvada.org>
Date: Thu, Jan 15, 2026 at 1:30 PM
Subject: Re: My terro an on 64th
To: Anthony Pankratz [redacted] >, Council <Council@arvada.org>, Rachel Morris <rmorris@arvada.org>, Don Wick <dwick@arvada.org>, Benjamin Perko <bperko@arvada.org>, Kristen Rush <kristen@arvada.org>

Good afternoon Ben,

Thank you for providing your comments, I am forwarding to the rest of council and to the city clerk for their review and to ensure the points you brought up are included in the permanent record for the case in question. You can also provide comments in person during our business meetings if you choose to do so. The project you mentioned will be reviewed by the planning commission first and then City Council at a later date.

Best,

Mike Griffith

On Thu, Jan 15, 2026 at 10:47 AM Anthony Pankrat [redacted] > wrote:

> Dear Michael Griffith,
>
> Project # DA2025-0035
>
> I am writing to encourage you and the city council to oppose and reject the current development plan listed above.
>
> I am a proud native of Jefferson County and have lived in the great city of Arvada for over 30 years. This development proposal is bad news and ugly architecture for our beautiful city. I am not opposed to intelligent, well-thought-out housing being built on this land, but the current plan is quite awful. At Village of Five Parks off 88th, the planning was well-designed, and I hope the city will require the developer to submit similar renewal plans that honor the beauty and design of the surroundings. In its current state, the proposal is far too dense to enhance or protect the beauty of the surrounding neighborhoods.
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--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CED Boards and Commission <cedboardsandcommission@arvada.org>

Yes to housing diversity in West Arvada

1 message

Allison Phipp [redacted] Mon, Jan 12, 2026 at 10:44 PM
To: cedboardsa

This comment is for the Arvada Planning Commission in regards to the following:
January 21, 2026 meeting
Welby Gardens Residential Community (or AvalonBay Communities
Arvada Project)
Project Number: DA2025-0035
Address: 17201 W 64th Ave, Arvada, CO 80007

Housing Diversity is important and our workers in west and NW Arvada deserve housing options. Teachers and grocery store workers need places to live that are close by where they are working. This would cut down on commuting congestion and pollution and serve for a better quality of life for residents and workers in the area. New market-rate homes add needed supply and help reduce rent pressure across the housing market, benefiting affordability at multiple income levels. The infrastructure of roads and stop lights are already adequate in the area to accommodate a condensed housing project. I hope you will consider housing diversity a priority in Arvada.

Thank you for hearing my comment.

Allison Phipps
Arvada resident, 80002

CED Boards and Commission <cedboardsandcommission@arvada.org>

Re: Welby Gardens - Jan 21 Planning meeting

1 message

Barbara Bigelow [redacted] Sun, Jan 11, 2026 at 10:00 AM
To: "cedboardsandcommission@arvada.org" <cedboardsandcommission@arvada.org>
Cc: "rthompson@arvada.org" <rthompson@arvada.org>

Correcting for the arvada.ORG email address. Thank you!

Barbara

From: Barbara Bigelow [redacted]
Sent: Sunday, January 11, 2026 9:57 AM
To: cedboardsandcommission@arvada.com <cedboardsandcommission@arvada.com>
Cc: rthompson@arvada.org <rthompson@arvada.org>
Subject: Re: Welby Gardens - Jan 21 Planning meeting

Hi,
Here are a series of questions that I'm hoping can be addressed at the upcoming planning meeting. Further below are other questions as well. Thank you for your time and consideration!!!

1. Will the planning meeting provide answers to citizen concerns about the safety and humanity of this type of development that seems to only maximize profits for the developer?

2. Have the developer's plans changed since last April?

3. Will there be more than one ingress/egress road for all these people to use in the event of a Marshall type of fire? What would incentivize the developer to provide more ingress/egress roads?

4. Are there plans to investigate and mitigate any environmental concerns from how the land has been used for the previous ~20 years? What would incentivize this to occur?

5. Will a small percentage of the housing be affordable? What would incentivize the developer to include affordable housing?

6. What would incentivize the developer to include solar charging stations?

7. What would bring RTD into the planning phase to provide public transportation to the new development?

Barbara

From: Todd Nicotra [redacted]
Sent: Thursday, Apr
To: Barbara Bigelow [redacted]
Cc: rthompson@arvada.org <rthompson@arvada.org>; Gregory Himme [redacted] >;

Marcus Pachne [redacted]
Subject: RE: Wel

Dear Ms. Bigelow,
Thank you for your questions. We are very early in the planning and design process, so we don't yet have complete answers to every single question below. We will, however, cover almost all of the topics that you have raised in our presentation tonight. So I think and hope that we will be able to address most of your questions this evening. If we do not answer all of your questions tonight, please feel free to ask questions during the Q&A portion or even after the meeting. I plan to stick around after the meeting in case people have additional questions.
Thank you again for reaching out.
Best regards,
Todd Nicotra

Todd Nicotra
Vice President - Development

AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025
[redacted]

From: Barbara Bigelow [redacted]
Sent: Thursday, A
To: Todd Nicotra [redacted] >
Cc: rthompson@
Subject: Re: Welby Gardens

You don't often get email from barbarabigelow@hotmail.com. Learn why this is important

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

And one more question for tonight: will 10% of these housing units be affordable housing units?

Thank you,
Barbara

From: Barbara Bigelow [redacted]>
Se
To [redacted] [redacted]>
Cc: >
Subject: Re: Welby Gardens

Apologies, Rozalynne, I thought I had added you as a recipient.

Barbara

From: Barbara Bigelow [redacted]
Se
To [redacted] [redacted] >
Subject: Welby Gardens

Hi Todd and Rozalynne,

I have some questions about the proposed development replacing Welby Gardens. I do plan on attending the meeting on Thursday, April 10.

1. Will there be adequate parking for the apartments and townhomes including visitors? What is the anticipated ratio of parking spots to residences? Will solar powered charging stations be available?
2. Will there be access to public transportation?
3. What is the expected impact on major road traffic heading to Golden, Boulder, Arvada business areas, and downtown Denver?
4. What are the plans for the increased demand on water supplies? Which reservoir will be used to meet this demand?
5. What are the plans for increased demand on energy supplies? Will solar be deployed?
6. Are bike lanes included in the development with access to the Ralston Creek trail?
7. How many levels/floors high will the apartments and townhomes be to fit within the 45 feet maximum allowed height?
8. How many apartments per building are planned to be built? Will there be a mix of 1-, 2-, and 3-bedroom apartments? Will the apartments be walk-up accessible?
9. Will apartment sharing be anticipated?
10. Which schools are expected to be impacted by this development and how are students expected to travel to these schools?
11. Are there any environmental issues with any of this land or nearby land? Any previous landfills nearby? Any previous soil contamination?
12. What is the expected impact on existing nearby waterways?
13. Will the park be intended for only young children or will it include community gathering areas?

Thank you,
Barbara

NOTICE: This message, including any attachments, is proprietary to AvalonBay Communities, Inc., intended solely for the use of the individual or entity to whom it is addressed and may contain information designated as internal use, confidential, and/or attorney-client privileged work product doctrine information. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this message are prohibited. If you have received this email in error, please destroy it and notify the sender immediately.

Beverly Brayden
Morning Star of Arva
Apartment 1011
August 4, 2025

Mr. Bob Fifer, Arvada City Council
8101 Ralston Road
Arvada, CO 80002

Dear Mr. Fifer,

As a Morning Star of Arvada resident for five years I would like to express my feelings about the townhouses and apartments project that is being proposed for the Welby property north of our senior living facility.

My apartment is on the first floor on the north side of the east wing of the building. As I under-stand it, fifty-one townhomes three stories high wil be built directly north of my apartment. The propose distance from Morning Star property is 45 feet.

On the north side of my apartment is a porch tha is the length of the apartment and about 6 feet wide. It is a quiet place to have an ice cream cone after lunc There is a view of the south end of the Flatirons. This is what I will be losing with a three story building to north. The only access for an estimated 600 cars is directly next to the property line. Because of the short distance to 64th and a proposed traffic light, I can im gine cars lined up idling their motors waiting for the ligh

the air will be poisoned with gas fumes.

The fire truck solution is another questionable one. It goes through Morning Star property on the northwest employee parking.

This Avalon Bay project, if built, may turn out to be a major headache for the police, th city council and business people in the area. For me and for other north side residents it wi be a disaster.

Sincerely,

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17351 W 64th Ave
Arvada CO 80007

October 3, 2025

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RE: Avalon Bay Project on W. 64th Ave.

Dear Mr. Fifer,

I am writing to express my concern over the CONTENT and MAGNITUDE of the proposed AVALON BAY project/proposal. Yes, as a resident of MORNINGSTAR, I am "a renter", but at the same time, I also vote!

Basically, I see two major problems. HEALTH and SAFETY. For example, there will be increased traffic, a problem with emergency access, the possible elimination of on-street parking on Easley, and or the cutting down of resident parking for MORNINGSTAR, perhaps an issue with chemical contamination caused by fertilizer, pesticide and herbicide use by the Nursery. There a number of sub-issues within these two major problems. No doubt others have addressed those in their letters of concern.

Perhaps thought should be given to lower density housing, such as single-family dwellings, bringing in new soil, installing better paths, and construction of adequate emergency access and suitable pedestrian walkways.

Thank you for your consideration.

Sincerely,

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Rupert (Council Member at Large)

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8101 Ralston Road
Arvada, CO 80002

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Technical Opposition to Project #DA2025-0035 - Welby Gardens

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Jan 20, 2026 at 4:34 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Here's another comment for the public record.

Sincerely,
Rozalynne

---------- Forwarde
From: **Cal Gran** [redacted]
Date: Tue, Jan 20,
Subject: Technical Opposition to Project #DA2025-0035 - Welby Gardens
To: <RThompson@arvada.org>, <RSmetana@arvada.org>, <JEGarner@arvada.org>

Dear Ms. Thompson, Mr. Smetana, and Ms. Garner,

Please include these comments in the official record for Project #DA2025-0035.

I am formally opposing the current application for the Welby Gardens site. The proposal fails to meet the Arvada Comprehensive Plan's expectations for MX-S zoning, specifically regarding building height transitions and pedestrian orientation.

I strongly recommend that the Planning Department direct the developer to submit a 2-story mixed-use plan. This would ensure:

1. Compliance with "step-down" height requirements for adjacent single-family homes.
2. A more manageable traffic impact on the single unlined stub road.
3. A development that truly serves as a neighborhood-scale amenity rather than an isolated high-density complex.

Thank you for your consideration of these concerns.

Sincerely,

William Grant

15894 W 71st place, Arvada

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Garderns

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Jan 20, 2026 at 8:33 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

Here's another public comment for the record.

Rozalynne

---------- Forwarded messa[redacted]
From: **clarence lederhos** [redacted]>
Date: Mon, Jan 19, 2026 a
Subject: Welby G[redacted]
[redacted] [redacted] Jeanne/Mike Wright
[redacted] Maria [redacted] hompson@arvada.org <rthompson@arvada.org>

Attached please find my comments I hope to read Wednesday at the Planning Commision Hearing. Also, the PC Hearing Notice..

Please comment if you wish and hope that citizen input is effective. What a potential FUBAR.

Clarence

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

2 attachments

Welby Gardens Development.pdf
565K

WGD PDF.pdf
23K

Good evening:

I am Clarence Lederhos. I live @6735 Terry Ct., just east across the golf course from the proposed Welby Gardens Development. I will refer to it as WGD during the rest of my comments.

I am opposed to WGD based on the following:

1. In about 1982 my family was living in our Dome house at 78th and Alkire St. North Jefferson County Rec. District (as it was then known) announced its plan to have a professional fireworks display south of our property at the “Youth Memorial Sports Complex”. We were excited and invited friends for barbecue and viewing from the top of the dome-great fun, and coincidentally to celebrate my wife’s birthday.

   However, the following year the AFPD did not permit the fireworks for the reason that they were concerned about the ingress/egress. Made perfect sense even though in my mind Alkire had ingress/egress to the north and south.

2 WGD has no such luxury. The ingress and egress are the same point. A conflagration would be a disaster. Can you even imagine the scene: AFPD vehicles attempting to enter, residents trying to escape, while the old folks at Morning Star panicked.
Does anyone remember the Marshall fire?

3. The proposed WGD is totally out of touch with the existing surrounding community. I am not a NIMBY, but good Lord use some common sense. What I fear is fostered every time I drive east on 58th avenue and see the schlocky apartment buildings, and then drive into the neighborhoods surrounding Olde Town and see the same.

4. The property is stated to be 20.1 acres. After subtracting the 2 acres for the “park”, I calculate 24.04 units per acre, not 21.7— way too dense for the community. Arvada is not New York city.

5. A better use could be as an extension of Morning Star. I know there has been some animus between the owners of the proposed WGD and Morning Star, as expressed by managers of the retail Welby

Gardens store to me when I was shopping there years ago. I can envision cottages ala Arvada's Springwood senior living facility. Morning Star residents could move there before or after needing more or fewer of the services which Morning Star provides.

6. Even so, the density should be reduced, the height should be reduced to 3 stories, the exterior should emulate the neighborhood, and every unit should have a fire suppression system.

CITY OF
ARVADA

PLANNING COMMISSION
NOTICE OF PUBLIC HEARING

This notice is to inform you of an upcoming opportunity to participate in a public hearing.

DATE OF NOTICE:	January 6, 2026
CASE NAME:	Avalon Arvada Conditional Use Permit
CASE NUMBER:	DA2025-0035
HEARING BODY:	Planning Commission
HEARING DATE AND TIME:	Wednesday, January 21, 2026 at 6:15 PM
DEVELOPMENT LOCATION:	17201 W. 64th Ave., Arvada, CO 80007
APPLICATION SUMMARY:	The application requests Conditional Use approval to construct approximately 384 multi-family units and approximately 51 townhome units with a total proposed density of 21.7 dwelling units per acre (DU/Acre) on a 20.1 acre site. The project site is located north of the existing MorningStar Senior Living of Arvada. The community will include a minimum 2-acre Urban Park. All residential buildings are proposed to comply with the maximum allowed height of 45 feet.
CITY OF ARVADA STAFF CONTACT:	Rozalynne Thompson
PHONE NUMBER:	720-898-7436
EMAIL ADDRESS:	rthompson@arvada.org

The public hearing will be held in the City Council Chambers of the Arvada City Hall. If you would like to make a public comment you may:

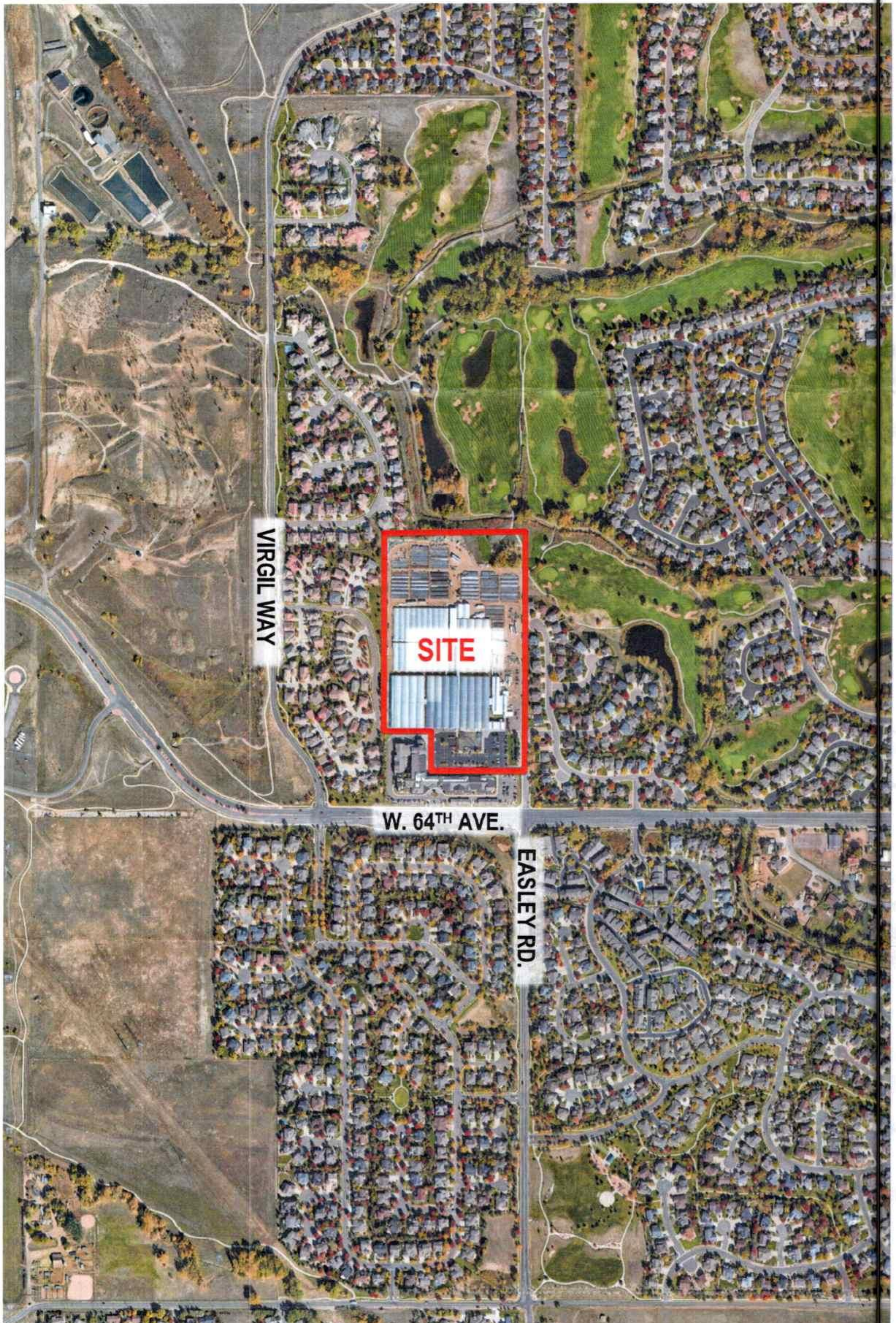
- **Provide in-person comments.** Comments can be made in person at the meeting in Arvada City Hall's Council Chambers - 8101 Ralston Rd. Participant speaking time may be limited if necessary to give all persons who have requested to speak an equal opportunity to do so.
- **Submit comments for the record.** Emails with comments need to be sent to the Community and Economic Development Department at CEDBOARDSANDCOMMISSION@ARVADA.ORG no later than 5PM on the day before the meeting takes place. Comments will become part of the permanent record.

Additional information regarding the development can be obtained at:
ARVADAPERMITS.ORG/ETRAKIT3/SEARCH/PROJECT.ASPX?ACTIVITYNO=DA2025-0035

The agenda for the meeting will be available at ARVADA.ORG/PLANNING-COMMISSION the Thursday before the meeting.

A project vicinity map has been included on the reverse side of this notice.

PROJECT VICINITY MAP


VIRGIL WAY
SITE
W. 64TH AVE.
EASLEY RD.

CED Boards and Commission <cedboardsandcommission@arvada.org>

Community and economic development - Avalon Arvada conditional use permit DA2025-0035

1 message

Cheryl MEE [redacted] Sat, Jan 10, 2026 at 12:49 PM
To: "cedboards a.org" <cedboardsandcommission@arvada.org>

Planning Commission:

This email is being sent to you because of our outrage, as well as our neighbors, located in the Fieldstone subdivision located right across 64th from the proposed high density proposed building permit site.
We have lived in Arvada for 50 years and realize that Arvada has grown and will continue to grow, but with common sense instead of townhouses and condos being thrown up everywhere. Each one crammed n every open space the developers can purchase along with rubber stamp approval from the planning commission!
Now this! In a community of single family homes, sticking a project of 384 multi-family units and 51 townhouse units, what are you thinking? Common sense should again tell you that the traffic patterns alone cannotsustain this additional development. Right now, if any of you have been caught in traffic hour at the intersections of both McIntyre and 64th or Indiana and 64th you would realize how unworkable any additional traffic would be!
We are planning to protest this project in every possible way becausewe know what is at stake!
Please take our give our concerns serious consideration.

Larry and Cheryl Mee
6251 Virgil St
Arvada, CO

Sent from my iPad

17351 W 64th Ave Suite
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Councilman Fifer,

I am a resident of MorningStar Arvada Senior Living facility at 64th Street and Easley Road and I respectfully request that you reject approval of the Welby Gardens Development Project. As currently proposed, this mega apartment project (435 living units with over 650 automobiles) would add only one new exit to Easley Road in addition to the existing outlet we share with Welby Gardens resulting in overwhelming the intersection of 64th Street and Easley Road.

Our senior residents (approximately 160 with a average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially through our private parking lot.

I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully, CHARLES A. SCHUELER

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

17351 W 64th Ave Suite
Arvada CO 80007

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I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully, CHARLES A. SCHOELER

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

17351 W 64th Ave Suite
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Councilman Fifer,

I am a resident of MorningStar Arvada Senior Living facility at 64th Street and Easley Road and I respectfully request that you reject approval of the Welby Gardens Development Project. As currently proposed, this mega apartment project (435 living units with over 650 automobiles) would add only one new exit to Easley Road in addition to the existing outlet we share with Welby Gardens resulting in overwhelming the intersection of 64th Street and Easley Road.

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10/13/2025

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Sincerely

Chuck Shultz

Morning Star Arvada resident

10/13/2025

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Chuck Shultz
Morning Star Arvada resident

Proposed Avalon Development - 64th Ave. & Easley Road

1 message

Chad Smith [redacted] Thu, Jan 23, 2025 at 12:25 PM

To: "bfifer@arvada.org" <bfifer@arvada.org>, "cedboardsandcommission@arvada.org"
<ce d
Cc [redacted] [redacted] Jasmine Smith [redacted]
"POD@arvada.org" <POD@arvada.org>, "Council@arvada.org" <Council@arvada.org>

To whom it may concern -

Please see the attached formal letter of opposition to the proposed development located at W. 64th Ave & Easley Rd. Your urgent response would be greatly appreciated.

Regards,

Chad Smith
17032 W. 64th Circle
007
[redacted]

Avalon Rebuttal Letter 01-23-2025.pdf
108K

Chad Smith
17032 W. 64th Circle

[redacted]

January 23, 2025

City of Arvada
Planning and Zoning Department
8101 Ralston Road
Arvada, CO 80002

Dear Members of the Arvada City Council,

I am writing on behalf of concerned residents of the Westwood Links III subdivision regarding the proposed development and rezoning of the property adjacent to our community. (Welby Gardens) As members of this area, we are deeply opposed to the development proceeding, as we believe it will have significant negative impacts on the environment, safety, and the overall quality of life for our residents. We respectfully request that the City Council reconsider moving forward with this project and consider the following concerns:

1. **Easements & Eminent Domain**: We are extremely concerned about the potential use of eminent domain or disruption of existing easements in the area. These legal considerations could infringe upon the property rights of current homeowners and disrupt the integrity of our community's layout. We strongly urge the city to avoid any action that would impact on the rights of existing property owners.

2. **Traffic Studies**: Given the expected increase in traffic from the new development, we are seriously concerned about the impact on the small and narrow local roads and overall safety. This infrastructure was not upgraded when the Senior Living Center was constructed a few years ago. We request that the city conduct a comprehensive traffic study that considers cross-neighborhood traffic which we anticipate will increase significantly. Our greatest concern is the safety of our children, who play in our community and on local streets. We believe that the added traffic will pose a serious risk to our residents, particularly those with young children. Furthermore, we are alarmed that the proposed development has only **one egress point**, which could create an unsafe condition for the thousands of people who will regularly use Easley Road north of 64th Avenue. This intersection is already dangerous. This limited access could lead to severe congestion and safety hazards, particularly in emergencies. Considering recent events like the Marshall Fire and Palisade Fire, this could lead to catastrophic consequences. Human life needs to be the top priority. One egress point with a 500’ long road is not a good plan. Furthermore, the congestion on Easley Rd. will lead

frustrated drivers to 'cut the corner' by driving through our neighborhood and using Terry St. to access 64th Ave. If this plan does move forward against the will of the community. The developer should pay for a traffic light at this location.

3. **Wildlife Study**: The area surrounding the proposed development is home to a variety of wildlife, including foxes, Burrowing Owls and other potentially endangered species that currently reside on the property. The owl is a state threatened species in Colorado. We are strongly opposed to any actions that may harm the local ecosystem. We request that the city conduct a thorough wildlife study to assess the potential impact on these animals and their habitats, and to ensure that mitigation efforts are put in place to protect the natural environment.

4. **Site Triangles on 64th Avenue**: We are concerned that the planned development could initiate important sightlines at the intersections along 64th Avenue & Easley being installed. The current intersection already poses a significant safety concern for drivers and pedestrians. This would infringe on our current residents and their property. We urge the city to assess the potential land consequences this may create for our development.

5. **Light Pollution**: The proposed development would contribute to increased light pollution in our area, which is something that we, as a community, value highly. We cherish the ability to enjoy natural nighttime conditions, and the added development would diminish the quality of life for residents who currently enjoy dark skies. The city has decent ordinances; however, they are not enforced upon final inspections. (or after final inspections) We ask the city to impose strict lighting regulations to prevent any negative effects on our community's environment. The current Senior Living facility has lights on 24/7. These lights contribute to neighborhood light trespass and glare. Incorporating another neighborhood will only make things worse. We bought our homes in this neighborhood for a reason.

6. **Information on Gated Communities**: **Gated Communities**: While we respect the rights of Property developers, if the project moves forward, we request that the city consider funding the installation of entrance and exit gates to our seventy-home neighborhood to help limit cross-neighborhood traffic. As noted above in Section 2, cross neighborhood traffic is a chief concern. We feel these gates would serve to protect our community from the increased traffic flow that could result from the new development, ensuring the safety and tranquility of our area. We ask that the city evaluate how such an initiative might be funded and the logistics of implementing this solution.

7. **Frisbee Open Space Sale**: Lastly, we would like to inquire whether the city would consider selling the Frisbee open space to the developer, or as a land swap? This property has direct access onto 64th Avenue. We feel that this could alleviate some of the traffic congestion and access issues created by the new development. If this is a possibility, we ask that the city evaluate the potential benefits or drawbacks to the community, and whether such a transaction would serve the greater good of the residents.

8. **Zoning**: Was this property re-zoned? Signs were not posted of a hearing date to let the neighborhood know that the zoning of the property was changing. We feel blind-sided by the weak/nonexistent notification. Surely the Planning & Zoning Department & the City of Arvada would let their tax paying constituents know of a meeting about this change. Please advise.

We are strongly opposed to the proposed development moving forward, as we believe it will create irreversible consequences for the residents and environment of our community. We respectfully urge the City Council to reconsider approval of this project and prioritize the well-being of current residents over the proposed development.

Thank you for your attention to these significant concerns. We moved to west Arvada for less congestion and a better quality of life. We look forward to your response and trust that the city will take these issues into serious consideration. Please feel free to contact me should you require any further clarification or wish to discuss these matters further.

Sincerely,
Chad Smith
Westwood Links III

CED Boards and Commission <cedboardsandcommission@arvada.org>

Arvada growth YES

1 message

Christina Story [redacted] Wed, Jan 14, 2026 at 3:14 PM
To: cedboardsandcommission@arvada.org

Dear board,
I am a homeowner in the Westwoods community and I would like to offer my support for the building of new housing on 64th Avenue. First time home buyers need more availability during our current housing crisis.
Thanks,
Christina Story

10/3/25

DEAR MR. ROPERT,

I AM SCARED! THE AVALON BAY DEVELOPMENT TOWN HOUSES ARE GOING TOBE INCHES FROM MY WINDOWS AT MORNINGSTAR. I AM AN 86 YEAR-OLD WOMAN WHO IS VULNERABLE. ALL OF US HERE ARE VULNERABLE!! ANY YOUNG PERSON, WHO FEELS FIT, CAN BREAK IN AND THAT SO WORRIES US.

IN ADDITION, THE INFLUX OF TRAFFIC IS SUCH A WORRISOME CONCERN. THIS AREA IS JUST NOT CONDUCIVE TO THE AMOUNT OF CARS THAT WILL BE HERE.

BUT MY BIGGEST CONCERN, HOWEVER, IS SOIL CONTAMINATION. I KNOW FORMER EMPLOYEES OF BOTH THE GARDEN CENTERS THAT WERE HERE. THESE PERSONS KNOW ABOUT DUMPING CHEMICALS INTO THE GROUND. I HOPE AN INDEPENDENT SOIL STUDY IS CONDUCTED RATHER THAN TRUSTING AVALON BAY'S STATISTICS!

PLEASE RECONSIDER THIS MASSIVE INTRUSION TO OUR BEAUTIFUL ARVADA.

THANK YOU,
CAROL WEISER, RESIDENT
MORNINGSTAR OF ARVADA

10/3/25

DEAR MR. MOORMAN,

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CED Boards and Commission <cedboardsandcommission@arvada.org>

Meeting Re:Welby Gardens Development

2 messages

D Catalfamo [redacted] Tue, Jan 20, 2026 at 2:14 PM
To: "Cedboards[redacted]arvada.org" <Cedboardsandcommission@arvada.org>

I am writing to express strong opposition to the proposed development due to its significant negative impacts on public safety, infrastructure, and limited natural resources.

Traffic and Safety Concerns
The entrance to the proposed development area is already dangerous under current traffic conditions. Adding more traffic will only worsen an already hazardous situation, increasing the likelihood of accidents and congestion. This area does not need additional traffic, and the surrounding neighborhoods will bear the burden of these impacts.

Water Supply Limitations
Colorado is facing ongoing and worsening water supply challenges. This development would further strain an already dwindling resource. Our water supply is not increasing—it is decreasing. What is the proposed new source of water for this development? Arvada does not have sufficient water rights to support additional large-scale development, and the city should be focused on reducing water usage, not increasing it.

Electrical Grid Capacity and Reliability
Xcel Energy already struggles to meet current capacity requirements. This development will place additional strain on the system and increase the likelihood of power shutdowns when demand cannot be met. With hotter summers becoming the norm, rolling outages or other shutdowns will become more frequent. When power is shut down for public safety purposes, more residents will be negatively impacted as a direct result of this added demand.

Emergency Evacuation and Fire Risk
Fire risk is increasing due to drier conditions and climate trends. In the event of a wildfire or other emergency, evacuating this development and the surrounding sub-divisions would likely result in mass traffic congestion, creating a dangerous situation for residents and first responders alike.

Neighborhood Impacts
Morningstar and surrounding subdivisions will be adversely affected by this development through increased traffic, infrastructure strain, and reduced quality of life. Arvada should not attempt to develop every remaining open space without fully considering long-term consequences.

Alternative Use of the Land
Rather than approving this development, the City of Arvada should consider purchasing the land and creating a public park. This space could be connected to the Ralston Creek Path, preserving open space, enhancing recreation, and benefiting the broader community without overburdening critical resources.

For these reasons, I urge the City to deny this development proposal and instead prioritize safety, sustainability, and responsible land use planning.

D Catalfamo [redacted] Tue, Jan 20, 2026 at 2:18 PM
To: "Cedboardsandcommission@arvada.org" <Cedboardsandcommission@arvada.org>

I am writing to express strong opposition to the proposed development due to its significant negative impacts on public safety, infrastructure, and limited natural resources. My family is a resident of Arvada in the Sunrise Ridge subdivision. Below are my concerns.

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Thank you,
David Catalfamo

Opposition to Avalon Arvada Development (DA2025-0035)

1 message

Dylan and Mackenzie Jon [redacted] Tue, Jan 20, 2026 at 3:52 PM
To: "RThompson@Arvada.org" <RThompson@arvada.org>
Cc: "CEDBOARDSANDCOMMISSION@ARVADA.ORG" <CEDBOARDSANDCOMMISSION@arvada.org>

Dear Ms. Thompson and Members of the Planning Commission,

We are writing to formally express opposition to the **Avalon Arvada (DA2025-0035)** development as currently proposed. As homeowners on Russell Way in the West Woods Links neighborhood, our property is located less than a half mile from the proposed project and sits less than 50 feet from the most impacted portion of W. 64th Ave. This project, in its current form, creates direct, adverse impacts on our quality of life that have not been adequately mitigated.

Significant Noise Impact
Our property lacks engineered noise barriers to protect against traffic on W. 64th Avenue. While we have personally invested in sound-damping windows, they cannot fully mitigate the noise. Adding thousands of increased trips per day—including late-night delivery and ride-share traffic—will significantly degrade our quality of life, make our yard unenjoyable, and disturb our young daughter's sleep. Because the vast majority of services and highway access (Ward Road, I-70, and King Soopers) are to the east, the 2,800+ new daily trips will be concentrated directly behind our home. This creates a disproportionate burden on our specific block that the developer has failed to address.

Understated Daily Trip Estimates
Given the total lack of walkable amenities, the developer's estimate of 2,800 daily vehicle trips is an unrealistic low-end projection. As mentioned above, new residents are likely to drive for access to all basic services given very low walkability (Walk Score of 36) and no transit options. This is further bolstered by nearly two parking spots proposed per unit. The Institute of Transportation Engineers (ITE) rates for car-dependent areas consistently trend toward the upper quartile of national data (8.5+ trips per unit). This means the development is likely to generate an additional 3,500+ trips per day, substantially more than estimated by the developer.

Failing Traffic Level of Service (LOS)
Existing infrastructure cannot absorb this development and likely pushes many nearby intersections into failure and near failure ratings. Specifically, both the developer and the city agree that the 64th and McIntyre intersection will pushed into failure. The developer's proposal to defer the cost of the 64th and McIntyre intersection improvements to the public is a request for a taxpayer subsidy to mitigate a problem their high-density project is creating. While the developer's study suggests 64th & Quaker will remain functional, a more realistic trip generation of 3,500 daily trips suggest this development could push the LOS at this critical intersection to at or near failure. As existing residents who rely on this corridor for daily access, we are facing a direct loss of mobility and safety.

Failure to Meet the Spirit of "Mixed-Use Suburban" Designation

The Mixed-Used Suburban designation is intended to provide "neighborhood and community-serving centers" and "walkable active streetscapes." This project fails that intent entirely, as the site is considered officially car-dependent, with a Walk Score of 36 and no transit services within reasonable walking distance. The nearest grocery store (along with most basic services) is over 1.3 miles away and requires use of the road directly behind our home. The project is 100% residential and provides no retail or dining options for the community. By failing to provide any commercial component, this development exports 100% of its traffic onto already failing infrastructure, directly contradicting the Comprehensive Plan’s goal of creating sustainable, neighborhood-serving centers.

Recommendation

We urge the Commission to **Deny** this application. If the Commission chooses to move toward approval, we request the following mandatory conditions:

1. **Redesign for True Walkability:** The project should be required to include multiple on-site, neighborhood-serving commercial amenities to meet the spirit of the MX-S zone and reduce the car dependency of its residents.
2. **Professional Sound Barrier Wall:** The developer must be required to construct a masonry sound-attenuation wall along the 64th Ave adjacent to our neighborhood to protect residents from the massive increase in traffic noise.
3. **Traffic Infrastructure Upgrades:** The developer must bear the cost of upgrades to 64th Ave, as the development is directly responsible for failing LOS on nearby infrastructure.

Thank you for your time and for protecting the future of Arvada's residential communities.

Sincerely,

Mackenzie & Dylan Jones

17351 W 64th Ave Suite
2016

Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Councilman Fifer,

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I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully,

Diane M. Thompson

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

17351 W 64th Ave Suite

2016

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October 3, 2025

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Our senior residents (approximately 160 with a average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially thru our private parking lot.

I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully,

Diane M. Thompson

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

17351 W 64th Ave Suite
2016
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

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Michael Griffith Planning Commission

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Public Comment: DA2025-0035 Avalon Arvada Welby Center - January 21, 2026

1 message

emdenver@gmail.com [redacted] Mon, Jan 12, 2026 at 5:51 PM
To: cedboardsandcommission@arvada.org

RE: Welby Gardens Residential Community (or AvalonBay Communities Arvada Project)

Project Number: DA2025-0035

Address: 17201 W 64th Ave, Arvada, CO 80007

Dear Planning Commission Members:

I believe that the proposed Avalon Arvada Welby Center housing project meets key housing needs of our community. HOWEVER, the project lacks any commitment to making these units affordable.

- Housing Diversity is important. Our workers in west and NW Arvada deserve sustainable housing rental options
- New market-rate homes add needed supply and help reduce rent pressure across the housing market, benefiting affordability at multiple income levels.
- New affordable housing is equally, if not more, important than market-rate homes. Arvada has stated goals to provide large-scale affordable projects (<80% AMI), a 2,790-unit shortage below 50% AMI, and B.O.L.D. 2026 workforce housing goals. The developer should be required to commit to meeting Arvada's housing goals. There is no evidence that affordability is part of this project.
- It is worth noting that AvalonBay is planning to reserve 5 units free of rent for 1 year to Jefferson County teachers (similar to what they have done with Denver Public Schools). That does not address the need for sustainability housing opportunities

Thank you very much.

Truly

Emily Ward

13308 W. 68th Place

Arvada, CO 80004

[redacted]

[redacted]

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: DA2025-0035

Josie Suk <jsuk@arvada.org> Tue, Dec 16, 2025 at 10:03 PM
To: Heidi Van Gieson <hvangieson@arvada.org>

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Dec 16, 2025, 6:30 PM
Subject: Fwd: DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Shawna Ambrose** <sambrose@arvada.org>
Date: Tue, Dec 16, 2025 at 6:29 PM
Subject: Re: DA2025-0035
To: Gary Coe <[redacted]>
Cc: Arvada Ask <askarvada@arvada.org>, <krush@arvada.org>, <jgarner@arvada.org>, Don Wick <dwick@arvada.org>

Thank you for your comments. Due to the quasi-judicial matter of this subject, I must remain neutral but am always glad to listen to residents. I am sending this opinion to the entire council, city officials, and to our constituency service desk to make sure that your comment gets registered as part of the public record of this subject. If we have information regarding your concerns on this development such as emergency response, service calls, traffic congestion, and noise/light pollution we will be sure to send it your way.

Again, thank you for reaching out!
Shawna

Rev. Shawna Ambrose | CouncilMember for District Two
Phone: 970-425-3060 | Email: SAmbrose@arvada.org
8101 Ralston Road, Arvada, Colorado, 80002
ARVADACO.GOV

On Dec 16, 2025, at 11:59 AM, Gary Coe <glcoe02@yahoo.com> wrote:

Good morning,
My name is Gary COE, I live at 6483 Umber Circle, Arvada Colorado, 80007
We have lived here for almost 20 years.
I know you must be very busy and I'm sorry to bother you but I would like to explain why we are opposed to the proposal to build several apartments and numerous townhomes just east of us.
My wife and I are retired and we built our home here because we liked the quiet neighborhood and pleasant looking homes all around the neighborhood.
This proposal will drastically change the entire personality of our neighborhood.
Approximately 1000 new residents will be squeezed into this relatively small area with an estimated 2800 new vehicle trips every day. At the present time there are only a few workers present at the nursery business, and I imagine the fire department gets few calls to respond to injuries etc at the nursery. But with 1000 residents there are going to be a lot more ambulance and other calls for service to this location and the only entrance also poses a problem for the responders.
To my knowledge there are no apartment buildings anywhere near this area. If the developers built more single family homes that would match the area I don't think anyone would mind. But allowing this proposal will add to traffic congestion, noise and light pollution, and change forever our quiet neighborhood.
Please consider these things as if you lived here and please vote no on this proposal.
Thank you for your time, Gary

Sent from my iPad

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:32 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Tue, Dec 16, 2025 at 6:34 PM
Subject: Fwd: DA2025-0035
To: Rozalynne Thompson <rthompson@arvada.org>

For the public record.
Thanks,
Jessica

---------- Forwarded message ---------
From: **Jason Garner** <jgarner@arvada.org>
Date: Tue, Dec 16, 2025 at 6:33 PM
Subject: Fwd: DA2025-0035
To: Jessica Garner <jegarner@arvada.org>

Jason Garner
City of Arvada
Parks Program Manager
720-898-7419

---------- Forwarded message ---------
From: **Shawna Ambrose** <sambrose@arvada.org>
Date: Tue, Dec 16, 2025 at 6:29 PM
Subject: Re: DA2025-0035
To: Gary Coe <glcoe02@yahoo.com>
CC: Arvada Ask <askarvada@arvada.org>, <krush@arvada.org>, <jgarner@arvada.org>, Don Wick <dwick@arvada.org>

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Again, thank you for reaching out!
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ARVADACO.GOV

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> This proposal will drastically change the entire personality of our neighborhood.
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> Please consider these things as if you lived here and please vote no on this proposal.
> Thank you for your time, Gary
>
> Sent from my iPad

--
Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: DA2025-0035

Rob Smetana <rsmetana@arvada.org> Thu, Dec 11, 2025 at 11:40 AM
To: Rozalynne Thompson <rthompson@arvada.org>
Cc: Heidi Van Gieson <hvangieson@arvada.org>

FYI

Rob Smetana, AICP
Manager of City Planning and Development
720.898.7440
rsmetana@arvada.org
Regular Office Hours: Monday through Friday 8:00am to 5pm

---------- Forwarded message ---------
From: **Gary Coe** <[redacted]>
Date: Thu, Dec 11, 2025 at 11:38 AM
Subject: DA2025-0035
To: <rsmetana@arvada.org>

Good morning,
My name is Gary COE, I live at 6483 Umber Circle, Arvada Colorado, 80007
We have lived here for almost 20 years.
I know you must be very busy and I'm sorry to bother you but I would like to explain why we are opposed to the proposal to build several apartments and numerous townhomes just east of us.
My wife and I are retired and we built our home here because we liked the quiet neighborhood and pleasant looking homes all around the neighborhood.
This proposal will drastically change the entire personality of our neighborhood forever.
This proposal will bring approximately 1000 new residents squeezed into this relatively small area with an estimated 2800 new vehicle trips every day.
Presently there are only a few workers in the nursery now located in the proposed area. But with 1000 new residents here I imagine there will a huge increase in calls for service for the fire department and ambulance. As I understand it, there is only one entrance into and out of the proposed area. I would think this would be a huge problem for responding emergency vehicles.
To my knowledge there are no apartment buildings anywhere near this area. If the developers built more single family homes that would match the area I don't think anyone would mind. But allowing this proposal would add to traffic congestion, noise and light pollution, and change forever our quiet neighborhood.
Please consider these things as if you lived here and please vote no on this proposal.
Thank you for your time, Gary

Sent from my iPad

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Opposition to Proposed High-Density Development at 17201 W 64th Ave, Arvada CO 80007 (Avalon Arvada Conditional Use Permit DA2025-0035)

1 message

Heather Churc [redacted] Mon, Jan 12, 2026 at 10:46 AM
To: "cedboardsandcommission@arvada.org" <cedboardsandcommission@arvada.org>

Dear Members of the Planning Commission,

We are writing to formally oppose the proposed **high-density development at 17201 W 64th Ave, Arvada CO 80007**. Our concerns are outlined below:

- **Single Point of Access and Emergency Safety**
  - The proposed development includes only **one vehicular exit**, which is inadequate for a high-density project.
  - A single access point poses serious risks related to traffic congestion, emergency response times, and evacuation during emergencies, including wildfire events or road closures.
- **Increased Wildfire Risk**
  - The project is located in or near an area with existing wildfire risk.
  - High-density development increases ignition sources, reduces defensible space, and complicates evacuation and fire response.
  - Limited access with only one exit would significantly hinder safe evacuation and firefighter access during a wildfire.
- **Impact on Nearby Senior Citizen Development**
  - The site is located near a **senior citizen residential community**, where residents may have limited mobility and increased reliance on emergency services.
  - Increased traffic congestion near the single exit could delay emergency vehicles and create unsafe conditions for senior residents.
  - **In an emergency situation, including wildfire evacuation, congestion and limited access could prevent timely evacuation and place senior residents at heightened risk.**
- **Traffic Congestion and Road Safety**
  - High-density development will significantly increase daily vehicle trips.
  - Existing roadways already experience congestion, which would be exacerbated by this proposal, increasing safety risks for motorists, pedestrians, and cyclists.
- **Pedestrian Safety**
  - Increased traffic volumes raise concerns for pedestrian safety, particularly for vulnerable populations, including seniors.
- **Neighborhood Compatibility**
  - The proposed density, scale, and intensity of use are not compatible with the existing character of the surrounding area.
  - The development is out of proportion with adjacent residential uses.

- **Parking and Spillover Impacts**
  - Insufficient on-site parking could result in overflow parking on nearby residential streets.
  - This would further reduce roadway capacity and emergency access.
- **Impact on Property Values**
  - Increased congestion, safety risks, and loss of neighborhood character may negatively affect nearby property values.
- **Strain on Schools**
  - The development will increase demand on local schools.
  - There is no evidence that school capacity can accommodate this growth without adverse impacts.
- **Strain on Trails, Parks, and Recreational Facilities**
  - Increased population density will place additional pressure on nearby trails, parks, and recreational amenities, potentially leading to overuse and degradation.
- **Strain on Local Businesses**
  - Increased population density without corresponding infrastructure improvements may place strain on nearby local businesses.
  - Traffic congestion, limited parking, and overcrowding could negatively affect customer access, deliveries, and day-to-day operations.
  - These impacts may disproportionately affect small, locally owned businesses.
- **Environmental Impacts**
  - Potential impacts include increased stormwater runoff, loss of vegetation and tree canopy, habitat disruption, noise, and light pollution.
  - These impacts may further elevate wildfire risk and environmental degradation.
- **Insufficient Mitigation and Analysis**
  - The application does not adequately address wildfire risk, evacuation planning, emergency access, traffic mitigation, infrastructure capacity, or environmental impact

For these reasons, I respectfully request that the Planning Commission **deny the application.**

Thank you for your time and consideration of public input.

Sincerely,

Heather and Wade Church
6714 Terry Court
Arvada, CO 80007

17351 W 64th Ave
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Mr. Fifer,

I am writing to express my concern over the CONTENT and MAGNITUDE of the proposed AVALON BAY project/proposal. Yes, as a resident of MORNINGSTAR, I am "a renter", but at the same time, I also vote!

Basically, I see two major problems. HEALTH and SAFETY. For example, there will be increased traffic, a problem with emergency access, the possible elimination of on-street parking on Easley, and or the cutting down of resident parking for MORNINGSTAR, perhaps an issue with chemical contamination caused by fertilizer, pesticide and herbicide use by the Nursery. There a number of sub-issues within these two major problems. No doubt others have addressed those in their letters of concern.

Perhaps thought should be given to lower density housing, such as single-family dwellings, bringing in new soil, installing better paths, and construction of adequate emergency access and suitable pedestrian walkways.

Thank you for your consideration.

Sincerely,

J. Elaine Sullivan

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Ruper (Council Member at Large)

8101 Ralston Road
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17351 W 64th Ave
Arvada CO 80007

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Sincerely,

J. Claire Sullivan

CC:
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Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Ruper (Council Member at Large)

8101 Ralston Road
Arvada, CO 80002

17351 W 64th Ave
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8101 Ralston Road
Arvada, CO 80002

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Alternative solution to Welby Gardens development

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:32 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Jim Bartley** <basswest@live.com>
Date: Mon, Dec 22, 2025 at 1:35 PM
Subject: Alternative solution to Welby Gardens development
To: BFifer@Arvada.org <BFifer@arvada.org>, RThompson@Arvada.org <RThompson@arvada.org>

Hello,
I would like to suggest an alternative to the current thinking about the Welby Gardens apartment development by Avalon Bay Communities. You've heard the concerns from the residents of our neighborhood, and I think this suggestion has the potential to mitigate some of those concerns.

There is an 'empty' plot of land on the NW corner of Virgil Way and W. 64th Ave. Only about a block from the Welby Gardens site. I'm assuming this land is owned by the City of Arvada. It is currently occupied by a disc golf course. What if that land was used for the Avalon Bay apartment development instead of the Welby Gardens site, and the Welby Gardens site was instead developed into a beautiful neighborhood park by the City of Arvada. I believe the City feels strongly about providing its citizens with easily accessible parks/open space. And I am certain the surrounding neighborhoods would cherish the idea that the City of Arvada is investing their taxpayer dollars into such a facility.

I'm not a planning or development engineer, I'm just a resident, so I'm certain there are things I'm not thinking about. But here are some potential benefits I see from making this change:

.Utility tie-ins at the vacant plot wouldn't be any more difficult than the Welby site for Avalon Bay - perhaps even easier.
.An apartment development of nearly 400 units would almost be hidden in the natural alcove that exists at 64th and Virgil. Instead of trying to squeeze such a development into the Welby Gardens site, the new site would eliminate the major light/noise/visual pollution that the development at Welby Gardens would create. My back yard will be 80 feet from the proposed development at Welby Gardens. Putting that development at 64th and Virgil would move it to several hundred feet from the nearest existing residences, and the impact of 3 and 4 story apartment buildings would be significantly reduced. Perhaps it could be spread out more than allowed by the Welby Gardens site to reduce the impact even more.
.Multiple opportunities for traffic access to the apartment development exist at 64th and Virgil. There is only ONE access point at the Welby Gardens site. ONE choke point for almost 400 new residences, plus the existing 70 plus homes in West Woods Links III, plus Morningstar Senior Living. This would alleviate the traffic concerns of the residents in our neighborhood regarding safety for children loading a school bus, traffic jams at certain times of day, and additional traffic congestion overall.
.The park would create a natural tie-in to the golf course and the Ralston Creek recreation trail system.
.The existing disc golf course could be easily moved to the new park.
.I'm certain the residents at Morningstar would LOVE a park in their back yard, and all of the residents in the surrounding neighborhoods would smile and say "What a great city we live in", if the City of Arvada were to

place a beautiful new park in the middle of our neighborhood, instead of jamming a high rise apartment development where it doesn't fit.

Of course, Welby Gardens would have to remain whole in the financial transaction. But perhaps it would be called a land swap. Perhaps the City of Arvada buys the Welby site and Avalon buys the plot at 64th and Virgil from the City of Arvada. Perhaps Avalon Bay would benefit financially from an accelerated development process. Perhaps Avalon Bay could contribute to the development of the park because they wouldn't have to spend as much money on the Welby site demolition. Perhaps there are other synergies that I'm not thinking about. I don't know exactly how it could work, but I'm hopeful that you would do the research to at least give the idea thoughtful consideration.

Finally, I'd like to compliment Avalon Bay for their willingness to listen to our concerns and make changes to their initial proposal that addressed those concerns to the extent possible. But if the development is allowed at Welby Gardens, I will forever be living in the shadow of that development - permanently losing views of our precious foothills - and that is not as appealing to me as a beautiful new neighborhood park in my back yard. I look forward to your feedback regarding this idea. Happy Holidays!

Jim Bartley
basswest@live.com
303-905-6765

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF
ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Alternative solution to Welby Gardens development

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:31 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **Jim Bartley** [redacted]
Date: Tue, Dec 30,
Subject: Re: Alternative solution to Welby Gardens development
To: Rozalynne Thompson <rthompson@arvada.org>, BFifer@Arvada.org <bfifer@arvada.org>

Hi Rozalynne, thanks for your response, I appreciate it. Do you have any suggestions for how I could advance this idea further than "part of the public record"? I just don't want this Welby Gardens project to get too far down the road without at least considering the alternatives. Should I contact other people at City of Arvada? Should I contact the developer? Any feedback/guidance you might have is much appreciated!

[redacted]

From: Rozalynne Thompson <rthompson@arvada.org>
Sent: Monday, PM
To: Jim Bartle [redacted]
Subject: Re: Al y Gardens development

Hello Jim,

As the planner that is assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.

Sincerely,
Rozalynne

On Mon, Dec 22, 2025 at 1:35 PM Jim Bartley [redacted] > wrote:

> Hello,
> I would like to suggest an alternative to the current thinking about the Welby Gardens apartment development by Avalon Bay Communities. You've heard the concerns from the residents of our neighborhood, and I think this suggestion has the potential to mitigate some of those concerns.
>
> There is an 'empty' plot of land on the NW corner of Virgil Way and W. 64th Ave. Only about a block from the Welby Gardens site. I'm assuming this land is owned by the City of Arvada. It is currently occupied by a disc golf course. What if that land was used for the Avalon Bay apartment development instead of the Welby Gardens site, and the Welby Gardens site was instead developed into a beautiful neighborhood park by the City of Arvada. I believe the City feels strongly about providing its citizens with easily accessible parks/open space. And I am certain the surrounding neighborhoods would cherish the idea that the City of Arvada is investing their taxpayer dollars into such a facility.

> I'm not a planning or development engineer, I'm just a resident, so I'm certain there are things I'm not thinking about. But here are some potential benefits I see from making this change:
>
> .Utility tie-ins at the vacant plot wouldn't be any more difficult than the Welby site for Avalon Bay - perhaps even easier.
> .An apartment development of nearly 400 units would almost be hidden in the natural alcove that exists at 64th and Virgil. Instead of trying to squeeze such a development into the Welby Gardens site, the new site would eliminate the major light/noise/visual pollution that the development at Welby Gardens would create. My back yard will be 80 feet from the proposed development at Welby Gardens. Putting that development at 64th and Virgil would move it to several hundred feet from the nearest existing residences, and the impact of 3 and 4 story apartment buildings would be significantly reduced. Perhaps it could be spread out more than allowed by the Welby Gardens site to reduce the impact even more.
> .Multiple opportunities for traffic access to the apartment development exist at 64th and Virgil. There is only ONE access point at the Welby Gardens site. ONE choke point for almost 400 new residences, plus the existing 70 plus homes in West Woods Links III, plus Morningstar Senior Living. This would alleviate the traffic concerns of the residents in our neighborhood regarding safety for children loading a school bus, traffic jams at certain times of day, and additional traffic congestion overall.
> .The park would create a natural tie-in to the golf course and the Ralston Creek recreation trail system.
> .The existing disc golf course could be easily moved to the new park.
> .I'm certain the residents at Morningstar would LOVE a park in their back yard, and all of the residents in the surrounding neighborhoods would smile and say "What a great city we live in", if the City of Arvada were to place a beautiful new park in the middle of our neighborhood, instead of jamming a high rise apartment development where it doesn't fit.
>
> Of course, Welby Gardens would have to remain whole in the financial transaction. But perhaps it would be called a land swap. Perhaps the City of Arvada buys the Welby site and Avalon buys the plot at 64th and Virgil from the City of Arvada. Perhaps Avalon Bay would benefit financially from an accelerated development process. Perhaps Avalon Bay could contribute to the development of the park because they wouldn't have to spend as much money on the Welby site demolition. Perhaps there are other synergies that I'm not thinking about. I don't know exactly how it could work, but I'm hopeful that you would do the research to at least give the idea thoughtful consideration.
>
> Finally, I'd like to compliment Avalon Bay for their willingness to listen to our concerns and make changes to their initial proposal that addressed those concerns to the extent possible. But if the development is allowed at Welby Gardens, I will forever be living in the shadow of that development - permanently losing views of our precious foothills - and that is not as appealing to me as a beautiful new neighborhood park in my back yard. I look forward to your feedback regarding this idea. Happy Holidays!
>
> [redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CED Boards and Commission <cedboardsandcommission@arvada.org>

Case Number DA2025-0035, Welby Gardens Development

1 message

Jim Bartley [redacted] Wed, Jan 14, 2026 at 8:09 AM
To: "cedboards ada.org" <cedboardsandcommission@arvada.org>

I live right next to Welby Gardens. With the frequency and severity of the windstorms we have, I am terrified of flying debris during the demolition and construction phase of this project. IF this development gets approved, what codes/guidelines are in place to prevent property damage and/or bodily harm?

[redacted]

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:35 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **Joel Bolduc** [redacted]>
Date: Mon, Oct 13,
Subject: Re: DA2025-0035
To: Rozalynne Thompson <rthompson@arvada.org>

Thank you for the quick response! I'll have questions, but have to review the documents first. Have a great rest of the week!

On Monday, October 13, 2025 at 08:10:18 AM MDT, Rozalynne Thompson <rthompson@arvada.org> wrote:

Hello Joel,

The project has had two reviews by City staff and we are awaiting the third submittal from the applicant. We have yet to receive a third submittal from the applicants and the City Council agendas for the rest of the year are already full, so it is anticipated that the project may be heard sometime in the first quarter of 2026. Of course, that depends on the date we receive the resubmittal from the applicants and whether a fourth submittal is warranted.

If you have any other questions, please let me know.

Sincerely,
Rozalynne

On Mon, Oct 13, 2025 at 8:03 AM Joel Bolduc [redacted]> wrote:

> Good morning Rozalynne,
>
> I am inquiring about the Avalon Bay Welby project. Can you tell me the status of the project and your best guess as to when it will be in front of the Planning Commission?
>
> Based on the Arvada website, the City has provided 2nd review comments to Avalon. I have downloaded those documents, but haven't reviewed them yet.
>
> Thank you, Joel

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens, Arvada

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 15, 2026 at 9:03 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Hi Dixie,

Here's another email that I received this morning.

Sincerely,
Rozalynne
---------- Forwarded
From: **Joel Bolduc** [redacted] >
Date: Thu, Jan 15,
Subject: Welby Gardens, Arvada
To: fonda.apostolopoulos@state.co.us <fonda.apostolopoulos@state.co.us>, mark.rudolph@state.co.us
<mark.rudolph@st
Cc: John Peterson [redacted]>, Rozalynne Thompson <rthompson@arvada.org>

Mark and Fonda,

Please find attached a letter identifying environmental concerns with a property in Arvada under review by the City of Arvada for proposed residential development.

Rozalynne Thompson is the Arvada Planner for the project.

The ESA Phase I and Phase II Reports total 133MB and are too large to email. I'll share a Dropbox link with you in a moment so you can download those reports.

Let us know if you have any questions.

Thank you,

Joel Bolduc and John Peterson
Protect West Woods

Virus-free.www.avast.com

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

2026 0113 Letter to CDPHE Welby Gardens.pdf
638K

January 13, 2026

Via email to mark.rudolph@state.co.us and fonda.apostolopoulos@state.co.us

Colorado Department of Public Health & Environment
Hazardous Materials and Waste Management Division
Voluntary Cleanup Program (VCUP)
4300 Cherry Creek Drive South
Denver, CO 80246

Cc: Rozalynne Thompson, AICP, Principal Planner, City of Arvada

Subject: Summary of Deficiencies Identified in Phase I and Phase II Environmental Site Assessment Reports
Site: Welby Gardens – 17201 West 64th Avenue, Arvada, CO 80007
Applicant: AvalonBay Communities

To Whom It May Concern:

On behalf of **Protect West Woods,** we conducted an independent technical review of the **Phase I Environmental Site Assessment (ESA)** dated December 26, 2024 and **Phase II ESA** dated October 17, 2025 for the referenced property.

Executive Summary

Protect West Woods conducted an independent technical review of the Phase I Environmental Site Assessment (December 26, 2024) and Phase II Environmental Site Assessment (October 17, 2025) prepared for the Welby Gardens property in Arvada, Colorado. This review identified extensive data gaps, methodological flaws, and inconsistencies that prevent a reliable characterization of environmental conditions at the site and do not support a No Further Action (NFA) determination under Colorado's Voluntary Cleanup Program (VCUP).

Moreover, these reports are being used in a Conditional Use review by the City of Arvada Planning Commission to demonstrate that the applicant has effectively addressed environmental concerns. Neither the City of Arvada nor the Arvada Planning Commission have jurisdiction over these matters. Protect West Woods urges CDPHE to provide regulatory oversight and compliance evaluation of current available data and historical site use to support the City of Arvada in its review of this application.

The Phase I ESA fails to identify and properly evaluate several major potential sources and pathways of contamination. Suspected asbestos-containing materials (ACM) associated with greenhouse piping and boiler systems were not adequately investigated or documented prior to

demolition, and no evidence of proper asbestos abatement or disposal was provided. The subsurface stormwater system—including vaults, sumps, and detention structures—is poorly characterized despite visible evidence of contaminated surface runoff. Most critically, stormwater from the northwest portion of the property is discharging offsite into Church Ditch, which ultimately feeds Standley Lake, a municipal water supply. This contradicts the Phase I conclusion that no offsite discharge occurs and represents a significant potential pathway for offsite contaminant migration.

Additional unaddressed Phase I deficiencies include undocumented floor drains and buried sumps that may act as conduits to soil and groundwater, historical soil piles or waste pits visible in aerial photography that were not identified as Recognized Environmental Conditions (RECs), and contradictory or unreliable information provided by site owners regarding historical contamination and chemical use.

The Phase II ESA does not adequately investigate the highest-risk areas identified in the Phase I or evident from site conditions. No sampling was conducted in or near the stormwater pond, which is a primary accumulation area for runoff-borne contaminants. Drainage ditches, visibly stained soils, erosional basins, and areas downgradient of greenhouses were either insufficiently sampled or not sampled at all. Fuel storage areas, leach fields, floor drains, hoop house areas, and historical soil pile locations were not properly investigated despite being identified or implied as potential source areas.

Groundwater evaluation is also fundamentally flawed. Monitoring well placement does not reliably intercept potential contaminant flow paths from key source areas, and winter-only sampling likely underestimated impacts due to seasonally low groundwater levels. The investigation failed to assess shallow alluvial groundwater or seasonal perched water that could transport contaminants offsite.

Laboratory methods further limit the usefulness of the data. Detection limits for multiple pesticides, fumigants, and volatile organic compounds exceeded applicable Risk Screening Levels (RSLs) and Colorado groundwater standards, preventing meaningful evaluation of regulatory compliance. Soil results were compared only to direct-contact screening levels, while the more stringent migration-to-groundwater criteria—which are especially relevant for agricultural and greenhouse sites—were not evaluated.

Chromium presents a specific unresolved risk. While total chromium was detected below EPA RSLs, the site was not tested for hexavalent chromium (Chromium-VI), a highly toxic and mobile form commonly associated with historical pesticide, fungicide, fertilizer, and greenhouse operations. Given its very low residential and groundwater-protection screening levels, failure to speciate chromium represents a significant data gap.

Finally, no cross-reference was provided to demonstrate that all Phase I RECs were adequately tested in the Phase II program, making it impossible to confirm that potential contaminant sources and pathways have been properly evaluated.

In summary, the current Phase I and Phase II ESAs do not provide a defensible understanding of site conditions and fail to adequately assess risks to soil, groundwater, surface water, or offsite receptors. These deficiencies are particularly concerning given that the property discharges stormwater into a ditch connected to a municipal drinking water reservoir and is under review by the City of Arvada for a Conditional Use Permit that requires mitigation of adverse environmental impacts.

Protect West Woods therefore recommends that the Colorado Department of Public Health and Environment consult with the City of Arvada on these matters and require substantial additional investigation, clarification, and supplemental documentation for the site before any VCUP No Further Action determination is considered.

The following findings are provided to assist CDPHE in evaluating the completeness of the submittals and determining whether additional investigation or clarification is warranted. Page numbers referenced are the PDF page numbers in AvalonBay's 3rd application submittal submitted to City of Arvada in October 2025 (1,355 pages total).

I. Phase I ESA – Potential Issues Not Sufficiently Addressed

1. **Asbestos-Containing Materials (ACM) in Greenhouse Piping and Prior Demolition Activities (pp. 542, 567, 568, 1001)**
   – Suspected ACM on greenhouse piping in deteriorated condition was not addressed
   – Several greenhouses have already been demolished; however, the report does not indicate whether demolition permits were obtained or whether required asbestos inspections occurred prior to demolition
   – It is unclear whether suspect ACMs were disturbed during demolition or how these materials were handled

   -It is unclear whether the ACM was properly disposed of in a hazardous materials landfill and the manifest associated with such disposal should be attached
   – The Phase I does not describe future plans for ACM assessment or management
2. **Potential ACM Associated with the Boiler System (pp. 563, 565, 976, 977)**
   – The potential for asbestos in older boiler insulation or components was not evaluated
   – The ESA does not state whether ACM abatement occurred prior to boiler replacement
   – There appear to be multiple boilers at the site. It is unclear which boiler(s) were upgraded,

if ACM was considered during the upgrade(s), or if ACM may be present associated with any of the boilers

SITE:	Welby Gardens	BASELINE	PROJECT NO.:	45033.02
LOCATION:	17201 W. 64th Avenue, Arvada, Colorado		VISIT DATE:	December 6, 2024

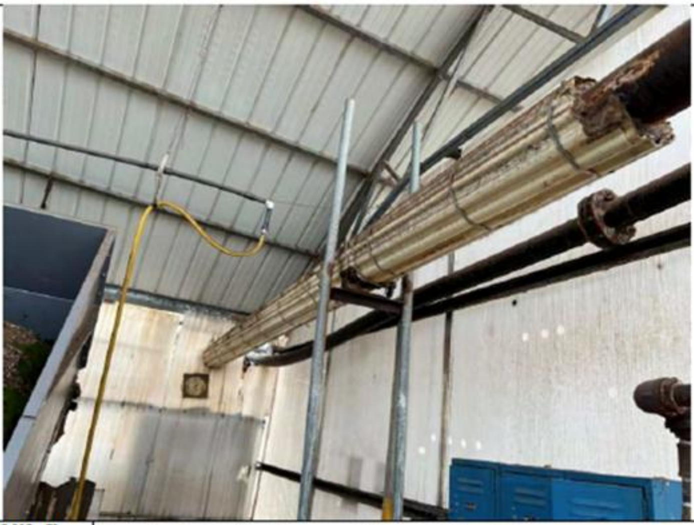


PHOTO NO. 71 DESCRIPTION:	Example of potential asbestos-containing material on piping.

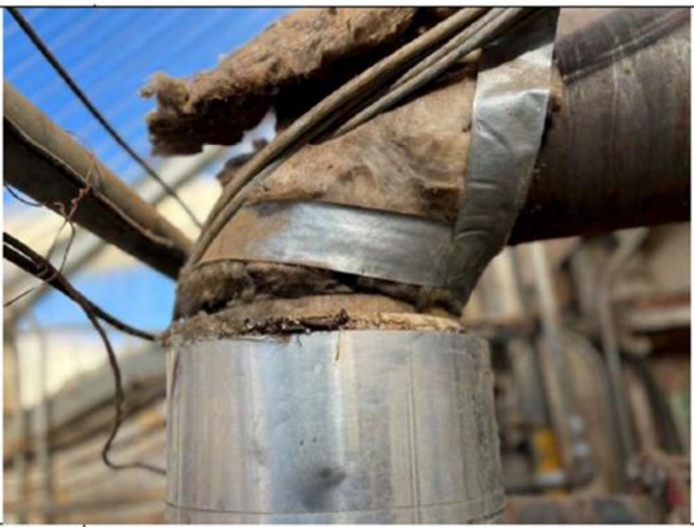
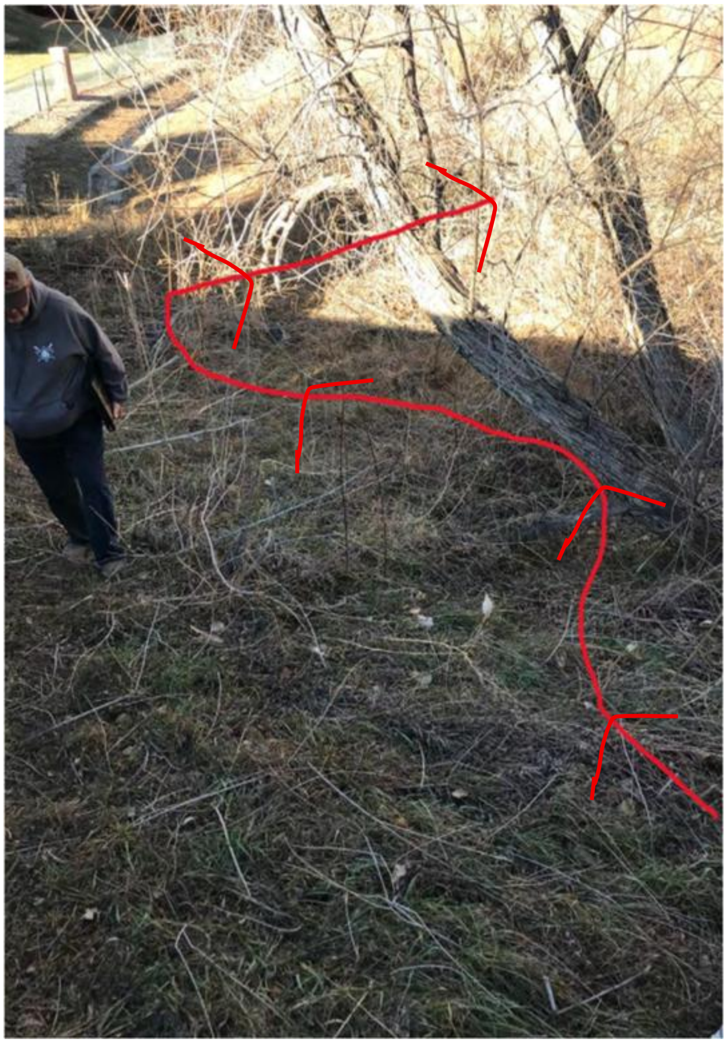


PHOTO NO. 72 DESCRIPTION:	Example of potential asbestos-containing material on piping.

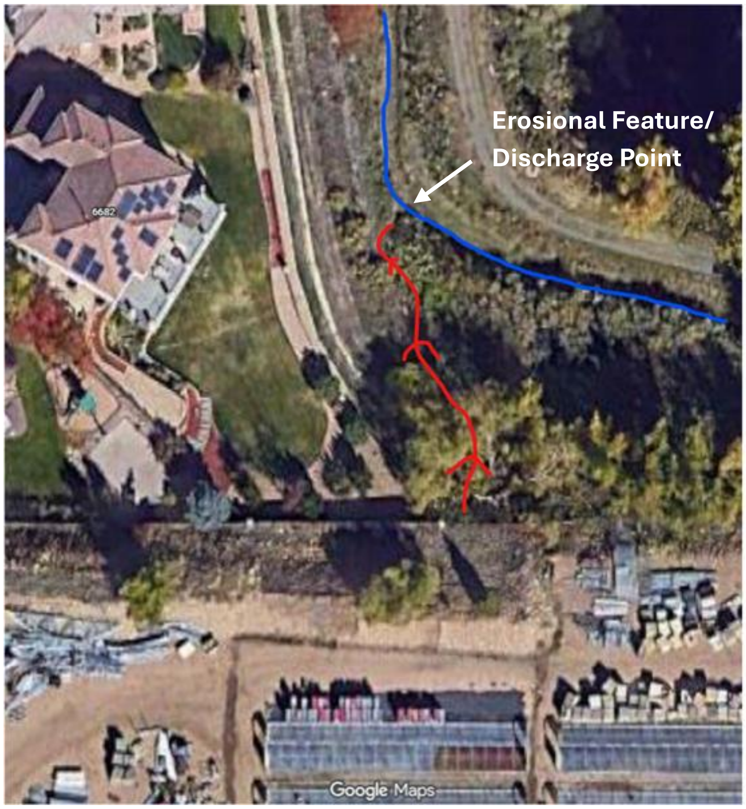
3. **Insufficient Information Regarding the Underground Stormwater System (pp. 997, 998)**
   – Subsurface stormwater infrastructure, including detention vessels and vaults, is inadequately described
   – These structures may concentrate contaminants conveyed in stormwater and serve as conduits for subsurface impacts
   – Observed contaminated surface drainage indicates stormwater is a known migratory pathway for contaminated stormwater waste yet the Phase I indicates that the Subject

Property does not discharge any waste water to the stormwater or sanitary sewer systems (pp. 563, 568)

4. **Potentially Impacted Stormwater Currently Discharges into Church Ditch (pp. 566, 568)**
   - Stormwater from the northwest corner of the property discharges offsite to the north. It is eroding a channel that ultimately enters Church Ditch, which connects to City of Westminster water supply at Standley Lake. Surface soil potentially contaminated with dieldrin may be impacting stormwater leaving the site in this area or others
   - Additional investigation is need to characterize impacts to the soil on the property and at the outfalls for stormwater discharges
   - Church Ditch owners should also be notified of this discharge onto their property and into their water supply



Stormwater Flow Path (NE outfall)



Stormwater Discharge (red) into Church Ditch (blue)

5. **Floor Drains – Unknown Construction and Discharge Points (pp. 566, 991)**
   – Floor drains are present and appear cut into concrete. Their construction (bottomed vs. bottomless) is not documented
   – Discharge locations are unclear; if connected to leach fields, contamination of soil or groundwater is possible

6. **Buried Water Sumps (pp. 990, 991)**
   – At least one buried sump is noted but not assessed
   – No information is provided regarding number, construction, contents, or potential as conduits for contamination

7. **Historical Soil Piles and Potential Waste Pits (pp. 723, 724)**
   – Aerial photos (1983, 1994) show features consistent with soil stockpiles or waste pits in the northwest corner of the property
   – These areas were not addressed and should have been identified as Recognized Environmental Conditions (RECs)

8. **Contradictory Information from Owner Interviews**
   – Statements from the current owners conflict with site conditions documented by the environmental professional. Owner stated they were not aware of any issues except for

petroleum staining near the waste oil tank (p. 551) yet staining was observed in the drainage ditch at the site and the site has had extensive use of pesticides/ herbicides including a spill kit in place for any agricultural-chemical spills (p. 563)
– Reliability of the interview responses is questionable and should have been addressed beyond the minimal follow-up emails

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II. Phase II ESA – Potential Issues Not Sufficiently Addressed

1. **Lack of Borings/Sampling in the Stormwater Pond (North End of Property) (p. 1065)**
   – No sediment, soil, or groundwater samples were collected in or near the stormwater pond, despite it being a primary potential accumulation area for contaminants in stormwater
2. **Insufficient Investigation of the Subsurface Stormwater System**
   – Construction, integrity, and components (separators, sumps, vaults) were not assessed
   – This system may act as a preferential pathway for contaminant migration
3. **Insufficient Surface Soil Assessment Along Drainage Ditches (p. 1065)**
   – Only one sample was collected between North and South Greenhouse #2
   – High-risk downgradient areas, including the erosional basin east of WGB-10, were not sampled
4. **Unaddressed Drainages and Discolored Soil Areas (p. 1065)**
   – Multiple visible drainages north of Southern Greenhouse #1 and Northern Greenhouse #3 were not evaluated
   – Significant areas of soil discoloration along the east property edge and west of Southern Greenhouse #3 were not sampled
5. **Inadequate Investigation of Fuel Storage Areas (p. 1065)**
   – Borings were not placed directly beneath tanks where contamination likelihood is highest
   – Hand augers could have been used if access was limited
   – Borings WGB-1 and WGB-2 are poorly located and not topographically downgradient based on interpreted groundwater flow
6. **Lack of Correlation Between Floor Drains and Soil Borings (p. 1065)**
   – Borings within greenhouses were not collocated with floor drain locations

– Integrity of floor drain systems and potential as pathways to subsurface or septic systems were not evaluated

7. **Lack of Borings In or Downgradient of Leach Fields (p. 582)**
   – Despite being a Phase I REC, multiple leach fields were not investigated for potential impacts from wastewater discharge

8. **Improper Placement of Groundwater Monitoring Well MW-02 (p. 1065)**
   – MW-02 is not located where it can reliably detect impacts from the fuel storage area
   – Bedrock surface contours indicate groundwater flow may bypass the well

9. **Laboratory Detection Limits Above RSLs (pp. 1035-1038, 1054, 1056, 1057, 1058)**
   – Several analytes [Delta BHC (delta-Hexachlorocyclohexane, Aldrin, Alpha BHC (alpha-Hexachlorocyclohexane, Chlordane, Dieldrin, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Toxaphene, 1,2,3-Trichloropropane, 1,2-Dibromo-3-Chloropropane, 1,2-Dibromoethane, Acrylonitrile, and Vinyl chloride)] have method detection limits (MDLs) exceeding applicable Risk Screening Levels (RSLs) or Colorado Groundwater Standards preventing complete evaluation of potential contaminants at the site

10. **Potential for Chromium Impacts Not Investigated (pp. 1045)**
    - Chromium detected in soil at concentrations below the EPA RSLs for total chromium but speciation for Chromium-VI (Hexavalent) was not performed.
    - Chromium-VI is commonly associated with pesticides and fungicides as well as fertilizers and soil amendments in agricultural and greenhouse operations
    - The Residential RSL for Chromium-VI is 0.31 mg/kg and the migration to groundwater SSL is 0.03-0.04 mg/kg
    - The presence or absence of Chromium-VI should be investigated throughout the Welby Gardens property based on historical land use

11. **Lack of Evaluation for Migration-to-Groundwater Pathway (pp. 1033-1053)**
    – Soil results were compared only to direct-contact RSLs (residential/industrial)
    – More stringent migration-to-groundwater RSLs were not evaluated, overlooking threats to groundwater and potential regulatory compliance

12. **No Correlation of Sampling Locations with Phase I RECs**
    – No table or crosswalk was provided to demonstrate coverage of all identified RECs. From the Phase I ESA
    – Such correlation would highlight data gaps

13. **No Sampling or Inspection of Potential ACMs**
    – Despite being outside ASTM scope, ACMs remain a relevant environmental and health hazard not addressed in the Phase II ESA

14. **No Sampling in Former Hoop House Areas (p. 1065)**
    – Hoop Houses lacked flooring and sat directly on soil, increasing potential for impacts to soil and the subsurface
    – No soil or groundwater samples were collected in the Hoop House areas
15. **Groundwater Assessment Conducted in Winter (Lowest Water Table) (pp. 1054-1061)**
    – Winter sampling (January 8, January 23, and January 24 of 2025) may fail to capture impacts due to depressed groundwater levels
    – Alluvial zones, potential seasonal water-bearing units, and their connectivity to bedrock groundwater were not evaluated
16. **No Sampling of Historical Soil Piles or Potential Waste Pits (p. 1065)**
    – Historical features in the NW corner observed in historical aerial photographs were not investigated nor identified as a REC in the Phase I ESA
    – Boring WGB-09 was placed east of the area and is insufficient to evaluate this REC
17. **No Groundwater Sampling Beneath the Greenhouses (p. 1065)**
    – Greenhouses are the likely source areas based on historical operations and use of agricultural chemicals; however, no monitoring wells were installed beneath or immediately downgradient of the potential source areas
    – Existing downgradient wells may be improperly placed or too distant to detect groundwater impacts from historical operations
18. **Future Construction Stormwater Discharge Permitting**
    - Assuming the project moves forward into a construction phase, future construction stormwater Notice of Intent (NOI) to Discharge by the property owner under the General Permit COR400000 with the CDPHE must consider the potential for chemical contaminants present in soil to be discharged offsite via stormwater and mitigated as such

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Summary

Based on the deficiencies summarized above, the current Phase I and Phase II ESA documents do **not** adequately characterize environmental conditions at the property. Numerous potential source areas, contaminant pathways, and historical features require additional investigation to meet the expectations of the VCUP program and to ensure that potential impacts to soil, groundwater, and human health are fully understood.

Furthermore, this property is under review by the City of Arvada Planning Commission for a Conditional Use Permit per the Land Development Code. Approval Criteria #6 requires the applicant to mitigate any adverse impacts on the surrounding area to the degree practicable. We

recognize that the CDPHE has jurisdiction over the contaminants present at the property but the City officials are heavily dependent upon thorough consideration and regulatory management provided by the CDPHE to enforce regulatory compliance on the applicant's property. CDPHE must take an active role in evaluating site conditions at the property to ensure adverse impacts to human health and the environment are mitigated.

We respectfully recommend that CDPHE require the applicant to address these deficiencies through additional site investigation, clarification, or supplemental documentation before a No Further Action (NFA) determination is provided.

If you ha ions or require supporting materials, please contact us a [redacted] (John) o [redacted] (Joel).

Sincerely,

Joel Bolduc

John D. Peterson, P.G.
Protect West Woods

Joel Bolduc
Protect West Woods

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:30 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **Joel Bolduc** [redacted]>
Date: Sat, Jan 10, 2
Subject: Re: Avalon Arvada
To: Rozalynne Thompson <rthompson@arvada.org>

That sounds great. Tuesday at 3PM. 8101 Ralston Rd?

On Friday, January 9, 2026 at 05:00:06 PM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:

Hi Joel,

The best day to meet with me is on Tuesday, January 13th in the afternoon. I am available from 1 pm to 2 pm and 3 pm to 4 pm. Do any of those times work for you?

Sincerely,
Rozalynne

On Fri, Jan 9, 2026 at 2:47 PM Joel Bolduc [redacted]> wrote:

> Hi Rozalynne,
>
> Would it be possible to meet with you next week to discuss the upcoming hearing process for Avalon Arvada proposal and ask some questions about the proposal?
>
> At the moment, I could make anytime work on Tuesday Jan. 13. Later in the day Monday too.
>
> I can come visit you in person.
>
> Thank you, Joel Bolduc
> 6503 Umber Cir, Arvada, CO 80007

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site

1 message

Rob Smetana <rsmetana@arvada.org> Mon, Dec 29, 2025 at 8:14 AM
To: Planning Admin <plnadmin@arvada.org>, Rozalynne Thompson <rthompson@arvada.org>

FYI

Rob Smetana, AICP
Manager of City Planning and Development
720.898.7440
rsmetana@arvada.org
Regular Office Hours: Monday through Friday 8:00am to 5pm

---------- Forwarded message ---------
From: **Nicole Kunde** <[redacted]>
Date: Sun, Dec 28, 2025 at 9:37 AM
Subject: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site
To: rsmetana@arvada.org <rsmetana@arvada.org>

John L. Browdy
6576 Torrey Court
Arvada, CO 80007
Phone: [redacted]

Westwood Links Filing #3

December 28, 2025

Rob Smetana
Arvada Manager City Planning & Development
8101 Ralston Rd
Arvada, CO 80001
Phone: (720) 898-7500
Email: BFifer@Arvada.org

Re: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site

To Rob Smetana,

I am writing to formally express my opposition to the proposed Avalon Development on the Welby Garden site (Project #DA2025-0035).

This proposed development is incompatible with the existing surrounding neighborhoods. Our community consists primarily of one- and two-story single-family homes adjacent to the City golf course. The proposed plan includes twelve three- and four-story buildings along with 53 townhomes. These 45-foot-high structures will overshadow existing homes, block sunsets, and significantly diminish the scenic mountain views that were a major factor in my decision to purchase my property.

The location of this development is also inappropriate. There are no retail services within walking distance, which will increase reliance on vehicles. The development will introduce significant light pollution from multi-story buildings and increased traffic, negatively affecting the character and livability of the neighborhood.

Noise impacts are another serious concern. Prolonged construction noise, combined with ongoing noise from increased traffic and proposed amenities such as a pool, will disrupt the quiet residential environment that currently exists.

Traffic impacts are particularly troubling. The site lacks convenient access to light rail or alternative transportation options. The proposed complex is estimated to generate approximately 2,800 new vehicle trips per day. This increased traffic will spill into surrounding neighborhoods, decreasing safety for residents, school bus stops, pedestrians, and those who choose to ride bicycles for transportation or recreation.

Emergency Access and Egress present a significant and unacceptable safety concern. The proposed development would have only one access and egress point via a single, unlined stub road. This configuration is inadequate for safe and rapid evacuation during an emergency. I offer this concern not as speculation, but based on professional experience. I served 36 years with the Denver Fire Department as a firefighter first-grade and relief engineer. From this perspective, it is clear that a single access point for a development of this size poses a serious risk. In the event of a wildfire or other emergency, approximately 1,000 residents would be attempting to evacuate through one stub road, potentially routing through the parking lot of a senior living facility at the same time emergency personnel would be attempting to evacuate the vulnerable residents of that facility. This design creates an unnecessary and dangerous conflict for evacuation and emergency response operations.

There are also environmental concerns, including negative impacts on air quality and increased stormwater runoff, which will affect both the immediate area and surrounding properties.

I urge you and other city officials to fully educate yourselves on the deficiencies and negative impacts of this poorly designed project. I respectfully ask that you take decisive steps to prevent approval of this development in its current form and protect the safety, character, and quality of life of our community.

Thank you for your time and consideration.

Sincerely,

John L. Browdy
Westwood Links Filing #3

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens Project

1 message

Jerry Burke [redacted]> Wed, Jan 14, 2026 at 3:28 PM
To: "Cedboards[redacted]@arvada.org" <Cedboardsandcommission@arvada.org>

To Members of the Arvada Planning Commission:
I have recently learned and reviewed the proposed project for the current Welby Gardens Project. I fully understand this property will be developed, and I am not opposed to development. I have previously served as a volunteer member on the Jefferson Planning Commission for five years. This proposed project is an in-fill development, and I believe projects like these require additional consideration. The development should harmonize with the surrounding neighborhood in terms of density and zoning. However, this project does not achieve that, particularly with the suggestion of multi-family housing, as there is no such housing in the immediate area. Yes, there are townhouses nearby. I strongly recommend rejecting this project in its current form and resubmitting it to better align with the surrounding neighborhood.

As a side note, I have lived in Jefferson County for the past 55 years. When we decided to move away from the density that was occurring in Lakewood, we settled in the west Arvada area because I believed it was a well-planned and thoughtful community. Over the years, I have begun to question what the City of Arvada is trying to achieve. There is really nothing wrong with a city that has a part of it not as dense as your city center area and urban corridors are. Please do not let developers dictate your cities planning and consider why your residence have moved to an area that is not so dense not everybody wants that type of zoning.

Sincerely
Jerry Burke

17351 W 64th Ave
Apt 2013
Arvada, Colorado 800
September 11, 2025

Arvada City Council,

Avalon Westwoods Project

My apartment is on the second floor of the Morning Star building, looking directly north, where the proposed townhomes will be built. I have several concerns regarding this proposal.

Acess / Egress:
Right now the only access/egress to the townhome area is directly below my window (22' below) with only a 17'-25' set back. Where is the second access/egress required by code that does not dump back onto Easley Road??

Safety:
The plan shows the entry road to the townhomes with only a 17'-25' setback from the north side of Morning Star. That traffic is too close to Morning Star:
- Danger to elderly residents

- Traffic noise is excessive for the elderly when they sleep, take naps, and use the balconies etc.
- Lights from trucks and autos shinning into our living rooms, bed rooms, etc.
- Emergency vehicles going in and out at all hours of the day and night.

One solution would be to change the configeration of the entry road to keep the traffic away from the north side of Morning Star?

With more than 384 apartments, 51 townhomes, and over 600 autos in and out every day don't we owe all residents better access/egress, and safety than what is being proposed?

Respectfully submitted by a thoughtful voter.

Regards,
Joel T. Christman
Joel T. Christman
303-720-2499

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CITY OF ARVADA **CED Boards and Commission <cedboardsandcommission@arvada.org>**

Written Comment for City of Arvada Planning Commission Meeting 1.21.26

1 message

Joanne Clavelle [redacted] Fri, Jan 9, 2026 at 9:26 AM
To: "cedboardsand @arvada.org" <cedboardsandcommission@arvada.org>

Dear Commissioners and Council Members:

I am writing on behalf of my husband, David Clavelle and I who have lived at 17013 West 64th Circle in Arvada for the past 9 years. As concerned residents, we must voice our strong opposition to the **Conditional Use Permit** (CUP) for the proposed **Avalon Arvada** development at **17201 W. 64th Avenue (Project No. DA2025-0035)**. This project is just down the street from where we live.

It is not that we oppose development at this site, it is that the proposed development is **inconsistent with the goals of the Comprehensive Plan**, **does not meet multiple requirements of Arvada's Land Development Code (LDC), and is essentially incompatible with the quiet suburban nature of western Arvada**. Below are specific code sections that demonstrate these shortcomings:

- **Consistency with the Comprehensive Plan** –The proposal is **extremely dense**, which exceeds the population of four surrounding neighborhoods combined. The proposed four story buildings will block our current view of the foothills. During construction he northwesterly winds that blow from the foothills will blow dust and chemicals from the toxic former greenhouse gourds directly to our back yard and home.

- **Compatibility with Surrounding Uses** – The project is incompatible with adjacent single-family neighborhoods in terms of scale, traffic generation, architectural design, and emergency access. The 3- and 4-story buildings (45′ tall) will loom over the surrounding neighborhoods, obstruct views, and create traffic congestion in a historically suburban area. There is NO Mass-Transit infrastructure to support this population.

The proposal references townhome development but no details are provided as they plan to "sell off" this component of the plan.

- **Detriment to Public Health, Safety, or Welfare** – As a registered nurse, public health and safety are of primary concern, including traffic safety and emergency service access. Environmental concerns are significant, as this development is on former greenhouse land that **has tested positive for dangerous chemicals and proposes to essentially dump run-off from the project into Ralston Valley Creek.** My husband and I often walk on the Ralston Creek path that is adjacent to this, and wildlife abounds. Fox, coyotes, beaver, rabbits and geese are wildlife who may be harmed not to mention human inhabitants of our community.

- **Adequacy of Public Facilities and Services** – Emergency access for the exit road for the main exit of the facility feeds into a neighborhood-scale road (the ‘stub’ of Easley north of West 64th) inadequate for emergency access. And secondary access, which by the Fire Department’s own admission does not meet IFC Section D106.3 requirements regarding distance from the first exit, does not access an external thoroughfare. Rather this secondary access feeds through the MorningStar facility. While this secondary access may have been sufficient for greenhouses it is sorely lacking as a secondary emergency ingress/egress for over 1,000 residents. The project provides no details regarding the site disturbance permit that will be required for storm work to be performed on taxpayer owned golf course land.

All four homeowner associations in the surrounding neighborhoods as well as the residents of Morning Star Living Facility OPPOSE this project.

WE sincerely ask that the Planning Commission and City Council **deny the CUP application for Avalon Arvada.**

Sincerely yours,

Dr. Joanne T. Clavelle & Mr. David A. Clavelle

17013 West 64th Circle

Arvada, CO 80007

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens Development

1 message

Jessica DePetro [redacted] Fri, Jan 9, 2026 at 4:24 PM
To: "Cedboardsandcommission@arvada.org" <Cedboardsandcommission@arvada.org>

Hello -

I am writing to share my strong opposition to the proposed Welby Gardens Development project. Our road infrastructure in this area of Arvada is already under pressure and cannot support increased housing density. Moreover, there is also insufficient retail to support the housing communities that exist today. How can I engage in the community planning process to express my concerns and those of my neighbors about proposed commercial and residential development in West Arvada?

Best regards,
Jessica DePetro

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Support for Welby Gardens Residential Community

1 message

Judy Douglass [redacted] Wed, Jan 14, 2026 at 10:03 AM
To: cedboardsan

Re: AvalonBay Communities Arvada Project) ■ Project Number: DA2025-0035

Dear Planning Commission,

I would like to support this project as it brings needed housing options to Arvada.

- The development is **not** located in existing lower income areas of Arvada where density already exists.
-
- Work force housing and housing for seniors who need to downsize is severely needed and backed up by City of Arvada studies.
-
- On my block (72nd and Kipling), my neighbors are teacher and teacher aid, dental hygienist, butcher, cleaning lady, City of Arvada employee, retired seniors. None of these people could afford to move into my neighborhood now.
-
- Traffic is caused by cross-city driving because housing and jobs are never close by. My husband's care givers in Memory Care lived in Commerce City and Aurora.
-
- **The people who work in the surrounding area of the proposed development include people who work in restaurants, senior care facilities, Big Box stores, small businesses, etc. Employees in the nearby area cannot live close to work. This drives their sustainable incomes downward with car expense (ie need for public assistance) and causes more traffic.**

Thank you for the opportunity to speak out. Please realize that NIMBism has become the gold standard for people who put personal exclusiveness against community wellbeing. It’s time for that to stop. Only the results of this development and others like it will help dispel the myths that continue to be propagated.

Sincerely, Judy Douglass
10122W 70th Drive
Arvada 80004

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: DA 2025-0035 Avalon Arvada/ citizen letter opposing the project as proposed

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 3:00 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Here's another one that just came in.

Rozalynne

---------- Forwarded
From: **Julie Hoga** [redacted]
Date: Wed, Jan 14,
Subject: DA 2025-0035 Avalon Arvada/ citizen letter opposing the project as proposed
To: Rob Smetana <rsmetana@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>
Cc: <bfifer@arvada.org>

To: Arvada Plan Commission, Planning Staff and Arvada City Council

From: Julie Hogan, volunteer with McIntyre Neighbors United and Protect Westwoods

Please accept this email communication regarding concerns about the proposed Avalon Arvada (Welby Gardens) multifamily project and share as appropriate.

The McIntyre Neighbors United (MNU) coalition has 25 HOAs participating in order to follow projects in northern Jefferson county that will greatly impact our quality of life. Avalon Arvada as proposed is not compatible with the adjacent neighborhoods. The density, poor ingress/egress and impacts on traffic in west Arvada are three areas of concern. We appreciate the efforts of the Protect Westwoods coalition and Ralston Valley Coalition in bringing these matters to the attention of the Arvada Plan Commission and City Council.

MNU has been opposing the Golden Technology Center project in Jefferson County at 60th and McIntyre for the past 3 years. One of the most obvious impacts of the proposed 512,000 s.f. distribution warehouse project will be the traffic along McIntyre and 64th. The county has accepted a flawed transportation study concluding that 927 "trips" in/out are expected at 60th and McIntyre. This is a gross underestimate; an independent traffic engineer report was sent to Jeffco and if the project is leased to the type of tenants that the applicants anticipate, t**he daily trips will be more than 3000 with likely 500+ trucks daily.** This independent engineer report was sent to Mr. Smetana last September.

Along with the Westside 64th recently-approved industrial project with likely 100 or more truck trips per day at Indiana and 64th, **the 64th corridor will see a significant level of service decline**. These industrial projects and the related traffic impacts need to be reviewed as Arvada considers adding more than 800 vehicle trips to the 64th corridor with the Avalon Arvada project.

Thank you for considering the residents of west Arvada as you review the proposed multifamily project. The noise, emissions and decline in traffic safety in west Arvada when combined with other anticipated projects will diminish the quality of life for decades.

Julie Hogan
6113 Umber St. (Fieldstone)
Arvada, CO 80403

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens Residential Community

1 message

Joe McLaughli [redacted]> Sun, Jan 11, 2026 at 2:54 PM
To: cedboardsan @arvada.org

Meeting Date: January 21,2026
Welby Gardens Residential Community/AvalonBay Communities Arvada Project
Project Number: DA2025-0035
Address: 17201 W 64th Avenue, Arvada CO

It is important for the city of Arvada that a variety of housing options are available. Housing diversity and a range of housing costs are important for the people who work in Arvada to be able to afford to live here.
West Arvada is a fast growing area. The businesses that are in West Arvada need workers to provide the services that residents need. These workers need affordable housing.
New varieties of housing add needed supply and reduce pressures across the housing market. The proposed buildings do not exceed the height of the adjacent Morningstar apartments. The city is already planning a traffic light at West 64th and Easley that should help manage neighborhood traffic concerns.
For the future of Arvada, please approve this housing proposal. Thank you.

Joseph McLaughlin
9444 Kilmer Way
007
[redacted]

10/3/25

DEAR MS. AMBROSE,

I AM AN 85 YEAR-OLD WOMAN LIVING IN MORNINGSTAR RETIREMENT COMMUNITY. I AM DEEPLY CONCERNED ABOUT THE AVALON BAY DEVELOPMENT:

1. TRAFFIC
2. SOIL CONTAMINATION
3. SAFETY OF RESIDENTS
    a. FROM TOO MUCH TRAFFIC ACTIVITY
    b. TOO MANY UNRULY YOUNG PEOPLE
4. NOISE
5. LOOSING VIEWS OF THE MOUNTAINS
6. SAFETY OF US RESIDENTS BECAUSE OF SUCH INFLUX OF PEOPLE AND CARS

THANK YOU
JUDY PFLUM, RESIDENT OF
MORNINGSTAR OF ARVADA

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MORNINGSTAR OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens Redevelopment

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:46 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded m
From: **Jim Upchurc** [redacted]
Date: Thu, May 1, 202
Subject: Welby Gardens Redevelopment
To: RThompson@arvada.org <RThompson@arvada.org>

Ms. Thompson,

There has been significant discussion regarding the redevelopment of the Welby Gardens property at 64th and Easley. I do not subscribe to the philosophy of many people in the area, that nothing should ever be built within 100 miles of their house ever again. Developing infill sites like this is far better than additional sprawl and the bulldozing of virgin open space. However, there are issues with the current proposal that need to be addressed.

1. The proposed 4-story apartments would loom over the existing neighborhoods. Current residents, especially when using their yard, would have people staring down at them from 20 or 30 feet above. The shadows cast by the new building could also impact existing solar installations.
2. Having only one viable access point (64th to Easley) for this many units creates a huge safety issue. If a traffic accident closed that intersection and then an emergency occurred inside the complex; police, fire, and paramedics would have a very difficult time responding.
3. The intersection at 64th and Easley will almost certainly require expensive improvements, including a new traffic light.
4. There is no access to mass transit. The nearest RTD stop is over 3 miles away.
5. Development of high-density housing on this site will increase pressure on the city to allow additional high-density projects in the area.
6. There is nothing in the development plan that addresses renewable energy.
7. The only access for walking or biking to the Ralston Creek Trail or the open space around Blum Reservoir is to risk your life along 64th.
8. The current zoning for the property may not require but certainly envisions walkable developments like Old Towne Arvada with commercial / retail on the ground floor and residential above. This plan includes none of that. There is absolutely nothing the residents could do without getting in their car.
9. While we undoubtably need housing of all kinds, the most pressing is the need for affordable housing. Witness the ongoing homelessness crisis. This proposal says nothing about affordable housing.

The following improvements to the development plan should be required before the city gives the go ahead.

1. The height of the new buildings should be limited to 3-stories and/or the site plan rearranged to concentrate the buildings in the center and south end of the site. This would minimize the impact on the existing residents. Also, to minimize the overall visual impact, the buildings should be limited to flat rooves.
2. A second access point, for emergency vehicles only, should be added from Umber Circle. The street that borders the site on the west.
3. The developer should pay for improvements to the intersection at 64th and Easley, including a new traffic light. To offset the traffic slowdowns caused by an additional light, the city should remove the totally useless traffic light at 64th and Pike.
4. Before approval, a plan should be in place to provide mass transit access to the development along 64th.
5. The city should commit to limiting any similar projects in this general area for the foreseeable future.
6. The developer should be required to build all electric units, no natural gas, and install enough solar to provide at least 50% of the complex's energy needs. The complex should also include charging stations for electric vehicles.

7. The site should be connected via a paved path to the Ralston Creek Trail so residents can walk or bike there free from traffic.
8. The city should stick to its development goals and require a multi-use development that provides services for its residents and people in the surrounding neighborhoods.
9. Require that some percentage of these unit be affordable.

Thank you.

Jim Upchurch

6650 Violet Way

Arvada, Colorado 80007-6840

[redacted]

[redacted]

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Proposed Apt Development

1 message

Kim Car [redacted] an 20, 2026 at 1:22 PM
[redacted]
[redacted] k3037635155@msn.com>

Dear Mayor and Members of City Council,

My name is Kim Carl, and I live in the West Woods Ranch Links III neighborhood, directly east of the proposed apartment development at Welby Gardens. I am writing to express my concerns about the negative impacts this project would have on my neighborhood.

I am not opposed to development. However, I strongly oppose the construction of a high-rise apartment building in an established residential area made up primarily of single-family homes.

Affordable housing is certainly a challenge in our area, but many residents are looking for homes to purchase rather than rental units. This site would be much better suited for townhomes or patio homes. When the senior living center was developed at this location, the City indicated that the area needed additional housing options for older residents. If that need still exists, patio homes would be a logical and appropriate fit for this location.

additionally, the proposed development does not align with the State of Colorado’s guidance encouraging multi-family housing near mass transit hubs. This site is not close to mass transit, meaning residents will rely heavily on personal vehicles. The proposed parking is inadequate for two vehicles per unit, and while the developer has suggested that apartments typically house only one person, this is not a requirement and cannot be enforced. The result will likely be increased overflow parking in the neighboring residential streets to the east, including my neighborhood.

Increased vehicle ownership will also significantly impact traffic on 64th Avenue, which is already difficult to navigate between Quaker and Indiana due to congestion. Traffic from events at the NAC and Long Lake further compounds this issue.

Finally, evacuation safety is a serious concern. The Marshall Fire demonstrated the very real wildfire risks we face and the importance of careful planning by cities to manage evacuation routes and traffic during emergencies. Adding a high-density development in this location increases that risk and should be carefully reconsidered.

I attended the meetings with developer and found the people dishonest and not respectful of the neighborhood. The representative repeated several times that they did not need to have community meetings when in fact the Arvada planning commission required the meetings. He also said he didn't need permission and the site was zoned for the high rise development and was trying to be a good neighbor, but in fact they do need approval. My feeling when leaving the meeting was an absent landlord who would not address issues with their property problems

I respectfully ask the City Council to reconsider this proposal and explore alternative housing options that are more appropriate for the location and surrounding neighborhoods.

Thank you!
Kim Carl

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Problems with high density housing on Welby Gardens land.

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Jan 20, 2026 at 8:35 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

I believe this is a copy of one of the letters. It was sent to Jessica as well.

Rozalynne

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Tue, Jan 20, 2026 at 8:03 AM
Subject: Fwd: Problems with high density housing on Welby Gardens land.
To: Rozalynne Thompson <rthompson@arvada.org>

for the record,
Jessica

---------- Forwarded me
From: **Keith Christian** [redacted]
Date: Mon, Jan 19, 202
Subject: Problems with high density housing on Welby Gardens land.
To: JEGarner@Arvada.org <JEGarner@arvada.org>

19 January 2026

Dear Ms. Garner,

My wife and I live directly across from the Welby Gardens proposed development and are quite surprised that the City of Arvada would totally ignore the "Overall Compatibility" standards and the "Comprehensive Plan" guidelines.

This area is subject to high winds and if there would be a fire there is only one evacuation route to serve Fieldstone, Trail Village, Morning Star Senior Living, and the proposed new 1000 person project.

Evacuation Route(s:) Both directions of 64th avenue could not be turned into an east only evacuation route as emergency vehicles would need to go west on the road, owing to the location of our nearest fire station being at Quaker and 64th Avenue.

We have seen multiple fires from our backyard in the almost 25 years of living against the open space. Thankfully the wind was not blowing during any of the fires.

If there was a fire, multiple rescue units would be required to evacuate Morning Star Senior Living. This would greatly impact the evacuation of anyone on the north side of 64th Ave.

Traffic congestion will increase as the project fills to 100% capacity.
The city should partner with RTD to provide transit services in the very near future.

Any development in this region needs to consider water availability
before building.

My wife and I do not think this means: "build first and then figure out the solution."

Sincerely and Respectfully,

Keith and Susan Christian 17714 W 63rd Dr. Arvada

===

--
Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm
CITY OF ARVADA

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Problems with high density housing on Welby Gardens land.

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Jan 20, 2026 at 8:26 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

Hi Heidi and Dixie,

Here is another public comment for the record.

Thanks,
Rozalynne
---------- Forwarded me [redacted]
From: **Keith Christian** [redacted] >
Date: Mon, Jan 19, 202
Subject: Problems with high density housing on Welby Gardens land.
To: RThompson@Arvada.org <rthompson@arvada.org>

19 January 2026

Dear Ms. Thompson,

My wife and I live directly across from the Welby Gardens proposed development and are quite surprised that the City of Arvada would totally ignore the "Overall Compatibility" standards and the "Comprehensive Plan" guidelines.

This area is subject to high winds and if there would be a fire there is only one evacuation route to serve Fieldstone, Trail Village, Morning Star Senior Living, and the proposed new 1000 person project.

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The city should partner with RTD to provide transit services in the very near future.

Any development in this region needs to consider water availability before building.

My wife and I do not think this means: "build first and then figure out the solution."

Sincerely and Respectfully,

Keith and Susan Christian 17714 W 63rd Dr. Arvada

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens/ Avalon Bay

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:45 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **Kim DeLisa** [redacted]>
Date: Thu, May 1,
Subject: Welby Gardens/ Avalon Bay
To: RThompson@arvada.org <RThompson@arvada.org>

I am writing to express my concern to the development plan for the current Welby Gardens area. While I am not opposed to residential development, the current plan proposed by Avalon Bay seems too high density for this small area. I do not believe the city should allow such a high density development in a tight area that does not have the infrastructure to support the amount of people, cars, and number of apartments. As a community member and West Woods Elementary teacher, I believe over 1000 cars will impact the intersection at Easley & 64th. This will combine with West Woods neighborhood as they use this as an entry/exit point. Even with a stop light at Easley, there will be huge traffic jams at certain times of day.

I believe you have a responsibility to the citizens of Arvada to not allow this development to continue as currently proposed by Avalon Bay. Please work with community members to bring in a development that is appropriate in density and size for the surrounding neighborhoods.

Thank you,

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: COMMENTS RE: Avalon Arvada Conditional Use Permit meeting for 1/21/26

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Jan 20, 2026 at 5:02 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Here's the comment from Kathryn.

Rozalynne

---------- Forwar
From: **kathryn** [redacted]
Date: Tue, Jan
Subject: Fwd: COMMENTS RE: Avalon Arvada Conditional Use Permit meeting for 1/21/26
To: cedboardsandcomission@arvada.org <cedboardsandcomission@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Begin forwarded message:

From: kathryn [redacted]
Date: January
To: CEDSBOARDSANDCOMMISSION@arvada.org
Cc: rthompson@arvada.org
Subject: COMMENTS RE: Avalon Arvada Conditional Use Permit meeting for 1/21/26

To the Planning Commission considering Avalon apartment complex proposal at 64th Av and Easley

We live one short block directly west of the proposed Avalon apartment project. A few weeks ago there was an enormous fire at an apartment project under construction in Arvada. The structure burning was reminiscent of the plans we've seen for the one next to us although ours is roughly twice as big. The egress from this site for potential residents is severely limited as it is hemmed in on the north and west by a wall adjacent to Trail Village and to the south by the existing Morningstar Retirement Community. This becomes a grave concern for the hundreds of people there in the event of fire. The area for this project was part of the recent intentional XCel power outage for the better part of three days, the first such an event since we moved here in 2004. The Arvada commission is responsible for assuring the potential safety of all future projects by closely examining the layout in person. Drive north on Easley Road next to Morningstar Retirement Community and visualize hundreds of people trying to escape out the single entrance on proposed site as Emergency Responders are trying to enter to fight the fire and to save lives. Would you send your loved ones to live on this property under these circumstances?

Respectfully,

Kathryn Hebenstreit Martinez, MD

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner

Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dear Mr. Fifer,

I would like to add my voice to the chorus of dissenters concerning the proposed development of the Welby Gardens property on West 64th Ave. I can't imagine the traffic snarls that will result from the 600+ cars expected to exit and enter the two! (2!) access points onto Easley Rd., not to even mention that the elimination of parking on Easley will create problems for persons connected to MorningStar Senior Living. Our residents here are frequently out around the building, and since many have vision, hearing, and/or mobility problems, this increased traffic will pose significant dangers, most especially if the requested access via the west end of our property is granted.

Please reconsider the welfare of our elderly family members.

Sincerely,

Kay Hemingway

Dear Mr. Fifer,

I would like to add my voice to the chorus of dissenters concerning to proposed development of the Welby Gardens property on West 64th Ave.

I can't imagine the traffic snarls that will result from the 600+ cars expected to exit and enter the two! (2!) access points onto Easley Rd, not to even mention that the elimination of parking on Easley will create problems for persons connected to MorningStar Senior Living. Our residents here are frequently out around the building, and since many have vision, hearing, and/or mobility problems, this increased traffic will pose significant dangers, most especially if the requested access via the west end of our property is granted.

Please reconsider the welfare of our elderly family members.

Sincerely,

Kay Hemingway

Dear Mr. Fifer,

I would like to add my voice to the chorus of dissenters concerning the proposed development of the Wesley Gardens property on West 64th Ave. I can't imagine the traffic snarls that will result from the 600+ cars expected to exit and enter the two! (2!) access points onto Easley Rd, not to even mention that the elimination of parking on Easley will create problems for persons connected to MorningStar Senior Living. Our residents here are frequently out around the building, and since many have vision, hearing, and/or mobility problems, this increased traffic will pose significant dangers, most especially if the requested access via the west end of our property is granted.

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Please reconsider the welfare of our elderly family members.

Sincerely,

Kay Hemingway

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens development

1 message

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karen kjo [redacted] Fri, Jan 9, 2026 at 8:34 AM
To: "Cedbo vada.org" <Cedboardsandcommission@arvada.org>

I live in Westwoods Links III. I am concerned that if there is a fire on a windy day that it will take a very long time to get everyone from my subdivision out because we only have two streets to exit onto 64th.

If they add more housing without being able to add any streets to exit, it will be a death trap. There’s no place to add any more streets and one or two wouldn’t do it with that kind of density.

Please do not put us in this position.

K. Kjoller

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Opposition to Proposed Multifamily Development Traffic Impacts – West Woods Neighborhood

1 message

Kelley Kou Tue, Jan 13, 2026 at 1:25 PM
To: cedboard[redacted].org

Dear Members of the Arvada Planning Commission,

I, along with my husband, Kalhan Koul, am writing to express our opposition to the proposed multifamily development in the West Woods neighborhood, based specifically on concerns regarding motor vehicle traffic and public safety.

Our primary concern is not the residential development itself, but rather the significant increase in traffic that this project would introduce onto two existing residential streets that were not designed, sized, or intended to accommodate the volume of vehicles associated with a multifamily housing development. These streets currently serve local neighborhood traffic and lack the capacity and infrastructure necessary to safely support increased daily vehicle use.

Our home is located directly at the intersection of these two residential streets, 17180 W 64th Dr., which places our family —particularly our young children—at heightened risk. Increased traffic volume and speed would significantly impact visibility, crossing safety, and overall neighborhood livability. Of particular concern is that our children's school bus stop is located across one of these streets. With no clear plan for traffic regulation, calming measures, or enforcement, the safety of children waiting for and crossing to the bus stop would be placed at unacceptable risk.

We want to be clear that we are not opposed to residential growth or development within the City of Arvada, even on this site specifically. However, we strongly believe that this project requires additional entry and exit roads that divert traffic away from existing residential streets. Without alternative access points, the burden of traffic from this development would be placed entirely on neighborhood roads that are not suitable for such use, creating safety hazards for residents, pedestrians, and children.

We respectfully request that the Planning Commission carefully consider the traffic impacts of this proposal and require meaningful solutions—such as additional access routes or significant traffic mitigation measures—before approving the development. Ensuring the safety of existing residents while planning for growth is essential for the long-term wellbeing of our community.

We will be in attendance at the upcoming Jan. 21 6:15pm public hearing on this development, and we look forward to further discussion on the matter.

Thank you for your time and consideration.

Sincerely,
Kelley Koul & Kalhan Koul
West Woods Neighborhood Residents
City of Arvada

CED Boards and Commission <cedboardsandcommission@arvada.org>

Opposition to Proposed Multifamily Development Traffic Impacts – West Woods Neighborhood

1 message

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Thank you for your time and consideration.

Sincerely,
Kelley Koul & Kalhan Koul
West Woods Neighborhood Residents
City of Arvada

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Proposed Development at Welby Gardens - Property Case # DA2025-0035

1 message

Kurt Licht [redacted] Mon, Jan 12, 2026 at 5:18 PM
To: "lsimpson@arvada.org" <lsimpson@arvada.org>, "rmoorman@arvada.org" <rmoorman@arvada.org>,
"bfifer@arvada.org" <bfifer@arvada.org>, "sambrose@arvada.org" <sambrose@arvada.org>, Jmariott@arvada.org,
"sdavis@arvada.org" <sdavis@arvada.org>, Brupurt@arvada.org, "rthom mpson@arvada.org>,
RSmetana@srvada.org, "jegarner@arvada.org" <jegarner@arvada.org [redacted]
"cedboardsandcommissi oardsandcommission@arvada.org> [redacted]
"sehallow@gmail.com" [redacted]

Hello all, I hope you and yours had a joyous holiday season. I want to say thank you in advance for reading this long winded email. Please let me introduce myself. My name is Kurt Lichty, and I live directly east of the entrance to the Welby Gardens complex and I'm very concerned about the change in the quality of life for the west side of Arvada (near the ball fields off hywy 93) that will occur if Avalon Bay succeeds in obtaining approval to install 384 apartments and 51 Townhomes on the Welby Gardens site. I am a Colorado native (graduated from Wheatridge High and CSU Ft. Collins) and have spent my entire life savings to accumulate the wealth in order to purchase my house at 6477 Torrey Ct, Arvada, CO 80007. I'm very concerned about what is happening in Colorado in terms of rapid development of the entire metro area. I call it the Californication of Colorado. Currently the population in Arvada is decreasing and there is currently at least 780 homes and apartments on the books to be constructed in Candelas (56 townhouses and up to 324 apartments), Marshall Street Landing (affordable Housing), Legacy Senior Residences (72 unit affordable), Downtown Housing (options for 300-328 units), I'm not opposed to development of the Welby complex. But PLEASE, let's use some common sense here. 384 apartments and 51 Townhomes is just not a fit for the surrounding neighborhood. The city council has a chance here to establish a legacy of reasonable growth and sustainable development in Arvada. Please put the brakes on this uncontrolled growth. For example, the traffic on ward road is ridiculous after all the development on the east side of Ward road between 58th and 50th.. The traffic on Ward road is deplorable and could have been avoided with thoughtful development. It seems to me that the rationale for this development is money based. More Tax revenue. But what will really happen is there will be a huge impact on infrastructure and quality of life. Right now the lines at the King Soopers on 64th and Mcintire are long and an addition of 435 households in the area will only exacerbate the limited services we have in west Arvada. It is unconscionable to think that our public servants would approve a project that has only one access point (off 64th and Easley road) to accommodate an estimated 2500 car trips in and out of the facility per day. I can't imagine a city government that would approve that sort of saturation in any neighborhood. You need to ask yourself. Would I want a development like this behind or close to my house? The entire neighborhood is single family homes and a development like this is just a square peg in a round hole. There is NO mass transit in this area. How is the city going to provide an environmentally responsible commute option to the residents of this apartment community? Fire egress is a major concern after what happened in the Marshall fire. Also fire truck entry. One entry and exit to 435 residences in the project, as well as the 70 or so residences in Westwoods III, plus the 120 residences at Morningstar Senior Living Center. There is a street on the west side of the proposed development that could handle 2 additional entrances off Umber Circle off of Virgil rd.. It's just NOT safe for anyone residing in the area. There are definitely environmental hazards that must be remediated and that will be very tough in this area due to wind and possibility of contaminating neighboring houses during the remediation process. We live in a wind tunnel here. 60 to 100 mile an hour winds are not uncommon here. Usually the wind is anywhere from 5 to 30 mph. This could result in exposure to the city in the form of litigation. None of us want that. There will be a significant stress on the police department and additional officers will undoubtedly need to be hired to fill the void. It is my understanding that conditional approval must be granted from the planning commission and council members to develop this area with apartments. Please be smart and make the variance to be able to install single family homes like the rest of the area. Or at a minimum, low density townhomes. Apartments are just not a fit in this westwoods neighborhood. I know all the neighbors in the surrounding area are against this project for obvious reasons. I've spoken to many of them on my dog walks.. Tell me where there are any other apartment complexes near this neighborhood. There are not. My Logic tells me that since this development will mostly be apartments, it will bring a criminal element to the west side of Arvada. This must be considered and additional patrols will be needed in the surrounding neighborhoods. Currently, I very rarely see police cars in my Neighborhood at Westwoods III. And I'm fine with that. We have a very safe neighborhood, and we want to keep it that way. Currently Easley road is a crowded 2 lane road that has very high Cycling traffic. And there is no lane for Bicycling. I'm a biker and this road is very dangerous. It's just a matter of time before someone gets fatally injured riding on that road. Easley road will become the new cutoff road for the apartments that are proposed to reside at the northern edge of Easley Road. In order to go south and hook up with Mcintyre road the apartment residents will head sound on Easley road to avoid the congestion at 64th and Mcintyre, making Easley road even more dangerous. And there is no light rail or bus service in the area. So it will all be car traffic, 2500 trips per day. That is a lot of car traffic coming in and out of one entrance. This development has been touted as low income. There will be no section 8 housing in the development. And the price of a standard 1 bedroom will be around $2000/mo. That is NOT low income...

I would be happy to meet with any and all personnel with the city that are interested in the development, for a site walk, to help acquaint you all with the area. When I talked to the mayor she indicated that she had heard of Easley road but didn't know exactly where it was. That's a problem.

All I ask is that you vote with your heart, conscience, morals, and ethics, and not your pocket book. Please be kind to your constituents.

Here are some excerpts from the Protect Westwoods protest site in Which I TOTALLY AGREE with. And some of my notes at the bottom.

Health and Environment

The current site has been a greenhouse grow site for nearly fifty years and has likely been treated with a multitude of pesticides and fertilizers that may have contained many highly toxic and carcinogenic chemicals including Chlorodane, Nitrofen, Paraquat, Asbestos. The developer has also stated that the site will need environmental cleanup. The developer also plans to extend the water run off plan to drain potentially contaminated water into Ralston Creek.
The development would house nearly 1000 residents in an area with no walkable amenities or public transit. The site is accessed by one single unlined stub road onto a busy section of 64th, currently with no traffic light. The developer has conducted a traffic study estimating 2800 new vehicle trips per day from the complex, and Jefferson County has already commented that the current traffic study is not sufficient. There is also high concern for considerable spillover and through traffic in the surrounding neighborhoods

Emergency Access and Egress

The development would have only one access and egress point for 450 residences (1000 cars) and the setup requires both a variance from the fire department as well as special approval from the Planning Commission Director. For reference, the neighborhood on the east has 72 homes, and two access points. The backup emergency egress for the development would be through the parking lot of the Senior Living Facility it abuts to. In the event of a major emergency, like a wildfire, nearly 1000 residents would be attempting to exit through one stub road, or through the parking lot while emergency responders would be attempting to reach and evacuate the residents of the Senior Living facility.

Overall Compatibility

The site is currently zoned Arvada MX-S, which is a mixed-use suburban designation. The Arvada Comprehensive Plan states that these type of sites should **"be strategically located...** The site is currently zoned Arvada MX-S, which is a mixed-use suburban designation. The Arvada Comprehensive Plan states that these type of sites should **"be strategically located... pedestrian oriented activity centers"** and should **"be located in urban centers or designated corridors"** and **"demonstrate the following characteristics:"**

-transit supportive residential densities

-transit supportive mix of retail and employment

-streets or other features that define the center

-public plazas, gathering centers, or amenities

-transit service

-pedestrian oriented

-interconnected network of multimodal streets

The proposal falls short on all items.

The Comprehensive Plan also states that:
-building height transitions and building step-downs should be compatible with adjacent development
-use major arterials or collector streets and boundaries between developments
-maintain appropriate view corridors
-density will generally decrease in the western part

I have talked to my realtor and she advized me that the value of my house will go down 5 to 7 percent when ground is broken. That is $49,000 of lost equity on just one house. Consider what the impact is on the house values in the entire area.

Here is a laundry list that the Planning Commission and City Council members need to keep in mind when voting on this development.

Kurt Lichty's Concerns with Development of Welby Gardens

I know you all have probably thought of all these issues, but I just wanted to give you this document to formalize my complaints

1.) First Priority - I think the planning commision should try and get the area rezoned to single family houses like the surrounding area. And at a minimum, the same kind of density as our neighborhood. We need a requirement in zoning to stipulate Max Density.
2.) The key problem is Density, we need to reduce the density as much as possible – there are not ANY 4 story buildings in Arvada as far as I know. The closest town homes units are at West Town and have 3 seperate entrances. This development has one entrance. 384 Apartments and 51 townhomes is just not feasible. And we have NO layout of the final townhouse section of the development because that land will be sold to a seperate investor. Who knows how that section of the property will be developed. Promises are not worth anything.
3.) This will reduce Home Prices
4.) What is the city going to get out of this? More traffic, more congestion, reduced quality of life, more crime.
5.) What is Jefferson County going to get out of this? Property taxes.
6.) What increased services is the city going to provide? Fire, Water, Electricity, drainage, water, police presence. improvements.
7.) If they do go ahead with the development, we need to get a gate off 64th place so people don't cut through our neighborhood. I did some research and the development across from King Soopers has 3 access points. One off 64th and 2 off McIntire Street. We need to try and get access points off Umber road from Virgil on the west side of the development west of Welby. This would help with emergency vehicle access.
8.) Problems with Density
    a. Crowded Streets
    b. Over-crowded Schools. Right now, the elementary 5th grade is housed in Temp Buildings
    c. Crime – if there is an apt building, there will be drug dealers living there. I guarantee it. We currently have a very safe neighborhood. No Drug dealers that I am aware of.
    d. Late night Parties from younger clientele and associated noise and traffic in the area late at night.
    e. The King's shopping center is already crowded and there are always long lines at Kings. This will exacerbate these problems

f. Lots of Dogs and associated barking and poop.. Massive amount of trash generated
g. More road maintenance
h. Need for traffic lights. Easely road will become very dangerous
I. No retail facilities within walking distance
J. Light Polution
K. Noise from construction

9.) There could be a lot of environmental restoration due to the Welby facility being there for decades and the fact that they were obviously using chemicals there.

10) Probability of NOT-Reelecting of officials within city government. We have a really good voting base here.

I appreciated all of the dedication and time all of the parties copied on this email have put into their service at the city and sincerely hope that you can find a better solution than what is proposed for the Welby Gardens property.

Sincerely,

Kurt A. Lichty

CED Boards and Commission <cedboardsandcommission@arvada.org>

Public HG Jan 21, 2026- Avalon Arvada Conditional Use Permit DA2025-0035

1 message

Karen Spaulding [redacted] Sun, Jan 18, 2026 at 11:17 AM
To: "cedboardsandco [redacted] dboardsandcommission@arvada.org>
Cc: Karen Spaulding [redacted]

Dear Development Dept. Board and COmmission -

Please see attached letter stating my opposition to the proposed conditional use permit for Avalon's high-density housing.

Regards,

Karen Spaulding

---

2 attachments

IMG_20260118_0001.pdf
78K

IMG_20260118_0001.pdf
78K

Both attachments are the letter attached.

Karen Spaulding
17035 W. 67th Circle
Arvada, CO 80007

January 18, 2026

City of Arvada
Community & Economic Dev. Dept.

RE: Avalon Arvada Conditional Use Permit
DA2025-0035

Dear Board and Commission Members:

I am writing to submit my opposition to the application requesting a conditional use permit requested by AvalonBay Communities to construct over 400 units on the North side of the existing MorningStar Development at 17201 W. 64th Avenue, Arvada.

1. The single point of entry at Easley and 64th Avenue for over "2,875 daily vehicle trips"[1] is inadequate for such a high-density project. It poses problems for emergency vehicles, evacuations for flooding or fires, and is problematic for road closures. Adding a traffic light to this intersection will not mitigate these concerns. Further the traffic light is most unwelcome for the large number of vehicles which already travel on 64th Avenue at this time. This community has become nothing but stop lights on 64th and McIntyre over the past 10 years, which no one appreciates.
2. The only access to Avalon will be in conjunction with the access to MorningStar senior residential community. This places senior citizens at risk for problems with emergency evacuations for wildfires, as well as increased issues for senior's who are walking or bike riding on the adjacent sidewalks on either side of Easley.
3. The Avalon high-density proposal is not compatible with the surrounding residential and other uses. The residences surrounding the proposed site are single family homes, with a golf course and frisbee golf directly adjacent. Insufficient on-site parking for the 435 units[2] (likely 870 pus cars) could result in overflow parking on nearby residential streets.
4. The increase in individuals living in these high-density units will cause strain on local shops and local schools, as well as trails, parks and other local amenities. For example, when the homes in Leyden Rock were completed before the King Soopers opened in Candellas, the King Soopers at 64th and McIntyre was overrun with people. The store was not able to handle the increased number of shoppers, the parking lots

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[1] Traffic Impact Study, Rev. 11/24.2025, at p. 25.
[2] Id.

NO ATTACHMENTS

were always full. and there was traffic congestion in and out of the shopping center. It was not a pleasant experience at all.

5. Environmental impacts from the Avalon development include increased storm water runoff. loss of vegetation and trees. habitat destruction. and dense noise and light pollution. These impacts may further increase wildfire risk and environmental pollution.
6. The Avalon application does not adequately address wildfire risks. evacuation planning. infrastructure capacity issues. environmental impact. or traffic impacts (other than there will be increased traffic requiring a stop light).

For these reasons. I respectfully request that the Conditional Use Permit for the AvalonBay Communities be denied.

Very truly yours.

Karen Spaulding

Karen Spaulding

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposition to the Proposed AvalonBay Development at Welby Garden Site

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:34 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Rozalynne Thompson** <rthompson@arvada.org>
Date: Fri, Oct 17, 2025 at 2:06 PM
Subject: Re: Oppositio [redacted] evelopment at Welby Garden Site
To: Katherine Zaraza [redacted]>

Hello Katherine,

Hello Pam,

Thank you for your email. City staff is evaluating Avalon Arvada's application to ensure that all the required information has been submitted. Ultimately, the Conditional Use Permit involves a public hearing and a decision by the City Council in order to move forward.

As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.

Sincerely,
Rozalynne

On Thu, Oct 16, 2025 at 2:31 PM Katherine Zarazan [redacted] wrote:

> Dear Members of the Arvada City Council,
>
> I am writing to express my strong opposition to the proposed **AvalonBay apartment development at the Welby Garden site**.
>
> As a resident of western Arvada, I am deeply concerned about the impact this project would have on our community's **safety, infrastructure, and character**.
>
> Adding approximately **450 new housing units** to this area would significantly increase traffic on roads that are already overburdened. The infrastructure in this part of Arvada was not designed to accommodate this level of growth, and we are already experiencing congestion.
>
> Equally troubling is the **heightened fire risk**. With the surrounding open space and limited evacuation routes, introducing dense housing dramatically increases the potential danger to residents in the event of a wildfire or other emergency.
>
> Beyond these immediate concerns, the proposed development simply **does not fit with the existing neighborhood**. The Welby Garden property has long been part of the open, natural character that makes this area special. A large-scale apartment complex would permanently alter that character and undermine the balance between thoughtful growth and community preservation that residents have consistently voiced support for.
>
> Many of us feel **disheartened** by recent City Council decisions that appear to prioritize rapid development over residents' concerns. We urge you to **listen to the community** and **reconsider approval of this project**.
>
> Please take the time to fully evaluate the long-term impact this development would have on western Arvada's safety, livability, and identity. Responsible growth requires balance, and this proposal is not that.

> Thank you for your time and for representing the voices of your constituents.
>
> Sincerely,
>
> Katherine Zarazan
>
> 6651 Violet Way
> Arvada, CO 80007.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

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CITY OF ARVADA

Ms. Loretta Chessmore
MorningStar Arvada #1008
17351 W. 64th Ave.
Arvada, CO 80007

To Arvada City Council Members:

This letter is in regard to the Avalon Bay apartment development plan for Welby Gardens at 17201 W. 64th Ave. Arvada.
I am a sixty-seven year Colorado resident, a registered voter in Jefferson County, and live at MorningStart Senior Living Arvada, which serves those needing memory care, assisted and independent living amenities, such as a restaurant, life assistance services, and life enrichment for residents. MorningStar shares the full south boundary with the proposed development. Please note that no portion of the Development property is located on 64th Avenue. That address is a post office designation for their mail delivery to a single roadside mailbox located off Easley, on their own property.

The impact of traffic on Health and Safety is the topic of this portion.

1. The apartment development access is on the small street of Easley, over 250 feet from the 64th Ave. intersection. MorningStar's major guest/staff/ resident parking lot is also off Easley, closer (175') to 64th Ave. Backed up traffic will block our access out of and into MorningStar. Ambulances, fire trucks, health vendors, food service trucks, trash trucks, staff, family, and residents expect to retain a safe and accessible driveway.

2. The single access for 384 apartments is not adequate. Most concerning: is the number of the 614 to 2400 vehicles daily volume which may be driven on our private parking aisles to avoid the bottleneck at Easley and 64th, even with a traffic light. The aisles are narrow and every one must be crossed on foot/by walker/by wheelchair to access our private vehicles, the main building, or even to walk a pet. This is not ever going to be a safe situation for MorningStar residents, staff nor visitors.

3. The turn for eastbound 64th from Easley presents another hazard. Facing a wait in a full left turn lane, drivers may instead choose to turn west to keep traffic moving, only to make a risky U-turn at Virgil in order to go east. Those leaving to the west from MorningStar face the same U-turn . Ambulances leaving MorningStar will face the same issue. Our fire stations and medical care centers are east of us, not west - that is all open space for miles.

The impact of past decisions is the topic of this portion.

1 The decisions of the original landowner prior to Avalon Bay resulted in totally isolating the property for their specific use, though it served them well. Even Easley St. was vacated. In the past, subdivisions were approved on either side of them, and the city golf course was built up. The original owners even sold the land for MorningStar to build upon years ago.

2. The choice to experiment with growth enhancing chemicals, fully available in the 40's, 50's and 60's to improve their seeds, plants and hydroponic produce introduced now-known forever chemicals and microplastics (they put synthetic fiber 'floors' in seven buildings) into the soil wherever liquids/solids fell. In retrospect, that was a choice with unseen consequences. But now, the health of persons on or surrounding the property, even down-stream, must be considered very seriously.

In conclusion, I would recommend that the Council vote NO on the presented proposal by Avalon Bay.

Sincerely,

Loretta Chessmore

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Sincerely,

Loretta Chessmore

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Project #DA2025-0035

Josie Suk <jsuk@arvada.org> Wed, Dec 17, 2025 at 11:44 AM
To: Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Wed, Dec 17, 2025 at 11:43 AM
Subject: Fwd: Project #DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Sharon Davis** <sdavis@arvada.org>
Date: Wed, Dec 17, 2025 at 10:00 AM
Subject: Fwd: Project #DA2025-0035
To: Kristen Rush <kristen@arvada.org>

Hi Kristen!

For the record.

Sincerely,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

---------- Forwarded message ---------
From: **Larry Middle** <[redacted]>
Date: Wed, Dec 17, 2025 at 9:13 AM
Subject: Project #DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>, rsmetana@arvada.org <rsmetana@arvada.org>, jegarner@arvada.org <jegarner@arvada.org>

Hello - I am writing you to express my concerns about this Avalon project on the current Welby Gardens site. I have lived in this location for 25 years and am sympathetic to driving new business as a founder of tech companies myself. However, trying to fit this complex into this location doesn't make sense from a number of angles. Some of the problems can be solved, but I unfortunately don't think others can be, and it ultimately puts people at risk.
Some of the issues that I think can be solved:
- Ability for cars to safely enter 64th. Putting a light at Easley and 64th certainly can help with this, although with the number of cars expected, it may need an additional light and road coming out of the Avalon complex
- Parking, and traffic into the westwoods adjacent neighborhood. It is a very kid-friendly neighborhood with its own traffic and parking issues. I believe this complex will push this over the top and create a dangerous environment. There is no way of stopping the traffic coming off of 64th through the neighborhood and into the proposed complex.

- For traffic, parking, safety, emergency, the ingress / egress proposed solution will not work. This is creating issues across the board
- I know the height and noise is also going to be problematic for adjacent neighborhoods but I also know its a matter of time before more business expands to the west of quaker. What makes Arvada such an ideal place to live for most is the well thought out open spaces, quiet/safe neighborhoods. Packing more density is going to hurt Arvada in the long term. I grew up in applewood and spent most of my adult life in Arvada/Golden. This building in this particular spot goes against what I think makes this area so ideal for families to locate in. I don't think anyone wants that.

Thanks, I am happy to speak live with anyone that wants to understand more about the concerns the community has.

Larry Middle (1 adult in my house)
17125 W 65th Circle (Westwoods Links III)

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Bay Arvada - Welby Gardens

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:40 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwa
From: **Lore L** [redacted]
Date: Tue, Ma
Subject: Avalon Bay Arvada - Welby Gardens
To: <rthompson@arvada.org>

Dear Rozalynne,

I hope this message finds you well.

My name is Lorena, and I was invited to attend a meeting regarding a proposed development north of Morning Star Senior Living. Unfortunately, I was out of town at the time and have just returned. Could you please provide me with an update on the status of this project?

For your reference, I've attached the meeting letter I received.

I also wanted to express some concerns. Lately, it seems that Arvada has been approving projects that contribute to a sense of clutter in the city. While I understand the need for growth, development should focus on enhancing the quality of life for residents. This includes ensuring there are sufficient public services, improving traffic flow, addressing parking shortages, and maintaining a clean and aesthetically pleasing environment.

Some recent developments appear to lack thoughtful design and style, and it raises the question of whether financial gain is being prioritized over the long-term well-being of the community.

Please feel free to share my message with others if it helps support a broader discussion.

Thank you for your time and for any information you can provide.

Warm regards,
Lorena Poling.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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Welby Gardens.pdf
2318K

NOTICE OF NEIGHBORHOOD MEETING

This notice is to inform you of an upcoming opportunity to participate in a neighborhood meeting for a potential development project planned within the City of Arvada.
Date of Notice: March 26th, 2025

PROJECT NAME:	Avalon Bay Arvada – Welby Gardens
PROPERTY LOCATION:	17201 W. 64th Ave., Arvada, CO 80007
APPLICATION SUMMARY:	The proposed development shall be located on 20.1 acres north of the existing MorningStar Senior Living of Arvada and comprise of a mix of multi-family and townhome residential units. This residential community proposes approximately 390 multi-family units and approximately 50 townhome units with a total proposed density of 21.9 dwelling units per acre (DU/Acre). The community will include a minimum 2-acre Urban Park. All residential buildings are proposed to comply with the maximum allowed height of 45 feet.

MEETING INFORMATION

DATE:	Thursday, April 10, 2025
LOCATION:	West Woods Elementary School Gym - 16650 W. 72nd Ave., Arvada, CO 80007
TIME:	6:00 p.m.

PROJECT REPRESENTATIVE

NAME:	Todd Nicotra, and Gregory Himmel Avalon Bay Communities
PHONE NUMBER:	720-245-6941
EMAIL ADDRESS:	todd_nicotra@avalonbay.com

ARVADA STAFF CONTACT

NAME:	Rozalynne Thompson
PHONE NUMBER:	720-898-7436
EMAIL ADDRESS:	rthompson@arvada.org

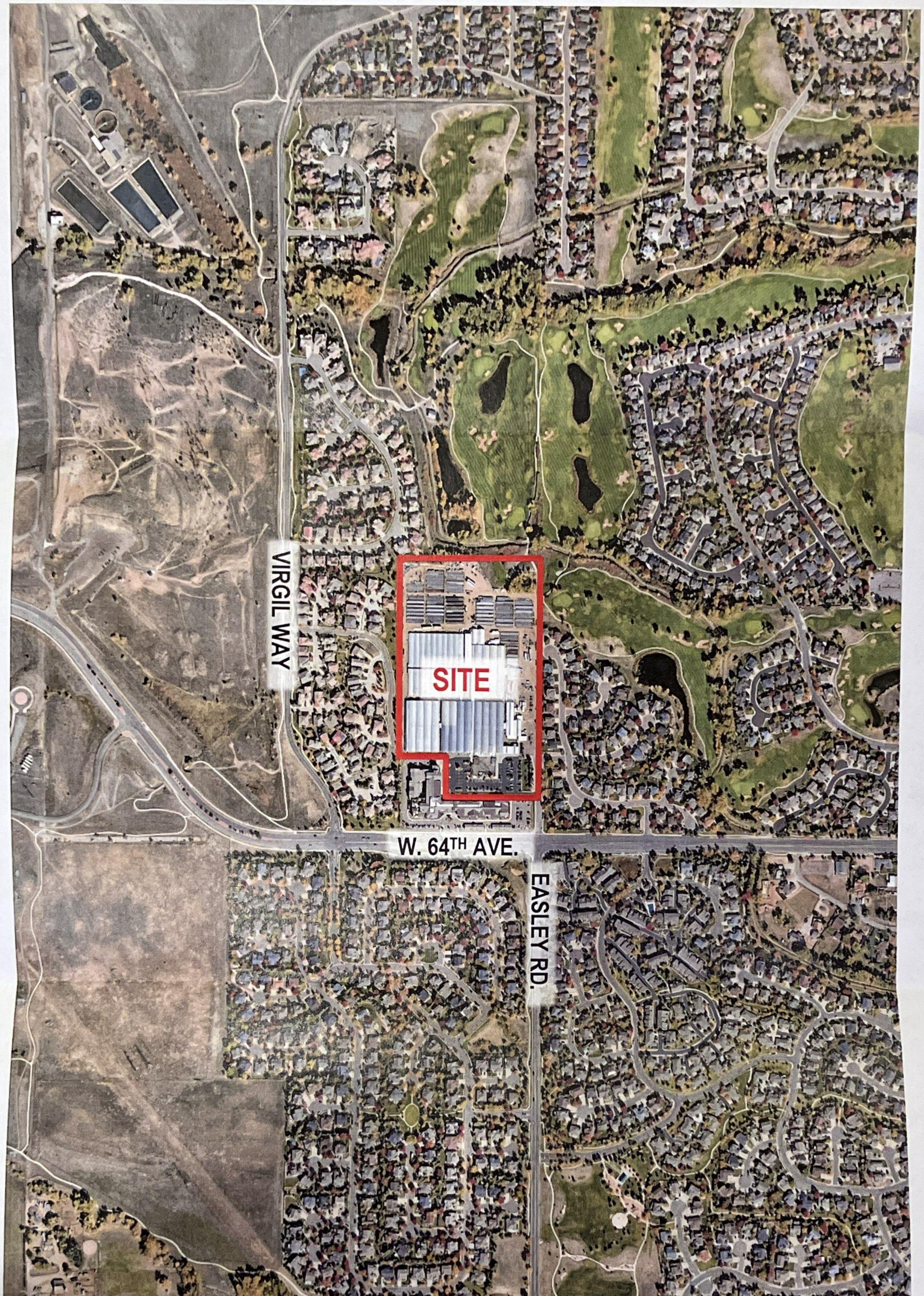
A neighborhood meeting is the first step of the public process in the City of Arvada for developments that require a public hearing. This is done to help ensure community input and feedback into proposed developments prior to any formal application being submitted. If an application is submitted and the project moves forward, property owners and Homeowners Associations located within 500 feet of the subject property will be notified of the dates of both the Planning Commission hearing and the City Council hearing approximately 10 days in advance of the hearing dates.

During the neighborhood meeting, the project representative will present the proposal to the audience, and may have a graphical representation of the proposal, a project fact sheet, and/or detailed handouts regarding specific details of the planned development for audience review.

Audience members will be given an opportunity to ask questions and provide comments regarding the proposed project. Arvada city staff will be available at the meeting to address any questions regarding the development review and application process.

Please feel free to contact the project representative or the Arvada staff contact listed above with any questions regarding the meeting.

PROJECT VICINITY MAP


VIRGIL WAY
SITE
W. 64TH AVE.
EASLEY RD.

10/3/2035

Dear Bob Fifer,

I am concerned about traffic on Easley, because we have many seniors who like to walk as prescribed by their doctors. With Easley limited to 3 lanes, 1 in, 1 out, 1 turn it would be very difficult with traffic in and out of Morningstar. And when there is snow, it would be impossible to walk on the side walk. So where do we go? We would only have 1 entrance to MorningStar so I am also concerned about congestion. I live on the North side of the building, I enjoy sitting on my patio so the noise would make that impossible, and I would lose the view of the mountains. I don't want to see into someone else's apartment nor do I want people able to view into mine.

Respectfully,

Louise Webber

Louise Webber

10/3/2035

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We used to climb mountains, but now we can't. We used to run races but no longer can. So, we have come here to this quiet and safe place, to live peacefully and enjoy our years protected. Please do not steal that place from us for we need it very much.

Mary E. Albers

Sincerely,

Marnie Albers

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Marnie Albers

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Public Comment Submission & Time Request — Avalon Arvada CUP (DA2025-0035) — Protect West Woods Neighbors (Environmental Concerns Comments)

1 message

Josie Suk <jsuk@arvada.org> Thu, Jan 15, 2026 at 1:34 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Thu, Jan 15, 2026 at 1:26 PM
Subject: Fwd: Public Comment Submission & Time Request — Avalon Arvada CUP (DA2025-0035) — Protect West Woods Neighbors (Environmental Concerns Comments)
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded
From: Mark Breese [redacted] >
Date: Thu, Jan 15,
Subject: Public Comment Submission & Time Request — Avalon Arvada CUP (DA2025-0035) — Protect West Woods Neighbors (Environmental Concerns Comments)
To: CEDBOARDSANDCOMIVISSION@arvada.org <CEDBOARDSANDCOMIVISSION@arvada.org>
Cc: <rsmetana@arvada.org>, <jegarner@arvada.org>, Rozalynne Thompson <rthompson@arvada.org>, <dwick@arvada.org>, <krush@arvada.org>, <steve.parker@arvadafireco.gov>, <lsimpson@arvada.org>, Randy Moorman <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, Rep. Lisa Feret <lisa.feret.house@coleg.gov>, <lindsey.daugherty.senate@coleg.gov>, <nmccoy@churchditch.org>, <kcline@cityofwestminsterous>, Randall Weiner <randall@randallweiner.com>

Dear Planning Commission Members,

On behalf of Protect West Woods Neighbors (PWWN), please accept this second submittal for inclusion in the permanent public record for the January 21, 2026 Planning Commission hearing at 6:15 PM regarding the Avalon Arvada Conditional Use Permit (Case DA2025-0035). These written comments are submitted in accordance with the City's Notice of Public Hearing, which directs that emailed comments be received by 5:00 PM the day before the meeting at this address.

As noted in our initial submittal documents, this submittal covers issues surrounding the environmental review of the project. Please include this document in the public record.

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

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2026 0113 Letter to CDPHE Welby Gardens.pdf
638K

January 13, 2026

Via email to mark.rudolph@state.co.us and fonda.apostolopoulos@state.co.us

Colorado Department of Public Health & Environment
Hazardous Materials and Waste Management Division
Voluntary Cleanup Program (VCUP)
4300 Cherry Creek Drive South
Denver, CO 80246

Cc: Rozalynne Thompson, AICP, Principal Planner, City of Arvada

Subject: Summary of Deficiencies Identified in Phase I and Phase II Environmental Site Assessment Reports
Site: Welby Gardens – 17201 West 64th Avenue, Arvada, CO 80007
Applicant: AvalonBay Communities

To Whom It May Concern:

On behalf of **Protect West Woods,** we conducted an independent technical review of the **Phase I Environmental Site Assessment (ESA)** dated December 26, 2024 and **Phase II ESA** dated October 17, 2025 for the referenced property.

Executive Summary

Protect West Woods conducted an independent technical review of the Phase I Environmental Site Assessment (December 26, 2024) and Phase II Environmental Site Assessment (October 17, 2025) prepared for the Welby Gardens property in Arvada, Colorado. This review identified extensive data gaps, methodological flaws, and inconsistencies that prevent a reliable characterization of environmental conditions at the site and do not support a No Further Action (NFA) determination under Colorado's Voluntary Cleanup Program (VCUP).

Moreover, these reports are being used in a Conditional Use review by the City of Arvada Planning Commission to demonstrate that the applicant has effectively addressed environmental concerns. Neither the City of Arvada nor the Arvada Planning Commission have jurisdiction over these matters. Protect West Woods urges CDPHE to provide regulatory oversight and compliance evaluation of current available data and historical site use to support the City of Arvada in its review of this application.

The Phase I ESA fails to identify and properly evaluate several major potential sources and pathways of contamination. Suspected asbestos-containing materials (ACM) associated with greenhouse piping and boiler systems were not adequately investigated or documented prior to

demolition, and no evidence of proper asbestos abatement or disposal was provided. The subsurface stormwater system—including vaults, sumps, and detention structures—is poorly characterized despite visible evidence of contaminated surface runoff. Most critically, stormwater from the northwest portion of the property is discharging offsite into Church Ditch, which ultimately feeds Standley Lake, a municipal water supply. This contradicts the Phase I conclusion that no offsite discharge occurs and represents a significant potential pathway for offsite contaminant migration.

Additional unaddressed Phase I deficiencies include undocumented floor drains and buried sumps that may act as conduits to soil and groundwater, historical soil piles or waste pits visible in aerial photography that were not identified as Recognized Environmental Conditions (RECs), and contradictory or unreliable information provided by site owners regarding historical contamination and chemical use.

The Phase II ESA does not adequately investigate the highest-risk areas identified in the Phase I or evident from site conditions. No sampling was conducted in or near the stormwater pond, which is a primary accumulation area for runoff-borne contaminants. Drainage ditches, visibly stained soils, erosional basins, and areas downgradient of greenhouses were either insufficiently sampled or not sampled at all. Fuel storage areas, leach fields, floor drains, hoop house areas, and historical soil pile locations were not properly investigated despite being identified or implied as potential source areas.

Groundwater evaluation is also fundamentally flawed. Monitoring well placement does not reliably intercept potential contaminant flow paths from key source areas, and winter-only sampling likely underestimated impacts due to seasonally low groundwater levels. The investigation failed to assess shallow alluvial groundwater or seasonal perched water that could transport contaminants offsite.

Laboratory methods further limit the usefulness of the data. Detection limits for multiple pesticides, fumigants, and volatile organic compounds exceeded applicable Risk Screening Levels (RSLs) and Colorado groundwater standards, preventing meaningful evaluation of regulatory compliance. Soil results were compared only to direct-contact screening levels, while the more stringent migration-to-groundwater criteria—which are especially relevant for agricultural and greenhouse sites—were not evaluated.

Chromium presents a specific unresolved risk. While total chromium was detected below EPA RSLs, the site was not tested for hexavalent chromium (Chromium-VI), a highly toxic and mobile form commonly associated with historical pesticide, fungicide, fertilizer, and greenhouse operations. Given its very low residential and groundwater-protection screening levels, failure to speciate chromium represents a significant data gap.

Finally, no cross-reference was provided to demonstrate that all Phase I RECs were adequately tested in the Phase II program, making it impossible to confirm that potential contaminant sources and pathways have been properly evaluated.

In summary, the current Phase I and Phase II ESAs do not provide a defensible understanding of site conditions and fail to adequately assess risks to soil, groundwater, surface water, or offsite receptors. These deficiencies are particularly concerning given that the property discharges stormwater into a ditch connected to a municipal drinking water reservoir and is under review by the City of Arvada for a Conditional Use Permit that requires mitigation of adverse environmental impacts.

Protect West Woods therefore recommends that the Colorado Department of Public Health and Environment consult with the City of Arvada on these matters and require substantial additional investigation, clarification, and supplemental documentation for the site before any VCUP No Further Action determination is considered.

The following findings are provided to assist CDPHE in evaluating the completeness of the submittals and determining whether additional investigation or clarification is warranted. Page numbers referenced are the PDF page numbers in AvalonBay's 3rd application submittal submitted to City of Arvada in October 2025 (1,355 pages total).

I. Phase I ESA – Potential Issues Not Sufficiently Addressed

1. **Asbestos-Containing Materials (ACM) in Greenhouse Piping and Prior Demolition Activities (pp. 542, 567, 568, 1001)**
   – Suspected ACM on greenhouse piping in deteriorated condition was not addressed
   – Several greenhouses have already been demolished; however, the report does not indicate whether demolition permits were obtained or whether required asbestos inspections occurred prior to demolition
   – It is unclear whether suspect ACMs were disturbed during demolition or how these materials were handled

   -It is unclear whether the ACM was properly disposed of in a hazardous materials landfill and the manifest associated with such disposal should be attached
   – The Phase I does not describe future plans for ACM assessment or management
2. **Potential ACM Associated with the Boiler System (pp. 563, 565, 976, 977)**
   – The potential for asbestos in older boiler insulation or components was not evaluated
   – The ESA does not state whether ACM abatement occurred prior to boiler replacement
   – There appear to be multiple boilers at the site. It is unclear which boiler(s) were upgraded,

if ACM was considered during the upgrade(s), or if ACM may be present associated with any of the boilers

SITE:	Welby Gardens	BASELINE	PROJECT NO.:	45033.02
LOCATION:	17201 W. 64th Avenue, Arvada, Colorado		VISIT DATE:	December 6, 2024

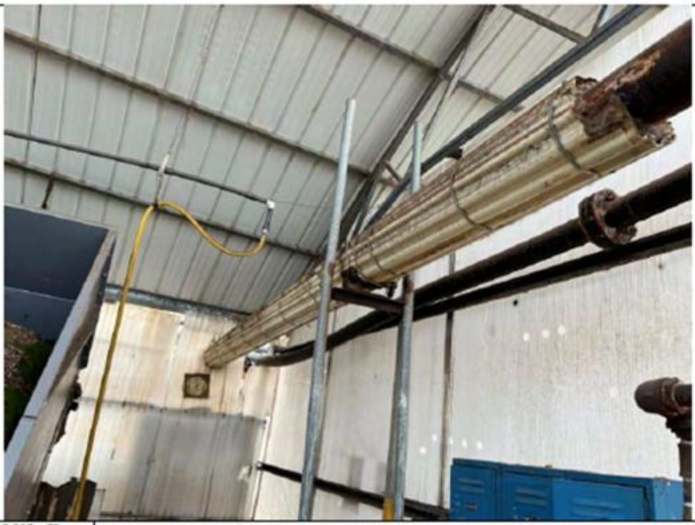


PHOTO NO. 71 DESCRIPTION: Example of potential asbestos-containing material on piping.

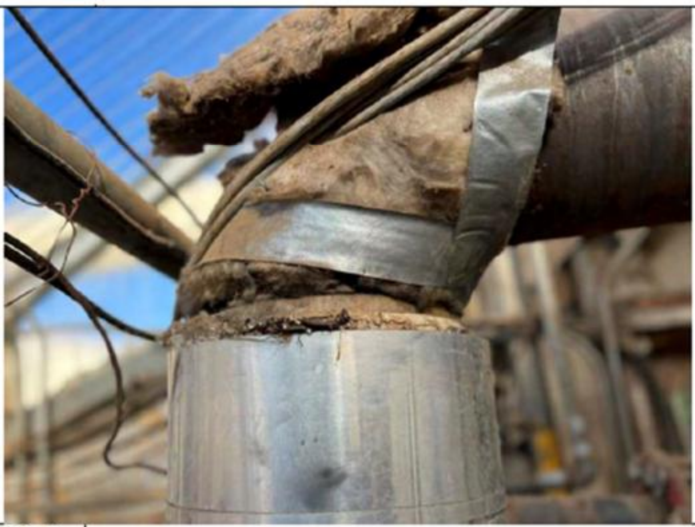
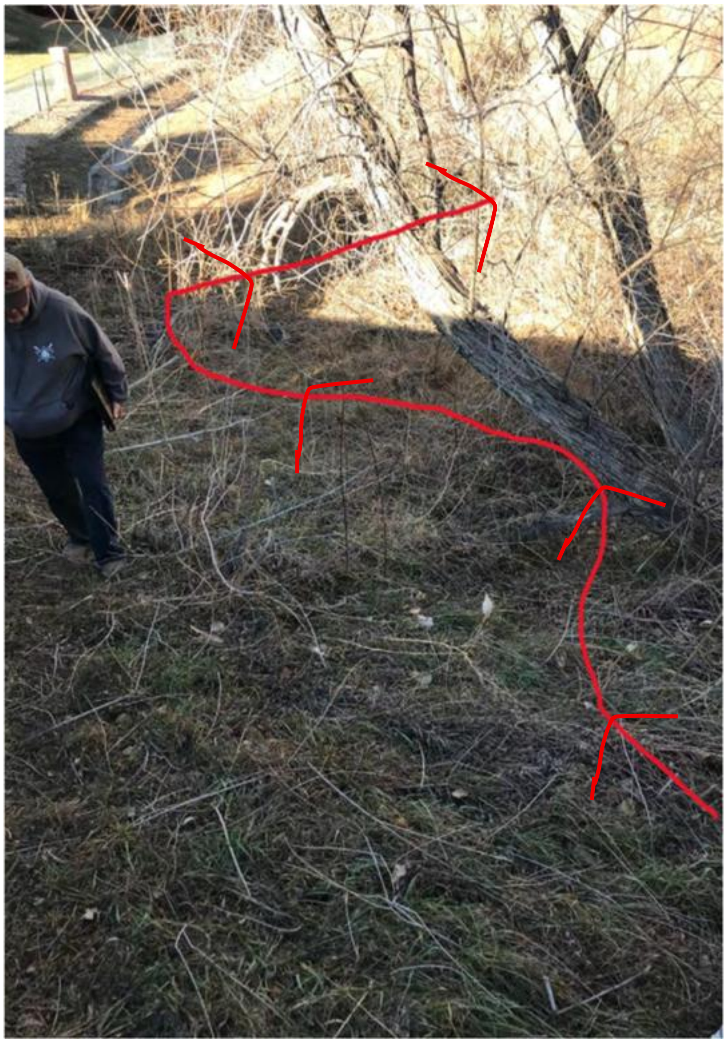


PHOTO NO. 72 DESCRIPTION: Example of potential asbestos-containing material on piping.

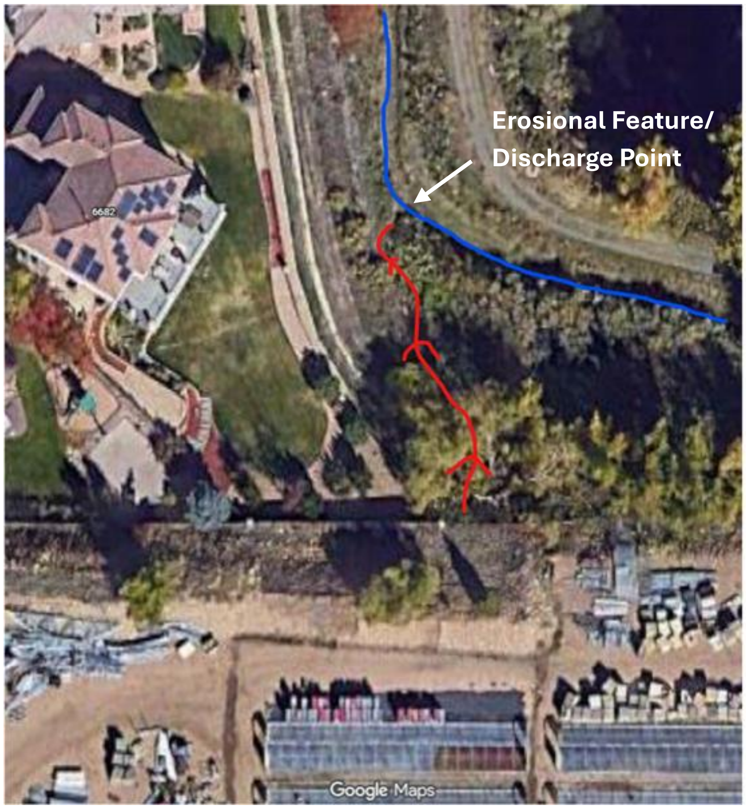
3. **Insufficient Information Regarding the Underground Stormwater System (pp. 997, 998)**
   – Subsurface stormwater infrastructure, including detention vessels and vaults, is inadequately described
   – These structures may concentrate contaminants conveyed in stormwater and serve as conduits for subsurface impacts
   – Observed contaminated surface drainage indicates stormwater is a known migratory pathway for contaminated stormwater waste yet the Phase I indicates that the Subject

Property does not discharge any waste water to the stormwater or sanitary sewer systems (pp. 563, 568)

4. **Potentially Impacted Stormwater Currently Discharges into Church Ditch (pp. 566, 568)**
   - Stormwater from the northwest corner of the property discharges offsite to the north. It is eroding a channel that ultimately enters Church Ditch, which connects to City of Westminster water supply at Standley Lake. Surface soil potentially contaminated with dieldrin may be impacting stormwater leaving the site in this area or others
   - Additional investigation is need to characterize impacts to the soil on the property and at the outfalls for stormwater discharges
   - Church Ditch owners should also be notified of this discharge onto their property and into their water supply



Stormwater Flow Path (NE outfall)



Stormwater Discharge (red) into Church Ditch (blue)

5. **Floor Drains – Unknown Construction and Discharge Points (pp. 566, 991)**
   – Floor drains are present and appear cut into concrete. Their construction (bottomed vs. bottomless) is not documented
   – Discharge locations are unclear; if connected to leach fields, contamination of soil or groundwater is possible

6. **Buried Water Sumps (pp. 990, 991)**
   – At least one buried sump is noted but not assessed
   – No information is provided regarding number, construction, contents, or potential as conduits for contamination

7. **Historical Soil Piles and Potential Waste Pits (pp. 723, 724)**
   – Aerial photos (1983, 1994) show features consistent with soil stockpiles or waste pits in the northwest corner of the property
   – These areas were not addressed and should have been identified as Recognized Environmental Conditions (RECs)

8. **Contradictory Information from Owner Interviews**
   – Statements from the current owners conflict with site conditions documented by the environmental professional. Owner stated they were not aware of any issues except for

petroleum staining near the waste oil tank (p. 551) yet staining was observed in the drainage ditch at the site and the site has had extensive use of pesticides/ herbicides including a spill kit in place for any agricultural-chemical spills (p. 563)
– Reliability of the interview responses is questionable and should have been addressed beyond the minimal follow-up emails

II. Phase II ESA – Potential Issues Not Sufficiently Addressed

1. **Lack of Borings/Sampling in the Stormwater Pond (North End of Property) (p. 1065)**
   – No sediment, soil, or groundwater samples were collected in or near the stormwater pond, despite it being a primary potential accumulation area for contaminants in stormwater
2. **Insufficient Investigation of the Subsurface Stormwater System**
   – Construction, integrity, and components (separators, sumps, vaults) were not assessed
   – This system may act as a preferential pathway for contaminant migration
3. **Insufficient Surface Soil Assessment Along Drainage Ditches (p. 1065)**
   – Only one sample was collected between North and South Greenhouse #2
   – High-risk downgradient areas, including the erosional basin east of WGB-10, were not sampled
4. **Unaddressed Drainages and Discolored Soil Areas (p. 1065)**
   – Multiple visible drainages north of Southern Greenhouse #1 and Northern Greenhouse #3 were not evaluated
   – Significant areas of soil discoloration along the east property edge and west of Southern Greenhouse #3 were not sampled
5. **Inadequate Investigation of Fuel Storage Areas (p. 1065)**
   – Borings were not placed directly beneath tanks where contamination likelihood is highest
   – Hand augers could have been used if access was limited
   – Borings WGB-1 and WGB-2 are poorly located and not topographically downgradient based on interpreted groundwater flow
6. **Lack of Correlation Between Floor Drains and Soil Borings (p. 1065)**
   – Borings within greenhouses were not collocated with floor drain locations

– Integrity of floor drain systems and potential as pathways to subsurface or septic systems were not evaluated

7. **Lack of Borings In or Downgradient of Leach Fields (p. 582)**
   – Despite being a Phase I REC, multiple leach fields were not investigated for potential impacts from wastewater discharge

8. **Improper Placement of Groundwater Monitoring Well MW-02 (p. 1065)**
   – MW-02 is not located where it can reliably detect impacts from the fuel storage area
   – Bedrock surface contours indicate groundwater flow may bypass the well

9. **Laboratory Detection Limits Above RSLs (pp. 1035-1038, 1054, 1056, 1057, 1058)**
   – Several analytes [Delta BHC (delta-Hexachlorocyclohexane, Aldrin, Alpha BHC (alpha-Hexachlorocyclohexane, Chlordane, Dieldrin, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Toxaphene, 1,2,3-Trichloropropane, 1,2-Dibromo-3-Chloropropane, 1,2-Dibromoethane, Acrylonitrile, and Vinyl chloride)] have method detection limits (MDLs) exceeding applicable Risk Screening Levels (RSLs) or Colorado Groundwater Standards preventing complete evaluation of potential contaminants at the site

10. **Potential for Chromium Impacts Not Investigated (pp. 1045)**
    - Chromium detected in soil at concentrations below the EPA RSLs for total chromium but speciation for Chromium-VI (Hexavalent) was not performed.
    - Chromium-VI is commonly associated with pesticides and fungicides as well as fertilizers and soil amendments in agricultural and greenhouse operations
    - The Residential RSL for Chromium-VI is 0.31 mg/kg and the migration to groundwater SSL is 0.03-0.04 mg/kg
    - The presence or absence of Chromium-VI should be investigated throughout the Welby Gardens property based on historical land use

11. **Lack of Evaluation for Migration-to-Groundwater Pathway (pp. 1033-1053)**
    – Soil results were compared only to direct-contact RSLs (residential/industrial)
    – More stringent migration-to-groundwater RSLs were not evaluated, overlooking threats to groundwater and potential regulatory compliance

12. **No Correlation of Sampling Locations with Phase I RECs**
    – No table or crosswalk was provided to demonstrate coverage of all identified RECs. From the Phase I ESA
    – Such correlation would highlight data gaps

13. **No Sampling or Inspection of Potential ACMs**
    – Despite being outside ASTM scope, ACMs remain a relevant environmental and health hazard not addressed in the Phase II ESA

14. **No Sampling in Former Hoop House Areas (p. 1065)**
    – Hoop Houses lacked flooring and sat directly on soil, increasing potential for impacts to soil and the subsurface
    – No soil or groundwater samples were collected in the Hoop House areas
15. **Groundwater Assessment Conducted in Winter (Lowest Water Table) (pp. 1054-1061)**
    – Winter sampling (January 8, January 23, and January 24 of 2025) may fail to capture impacts due to depressed groundwater levels
    – Alluvial zones, potential seasonal water-bearing units, and their connectivity to bedrock groundwater were not evaluated
16. **No Sampling of Historical Soil Piles or Potential Waste Pits (p. 1065)**
    – Historical features in the NW corner observed in historical aerial photographs were not investigated nor identified as a REC in the Phase I ESA
    – Boring WGB-09 was placed east of the area and is insufficient to evaluate this REC
17. **No Groundwater Sampling Beneath the Greenhouses (p. 1065)**
    – Greenhouses are the likely source areas based on historical operations and use of agricultural chemicals; however, no monitoring wells were installed beneath or immediately downgradient of the potential source areas
    – Existing downgradient wells may be improperly placed or too distant to detect groundwater impacts from historical operations
18. **Future Construction Stormwater Discharge Permitting**
    - Assuming the project moves forward into a construction phase, future construction stormwater Notice of Intent (NOI) to Discharge by the property owner under the General Permit COR400000 with the CDPHE must consider the potential for chemical contaminants present in soil to be discharged offsite via stormwater and mitigated as such

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Summary

Based on the deficiencies summarized above, the current Phase I and Phase II ESA documents do **not** adequately characterize environmental conditions at the property. Numerous potential source areas, contaminant pathways, and historical features require additional investigation to meet the expectations of the VCUP program and to ensure that potential impacts to soil, groundwater, and human health are fully understood.

Furthermore, this property is under review by the City of Arvada Planning Commission for a Conditional Use Permit per the Land Development Code. Approval Criteria #6 requires the applicant to mitigate any adverse impacts on the surrounding area to the degree practicable. We

recognize that the CDPHE has jurisdiction over the contaminants present at the property but the City officials are heavily dependent upon thorough consideration and regulatory management provided by the CDPHE to enforce regulatory compliance on the applicant's property. CDPHE must take an active role in evaluating site conditions at the property to ensure adverse impacts to human health and the environment are mitigated.

We respectfully recommend that CDPHE require the applicant to address these deficiencies through additional site investigation, clarification, or supplemental documentation before a No Further Action (NFA) determination is provided.

If you have any questions or require supporting materials, please contact us at 303-550-8872 (John) or 303-913-6583 (Joel).

Sincerely,

Joel Bolduc

John D. Peterson, P.G.
Protect West Woods

Joel Bolduc
Protect West Woods

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Public Comment Submission & Time Request — Avalon Arvada CUP (DA2025-0035) — Protect West Woods Neighbors (Environmental Concerns Comments)

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 15, 2026 at 2:22 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Hi Dixie,

Here is another comment I received.

Thanks,
Rozalynne

---------- Forwarded m
From: **Mark Breese** [redacted]
Date: Thu, Jan 15, 20
Subject: Public Comment Submission & Time Request — Avalon Arvada CUP (DA2025-0035) — Protect West Woods Neighbors (Environmental Concerns Comments)
To: CEDBOARDSANDCOMIVISSION@arvada.org <CEDBOARDSANDCOMIVISSION@arvada.org>
Cc: <rsmetana@arvada.org>, <jegarner@arvada.org>, Rozalynne Thompson <rthompson@arvada.org>, <dwick@arvada.org>, <krush@arvada.org>, <steve.parker@arvadafireco.gov>, <lsimpson@arvada.org>, Randy Moorman <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, Rep. Lisa Feret <lisa.feret.house@coleg.gov>, <lindsey.daugherty.senate@coleg.gov>, <nmccoy@churchditch.org>, <kcline@cityofwestminsterous>, Randall Weiner <randall@randallweiner.com>

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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January 13, 2026

Via email to mark.rudolph@state.co.us and fonda.apostolopoulos@state.co.us

Colorado Department of Public Health & Environment
Hazardous Materials and Waste Management Division
Voluntary Cleanup Program (VCUP)
4300 Cherry Creek Drive South
Denver, CO 80246

Cc: Rozalynne Thompson, AICP, Principal Planner, City of Arvada

Subject: Summary of Deficiencies Identified in Phase I and Phase II Environmental Site Assessment Reports
Site: Welby Gardens – 17201 West 64th Avenue, Arvada, CO 80007
Applicant: AvalonBay Communities

To Whom It May Concern:

On behalf of **Protect West Woods,** we conducted an independent technical review of the **Phase I Environmental Site Assessment (ESA)** dated December 26, 2024 and **Phase II ESA** dated October 17, 2025 for the referenced property.

Executive Summary

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Moreover, these reports are being used in a Conditional Use review by the City of Arvada Planning Commission to demonstrate that the applicant has effectively addressed environmental concerns. Neither the City of Arvada nor the Arvada Planning Commission have jurisdiction over these matters. Protect West Woods urges CDPHE to provide regulatory oversight and compliance evaluation of current available data and historical site use to support the City of Arvada in its review of this application.

The Phase I ESA fails to identify and properly evaluate several major potential sources and pathways of contamination. Suspected asbestos-containing materials (ACM) associated with greenhouse piping and boiler systems were not adequately investigated or documented prior to

demolition, and no evidence of proper asbestos abatement or disposal was provided. The subsurface stormwater system—including vaults, sumps, and detention structures—is poorly characterized despite visible evidence of contaminated surface runoff. Most critically, stormwater from the northwest portion of the property is discharging offsite into Church Ditch, which ultimately feeds Standley Lake, a municipal water supply. This contradicts the Phase I conclusion that no offsite discharge occurs and represents a significant potential pathway for offsite contaminant migration.

Additional unaddressed Phase I deficiencies include undocumented floor drains and buried sumps that may act as conduits to soil and groundwater, historical soil piles or waste pits visible in aerial photography that were not identified as Recognized Environmental Conditions (RECs), and contradictory or unreliable information provided by site owners regarding historical contamination and chemical use.

The Phase II ESA does not adequately investigate the highest-risk areas identified in the Phase I or evident from site conditions. No sampling was conducted in or near the stormwater pond, which is a primary accumulation area for runoff-borne contaminants. Drainage ditches, visibly stained soils, erosional basins, and areas downgradient of greenhouses were either insufficiently sampled or not sampled at all. Fuel storage areas, leach fields, floor drains, hoop house areas, and historical soil pile locations were not properly investigated despite being identified or implied as potential source areas.

Groundwater evaluation is also fundamentally flawed. Monitoring well placement does not reliably intercept potential contaminant flow paths from key source areas, and winter-only sampling likely underestimated impacts due to seasonally low groundwater levels. The investigation failed to assess shallow alluvial groundwater or seasonal perched water that could transport contaminants offsite.

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Chromium presents a specific unresolved risk. While total chromium was detected below EPA RSLs, the site was not tested for hexavalent chromium (Chromium-VI), a highly toxic and mobile form commonly associated with historical pesticide, fungicide, fertilizer, and greenhouse operations. Given its very low residential and groundwater-protection screening levels, failure to speciate chromium represents a significant data gap.

Finally, no cross-reference was provided to demonstrate that all Phase I RECs were adequately tested in the Phase II program, making it impossible to confirm that potential contaminant sources and pathways have been properly evaluated.

In summary, the current Phase I and Phase II ESAs do not provide a defensible understanding of site conditions and fail to adequately assess risks to soil, groundwater, surface water, or offsite receptors. These deficiencies are particularly concerning given that the property discharges stormwater into a ditch connected to a municipal drinking water reservoir and is under review by the City of Arvada for a Conditional Use Permit that requires mitigation of adverse environmental impacts.

Protect West Woods therefore recommends that the Colorado Department of Public Health and Environment consult with the City of Arvada on these matters and require substantial additional investigation, clarification, and supplemental documentation for the site before any VCUP No Further Action determination is considered.

The following findings are provided to assist CDPHE in evaluating the completeness of the submittals and determining whether additional investigation or clarification is warranted. Page numbers referenced are the PDF page numbers in AvalonBay's 3rd application submittal submitted to City of Arvada in October 2025 (1,355 pages total).

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2. **Potential ACM Associated with the Boiler System (pp. 563, 565, 976, 977)**
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if ACM was considered during the upgrade(s), or if ACM may be present associated with any of the boilers

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LOCATION:	17201 W. 64th Avenue, Arvada, Colorado	VISIT DATE:	December 6, 2024

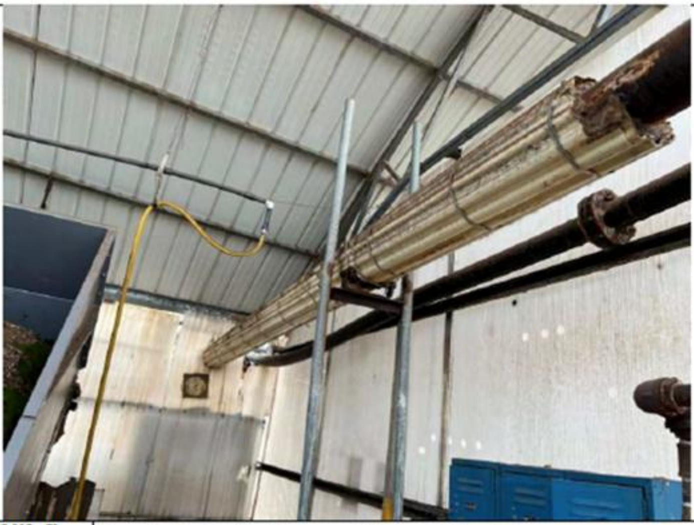
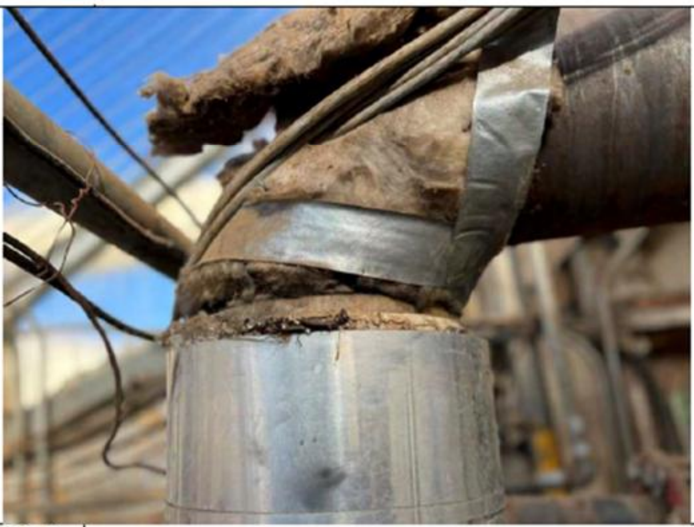


PHOTO NO. 71 DESCRIPTION: Example of potential asbestos-containing material on piping.



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Property does not discharge any waste water to the stormwater or sanitary sewer systems (pp. 563, 568)

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   - Additional investigation is need to characterize impacts to the soil on the property and at the outfalls for stormwater discharges
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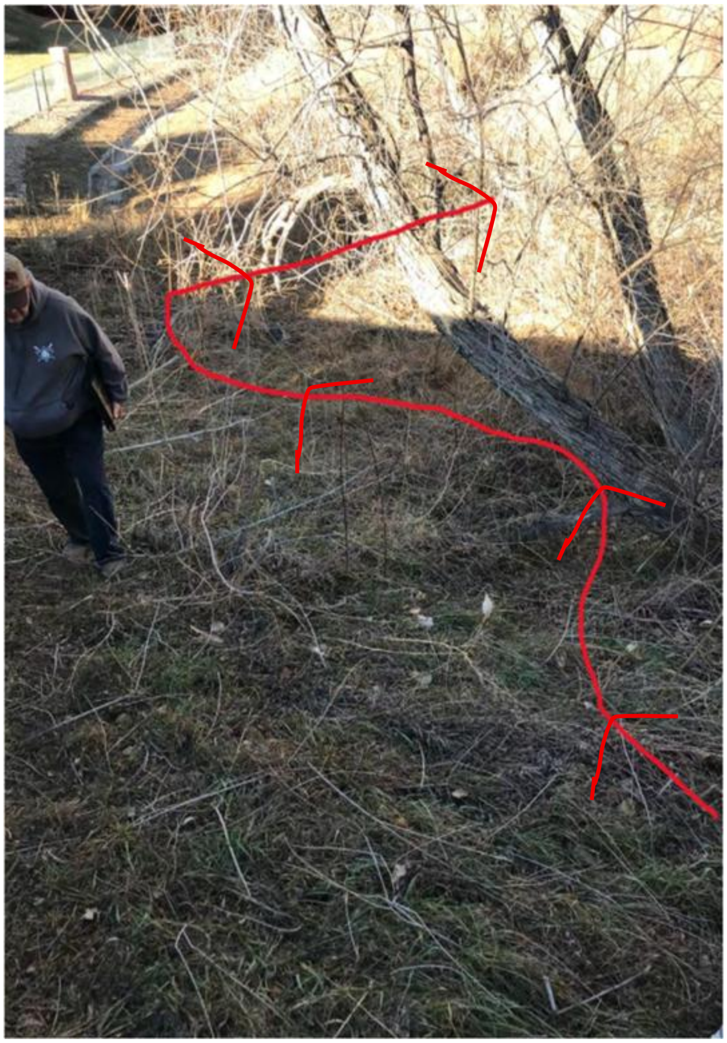

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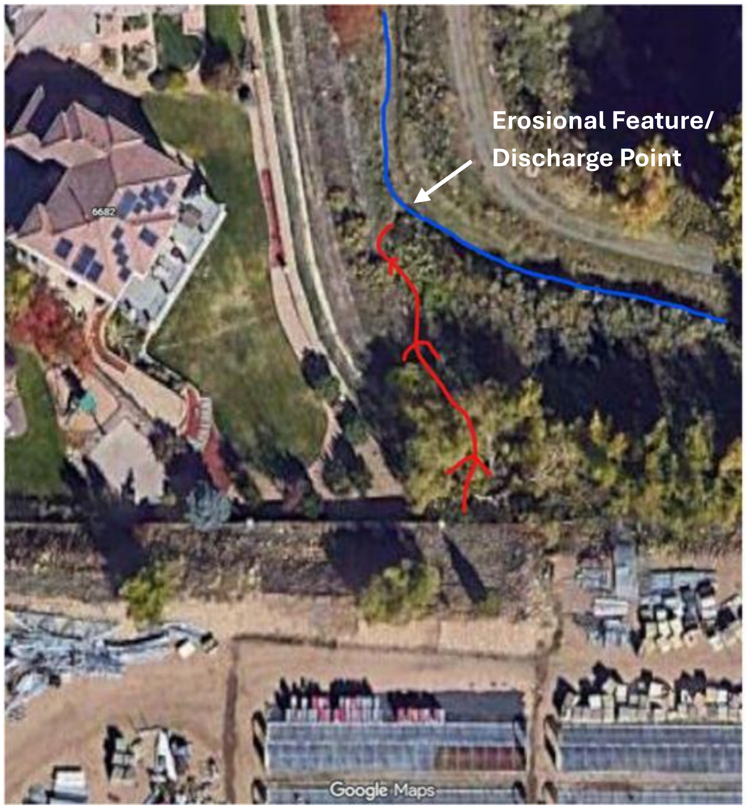

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   – Discharge locations are unclear; if connected to leach fields, contamination of soil or groundwater is possible

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   – At least one buried sump is noted but not assessed
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7. **Historical Soil Piles and Potential Waste Pits (pp. 723, 724)**
   – Aerial photos (1983, 1994) show features consistent with soil stockpiles or waste pits in the northwest corner of the property
   – These areas were not addressed and should have been identified as Recognized Environmental Conditions (RECs)

8. **Contradictory Information from Owner Interviews**
   – Statements from the current owners conflict with site conditions documented by the environmental professional. Owner stated they were not aware of any issues except for

petroleum staining near the waste oil tank (p. 551) yet staining was observed in the drainage ditch at the site and the site has had extensive use of pesticides/ herbicides including a spill kit in place for any agricultural-chemical spills (p. 563)
– Reliability of the interview responses is questionable and should have been addressed beyond the minimal follow-up emails

II. Phase II ESA – Potential Issues Not Sufficiently Addressed

1. **Lack of Borings/Sampling in the Stormwater Pond (North End of Property) (p. 1065)**
   – No sediment, soil, or groundwater samples were collected in or near the stormwater pond, despite it being a primary potential accumulation area for contaminants in stormwater

2. **Insufficient Investigation of the Subsurface Stormwater System**
   – Construction, integrity, and components (separators, sumps, vaults) were not assessed
   – This system may act as a preferential pathway for contaminant migration

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   – Hand augers could have been used if access was limited
   – Borings WGB-1 and WGB-2 are poorly located and not topographically downgradient based on interpreted groundwater flow

6. **Lack of Correlation Between Floor Drains and Soil Borings (p. 1065)**
   – Borings within greenhouses were not collocated with floor drain locations

– Integrity of floor drain systems and potential as pathways to subsurface or septic systems were not evaluated

7. **Lack of Borings In or Downgradient of Leach Fields (p. 582)**
   – Despite being a Phase I REC, multiple leach fields were not investigated for potential impacts from wastewater discharge
8. **Improper Placement of Groundwater Monitoring Well MW-02 (p. 1065)**
   – MW-02 is not located where it can reliably detect impacts from the fuel storage area
   – Bedrock surface contours indicate groundwater flow may bypass the well
9. **Laboratory Detection Limits Above RSLs (pp. 1035-1038, 1054, 1056, 1057, 1058)**
   – Several analytes [Delta BHC (delta-Hexachlorocyclohexane, Aldrin, Alpha BHC (alpha-Hexachlorocyclohexane, Chlordane, Dieldrin, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Toxaphene, 1,2,3-Trichloropropane, 1,2-Dibromo-3-Chloropropane, 1,2-Dibromoethane, Acrylonitrile, and Vinyl chloride)] have method detection limits (MDLs) exceeding applicable Risk Screening Levels (RSLs) or Colorado Groundwater Standards preventing complete evaluation of potential contaminants at the site
10. **Potential for Chromium Impacts Not Investigated (pp. 1045)**
   - Chromium detected in soil at concentrations below the EPA RSLs for total chromium but speciation for Chromium-VI (Hexavalent) was not performed.
   - Chromium-VI is commonly associated with pesticides and fungicides as well as fertilizers and soil amendments in agricultural and greenhouse operations
   - The Residential RSL for Chromium-VI is 0.31 mg/kg and the migration to groundwater SSL is 0.03-0.04 mg/kg
   - The presence or absence of Chromium-VI should be investigated throughout the Welby Gardens property based on historical land use
11. **Lack of Evaluation for Migration-to-Groundwater Pathway (pp. 1033-1053)**
   – Soil results were compared only to direct-contact RSLs (residential/industrial)
   – More stringent migration-to-groundwater RSLs were not evaluated, overlooking threats to groundwater and potential regulatory compliance
12. **No Correlation of Sampling Locations with Phase I RECs**
   – No table or crosswalk was provided to demonstrate coverage of all identified RECs. From the Phase I ESA
   – Such correlation would highlight data gaps
13. **No Sampling or Inspection of Potential ACMs**
   – Despite being outside ASTM scope, ACMs remain a relevant environmental and health hazard not addressed in the Phase II ESA

14. **No Sampling in Former Hoop House Areas (p. 1065)**
    – Hoop Houses lacked flooring and sat directly on soil, increasing potential for impacts to soil and the subsurface
    – No soil or groundwater samples were collected in the Hoop House areas

15. **Groundwater Assessment Conducted in Winter (Lowest Water Table) (pp. 1054-1061)**
    – Winter sampling (January 8, January 23, and January 24 of 2025) may fail to capture impacts due to depressed groundwater levels
    – Alluvial zones, potential seasonal water-bearing units, and their connectivity to bedrock groundwater were not evaluated

16. **No Sampling of Historical Soil Piles or Potential Waste Pits (p. 1065)**
    – Historical features in the NW corner observed in historical aerial photographs were not investigated nor identified as a REC in the Phase I ESA
    – Boring WGB-09 was placed east of the area and is insufficient to evaluate this REC

17. **No Groundwater Sampling Beneath the Greenhouses (p. 1065)**
    – Greenhouses are the likely source areas based on historical operations and use of agricultural chemicals; however, no monitoring wells were installed beneath or immediately downgradient of the potential source areas
    – Existing downgradient wells may be improperly placed or too distant to detect groundwater impacts from historical operations

18. **Future Construction Stormwater Discharge Permitting**
    - Assuming the project moves forward into a construction phase, future construction stormwater Notice of Intent (NOI) to Discharge by the property owner under the General Permit COR400000 with the CDPHE must consider the potential for chemical contaminants present in soil to be discharged offsite via stormwater and mitigated as such

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Summary

Based on the deficiencies summarized above, the current Phase I and Phase II ESA documents do **not** adequately characterize environmental conditions at the property. Numerous potential source areas, contaminant pathways, and historical features require additional investigation to meet the expectations of the VCUP program and to ensure that potential impacts to soil, groundwater, and human health are fully understood.

Furthermore, this property is under review by the City of Arvada Planning Commission for a Conditional Use Permit per the Land Development Code. Approval Criteria #6 requires the applicant to mitigate any adverse impacts on the surrounding area to the degree practicable. We

recognize that the CDPHE has jurisdiction over the contaminants present at the property but the City officials are heavily dependent upon thorough consideration and regulatory management provided by the CDPHE to enforce regulatory compliance on the applicant's property. CDPHE must take an active role in evaluating site conditions at the property to ensure adverse impacts to human health and the environment are mitigated.

We respectfully recommend that CDPHE require the applicant to address these deficiencies through additional site investigation, clarification, or supplemental documentation before a No Further Action (NFA) determination is provided.

If you have any questions or require supporting materials, please contact us at 303-550-8872 (John) or 303-913-6583 (Joel).

Sincerely,

John D. Peterson, P.G.
Protect West Woods

Joel Bolduc

Joel Bolduc
Protect West Woods

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Avalon Bay documents from Mark Breese

1 message

Kelsy Sargent <ksargent@arvada.org> Fri, Jan 16, 2026 at 9:14 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

- 2026 0113 Letter to CDPHE Welby Gardens.pdf
- Appendix A PWWN Comments on DA2025-0035 (1.15.2026).pdf
- Protect West Woods Neighbors Project DA2025-0035 Comments (1.15.2026) (2).pdf
- Signature Page PWWN Letter on DA2025-0035 (1).pdf
- Signatures - Petition Opposing DA2025-0035 (1.15.2026).pdf
- website signatures - pdf.pdf

Kelsy Sargent
Senior Assistant City Attorney
Arvada City Attorney's Office
720.898.7192 (phone)
720.898.7175 (fax)
ksargent@arvada.org
(She/Her/Hers)

January 13, 2026

Via email to mark.rudolph@state.co.us and fonda.apostolopoulos@state.co.us

Colorado Department of Public Health & Environment
Hazardous Materials and Waste Management Division
Voluntary Cleanup Program (VCUP)
4300 Cherry Creek Drive South
Denver, CO 80246

Cc: Rozalynne Thompson, AICP, Principal Planner, City of Arvada

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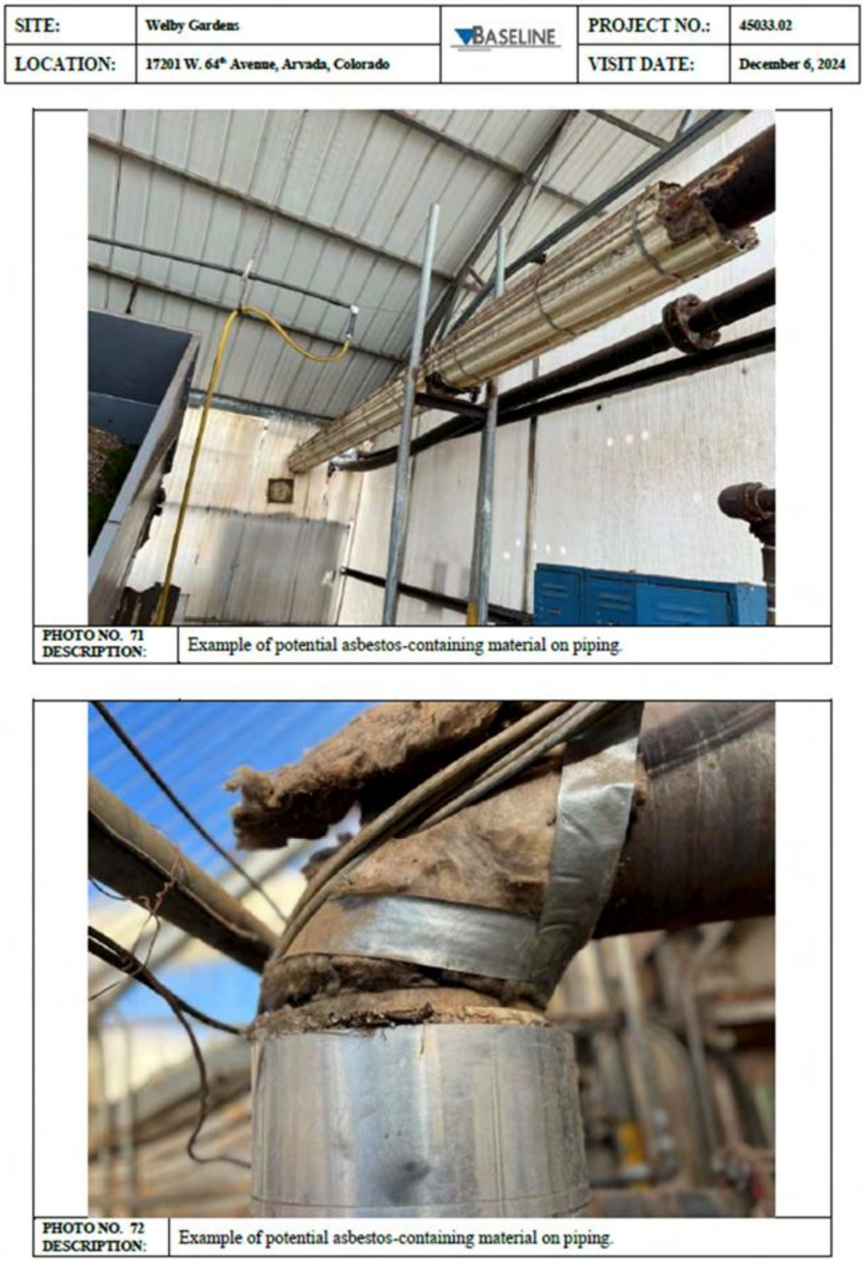

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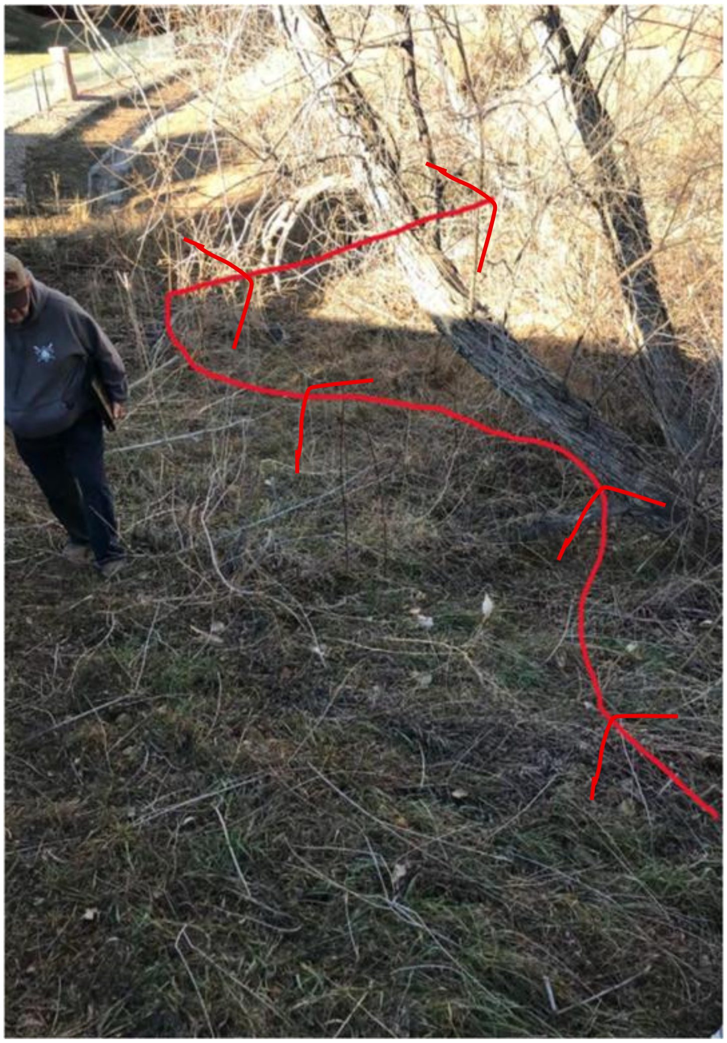

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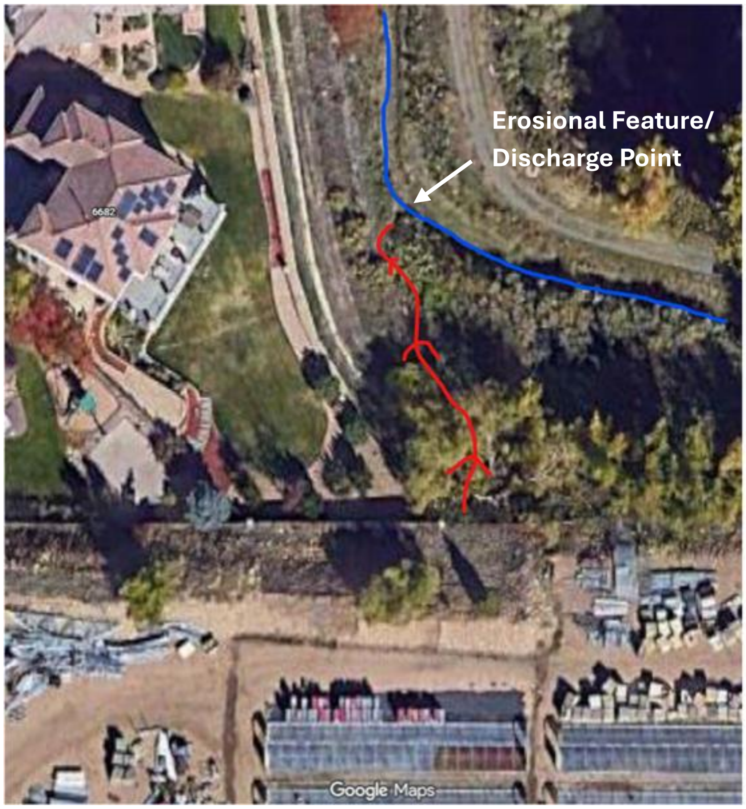

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    - The Residential RSL for Chromium-VI is 0.31 mg/kg and the migration to groundwater SSL is 0.03-0.04 mg/kg
    - The presence or absence of Chromium-VI should be investigated throughout the Welby Gardens property based on historical land use

11. **Lack of Evaluation for Migration-to-Groundwater Pathway (pp. 1033-1053)**
    – Soil results were compared only to direct-contact RSLs (residential/industrial)
    – More stringent migration-to-groundwater RSLs were not evaluated, overlooking threats to groundwater and potential regulatory compliance

12. **No Correlation of Sampling Locations with Phase I RECs**
    – No table or crosswalk was provided to demonstrate coverage of all identified RECs. From the Phase I ESA
    – Such correlation would highlight data gaps

13. **No Sampling or Inspection of Potential ACMs**
    – Despite being outside ASTM scope, ACMs remain a relevant environmental and health hazard not addressed in the Phase II ESA

14. **No Sampling in Former Hoop House Areas (p. 1065)**
    – Hoop Houses lacked flooring and sat directly on soil, increasing potential for impacts to soil and the subsurface
    – No soil or groundwater samples were collected in the Hoop House areas
15. **Groundwater Assessment Conducted in Winter (Lowest Water Table) (pp. 1054-1061)**
    – Winter sampling (January 8, January 23, and January 24 of 2025) may fail to capture impacts due to depressed groundwater levels
    – Alluvial zones, potential seasonal water-bearing units, and their connectivity to bedrock groundwater were not evaluated
16. **No Sampling of Historical Soil Piles or Potential Waste Pits (p. 1065)**
    – Historical features in the NW corner observed in historical aerial photographs were not investigated nor identified as a REC in the Phase I ESA
    – Boring WGB-09 was placed east of the area and is insufficient to evaluate this REC
17. **No Groundwater Sampling Beneath the Greenhouses (p. 1065)**
    – Greenhouses are the likely source areas based on historical operations and use of agricultural chemicals; however, no monitoring wells were installed beneath or immediately downgradient of the potential source areas
    – Existing downgradient wells may be improperly placed or too distant to detect groundwater impacts from historical operations
18. **Future Construction Stormwater Discharge Permitting**
    - Assuming the project moves forward into a construction phase, future construction stormwater Notice of Intent (NOI) to Discharge by the property owner under the General Permit COR400000 with the CDPHE must consider the potential for chemical contaminants present in soil to be discharged offsite via stormwater and mitigated as such

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Summary

Based on the deficiencies summarized above, the current Phase I and Phase II ESA documents do **not** adequately characterize environmental conditions at the property. Numerous potential source areas, contaminant pathways, and historical features require additional investigation to meet the expectations of the VCUP program and to ensure that potential impacts to soil, groundwater, and human health are fully understood.

Furthermore, this property is under review by the City of Arvada Planning Commission for a Conditional Use Permit per the Land Development Code. Approval Criteria #6 requires the applicant to mitigate any adverse impacts on the surrounding area to the degree practicable. We

recognize that the CDPHE has jurisdiction over the contaminants present at the property but the City officials are heavily dependent upon thorough consideration and regulatory management provided by the CDPHE to enforce regulatory compliance on the applicant's property. CDPHE must take an active role in evaluating site conditions at the property to ensure adverse impacts to human health and the environment are mitigated.

We respectfully recommend that CDPHE require the applicant to address these deficiencies through additional site investigation, clarification, or supplemental documentation before a No Further Action (NFA) determination is provided.

If you have any questions or require supporting materials, please contact us at 303-550-8872 (John) or 303-913-6583 (Joel).

Sincerely,

Joel Bolduc

John D. Peterson, P.G.
Protect West Woods

Joel Bolduc
Protect West Woods

ATTACHMENT A
Detailed Findings for Avalon Arvada (DA2025-0035)

Introduction

The following provides a detailed review of the Avalon Arvada proposal relative to the City of Arvada Land Development Code (LDC) and the Comprehensive Plan. For the benefit of Staff, the Planning Commission, and the City Council, we begin with a concise Executive Summary of the key findings. We then present a structured review of failures based on each test under the CUP.

Executive Summary (Decision-Maker Brief)

- **Recommendation:** Deny the Conditional Use Permit (CUP) because the application fails multiple mandatory criteria in LDC §8-3-5-1(B)(1)–(6) and cannot be cured through reasonable conditions.

- **Specific Failures:**
    - ***Fire-code access is noncompliant***: IFC Appendix D106.2 and D106.3 require two independent, adequately remote fire apparatus access roads for developments >200 units; the “secondary” route via MorningStar is neither independent nor sufficiently separated and sprinklers do not waive this requirement. (**Impacts Tests 1, 5, 6.**)
    - ***Single functional access via a Local Street (Easley):*** The single Local Street access to the project conflicts with the Comprehensive Plan’s roadway hierarchy and cannot maintain adequate levels of service for existing development even with a traffic signal. (**Impacts Tests 2, 4, 5.**)
    - ***Western-edge density/character conflict***: ~20.5 du/ac and 435 units are incompatible with adjacent neighborhoods and the Plan’s west-edge direction to decrease density (e.g., CC-3.4, CC-3.5, CC-3.6). (**Impacts Tests 2, 4.**)
    - ***MX-S intent is not met under LDC §2-1-4-2***: the project is 100% residential (apartments + townhomes) with no community-serving nonresidential components; it misapplies MX-S to deliver high-density residential without mixed-use benefits. (**Impacts Test 3.**)
    - ***Transit mismatch and infrastructure burdens***: site is outside transit-supportive areas and lacks service; traffic loads a Local Street and a constrained intersection with likely spillover/cut-through; downstream impacts not fully analyzed (T1.4, T1.5, T2.1, T2.2, T4.2). (**Impacts Tests 2, 4, 5.**)

- ***Incomplete and unverifiable record:*** The record as presented is incomplete, overly vague, or relies on subsequent work not presented as part of the CUP request. This prevents lawful quasi-judicial findings under LDC §8-2-2 and §8-3-5-1(B). Examples include missing turning templates, final buffering/photometric proof (§4-6-5), and full townhome specifications (§5-1-6). (**Impacts Tests 1, 5, 6.**)
- ***Mitigation is non-existent, superficial, or impracticable***: a single signal and a small park do not address cut-through risk, turn-lane constraints, emergency egress limits, or open-space needs (LDC §8-4-3). (**Impacts Tests 5, 6.**)

TEST 1- Compliance with Specific LDC Standards

The applicant asserts full code compliance. Our review shows the proposal either fails to meet, or seriously strains, several mandatory standards in the Land Development Code (LDC) and adopted International Fire Code (IFC). These are not minor technicalities: they are life-safety and infrastructure deficiencies that cannot be cured within the current site and street context. ***City Council should deny the request.***

Fire Code Access (LDC §4-4-2; IFC Appendix D)

The City of Arvada has adopted the 2018 International Fire Code with Amendments.[1] Section D106.2 of the International Fire Code (IFC) states:

> Multiple-family residential projects having more than 200 dwelling units shall be provided with ***two separate*** and approved fire apparatus **access roads** ***regardless of whether they are equipped with an approved automatic sprinkler system***. (emphasis added)

And Section D106.3 of the IFC code further requires:

> Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be service, measured in a straight line between accesses.

In summary, IFC Appendix D requires two **separate**, **independent** fire apparatus access ***roads*** with ***adequate separation*** (remoteness) so that one route remains operable if the other is blocked.

As detailed in the figure below, Avalon's primary access is Easley Road at the southeast corner. The so-called secondary, emergency-only **route** (as opposed to 'road') is proposed across the private MorningStar Senior Living property at the southwest corner and then through MorningStar's parking lot (see figure below).

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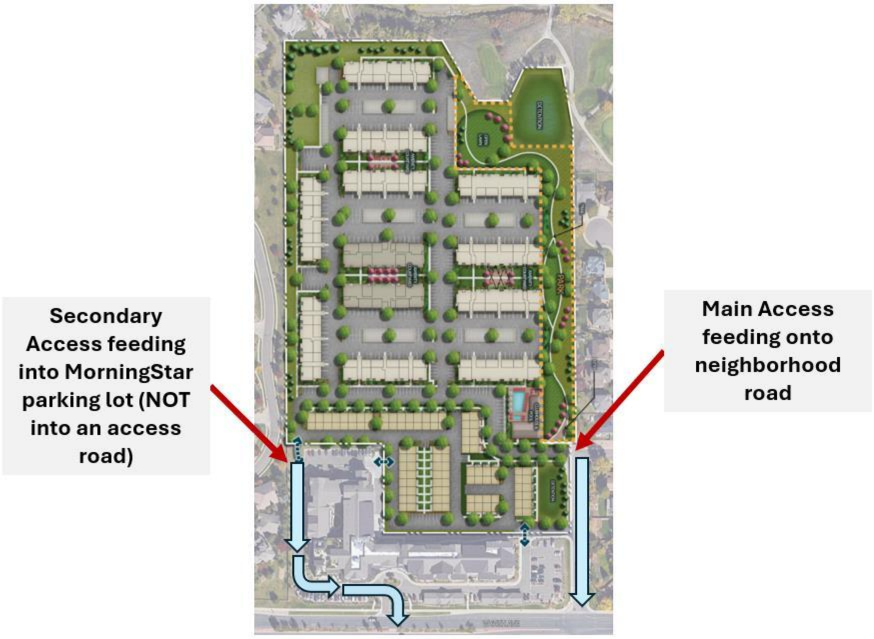
[1] See: [Fire Code Resources | Arvada Fire Protection District]



Secondary Access feeding into MorningStar parking lot (NOT into an access road)

Main Access feeding onto neighborhood road

Arvada Fire's review acknowledges that this secondary route does not meet the required separation distance from the primary access[2]. Moreover, because it traverses a private campus and a parking lot, the second route is not a truly **independent** access road. **This is a direct failure of Appendix D's two-access requirement, not a discretionary guideline.**

Arvada Fire proposes to accept the secondary access provided sprinklers are included in the townhomes. But Section D106.2 explicitly states that the incorporation of sprinklers is not a valid exception to the requirement for two independent access roads. Moreover, by its own admission, the second access point fails to meet Section D106.3 of the code.

Sprinklers, while valuable, do not resolve external access deficiencies—the two-access standard exists to ensure firefighters can reach and evacuate residents when one route is blocked. Moreover, **this waiver flies in the face of multiple findings and concerns raised by FEMA in their review of the Marshall wildfire**.[3] To be clear, this location is on the western-most edge of Arvada and is clearly a Wildland-Urban Interface at severe risk for wildfires. If MorningStar's gate malfunctions or the lot is obstructed during an event, Avalon functions as a one-way in/out site. That is precisely the condition Appendix D is designed to prevent.

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[2] See Staff comments to Second Submittal

[3] See: FEMA's Mitigation Assessment Team releases first report in the aftermath of a wildfire

We also note a practical and ethical concern: routing emergency egress through a senior-living campus with more than 100 residents introduces operational conflict and added risk to a population with limited mobility. The necessity of this workaround underscores that the site cannot support the proposed intensity without bending core life-safety rules. **The City should acknowledge that the development is simply unworkable in the proposed location and should deny the CUP.**

Fire Apparatus Turning Radius (IFC §503.2.4; Appendix D §D103.3)

Given our concerns regarding fire risk and wildfire concerns we were particularly interested to identify how the proposal addresses these concerns. Our review of the record was unable to identify AutoTurn or equivalent swept-path exhibits demonstrating ladder truck and engine maneuverability at internal intersections and at the MorningStar emergency connection. Corner radii, design vehicle assumptions, and **compliance with Arvada Fire Protection District standards are not documented for public review**.

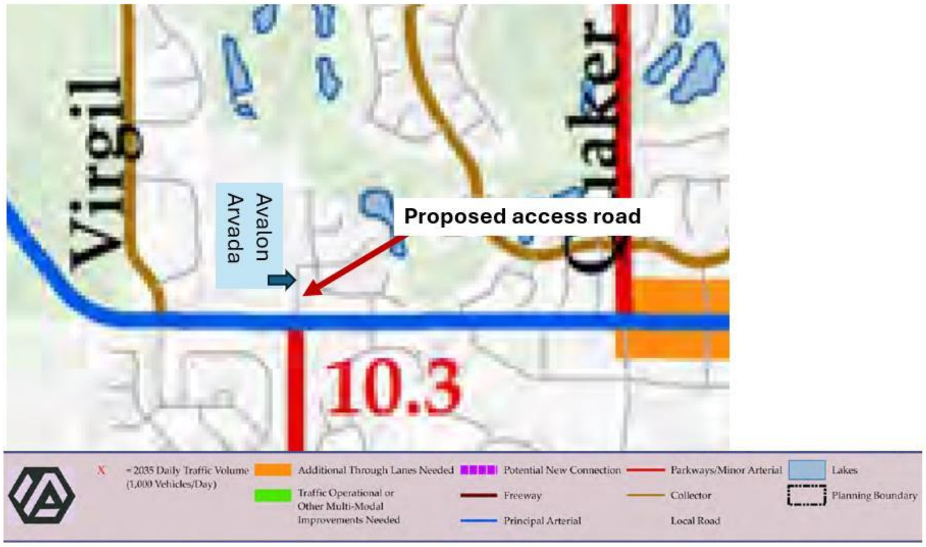
We do see where the developer has acknowledged such requirements and explained it is working with Arvada Fire to comply with all such code. Given the site's proximity to higher wildfire-risk areas and the project's scale, City Council should not rely on assurances of future coordination. Life-safety compliance must be demonstrated on the plan now; it is not a negotiable item for later.

The lack of public transparency and public record on this and related issues is a real concern. Approving this application without the required detail would prevent City Council from fulfilling its statutory duty to make informed findings of fact under the LDC. Without complete information, the Council cannot lawfully determine compliance, and approval under those circumstances would constitute a failure to meet the City's quasi-judicial obligations. At a minimum the City Council should reject the proposal as presented until such documentation is provided.

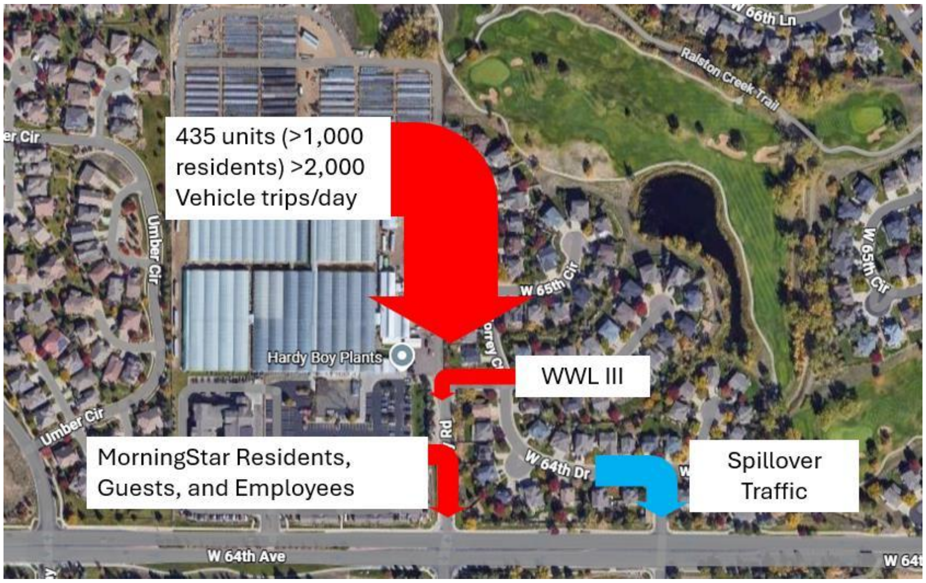
Adequate Facilities – Street Classification/Single-Spine Access (LDC §8-3-5-1(B)(5))

Section 8-3-5-1(B)(B) of the LDC requires that facilities and services not only be available to serve the project but it requires the maintenance of "adequate levels of service for existing development." The project's proposed use of the Easley Road exit onto 64th clearly fails this requirement.

As detailed on the figure below (from Comprehensive Plan Figure 3-2), Easley Road north of 64th is a **Local Street**, not a collector or arterial. The road only proceeds south to 64th. It does not provide north/south egress options. The proposal would funnel roughly 435 units—more than 1,000 vehicles—plus existing West Woods Links III and MorningStar traffic through this single neighborhood spine.


Virgil
Quaker
Avalon Arvada
Proposed access road
10.3
X = 2035 Daily Traffic Volume (1,000 Vehicles/Day)
Additional Through Lanes Needed
Traffic Operational or Other Multi-Modal Improvements Needed
Potential New Connection
Freeway
Principal Arterial
Parkways/Minor Arterial
Collector
Local Road
Lakes
Planning Boundary

Installing a traffic signal at the intersection of Easley with 64th does not create the redundancy or capacity to properly manage and accommodate the level of traffic created by this proposal. In fact, a traffic light at Easley/W. 64th would create **backups** and **spillover traffic** into West Woods Links III, increasing **safety risks** for residents and children. The illogic of such a design is further evident when looking at the figure below, which highlights how all of the proposed development will funnel through the single Local Street access or spillover into the West Woods Links III neighborhood.


W 66th Ln
Ralston Creek Trail
er Cir
435 units (>1,000 residents) >2,000 Vehicle trips/day
Umber Cir
W 65th Cir
W 65th Cir
Hardy Boy Plants
WWL III
Umber Cir
MorningStar Residents, Guests, and Employees
W 64th Dr
Spillover Traffic
W 64th Ave
W 64t

In contrast to this extreme proposal, neighboring developments illustrate the City's normal, more prudent practice regarding access: Trail Village (~70 homes) has two exits onto a collector road; Trail Village Villas (~69 homes) has three exits onto a collector road; Fieldstone (230+ homes) has three connections to principal/arterial streets; West Woods Links III uses 64th (principal arterial) and Easley as a secondary neighborhood connection. We are unaware of any Arvada apartment project of Avalon's scale that relies on a single Local Street as its functional spine.

In no way would the construction of this project, even after installation of a traffic signal, result in 'adequate levels of service for existing development.' West Woods Links III residents would clearly be the most impacted along with MorningStar residents and guests. Clearly, this section of Easley was never intended to handle this level of traffic. Again, this highlights the lack of facilities necessary to accommodate the proposed project and the necessity to reject the CUP.

Moreover, the proposed mitigations do not include the addition of a right turn and left turn lane at the Easley and 64th intersection. A dedicated left turn lane and left turn signal is particularly needed given most traffic from the project will be progressing east on 64th to access services such as groceries and such and for worker commutes. We suspect this mitigation has not been proposed because there is insufficient space to accommodate such a turn lane given this section of Easley is truly only a Local road. Any approval of this project must include adequate mitigations such as these. The lack of these accommodations (likely due to the inability to accomplish them) warrants outright rejection of the CUP.

Public Land Dedication and On-Site Open Space (LDC §8-4-3)

The code allows cash-in-lieu of land for parks and schools, so the developer isn't asking for a formal variance. However, it is clear the spirit of the law is not met. Arvada intended for large new developments to **provide on-site recreation space** for residents and share with the community where possible. Avalon is barely doing so. Essentially, they are buying their way out of the full responsibility by writing a check. Council should exercise discretion to demand more land instead of money. Don't let them simply pay to offset their impacts – require them to actually **offset on the ground** by enlarging the park or preserving more green space. If they balk, that's telling about their priorities.

Buffering and Screening (LDC §4-6-5)

Along single-family edges, the LDC calls for higher-opacity buffers (Type C/D), typically a solid fence or berm plus evergreen plantings to provide year-round screening. Early plans placed parking near the west lot line; later versions improved landscaping, but verification of full Type C/D compliance (widths, berm/fence, plant counts) and final **photometric plans** demonstrating full-cutoff fixtures with no glare at property lines are not in the public packet based on our review. Absent verifiable exhibits, compliance remains unproven and the proposal should be rejected until such details are provided.

Completeness – Townhome Specifications/Phasing (CUP Submittal; LDC §5-1-6)

A Conditional Use Permit should present the entire proposal in sufficient detail to evaluate compliance and impacts. **Transparency to the public is key**. The details in the proposal regarding the Townhome components lack substantive architectural drawings, lot layouts, and standards review under §5-1-6. This is particularly disconcerting given the developer's plan to sell of this land for development by a third-party. Approving a partial submittal defers essential analysis and reduces transparency. The proposal should be rejected until complete details regarding the townhome components, including the identification of the developer and proposed designs are presented.

Summary of Test 1 Implications

The project depends on a non-independent emergency route that fails Appendix D's separation standard, provides no public turning analysis, concentrates all access on a Local Street, minimizes required on-site open space, does not yet verify required buffering and lighting controls, and omits critical townhome detail. These issues are inherent to the site configuration and intensity; they are not problems that can be patched with conditions.

For these reasons, we respectfully request that City Council **deny** the Conditional Use Permit.

TEST 2 – Consistency with the Comprehensive Plan

Arvada's **Comprehensive Plan** sets a clear, intentional vision for development in far west Arvada: **lower densities, greater open space, protection of foothill views, and context-sensitive transitions** as the city approaches the foothills. The Avalon Arvada proposal, at one of the westernmost points in the city, is fundamentally **incompatible** with this vision. And the project's inconsistencies with the transportation goals in the Comprehensive Plan are so egregious that they require a separate discussion in this Test 2 review.

The project conflicts with multiple core policies of the Comprehensive Plan, and under **LDC §8-3-5-1(B)(2)**—the requirement that a Conditional Use **must** be consistent with the Comprehensive Plan—**such a proposal cannot legally be approved**.

Below are the principal areas of conflict:

Policy CC-3.5 – Decrease Density Toward the West[4]

The Comprehensive Plan explicitly states that **"overall density should decrease in the western parts of the city."** Avalon Arvada does the opposite, introducing **one of the highest residential densities in all of Arvada—approximately 20.5 dwelling units/acre—at one of its most western edges**.

This density is dramatically out of scale:

- The four adjacent neighborhoods (Trail Village, Trail Village Villas, West Woods Links III, and Fieldstone) **span ~150 acres** combined.
- Avalon would place **more units on a 20-acre site** in the center of those neighborhoods than the sum total of all units in those neighborhoods **combined**.
- It creates a **sudden and extreme spike** in intensity exactly where the Plan intends for density to **decrease**, not increase.

This 'sudden spike' and inconsistency with the policy's purpose is illustrated in the figure below. The Avalon Arvada location, which is intended to be MX-S, is on the furthest edge of Arvada. The nearest High Density Residential Areas, which is clearly what Avalon is proposing to build, are located miles to the east.

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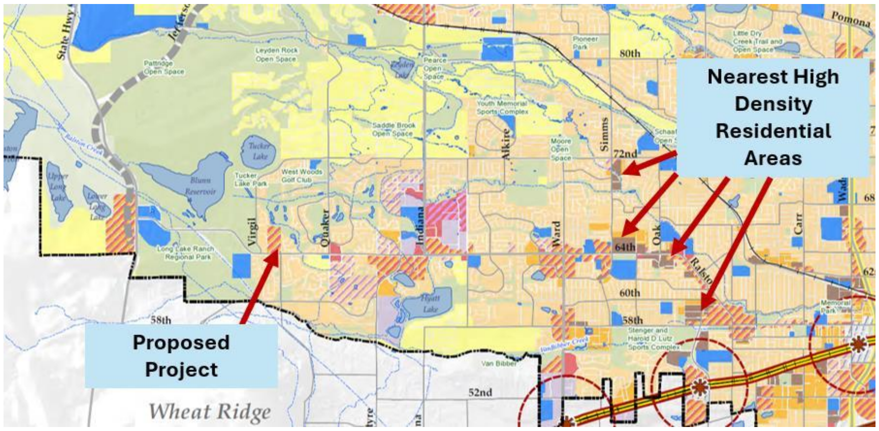
[4] Page 2-13 of the Arvada Comprehensive Plan



Nearest High Density Residential Areas

Proposed Project

This is not a "close call." It is **directly contrary** to the policy's purpose and language. Clearly there was no intent in the Comprehensive Plan to use this MX-S location for High Density Residential development.

Policy CC-3.4 – Open Feel in Low Density Areas[5]

Even though the parcel is not formally designated "Low Density Residential," it **forms the western edge** of the community—precisely where the Plan emphasizes the need for soft transitions, context-appropriate massing, lower intensities, and protection of the area's semi-rural, open character. Avalon Arvada's urban-scale form—**4-story buildings, large parking fields, minimal green space**—produces the opposite effect. It creates:

- A wall of massing against the foothill-edge neighborhoods
- A visually intrusive block along 64th and Easley
- A precedent for **urbanizing** an area the Plan intended to remain **open and transitional**

This is precisely the type of incompatibility CC-3.4 warns against. Approving this project would set a precedent for urbanizing the western edge of Arvada, undermining the city's long-term vision for balanced, context-sensitive growth.

Policy CC-3.6 – Cluster Development / Preserve Open Space[6]

When higher density is considered near areas designated on the Land Use Plan as "Low Density Residential" it emphasizes that these should be developed in a "**clustered**

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[5] Page 2-13 of the Arvada Comprehensive Plan

[6] Page 2-13 of the Arvada Comprehensive Plan

fashion"[7]. It further details that this means "development should provide housing variety and different lot sizes while conserving large, amounts of open space and natural resources".[8]

Avalon fails every part of this policy:

- The plan **bulldozes the site from edge to edge**.
- No meaningful existing vegetation is retained.
- Buildings are **spread across the parcel**, not clustered.
- The token ~2-acre park is **not** the kind of preserved open space contemplated by the policy.

True clustering would have required **less density, different form, and substantially more open space** than is proposed. The incorporation of token townhomes in the plan does not provide true housing variety to meet the intent of the policy. Therefore, CC-3.6's intent is unmet.

Policy CC-3.2 – Maintain View Corridors[9]

The Comprehensive Plan requires that new development **preserve important vistas** from public streets—especially **west-facing mountain and foothill views along W. 64th Avenue**.

Avalon's **45-foot-tall, 3- and 4-story buildings** will:

- Intrude directly into these views
- Create a sense of enclosure along 64th and Easley
- Mar the westward orientation of the corridor

The applicant provides **no legitimate view corridor strategy**—only maximum allowed height and maximum massing. This is inconsistent with the policy's intent and the long-standing community expectation of protected views at the city's western edge. This violates CC-3.2's intent to keep foothill and mountain views visible as the community grows.

Transportation Policies in the Comprehensive Plan

Avalon Arvada conflicts with every major transportation strategy in the Comprehensive Plan – Transit placement, roadway classification, connectivity, multimodal access, and planned network buildout. The following details the core transportation strategies of the plan, the relevant policies related to that strategy, the key goal of that strategy, and how the proposed project is in conflict with each policy.

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[7] Page 2-13 of the Arvada Comprehensive Plan
[8] Page 2-13 of the Arvada Comprehensive Plan
[9] Page 2-13 of the Arvada Comprehensive Plan

1) **Transit Placement & Transit-Supported Density**

   Relevant Policies

   - Policy T-1.4 – Integrate development with the Gold Line and regional transit
   - Policy T-1.5 – Expand transit routes to support new development
   - Policy T-2.1 – Consider transportation/transit implications when approving land uses
   - Policy T-2.2 – Locate higher densities only along designated transit-supportive corridors

   Core Intent of These Policies

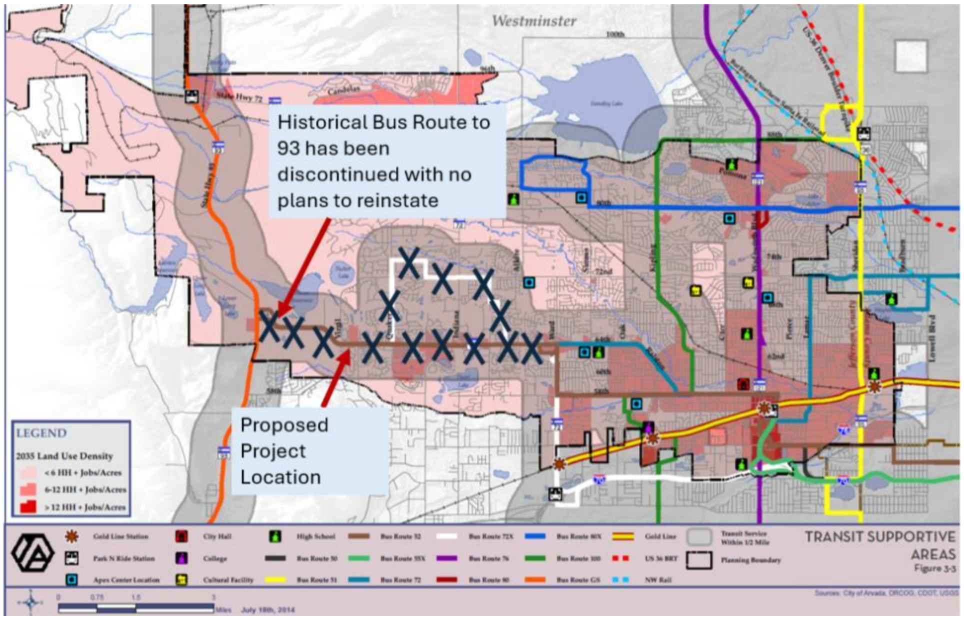
   The Comprehensive Plan directs higher-intensity residential development to be located in or near transit corridors, including:

   - Gold Line station areas
   - US-36 BRT corridor
   - Northwest Rail corridor
   - Identified transit-supportive east-west bus extensions

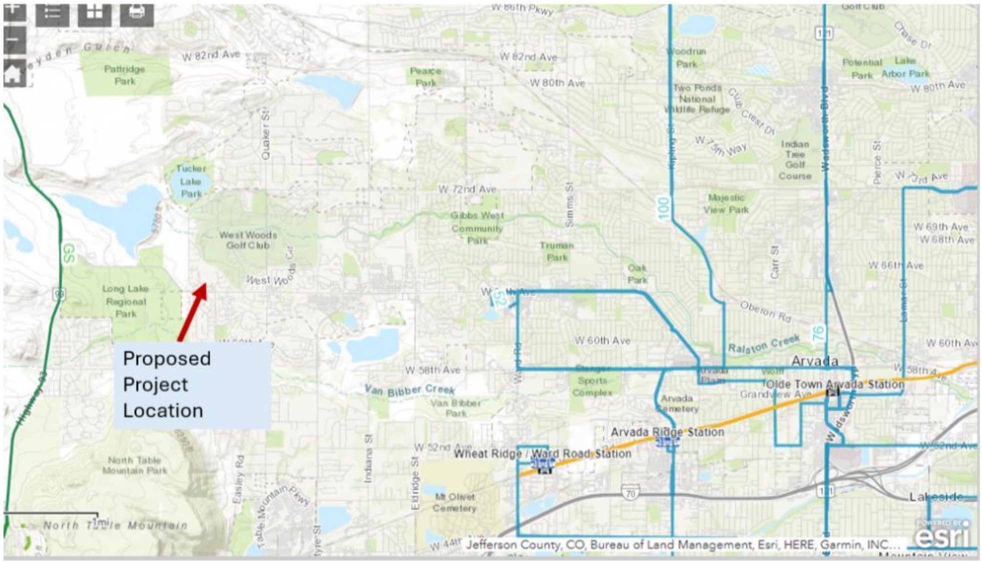
   The purpose is to ensure that dense housing is served by frequent transit, vehicle trips are reduced, and development aligns with Arvada's multi-modal transportation vision.

   Avalon Arvada's Conflicts

   - As detailed in the figure below (the Transit Supportive Areas map - Fig. 3-3 in the Comprehensive Plan), the site is not within a transit corridor, transit influence area, or transit-supportive zone.
   - Importantly, the former 2014 bus route shown on this figure extending to Hwy 93 on 64th has been discontinued, leaving no mass-transit service to this area whatsoever.


Westminster
Historical Bus Route to 93 has been discontinued with no plans to reinstate
Proposed Project Location
LEGEND
2035 Land Use Density
<6 HH + Jobs/Acres
6-12 HH + Jobs/Acres
>12 HH + Jobs/Acres
TRANSIT SUPPORTIVE AREAS
Figure 3-3

- The lack of mass-transit service to the proposed project is further illustrated in the figure below, which shows existing RTD service routes in western Arvada (basically, none)[10].


Proposed Project Location
W 82nd Ave
W 80th Ave
W 72nd Ave
W 60th Ave
W 58th Ave
West Woods Golf Club
Long Lake Regional Park
Tucker Lake Park
North Table Mountain Park
Arvada
Olde Town Arvada Station
Arvada Ridge Station
Wheat Ridge / Ward Road Station
Jefferson County, CO, Bureau of Land Management, Esri, HERE, Garmin, INC...
esri

Conclusion: Avalon places transit-dependent density where the Comprehensive Plan explicitly ***does not*** support it. The City never intended high-density residential at a site with no existing or planned transit access.

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[10] Source: System Map | RTD-Denver

2) **Roadway Classification & Avoiding Neighborhood Traffic Impacts Relevant Policies / Maps**

Relevant Policies

- **Policy T-4.2 –** Prevent through-traffic from being funneled into Local Streets
- **Policy T-3.2 –** Address congestion on arterials, not by shifting loads into neighborhoods

Core Intent of These Policies

Arvada's transportation network is hierarchical.

- Local Streets: low-speed, low-volume, access to adjacent homes only
- Collectors/Arterials: carry higher volumes and support development traffic

The Plan explicitly states that significant traffic must not be routed to Local Streets, and ***neighborhood streets must not serve as the functional access for large developments***.

Avalon Arvada's Conflict

- Avalon funnels all vehicle traffic into Easley Road, which the Comp Plan classifies as a Local Street.
- This street is effectively a neighborhood street, serving the West Woods Links III neighborhood. As such, the proposal explicitly violates the plans prohibition against funneling access for large developments into neighborhood streets.
- No collector or arterial access exists — a fundamental violation of the network hierarchy.
- The project would generate arterial-level traffic on a Local / neighborhood Street.
- A traffic signal at 64th/Easley does not change the fact that the underlying road is not built to serve this function.

Conclusion: Avalon directly violates the Comprehensive Plan's direction to protect neighborhoods from major traffic loads and adhere to roadway classification standards.

3) **Connectivity & Internal/External Access**

Relevant Policies

- **Policy T-2.4 –** Require enhanced street connectivity in new development
- **Policy T-2.1 –** Ensure land use decisions reflect connectivity impacts

Core Intent of These Policies

New developments must create:

- Multiple points of access
- Connected street networks
- Integration with surrounding neighborhoods
- Safe, logical circulation patterns

This is essential for emergency response, congestion management, and multimodal mobility.

Avalon Arvada's Conflict

- Avalon has only one public access point.
- Its "secondary" access is not independent — it crosses a private senior living campus and fails both fire and transportation independence standards.
- The site is boxed in by a golf course, slopes, private parcels, and MorningStar's campus, preventing any future connections.
- The development cannot meet the Comprehensive Plan's connectivity requirements due to its physical constraints.

Conclusion: Avalon's street network configuration is not fixable under the Plan. It contradicts the City's requirement for connected, multi-access developments.

4) **Multi-Modal Access (Pedestrian, Bicycle, ADA)**

Relevant Policies

- **Goal T-1 –** Develop a balanced, multi-modal transportation system
- **Policy T-1.2 –** Provide a pedestrian-friendly environment
- **Policy T-1.3 –** Accommodate bicyclists
- **Policy T-1.8 –** Serve residents with mobility challenges

Core Intent of These Policies

Higher-density development must:

- Integrate into the sidewalk network
- Provide meaningful bike connections
- Offer non-auto access to services, jobs, schools, and transit
- Ensure accessibility for seniors and mobility-disadvantaged residents

These multimodal expectations are not optional for dense residential development.

Avalon Arvada's Conflict

- The project is completely auto-dependent.
- There are no meaningful bike or pedestrian connections to any employment center, commercial center, or transit corridor.
- Seniors, students, and workers cannot reasonably walk or bike to services.
- No ADA-oriented transit, paratransit, or fixed-route options exist to serve mobility-impaired populations.

Conclusion: Avalon undermines the City's multi-modal strategy, placing high-density housing where only automobiles can realistically serve residents.

5) Consistency With the Planned Roadway Network & Future Roadway Improvements

Relevant Policies and Maps

- **Policy T-1.6 –** Connect developing western areas with arterial/collector routes

Core Intent of These Policies

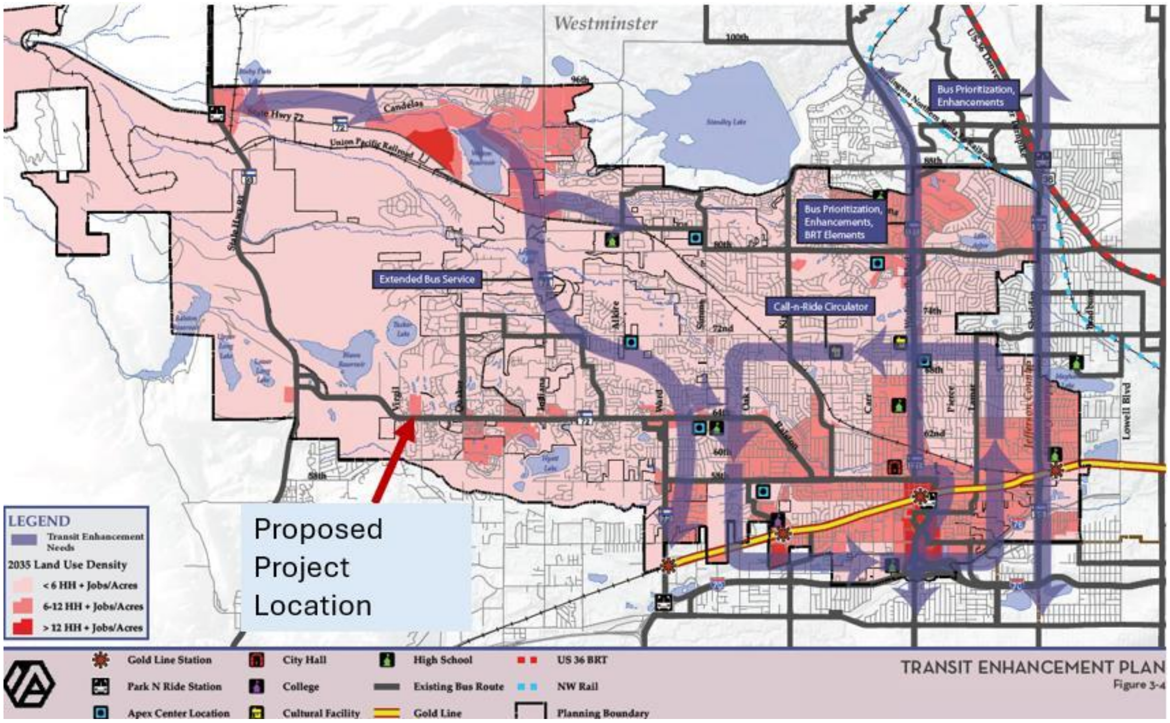
The Comprehensive Plan outlines the specific future corridors that will support growth in West Arvada, including:

- Indiana improvements
- The Kendrick Extension
- Ward–Alkire connection
- 72nd, 80th, and 64th upgrades
- Jefferson Parkway build-out

These are the citywide facilities planned to carry future traffic volumes.

Avalon Arvada's Conflict

- As detailed in the figure below (Figure 3-2 from the Comp Plan) the site is outside all planned future connections and expansion plans for Arvada.


Westminster
Bus Prioritization, Enhancements
Bus Prioritization, Enhancements, BRT Elements
Extended Bus Service
Call-n-Ride Circulator
Candelas
Union Pacific Railroad
State Hwy 72
96th
100th
88th
80th
74th
72nd
64th
62nd
60th
58th
Virgil
Alkire
Ward
Simms
Oak
Ralston
Carr
Pierce
Lamar
Sheridan
Lowell Blvd
Jefferson County
Proposed Project Location
LEGEND
Transit Enhancement Needs
2035 Land Use Density
< 6 HH + Jobs/Acres
6-12 HH + Jobs/Acres
> 12 HH + Jobs/Acres
Gold Line Station
Park N Ride Station
Apex Center Location
City Hall
College
Cultural Facility
High School
Existing Bus Route
Gold Line
US 36 BRT
NW Rail
Planning Boundary
TRANSIT ENHANCEMENT PLAN
Figure 3-4

- None of the designated infrastructure upgrades will serve this parcel.
- The Plan simply does not contemplate high-density traffic generation at this location.
- The transportation system will not evolve to accommodate this development.

Conclusion: Avalon cannot be reconciled with the City's planned long-term street network and would introduce major traffic where the Plan expected no such load.

Summary of Test 2 Implications

The developer repeatedly cites the site's the **"Mixed-Use"** designation as justification for high-density apartments at this location. This **misrepresents** the intent of the Future Land Use Map and a misread of the Comprehensive Plan. **An MX-S designation on the western edge of Arvada does not override the text and policies of the Comprehensive Plan.**

The Comprehensive Plan (and more critically, the CUP test in the LDC) makes clear that land use designations **must be interpreted in context with**:

- Density policies
- Character policies
- View corridor protections

- Transition expectations
- Western edge vision statements

The applicant's narrative ignores this and selectively cites only the MX-S classification while disregarding the **rest of the Comprehensive Plan**, which directly contradicts the proposed form and intensity.

Because the proposal **conflicts with multiple foundational policies** of the Comprehensive Plan, it **fails Test 2**, the requirement that a Conditional Use Permit must be **consistent with the Comprehensive Plan**.

A project that is inconsistent with the Comprehensive Plan **cannot be approved** under the LDC.

Accordingly, City Council would **not** be fulfilling its statutory duty if it approved the project without reconciling these direct policy conflicts. The record is clear:
Avalon Arvada does not align with the Comprehensive Plan. Therefore, the CUP must be denied.

TEST 3 – Consistency with Purpose and Intent of Zoning District

The site's zoning is **Mixed-Use Suburban (MX-S)**, a district intended to promote a **blend of uses in a suburban development pattern**. We contend that Avalon's proposal does **not further the intent or purpose of MX-S**, as required by LDC §8-3-5-1(B)(3). Instead, it represents a misuse of the zone to shoehorn inappropriate density without delivering the benefits of mixed-use.

Not a True Mixed-Use Development

The MX-S zone anticipates projects that integrate residential with commercial or civic components to serve the community (e.g. neighborhood-scale retail alongside apartments). Avalon Arvada is **100% residential** – a **single-use** project. It has **no retail, no office, no civic space** (the small "park" is mostly to meet code requirements, not a town square or community facility). In effect, the developer is treating MX-S as if it were purely a High-Density Residential zone.

This undermines the very purpose of MX-S, which is to **foster mixed-use centers or corridors**. The applicant tries to spin the inclusion of both apartments and townhomes as "mix of uses". That is disingenuous – those are two housing types, not distinct uses in planning terms. The project is uniformly residential in use; thus, it **fails to provide the mix** that MX-S is meant to encourage.

Not Community-Serving Elements

MX-S is intended to create or continue "**neighborhood and community-serving centers**" in suburban areas. A successful MX-S project might include, for example, a small grocery store, cafe, or co-working space for local use, integrated with housing. Avalon offers nothing of the sort. 435 new households would have **no on-site services or employment opportunities** – meaning all their needs (groceries, dining, daycare, etc.) will be sought off-site, putting additional load on nearby centers (e.g., West Woods Shopping Center) and roads. The project does not function as a "center" at all; it's a sprawling private housing complex. It **contributes nothing to the mixed-use vision** such as walkable amenities or integrated uses. This is a lost opportunity and a clear sign that the project does not meet the spirit of the MX-S zoning.

Suburban Character Compromised

The "Suburban" in MX-S indicates that development should retain a suburban form (moderate height, substantial landscaping, open feel), distinguishing it from the urban mixed-use zones. While Avalon's team added some suburban-style architectural touches (pitched roofs at the edges, for instance), the overall **scale and intensity are urban**. Twelve large buildings plus 8 undefined townhome blocks on 20 acres is a very tight cluster by Arvada standards – more akin to an urban apartment complex than a suburban neighborhood. The MX-S zone limits building heights to 45' precisely to ensure suburban scale, but height is just one factor. Equally important is how massive and concentrated the development is. The Avalon plan pushes the envelope: almost every allowable square foot is used, up to the height cap and within minimal setback distances. The result: a development that will **feel out of place** next to one and two-story homes, even if technically within zone limits.

Lack of Required Use Mix and Overreliance on CUP

It's telling that **both primary uses (multi-family and townhomes) require a Conditional Use** in MX-S. MX-S did not automatically allow large-scale residential by-right because the City intended to review such proposals case-by-case for suitability. The applicant is asking for not one but two conditional uses (stacked multi-family and attached single-family) concurrently, which together constitute essentially a rezoning in effect. Yet, unlike a rezoning, the City cannot exact zoning-specific concessions (like a Planned Unit Development might) – it can only approve or deny the CUP on criteria.

The developer is using the CUP mechanism to transform MX-S into pure residential. **This subverts the intent of the zoning**, which expected some balance of uses. If Council approves this, MX-S zoning at this location becomes de facto **High Density Residential** zoning, with none of the originally intended commercial/civic benefits. The precedent could encourage other MX-S sites to drop their mixed-use components and go 100% residential via CUP, undermining Arvada's land use policies.

Summary of Test 3 Implications

In summary, **Avalon Arvada fails to further the purpose of MX-S zoning**. Instead of a thoughtful mixed-use suburban development that blends into the neighborhood, it offers a single-use, high-density project that capitalizes on MX-S's generous height/density allowances while delivering none of the mixed-use upsides. This is contrary to LDC §8-3-5-1(B)(3), which requires CUP uses to align with the zone's intent.

Because the project so clearly misses the mark on MX-S goals, it **cannot satisfy the CUP criterion for zoning consistency** (again, §8-3-5-1(B)(3)). The Ralston Valley Coalition's letter on "Project Indiana" made a similar point: if a proposal doesn't fit the zoning's purpose, the City **has no discretion to approve it**[11]. We urge you to apply the same principle here – the zoning intent is not being met, so the CUP should not be granted.

TEST 4 - Size, Scale, Height, Density, Traffic Comparable with Existing Uses in the Surrounding Areas

Arvada's LDC demands that a Conditional Use be **compatible with adjacent land uses**, particularly in terms of **size, scale, density, traffic, and hours of operation**. The Avalon development is **grossly incompatible** on each of these measures, even with the minor buffering measures proposed. The developer's assertions that the project is "comparable" to its surroundings are not credible.

Extreme Density Contrast

As noted, Avalon's density (~20.5 units/acre) is about **7 times greater** than that of the surrounding single-family subdivisions (which range roughly from 2.5 to 4 units/acre). This is not a subtle difference – it's a massive jump. Neighbors are rightfully alarmed that this project alone would introduce more new households than exist in entire established neighborhoods around it. For example, West Woods Links III (immediately east) has ~70 homes; Trail Village Villas (immediately west) ~70 homes; Fieldstone (South) ~230 homes; and Trail Village (northwest) ~50 homes. Avalon seeks 435 units – more than these four neighborhoods combined, in a fraction of the land area.

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[11] See: www.protectmaplevalleypark.com/documents/2021_6_7-Ralston_Valley_Coalition_Letter_RE_Project_Indiana.pdf and the public record for the Indiana Project

There is simply **no precedent** for such a density mismatch being approved next to an existing low-density area in Arvada. The **Comprehensive Plan's directive for lower densities in the west** (discussed earlier) was specifically designed to avoid this outcome. Granting a CUP that allows such an outsized density would upend the community balance. **No amount of landscaping or architectural tweaks can fully mask this disparity.** The incompatibility in land use intensity is fundamental.

Building Height & Massing Impacts

The visual and privacy impact of 3- and 4-story buildings adjacent to 1-2 story homes is of great concern. While the develop does place 3-story apartments near the west and east edges, the two 4-story buildings in the center will still visible from many angles. Even the 3-story buildings (~35' tall) will tower over the backyard fences of West Woods Links III and Trail Village Villas (where homes are ~25' tall). **Residents will lose privacy** as upper-floor units overlook their properties. Sunlight will be reduced in mornings/evenings due to the taller structures.

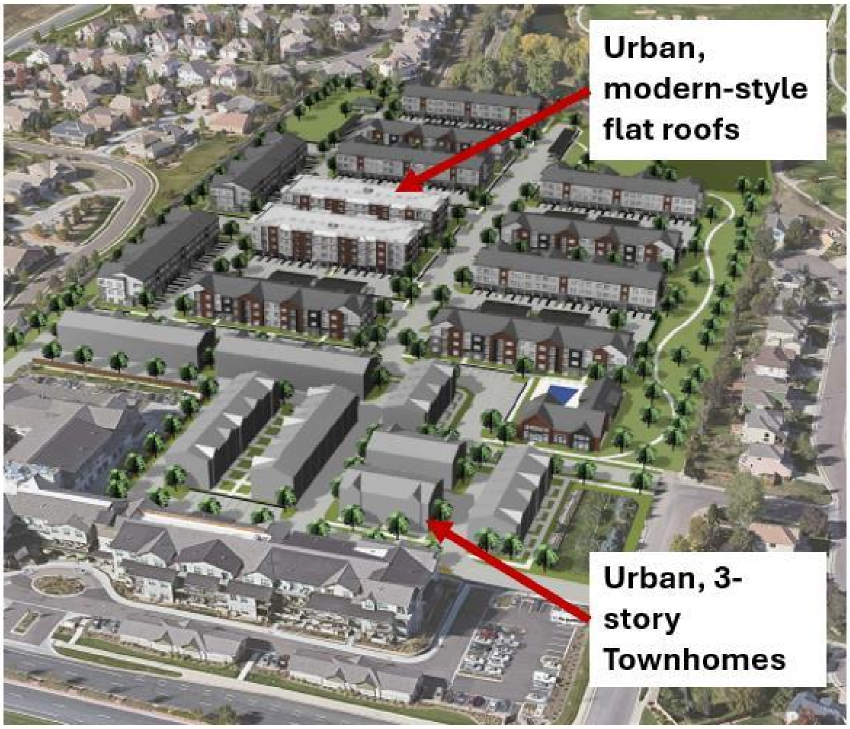
The applicant insists they meet the LDC's **Height Transition Zone** requirement (no portion of a structure over 35' tall within 35' of a low-density lot), which may be technically true – but just barely. A building can be 36' tall at 36' from the fence and "comply," yet still loom over a neighbor's yard. Complying with the letter of that rule doesn't guarantee a compatible outcome, especially given the sheer length of some apartment buildings (over 150' long). By contrast, the MorningStar senior living facility worked hard to mitigate its height. MorningStar limited its height to 2 stories on the western side, where it is closest to existing homes, and the remainder is 3 stories. The entire facility is attractively designed with pitched roofs and the 3-story section is set across the road and a parking lot from the eastern West Woods Links III neighborhood. Avalon's tall buildings would be **much closer** to homes and in greater number. This clearly violates the goal of compatibility – the new structures are too large and too close to existing residences. The LDC criterion about "size and scale" relative to surroundings is not met here.

Architectural Design and Compatibility

The LDC's multi-family design standards (Chapter 5) require compatibility with context – this includes roof forms, materials, etc., especially when near single-family areas. Despite assurances they will be using pitched roofs and traditional designs, it is clear from reviewing the developer's own drawings that they intend to construct urban focused buildings.

As shown in the developer's own drawings (see figure below), in order to meet their density goals they are planning to include flat roofs or a modern stye to achieve their 4-

story goal under the 45' maximum. This clearly does not match with the areas' pitched roofs and traditional forms. And given the height and size of these buildings it cannot be argued they would be invisible to surrounding neighborhoods. Likewise, the townhomes, for which there is little to no detail, are clearly depicted as three story, urban type buildings.



This should be disallowed – the City should insist on fully pitched roof designs to mimic large houses or townhomes. If the design remains contemporary/urban, it violates the intent of compatibility design standards (Comp Plan Goal CC-1.3 promotes infill that **complements existing neighborhood character**). Likewise, materials should be high-quality residential types (brick, stone, high-grade siding) – no cheap concrete panels or metal that scream "apartment complex." We urge stringent conditions on design at approval, or else the project will stick out aesthetically as well.

Traffic Generation and Neighborhood Intrusion

A development of this magnitude will unleash a **flood of traffic** into an area with limited road infrastructure. The applicant's traffic study predicts ~2,800 daily trips from the project (with around 200 in peak hours) – essentially **doubling or tripling** the traffic on Easley Road and adding significantly to W. 64th Ave. The section of Easley Road that serves as an exit to the project is a small neighborhood local road, not a major arterial.

Moreover, this road currently serves as the second entrances to the MorningStar facility and the West Woods Links III subdivision. It has no existing turn lanes or signal. Relying on Easley as the sole public access for 435 units is ill-conceived. ***It's akin to funneling the entirety of Trail Village Villas, Trail Village, West Woods Links III, and Fieldstone through a single entrance, and one that already serves an existing subdivision.*** The road's geometry and context are not suited to heavy volume.

The City's Transportation Master Plan (Connecting Arvada) emphasizes aligning higher-density development with appropriate infrastructure and transit – here, neither is present. There is **no RTD mass transit serving this site** (no bus route on 64th or direct connection to the G-Line), meaning **every trip from these 435 units will be by car**. This contradicts Arvada's sustainability and transit-oriented development goals, which call for concentrating density where transit can support it, not in car-dependent fringes. Avalon's location virtually guarantees increased vehicle miles traveled and traffic impacts.

Crucially, neighbors foresee that **the new traffic signal** planned at 64th & Easley (while necessary) will cause many drivers to seek shortcuts. It is highly likely that Avalon residents will cut through West Woods Links III's residential streets to avoid peak-hour delays at the Easley and 64th light – **creating dangerous traffic in a quiet subdivision where kids play**. The developer downplays this, but common sense and experience suggest it will happen (apps like Waze often direct drivers through neighborhoods to save time). Our community is rightly worried about cut-through traffic endangering pedestrians in West Woods Links III and beyond. This is an adverse impact directly tied to the project's size, one the applicant cannot fully mitigate. Further, when the traffic backs up at the Easley & 64th light, it will render West Woods Links III with only one exit, and will do the same to Morningstar Senior Living.

Insufficient Roadway Improvements

The traffic study and city engineering comments indicate that, at minimum, a **traffic signal and intersection improvements** are needed at 64th/Easley for the project. We contend even those will be insufficient. Specifically, **dedicated left- and right-turn lanes on the Easley stub** at the Easley and 64th intersection will be required to handle the added traffic exiting from the single exit of the project. However, it's unclear if even just the right-turn lane can be added at that intersection given it would encroach on MorningStar's parking area and the detainment pond underneath that parking lot. If it cannot, then the intersection will be less efficient and more dangerous and exacerbate concerns about spillover traffic into the West Woods Links III neighborhood.

The applicant has not provided detailed plans showing how they'll accommodate turn lanes – a critical omission. We fear a scenario where a signal is put in but geometry stays suboptimal, leading to ongoing congestion and accident risk. In sum, the **traffic impact is not fully mitigated.** And it's more likely that a signal will exacerbate issues as this project overloads a neighborhood road.

Failure of Traffic Study to Fully Consider Other Development in the Area

A critical flaw in the Avalon Arvada traffic analysis is its failure to consider the cumulative impacts of the proposed logistics distribution center at 5950 McIntyre Street. This warehouse project, currently under review by Jefferson County, would introduce a massive volume of truck and employee traffic onto W. 64th Avenue — the same corridor Avalon relies on for primary access.

According to public filings and community sources, the McIntyre warehouse would generate approximately 300+ heavy truck trips per day and between 1,000 and 4,000 total vehicle trips daily. Many of these trips would utilize W. 64th Avenue to access regional highways and arterial roads. Yet Avalon's traffic study does not mention this project at all. It assumes background traffic growth of just 1.4% annually and evaluates intersection performance based on that limited forecast. This omission results in a misleading picture of future traffic conditions.

The intersection at W. 64th & Easley — already flagged for signalization due to Avalon's impact — would face even greater strain if the McIntyre warehouse proceeds. Heavy trucks have longer acceleration and deceleration times, which could degrade intersection performance and increase queue lengths. The cumulative effect of Avalon's residential traffic and McIntyre's industrial traffic could push the intersection into unacceptable levels of service, especially during peak hours.

Moreover, W. 64th Avenue's current design — a two -lane arterial with bike lanes — is not equipped to handle sustained freight traffic. The safety of cyclists, school buses, and local commuters would be compromised. Avalon's traffic mitigation plan does not contemplate the infrastructure upgrades that may be necessary to accommodate this compounded demand.

This oversight undermines the credibility of Avalon's traffic impact assessment and raises serious concerns about the adequacy of its proposed mitigations. The City should not approve a project based on incomplete traffic data, especially when a major industrial development is poised to dramatically alter the same road network. At minimum, the City should require a revised traffic study that incorporates the McIntyre warehouse's projected impacts (and other known planned projects) before considering Avalon's CUP. This study should also include the intersections of 64th and Indiana, 64th and McIntyre, and 64th and Hwy 93, which will all be impacted by the additional traffic from the Avalon facility.

Summary of Test 4 Implications

In totality, the **Avalon project is not compatible or comparable with its surroundings**. It's **far denser**, **taller**, and **more traffic-intensive** than anything nearby. The token mitigations (slightly stepped-down edge heights, a traffic light) do not bridge the gap. Approving such an incompatible use would violate LDC §8-3-5-1(B)(4). The Planning Commission and Council have a duty to existing residents to prevent land use changes that would **seriously disrupt neighborhood character and safety** – and that is exactly what this CUP would do.

TEST 5 –

Facilities and Services Available while Maintaining Adequate Levels of Service for Existing Development

LDC §8-3-5-1(B)(5) requires that public facilities and services must be able to serve the proposed development without reducing service levels for existing development. This is a mandatory standard—not a guideline. The Avalon Arvada proposal fails this test in multiple, fundamental, and unmitigable ways. Many of these have already been discussed above but we are obligated to repeat the points to emphasize how they fail this additional test.

The Only Available Public Access is a Local Street Not Intended for High-Volume Development

Above we have already identified that **Easley Road north of W. 64th Avenue is a Local Street** under the Comprehensive Plan roadway classification system. Local Streets are explicitly designed for *low-speed, low-volume, neighborhood traffic*, not for carrying the daily load of a large multifamily project.

Avalon proposes **435 units**, which—per its own traffic projections—would add **~2,800 daily trips**, including ~200 peak-hour trips. Routing all of this volume onto a Local Street:

- **Directly conflicts with Comprehensive Plan policies** requiring that large developments use collector/arterial infrastructure (Policy T4.2 and T3.2).
- Creates a **spine-road overload** where a neighborhood street is forced to handle arterial-level traffic.

- Violates the LDC requirement that facilities *must continue to maintain adequate service levels* for existing residents.

No amount of signalization or minor intersection changes can convert Easley Road into a collector-scale facility. As documented above, the street width, geometry, and context cannot physically support the levels of traffic this project generates, and the applicant proposes no feasible way to correct this.

Conclusion: The project is dependent on a roadway classification fundamentally incapable of serving it without degrading levels of service for West Woods Links III, MorningStar Senior Living, and all users of the Easley/W. 64th intersection. This is a direct failure of CUP Test 5.

The Easly/64th Intersection Will Become a Bottleneck, Creating Spillover and Safety Impacts

Even with a traffic signal at Easley/W. 64th Avenue — something Engineering has already concluded will be required — the congestion forecasts show:

- Longer queues on W. 64th
- Backup into West Woods Links III's entrances
- Increased resident cut-through traffic through internal neighborhood streets
- No meaningful improvement in peak-hour delays

Any signal will force Avalon traffic and existing neighborhood traffic into direct competition, especially during morning eastbound rush hours. The left-turn volume from Easley to eastbound 64th is expected to be extremely high, yet:

- No dedicated left-turn lane is included by the applicant, even though one is clearly needed.
- Space constraints from MorningStar's retention facilities likely prevent widening to add the missing turn lanes.

Because turning capacity cannot be physically expanded, queues will routinely spill back into neighborhood streets, degrading current residents' safe ability to enter or exit their neighborhoods.

The LDC is clear: **The City may not approve a CUP that reduces service levels for existing development. The Avalon intersection design guarantees such a reduction.**

Avalon's Traffic Study Ignores Known Regional Traffic Growth, Creating an Understated Impact Assessment

As discussed previously, the Avalon traffic impact study:

- Failed to incorporate the proposed 5950 McIntyre logistics distribution center, which is projected to generate 300+ heavy-truck trips and up to 4,000 total daily trips feeding into W. 64th Avenue.
- Assumed only 1.4% background growth, which is unrealistically low given west Arvada's documented development pipeline.
- Did not model impacts at critical intersections affected by Avalon traffic, including 64th & Indiana, 64th & McIntyre, and 64th & Hwy 93.

The exclusion of the additional 64th intersections is a major gap in the transportation study. Indiana, McIntyre, and Hwy 93 are the next major regional intersections for east/west mobility on 64th Avenue. A 400+ unit development generating **2,875 daily trips**—with up to **213 PM peak hour trips**—*will* influence traffic patterns beyond Virgil, Easley, Terry, and Quaker. Our understanding is the City typically expects analysis to extend to the next major collector/arterial intersections when trip loads justify it.

Because LDC §8-2-6 requires traffic studies to reflect conditions "reasonably expected during the life of the project," **the omission of major known developments and key downstream intersections renders the study non-compliant**. This artificially masks the severity of deteriorating service levels for existing development—another failure of Test 5.

Emergency Response Access and Service Levels Cannot Be Maintained

LDC §8-3-5-1(B)(5) stresses **adequate public services**, including **emergency services**. Avalon's plan clearly undermines both:

Single Functional Access Point

Avalon depends on a **single public access point** (Easley), with the so-called "secondary access" routed:

- Through private MorningStar property
- Across a parking lot
- With inadequate distance separation from the primary access (failing IFC Appendix D106.3)

Arvada Fire acknowledges this secondary route **fails required fire code separation** and is **not a compliant second access**. This violates:

- IFC Appendix D106.2 (two *independent* access roads required for developments > 200 units)
- LDC requirements to maintain adequate emergency service levels

Wildfire Evacuation Risks

Avalon sits on the western edge of Arvada—**a documented Wildland-Urban Interface risk zone.** Routing hundreds of evacuating vehicles plus fire apparatus through a senior-living parking lot creates life-safety hazards.

Service levels for existing development—MorningStar seniors in particular—would be **dramatically degraded** in an emergency.

Conclusion: Emergency capacity is insufficient, and service levels for existing residents cannot be preserved

Public Services (Parks, Schools, Stores, Road Capacity) Are Already Strained and Receive No Compensating Benefit

Avalon adds over **1,000 residents**, yet:

- Provides only a **2-acre park**, far below what is needed for a project of this magnitude.
- Offers **no on-site services**, meaning all new demand is offloaded onto existing commercial nodes (e.g., West Woods Center, King Soopers corridors).
- Provides no analysis of **school impacts**, despite being located in an area where elementary and middle schools already run near capacity.
- Does not provide any neighborhood-serving mixed-use elements, contrary to MX-S intent, meaning all services for Avalon residents must be absorbed by existing facilities.

The standard in Test 5 is not whether the new development can be served at all — it is whether **existing service levels can be maintained**. They cannot.

Summary of Test 5 Implications

Based on project's own submittals the following is clearly evident:

1. Primary access uses a Local Street not designed for this intensity.
2. Intersection performance will degrade, harming existing neighborhoods.
3. Traffic analysis is incomplete and understates true future loads.
4. Emergency access is non-compliant and unsafe.
5. All community services (parks, roads, emergency, retail) suffer reduced levels of service.

Each of these failures independently violates **LDC §8-3-5-1(B)(5)**. Together, they present overwhelming grounds for **mandatory denial** of the CUP.

TEST 6 –
Adverse Impacts Mitigated

LDC §8-3-5-1(B)(6) requires that a conditional use **“minimize adverse impacts on adjacent properties to the maximum extent practicable”**. The developer has **not done enough** to mitigate the host of adverse impacts this project would create. We highlight a few key areas where mitigation is insufficient or impractical, despite the applicant’s optimistic claims:

Traffic & Neighborhood Intrusion

As detailed above, the **traffic mitigation (signalization)**, while necessary, doesn’t eliminate cut-through risks or neighborhood traffic burdens. The **primary access on Easley Road** remains problematic – it channels all trips through a residential area on a road not designed for such volume. A single new light cannot magically absorb 2,800 cars/day without collateral effects.

Truly mitigating this would require additional measures (e.g., physical diverters to prevent cut-through, funding of traffic calming in West Woods Links III, etc.), none of which the developer has offered. Moreover, having only one general access point means any incident at that intersection could snarl the entire complex’s traffic (see more on emergency egress below).

Bottom line: Traffic impacts on neighbors are *not fully mitigated* – they’re just “managed” to a degree by a signal, leaving residual impacts that the community must bear (more congestion on 64th, more cars on local streets, increased accident exposure). This falls short of “maximum extent practicable” mitigation.

Emergency Access & Wildfire Evacuation

We find the **emergency egress plan through MorningStar** to be dangerously inadequate. The proposal to use a gated connection through an assisted living facility’s parking lot as the second fire access is frankly **alarming**. MorningStar is home to over 100 elderly residents, many with mobility issues. In a major emergency (say a wildfire racing in from the west – a real threat given this area’s Wildland-Urban Interface status), **fire trucks and 435 families’ cars would be routed through the middle of MorningStar’s campus**. This is a recipe for **chaos and tragedy**: large fire apparatus trying to maneuver past panicked evacuating senior citizens and Avalon residents all in a constrained parking lot/drive. It could turn a senior living facility into a disaster scene.

During the Marshall Fire (2021) in Boulder County, we saw how fast-moving urban wildfires can necessitate rapid, multi-direction evacuations. Here, Avalon would largely depend on one substandard route (the Easley “stub”) and a second even more problematic route (MorningStar) for 1,000+ people. This poses **life-safety risks** not only for Avalon residents but also MorningStar's residents (and could even compromise fire response if engines get stuck in traffic).

This underscores that the site is being **overloaded beyond its safe capacity**. The fire district might accept the plan with conditions (sprinklers, etc.), but as community members we do not feel this is a **practicable mitigation** for the safety risk. You cannot "mitigate" having hundreds of extra people in a wildfire zone with such substandard access; the only real mitigation is to *not put so many people there in the first place*. Council must consider worst-case scenarios (wildfire, flood, etc.) – does this CUP create an **undue public safety risk**? We believe it does.

Open Space Deficit & Recreation Impacts

Avalon's token **2-acre park** is offered as a mitigation (a public amenity to offset the increased use of area parks). We appreciate that the developer moved the park to the edge for public access, but let's be clear: 2 acres is insufficient for 435 units (>2,000 residents). Again, recall that this one project adds more residents than the combination of the surrounding four sub-divisions. Moreover, the applicant wants to pay cash instead of providing the additional park space required by code. That might satisfy the ordinance on paper, but it doesn't mitigate the on-the-ground impact.

Those new residents will flood existing parks and trails (West Woods Park, Long Lake Park, Ralston Creek Trail) because their on-site park is small. Our parks are already busy, and the City historically has struggled to acquire new parkland in built-out areas. A fee doesn't immediately create a new park for the community – it goes into a fund and might be used elsewhere years later. Meanwhile, we gain only a modest playground/green sitting area that is dedicated to the Avalon residents as opposed to true open space.

This strategy highlights the developer's goal to maximize density as opposed to build a project truly consistent with the surrounding community. To truly mitigate, the project should have dedicated much more land to park – but that would mean far fewer units, which they refused to do. So they try to mitigate with money, which doesn't truly address the requirement for open space and the pressures this development would place on existing parks. In our view, this fails to meet the *spirit* of the mitigation requirement. As neighbors, we still end up with a more crowded, less green environment.

Environmental & Drainage Concerns

The site naturally drains toward **Ralston Creek.** Paving and roofing 20 acres will greatly increase runoff and potentially introduce pollutants (oil, grease, etc.) unless perfectly managed. The developer's drainage report promises to detain and not exceed historic flows, which is required. But even small deviations or heavy storm events could impact downstream floodplains. More importantly, tests have shown that Welby Gardens has residual agrichemicals in the soil from decades of greenhouse operations (fertilizers, pesticides). Large-scale earthwork and runoff during construction could carry contaminants into Ralston Creek, affecting water quality and wildlife.

We are not convinced enough analysis has been done on soil conditions and whether special remediation is needed to prevent downstream contamination. Furthermore, more hard surfaces mean higher temperature runoff and less groundwater recharge – subtle environmental degradation that is hard to “mitigate” fully. The point is, by maxing out development on this land, the project heightens environmental risks, and the mitigation (detention ponds) only addresses part of it. Conserving more open area would have been a natural mitigation – again, they chose not to.

Moreover, the proposal provides scant details on how it will mitigate these issues beyond a ‘trust us, we’ve done these projects before.’ We believe the proposal is seriously incomplete in this regard and are submitting a separate letter to the Commissions detailing our concerns in this area.

Incomplete Plans (Townhome Details and Phasing)

Finally, we note the developer has provided scant detail on the **51 townhomes** that are part of the project. Are these to be platted and sold to individual owners? (If so, that creates a whole separate subdivision process.) What do they look like? How will they be integrated or buffered? The current submittal is heavy on the apartment component, light on townhome specifics – possibly treating them as a future phase to worry about later.

Approving the CUP without full clarity on all components is risky. Those townhomes could end up quite differently than implied (especially given Avalon’s plan to have another builder take these on). This incomplete information is itself a lack of mitigation – we cannot evaluate how those will impact neighbors (for example, if some townhomes lack proper buffering on the west edge because details were deferred or if they are designed as urban rather than suburban townhomes). The City should require full details now, or not grant approval. A half-baked plan can lead to nasty surprises down the road.

Summary of Test 6 Implications

In sum, the project’s adverse impacts – on **traffic, safety, open space, and environment** – are only superficially addressed. The developer often meets the **bare minimum** code requirement and declares it “mitigated.” But from a community perspective, many impacts remain. The LDC requires impacts to be minimized to the

maximum extent practicable. We do not see evidence of that level of commitment. We see a developer doing what's convenient or cost-effective (a signal, a small park, some trees) but not truly altering the project to reduce impact (e.g., substantially fewer units, real secondary access, more open space, etc.). Therefore, the CUP fails criterion §8-3-5-1(B)(6) as well. You have grounds to deny it for this reason alone – that it leaves the community with significant unmitigated burdens.

Does Not Address Any Housing Needs in Arvada

A final critical point is that **Avalon Arvada does not address a genuine housing need in our community**.

No Benefit for Low-Income Housing Concerns and the Wrong Location

We recognize City Council has historically expressed a concern regarding affordable housing. We support these concerns and support thoughtful development that works to address this issue in our community. However, **nothing in Avalon's proposal would address concerns regarding affordable housing.** In fact, Avalon Arvada presents themselves as a higher-end apartment developer, implying their rents and focus will not be on affordability.

Moreover, as detailed above, the proposed project is located in an area with no meaningful access to mass transit and with very limited services within walking distance. Because low-income households disproportionately rely on transit access and proximity to daily-needs services, this site is fundamentally unsuitable for addressing the City's stated goals regarding affordable or attainable housing. Projects intended to serve low-income populations must be sited in locations that reduce transportation burdens, support access to employment and essential services, and avoid isolating residents from the broader community. The Avalon site does not meet these basic locational criteria.

Arvada Not Facing Shortage of Apartments

Evidence shows that Arvada is **not experiencing significant population growth** and that the **existing apartment market is already oversupplied**:

- **Stagnant/Declining Population:** Arvada's population has actually **decreased in recent years**, contrary to the developer's implication that high-density housing is needed to accommodate growth. According to the U.S. Census Bureau, Arvada's population peaked around 124,400 in 2020 but dropped to about **121,873 by 2024 – a 2% decline**. World Population Review confirms this trend, noting Arvada's population **"has decreased by 2% since the most recent**

census". With a flat or shrinking population base, there is **no pressing demand** for an influx of 435 new housing units at this time. In a city where the number of residents is not climbing, building such a massive complex risks creating empty units, increased competition for a limited pool of renters, and ultimately, economic strain on existing properties.

- **Apartment Overcapacity & Discounts:** The broader Denver metro apartment market has shifted into **over-supply**, and Arvada is part of this trend. In the **first quarter of 2025, metro Denver apartment vacancy hit 7.0% – the highest in 15 years**. Even in Jefferson County (which includes Arvada), vacancy stood around 5.2% in mid-2025, well above the ultra-low vacancy rates (2–3%) of just a couple years ago. As a result, **rents are dropping and landlords are offering steep concessions** to attract tenants. The Apartment Association of Metro Denver reports that average rents in the region fell ~3.7% year-over-year as of mid-2025, and **renters are routinely getting incentives equivalent to 1–3 months free rent**. In Arvada specifically, there are currently **at least 53 apartment communities advertising move-in specials** – examples include *"Live Big, Pay Small: Ultra-Low Rents starting at $1300 + Free Utilities Through May 2026"* and *"Up to 10–12 weeks FREE on select homes"* at new developments. These extraordinary giveaways (effectively a 20%+ discount on annual rent) are a clear sign of **excess capacity**. Property owners are struggling to fill existing units; adding 435 more units at Avalon will only worsen this glut
- **Significant New Construction in Pipeline:** The soft market is due in part to a **wave of new apartment construction** that has recently come online or is nearing completion across the metro area. Although developers have started pulling back on new projects after mid-2023, the effects of the construction boom are being felt now in high vacancies. Arvada itself has seen multiple large complexes built in the past few years (e.g., Parkview, Solana Olde Town, Oxenfree, etc.), contributing to the current oversupply. With **more than 1,000 apartment units approved or under construction in Arvada** (outside of Avalon) – many in transit-accessible areas like the G-Line corridor – the city's housing pipeline is already robust. We do not need Avalon's units, especially given their car-dependent location and likely higher price point. If built, Avalon could very well sit partially empty or force its owners to offer the same steep discounts, undermining the project's financial viability and potentially leading to declining property maintenance.

Why This Matters: A core argument for approving any large housing development is that it fulfills a demand – but here, the data indicates **demand is lacking**. Arvada is not growing in population, and those who are seeking rentals have plenty of options at lower rents **closer to transit and amenities**. Building 435 units on this peripheral site (far from rail transit, walkability, or major job centers) is not only ill-suited – it's unnecessary.

Conclusion on Need

The City's own **Housing Needs Assessment** (2023) emphasizes the need for *affordable* and *workforce* housing; Avalon offers neither (it's market-rate luxury aimed at upper incomes). Instead, it would flood the high-end market segment with more supply that the city doesn't currently need, while doing nothing to address actual housing gaps (like affordable family homes or senior housing).

In summary, **Avalon is a solution in search of a problem**. Arvada doesn't have a population boom to accommodate – if anything, we're seeing an exodus or leveling off. And the local rental market is telling us loudly that it's a **renter's market** with high vacancies and concessions. Approving another huge apartment complex under these conditions is not sound planning; it risks creating a "ghost complex" or triggering a price war that could destabilize other properties. The City should carefully evaluate whether a demonstrated need for these units exists. Right now, all signs point to **no need, and thus no justification** for overriding the many concerns we've raised throughout this letter.

January 15, 2026

Arvada Planning Commission & City Council
8101 Ralston Rd
Arvada, CO 80002
(sent via email and full color copies hand delivered)

Re: **Failure of "Avalon Arvada" Apartments/Townhomes (17201 W. 64th Ave) (Project No. DA2025-0035) to Meet Conditional Use Requirements and Provide a Complete Application**

Dear Commissioners and Council Members:

We represent **Protect West Woods Neighbors**, a coalition of HOAs in West Arvada—including Trail Village, Trail Village Villas, West Woods Links III, and Fieldstone—consisting of more than 400 homeowners, along with residents of the MorningStar retirement facility, additional HOAs in our area, and many other concerned neighbors. We submit this letter to document why the Conditional Use Permit (CUP) for the proposed **Avalon Arvada** development at the Welby Gardens Property, 17201 W. 64th Avenue (Project No. DA2025-0035), should be **denied**.

After thorough review, the evidence shows this **435-unit** apartment/townhome project is **fundamentally inconsistent** with the Comprehensive Plan, fails multiple requirements of Arvada's Land Development Code (LDC), misuses the MX-S zoning district, and remains **materially incomplete**. The applicant's claims of compliance are unsupported and repeatedly rely on assumptions or missing detail.

Following this summary, **Attachment A** provides the specific code sections, plan policies, and technical citations that substantiate these findings.

THE APPLICATION FAILS ALL SIX CUP TESTS

Test 1: Compliance with LDC Standards and Adopted Ordinances

Under Test 1, the applicant bears the burden of demonstrating full compliance. They have not met this burden. For example, the **secondary fire access** does not meet **IFC Section D106.3** regarding distance from the primary exit—by the Fire Department's own admission. Treating this as a waiver is a **material deviation** that requires explicit scrutiny by the Planning Commission and City Council. The proposed "mitigation" (installing fire sprinklers in townhomes) is **insufficient and unenforceable** given the developer's intent to sell that portion to a third-party developer, raising serious questions about how the City would guarantee compliance. Moreover, our read of the IFC suggests the incorporation of sprinklers in such a dense development is specifically excluded as a reason to waive access requirements (see Attachment A). **Attachment A** identifies additional areas where LDC compliance is lacking or unresolved.

Test 2: Consistency with the Comprehensive Plan

The proposal is **grossly inconsistent** with the Plan's goals for this area, principally due to **excessive density and traffic impacts.** On the density side, Avalon Arvada is proposing more housing units than the four surrounding neighborhoods combined in an area that is 1/7th the size. And the project's inconsistency with the transit goals in the Comprehensive Plan are so egregious that they require an entire separate section in our detailed review of issues in Attachment A. Moreover, these failures create ancillary failures with regard to safety, compatibility, and infrastructure support. CUP Test 2 requires **consistency** with the Plan; it is not optional or aspirational. The degree of misalignment alone warrants **denial**.

Test 3: Consistency with the purpose and intent of the MX-S zoning district

MX-S anticipates **mixed-use** projects that integrate residential with commercial or civic components to serve the community (e.g., neighborhood-scale retail, office, or civic space). In other reviews City Staff, the Planning Commission, and City Council have acknowledged and supported the need for true mixed use in these locations. The Avalon Arvada application is **100% residential**—a single-use, high-density project. Minimal open space primarily intended to meet code does not satisfy the MX-S mixed-use intent. The assertion that townhomes alone fulfill "mixed-use" requirements is **unsupported by the LDC** and **inconsistent with development precedent**. In substance, the application matches **High-Density Residential** and should pursue **rezoning**, not attempt to obtain that outcome via CUP. Approving a single-use, high-density project under MX-S would set a **harmful precedent** citywide and is a failure of the intent of Test 3 of the CUP.

Test 4: Size, scale, height, density, traffic, and operational characteristics are comparable with surroundings

The project is **wholly incompatible and incomparable with** adjacent single-family neighborhoods in **scale, height (3- to 4-story, ~45'), architectural character, traffic generation, and emergency access**. Concentrating **1,000+ residents** in an area roughly **1/7th** the size of the four surrounding neighborhoods and funneling access through a **single, substandard road** shared with an existing neighborhood and MorningStar is **unworkable** and unsupported by any credible capacity analysis. This development pattern is more consistent with the **core of Arvada** where mass transit and surrounding intensity exist. The project clearly fails Test 4 of the CUP.

Test 5: Facilities and services can serve the property while maintaining service levels for existing development

The application relies on a single, neighborhood-scale road—the **stub of Easley north of W. 64th**—already serving West Woods Links III and MorningStar. Even the applicant's **optimistic** traffic study anticipates **thousands of additional daily trips**, degrading levels of service for existing residents. A traffic light at Easley/W. 64th would not resolve queues or circulation; it would create **backups** and **spillover traffic** into West Woods Links III, increasing **safety risks** for residents and children. There is no credible plan to maintain **emergency response times** or protect service levels for current development. Moreover, the projects lack of adding true mixed uses means the it provides no incremental services for the local community. Rather, it simply adds over 1,000 residents that will place additional stress on existing resources (e.g., grocery stores, roads, schools, etc...). Clearly the addition of this project will degrade service levels for all residents in western Arvada. There is no proposal to mitigate this issue. As such, the Planning Commission and City Council must reject the project under Test 5 of the CUP.

Test 6: The application mitigates adverse impacts on the surrounding area

Test 6 requires **meaningful mitigation**. The applicant's measures are **limited, superficial, or absent**. There is no substantive mitigation for density-driven traffic impacts, emergency access redundancy, architectural compatibility, stresses place on existing community resources, or neighborhood safety. Rather than mitigate impacts, the application **maximizes** density and attempts to secure single-use approval in a **multi-use** district via CUP. The lack of **effective, enforceable** mitigation warrants **denial** under Test 6 of the CUP.

THE PROPOSAL IS MATERIALLY INCOMPLETE

In addition to failing the six CUP tests, the application remains **incomplete** and should be rejected on that basis. Of particular concern is the absence of **completed, substantive environmental assessments**. Our separate environmental letter details deficiencies and inconsistencies in initial findings. The City should not defer full environmental review until **after** CUP approval; approving now without a full understanding of the issues would be a significant failure to meet the City's **procedural obligations** to protect Arvada residents and the **waters of the United States**.

Further, key aspects are missing or ambiguous:

- **Townhomes**: Details are incomplete and unclear, especially given the applicant's stated intent to **sell** this area to a **third-party developer**. Approving now would effectively grant pre-approval to **subdivide**, an inappropriate use of the CUP process. The City cannot accept the application until the developer is identified, full plans are provided, and compliance with the LDC and Comprehensive Plan is confirmed.
- **Infrastructure and stormwater**: Plans are **vague**. The application lacks detail regarding the **site disturbance permit** for storm work on **taxpayer-owned golf course land** and mischaracterizes runoff areas and flow relative to actual **topography**. These deficiencies are documented in our environmental letter.

The City has a duty to ensure **full transparency** and **public review** before any approval.

COSTS TO ARVADA TAXPAYERS ARE NOT VETTED

High-density development at the fringe often requires **costly infrastructure upgrades**—roads, utilities, emergency services, and stormwater systems—that are not fully covered by developer fees. If the City must subsidize these improvements, it diverts resources from other priorities. The application provides **no fiscal impact analysis**—no estimates of infrastructure costs, service demands, or funding sources—leaving the City unable to determine whether the project is **revenue-positive, neutral, or a net cost**. If the development is primarily **rental housing**, it may not generate sufficient property tax revenue to offset increased demand on schools, parks, police, and fire. These impacts remain **unassessed**.

REQUEST FOR DENIAL

We respectfully request that the CUP be **denied** for the Avalon Arvada development. Denial is warranted on multiple independent grounds under **LDC §8-3-5-1(B)**: failure to comply with the Comprehensive Plan, failure to further MX-S intent, incompatibility with surroundings, and inadequate impact mitigation. **Any one** of these failures is sufficient for denial; **combined**, they make an overwhelming case.

If the applicant wishes to pursue a **substantially revised** project—one that truly addresses these concerns (for example, a **smaller** mixed-use development with **meaningful open space** and **guaranteed infrastructure upgrades**)—that should be a **new** application, not this CUP. As it stands, approving this CUP would be a **disservice** to the community and **inconsistent** with Arvada's planning principles.

Thank you for your consideration. We love our community and welcome **reasonable growth**, but this proposal is not it. We ask you to **vote No** on the Avalon Arvada CUP.

Sincerely,

(see signature page PDF provided separately)

Protect West Woods Neighbors

Trail Village Representative

Jeff Wetch, President

Trail Village Villas Representative

Mark Breese, President

Fieldstone Representative

Jim Cheatham, President

West Woods Links III Representative

Scott Hallowell, President

CC: Arvada City Staff
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Lisa.Fere.House@coleg.gov
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Church Ditch Manager
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Westminster Water Quality
KCline@cityofwestminster.us
PWWN Legal Counsel
Randall@RandallWeiner.com

diverts resources from other priorities. The application provides **no fiscal impact analysis**—no estimates of infrastructure costs, service demands, or funding sources—leaving the City unable to determine whether the project is **revenue-positive, neutral, or a net cost**. If the development is primarily **rental housing**, it may not generate sufficient property tax revenue to offset increased demand on schools, parks, police, and fire. These impacts remain **unassessed.**

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Jeff Wetch

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Scott Hallowell, President

🛑 Take Action: Oppose Avalon Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

Petition ID: #DA2022-0035

📢 I oppose the proposed high-density development of the Welby Gardens site and urge city officials to reject this proposal due to concerns with light pollution, building height, density, traffic, access, environmental impact and incompatibility with surrounding neighborhoods.

This petition will be formally submitted to the Arvada City Council and the Planning Commission to ensure our voices are heard in the decision-making process.

✍ Add Your Voice

	Name	Signature	Address	Neighborhood	Email
1	DAVID CLAVELLE	David A Clavelle	17013 W. 64th CIRCLE ARVADA 80007	Westwood Ranch III	[redacted]
2	Joanne Clavelle	Joanne J. Clavelle	17013 W. 64th CIRCLE ARVADA CO 80007	" WW III	[redacted]
3	ARIEL MIGUEZ		6497 TORREY CT ARVADA, CO 80007	WW III	[redacted]
4	Rachael Rudkin	Rachael Rudkin	6507 Torrey Ct Arvada, CO 80007	WW III	[redacted]
5	David Pivic		6527 Torrey Ct Arvada CO 80007	WW III	[redacted]
6	Shonna Pivic	Shonna Pivic	6527 Torrey Ct Arvada CO 80007	WW III	[redacted]

Name	~~signatures~~ address	~~address~~ signature	neighborhood	[redacted]
7 John L. Browdy	6576 Torrey Ct.	John L. Browdy	WW III	
8 Marc Doran	6566 Torrey Ct.		WW III	[redacted]
9 Janette Doran	6566 Torrey Ct.	Janette Doran	WW III	[redacted]
10 Austin Stone	6506 Torrey Ct		WW III	[redacted]
11 Claire Stone	6506 Torrey Ct	Claire	WW III	[redacted]
12 Caleb Rudkin	6507 Torrey Ct	Caleb Rudkin	WW III	[redacted]
13 Lea Petersen	17154 W. 65th Cir		WW III	[redacted]
14 Mark Petersen	17154 W 65th Cir	Mark Petersen	WW III	[redacted]
15 LYLE HAYS	17164 W. 65TH CIR.		WW III	[redacted]
16 Jade Hays	17164 W 65th Cir	Jade Hays	WW III	[redacted]
17 DEBORAH BURGER	17140 W 64th		WW III	[redacted]
18 JOHN KOBACH	17080 W 64TH DR		WW III	[redacted]
19 WANDA CLARY	17080 W 64TH DR	W Clary	WW III	[redacted]
20 MASON MCCUSKEY	17120 W 64th Dr		WW III	[redacted]
21 ROD WEBER	17153 W. 64th Cir	Rodney Weber	WW III	[redacted]
22 Lindsey Schmidt	17160 W 64th Dr.	Lindsey Schmidt	WW III	[redacted]

	Name	Signature	address	Neighborhood	Email
23	Eric Schmidt		17160 w 64th drive	link 3	[redacted]
24	Wendee Vezzetti	WendVezzetti	17001 W. 64th Dr.	Links 3	[redacted]
25	Kaylee Aupperlee	KAupperle	16940 W 64th Dr Arvada CO 80007	Links 3	[redacted]
26	[illegible]		16911 W. 64 Dr.	Links 3	[redacted]
27	Robert Coisman	Robert	16911 W. 64th Dr	Links 3	[redacted]
28	TRINA CHAPMAN	Trin Chapman	16921 W. 64th Dr.	Links 3	[redacted]
29	Mike Simpson		6410 Secrest Ct	Links 3	[redacted]
30	Katie Whitcomb		6440 Secrest Ct.	WW III	[redacted]
31	Kim Carl	Kim Carl	6441 Secrest Ct.	WW III	[redacted]
32	STEVE Carl	Steve Carl	6441 Secrest Ct.	WW III	[redacted]
33	Siena Carl	Siena Carl	6441 Secrest Ct	WW III	[redacted]
34	Lauren McCarroll	Lau McCarroll	17093 W 64th Cir	WW3	[redacted]
35	Ryan McCarroll		17093 W. 64th Cir	WW3	[redacted]
36	Mike Weicher	Michael Weicher	17052 W. 64th Cir	WW3	[redacted]
37	Alena Weicher	Alena Weicher	17052 W. 64th Cir	WW3	[redacted]
38	Bret Young		17112 W 64TH CIR	WW3	[redacted]

	Name	Signature	Address -	Neighborhood	Email
39	Karen Kjoller	Karen Kjoller	17132 W. 64th Circle Arvada CO 80007	WW III	[redacted]
40	Greg Dreesen	Greg Dreese	" "	WW III	[redacted]
41	Christian Ramaker		17152 W. 64th Circle	WW III	[redacted]
42	Jennifer Ramaker	Jennifer L. Ramaker	17152 W. 64th Cir	WW III	[redacted]
43	Jennifer Samp	Jennifer Samp	17073 W. 64th Cir	WW III	[redacted]
44	Tim CARLSON	Timothy [illegible]	17053 W. 64 Cir	WW II	[redacted]
45	Kelley Allen	K Allen	17053 W. 64th Cir	WW II	[redacted]
46	James DeYoung	James DeYoung	17113 W 64 Cr	WW III	[redacted]
47	Traci DeYoung	Traci DeYoung	17113 W. 64th Circle	WW III	[redacted]
48	Matt Urland		17134 W 65th Cir	WW III	[redacted]
49	Kara Urland		17134 W. 65th Cir	WW III	[redacted]
50	Jason Urland	Jason Urland	17134 W 65th Cir	WW III	
51	Colten Urland	Colten Urland	17134 W 65th Cir	WW III	
52	Jagger Urland	Jagg	17134 W 65th	WW III	
53	Brett Carter	Brett Car	17124 W 65th Cir.	WW III	
54	John Hilfer		17115 W 65th Cir	WW III	[redacted]

	Name Kala	Signature	Address	Neighborhood	Email
55	Kelley Koul	Ky Kal	1780W 64th Dr.	WW3	
56	Jasmine Smith	Jasmine Smith	17032 W 64th Cir	WW3	[redacted]
57	Chad Smith	Chad Smith	17032 W. 64th Cir.	WW3	[redacted]
58	JON LUCIANO		17173 W. 64th Cir	WW3	[redacted]
59	Alisha Luciano		17173 W. 64th Cir	WW3	[redacted]
60	KURT Lichty	Kurt Lichty	6477 TORREY CT	WW3	[redacted]
61	DOUG McCUEN	Doug McC	6556 Torrey Court	WW3	[redacted]
62	Trina McEwen		6556 Torrey Court	WW3	[redacted]
63	Renee Baines	Renee Baines	17114 W 65th Cr.	WW3	[redacted]
64	Brandon Barnes	BB	17114 W 65th Cir	WW3	[redacted]
65	Anne Earl	Earl	17104 W. 65th Circle	WW 3	[redacted]
66	KIMBERLY WOBERMAN	Woberman	17072 W. 64th CIRCLE	WW3	[redacted]
67	Keely Langdon	Keel	17101 W 64th Drive	WW3	[redacted]
68	Lisa McClurg	Lisa McClurg	17012 West 64th Cir.	WW 3	[redacted]
69	CJ McCLURG		17012 W 64th cir	WW3	[redacted]
70	Jeff Cox		17092 West 64th Cir.	WW3	[redacted]

	Name	Signature	address	Neighborhood	Email
71	Coby McClurg	Coby McClurg	17012 West 64th Circle	WW3	[redacted]
72	Hunter McClurg		17012 W. 64th Cir.	WW3	[redacted]
73	Michele Cox		17092 W64th Circle	WW3	[redacted]
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🛑 Take Action: Oppose AvalonBay Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

City of Arvada Project #: DA2025-0035

📣 I oppose the proposed high-density development of the Welby Gardens site and urge city officials to reject this proposal due to concerns with noise, light pollution, building height, density, traffic, access, environmental, and incompatibility with the surrounding neighborhoods.

This petition will be formally submitted to the Arvada City Council and the Planning Commission to ensure our voices are heard in the decision-making process.

✍ Add Your Voice

Name	Address	Email	Signature
1 Scott Finlay	6454 Umber	[redacted]	SFinley
2 Elaine Sutton	6460 "	[redacted]	Elaine
3 Terri VanGelder	6458 Umber C	[redacted]	TVanGelder
4 Mary Reimer	6458 UMBER CIR	[redacted]	Mary Reimer
5 Mike Peffer	6464 Umber Cir	[redacted]	MP
6 Les Johnson	6470 Virgil Way	[redacted]	
7 Jill Zika	6430 Virgil WAY	[redacted]	Jill Zika
8 Deborah Pearce	6520 Virgil Way	[redacted]	Deborah Pearce
9 Greg Dunn	6490 Virgil WAY	[redacted]	Greg Dunn
10 Theresa Donahue	6500 Virgil Way	[redacted]	
11 Robert Lohman	6495 Umber Circle	[redacted]	Robert Lohman
12 Carol Lohman	6495 Umber Circle	[redacted]	Carol Lohman
13 Alicia Tighe	6491 Umber Cir.	[redacted]	alicia tighe
14 Patricia Stewart	4505 Umber Ct.	[redacted]	Patricia Stewart
15 Marika Jaquet	6547 Umber Cir	[redacted]	M Jaquet

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Name	Address	Email	Signature
1 Joel Balduc	6503 Umber Cir	[redacted]	Joel Balduc
2 Randy Belknap	6499 Umber Cir	[redacted]	
3 Faye Belknap	6499 umber Cir	[redacted]	Faye Belknap
4 Corrine & Don Wuerth	6497 umber circle	[redacted]	Corrine Wuerth
5 Tim Schell	6493 Umper Cir	[redacted]	
6 John Carter	6475 Umber Cir	[redacted]	J Carter
7 Steve Leibold	6481 Umber Cir	[redacted]	Steve Leibold
8 Susan Flower	6439 Umber C	[redacted]	
9 Carl Brechtel	6439 umber Circle	[redacted]	Carl Brechtel
10 Doug Miller	6435 Umber Cr	[redacted]	Douglas Miller
11 Terri Miller	6435 Umber Cr.	[redacted]	Terri Miller
12 Rosanne Hindes	6443 Umber Cir.	[redacted]	Rosanne Hindes
13 Sarah Sawyer	6433 Umber cir	[redacted]	
14 Isa Sharyer	6431 Umber Cir	[redacted]	
15 Tom Duggan	6452 Umber Cr	[redacted]	

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Name	Address	Email	Signature
1 Tracy Demeza	6471 UMBER CIR ARVADA, CO 80007	[redacted]	
2 GARY COE	6483 UMBER CIR ARVADA CO 80007	[redacted]	Gary Coe
3 Pat Coe	6483 Umber Cir Arvada Co 80007	[redacted]	Pat Coe
4 TERRY Hummel	6539 umber cir Arvada	[redacted]	
5 Phil Lunnon	6473 Umber Cir Arvada, Co 80007	[redacted]	Phil Lunnon
6 Elaine Lunnon	6473 Umber Cir Arvada, CO 80007	[redacted]	Elaine Lunnon
7 Donald Marks	6545 Umber Ci. 80007	[redacted]	
8 Susan Marks	80007 6545 Umber Circle	[redacted]	Smarks
9 CAROL YANTORNO	6456 UMBER Cr.	[redacted]	Carol Yantorno
10 Patricia Hay	6566 Umber Cir	[redacted]	Patricia Hay
11 Gary Ruptak	6554 Umber Cir	[redacted]	Gary Ruptak
12 Karen Ruptak	6554 Umber Cir	[redacted]	Karen Ruptak
13 PAM Durkee	6522 Umber Cir	[redacted]	
14 Glenn Caldara	6524 Umber	[redacted]	Glenn Calda
15 Ron Williams	6516 Umber Cr.	[redacted]	Ronald E Williams

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✍ Add Your Voice

Name	Address	Email	Signature
1 Debbie Williams	6516 Umber Cir	[redacted]	Debbie Williams
2 Benjamin Sawyer	6433 Umber Cir	[redacted]	
3 Jeff Donahue	6537 Umber	[redacted]	
4 Beth Bolduc	6503 Umber Cir.	[redacted]	Beth Bolduc
5 Patty Shannon	6526 Umber cir	[redacted]	Patricia Shannon
6 MarkBreese	6533 UmberCi	[redacted]	
7 PhyllisBreese	6533 UmberCir	[redacted]	Phyllis Breese
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🛑 Take Action: Oppose AvalonBay Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

City of Arvada Project #: DA2025-0035

📣 I oppose the proposed high-density development of the Welby Gardens site and urge city officials to reject this proposal due to concerns with noise, light pollution, building height, density, traffic, access, environmental, and incompatibility with the surrounding neighborhoods.

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✍ Add Your Voice

Name	Address	Email	Signature
1 Alan Hise	6700 Violet Way	[redacted]	
2 Karen Beeler Gayn	17491 W 67th	[redacted]	
3 George Cain	17491 W 67th	[redacted]	
4 Martha Hamre	17481 W. 67th Ave	[redacted]	Marty E Hamre
5 Markus Hamre	17481 W 67th Ave	[redacted]	Markus Hamre
6 Cortney Ansing	7083 Umber St.	[redacted]	
7 Albert Ansing	7083 Umber St	[redacted]	
8 LINDA CALL	17500 W. 67TH AVE	[redacted]	Linda C Call
9 SUE COLE	17500 W 67TH AV	[redacted]	Sue Cole
10 Nancy Schott	6650 Violet Way	[redacted]	
11 Katherine Eason	6051 Violet Way	[redacted]	
12 Riley Kunkler	17416 W 69th Ave	[redacted]	
13 Kelly Eads	6081 Violet Way	[redacted]	
14 Jessica Kregg	15442 W 66th Ave	[redacted]	
15 Pam R Kreggs	6641 Violet	[redacted]	Pamela R Kreggs

🛑 Take Action: Oppose AvalonBay Development on Welby Gardens Site!

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City of Arvada Project #: DA2025-0035

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✍ Add Your Voice

Name	Address	Email	Signature
1 Holly Sumpter	6631 Violet W	[redacted]	
2 NEIL BEATY	6630 VIOLET	[redacted]	
3 Kyle Zarazon	6651 Violet Way	[redacted]	
4 JOHN FEHLING	6659 VIOLET WAY	[redacted]	John Fehling
5 DIANA FEHLING	ARVADA 6659 Violet wy	[redacted]	
6 Lucas Eads	6681 Violet way	[redacted]	
7 Elizabeth Alcorn	6680 Violet Way	[redacted]	
8 Greg Little	6676 Violet	[redacted]	
9 Brad Rix	6660 Violet Way	[redacted]	Brad
10 PETE GEORGELAS	17470 W. 67th AVE	[redacted]	
11 Pete Georgelas	17470 W 67th A.	[redacted]	Georgelas
12 Lisa Cole	6671 Violet way	[redacted]	Lisa Cole
13 Lindey Petrella	6670 Violet Way	[redacted]	
14 DANIEL PETRELLA	6670 VIOLET WAY	[redacted]	
15 Rich Lindgren	17454 W 67th Pl	[redacted]	

Take Action: Oppose AvalonBay Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

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Add Your Voice

Name	Address	Email	Signature
1 Leticia OVERHOLT	6740 Violet Way	[redacted]	
2 CAROL DUFF	5850 CENTRAL AVE, WEST MI 80031	[redacted]	
3		[redacted]	
4 MIKE DUFFY	MORNINGS	[redacted]	MIKE DUFFY
5 CHARLES HAMRÉ	17401 W 67 ARVADA	[redacted]	
6 Brad Alwn	6680 Violet Way	[redacted]	
7 RICK GETZ	17450 W 67th AVE	[redacted]	
8 David Tomlinson	6780 Violet Way	[redacted]	
9 JONI RIX	6660 VIOLET WAY	[redacted]	
10 Brian Gross	17480 W 67th	[redacted]	
11 Zack Deliza	6690 Violet Wy	[redacted]	
12 Jeff Welch	17471 W 67th Pl ARVADA, CO 80007	[redacted]	
13 Regina Welch	17471 W 67th Pl ARVADA, CO 80007	[redacted]	
14 Scott Clemens	6772 Violet Way Arvada, Co 80007	[redacted]	
15 Philip R Stimson	6473 Umber Cir Arvada, CO 80007	[redacted]	

Thank you
Pam

Take Action: Oppose AvalonBay Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

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Add Your Voice

Name	Address	Email	Signature
1 Audrey Spaen	15397 W. 66th Dr Arvada Unit B 80007	[redacted]	Audrey Spaen
2 Sue Gallagher	17461 W 67th Arvada 80007	[redacted]	
3 Arianna Scripter	6631 Violet way, Arvada	[redacted]	
4 Savanna Scripter	6631 Violet way, Arvada	[redacted]	
5 Andrew Scripter	6631 Violet way Arvada	[redacted]	
6 Kristin Goobby	6682 Violet Way Arvada CO	[redacted]	
7 Andrew Kunich	17416 W. 69th Ave Arvada, CO 80007	[redacted]	
8 Susie Grant	6692 Violet way Arvada CO 80007	[redacted]	
9 John Peterson	6692 Violet Way Arvada Co 80007	[redacted]	John Peters
10 Shayne Grant	6692 Violet Way Arvada Co 80007	[redacted]	Shayne Gran
11 Annie Harvey	15443 W 65th Ave #B Arvada, CO 80007	[redacted]	Annie Harvey
12		[redacted]	
13		[redacted]	
14		[redacted]	
15		[redacted]	

Take Action: Oppose AvalonBay Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

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Add Your Voice

Name	Address	Email	Signature
1 Ashley Lindgren	17454 W 67th Pl	[redacted]	Ashley Lindgren
2 Gregg Hendrickson	17455 W. 67th Pl.	[redacted]	
3 Amy Hendrickson	17455 W 67th PL Arvada CO 80007	[redacted]	
4 Courtney Yarbrough	17475 W. 67th	[redacted]	
5		[redacted]	
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Sign Petition

Submission time	First name	Last name	City of Residence	Email	Comments and Concerns
2025-10-18T00:00:58.233Z	Mason	McCuskey	Arvada	[redacted]	
2025-10-14T02:41:41.895Z	Alisa	Shanks	Arvada	[redacted]	We live right near this development and want to help stop it or change it.
2025-10-11T12:01:01.704Z					
2025-10-11T12:00:55.199Z	Eric	Samp	Arvada	[redacted]	I am completely against this proposed development
2025-10-09T14:00:46.639Z	Kathleen	Peterson	Arvada	[redacted]	Not mixed use or pedestrian friendly.
2025-10-08T19:21:16.209Z	Gail	Shaw	Golden	[redacted]	The increased traffic in the area, in particular to Easley Rd., incompatibility with area and the the prior use of chemicals at this site and its effect on the environment of the area.
2025-10-08T15:18:25.506Z	Barbara	Ruley	Arvada	[redacted]	The current plan is to large for the infrastructure in the area.
2025-10-07T23:54:45.741Z	Sue	Gallagher	ARVADA	[redacted]	
2025-10-07T17:09:47.757Z	Christine	Loughran	Arvada	[redacted]	I am 100% opposed to bringing apartment buildings and the traffic that will go with them, to this area.
2025-10-05T23:57:39.816Z	Joel	Bolduc	Arvada	[redacted]	Visual Impact, Noise, Traffic
2025-10-03T16:42:06.099Z	Christa	Wingate	Arvada	[redacted]	So tired of having to fight developers who want to have the city make exceptions to current acceptable zoning and who don't care about the people who live in our communities.
2025-10-02T12:33:06.920Z	Stu	Wright	Arvada	[redacted]	I oppose this development as it would have a severe negative impact on the surrounding neighborhood due to additional traffic, single-point access, the huge densification of a single family home area, and the lack of infrastr
2025-09-28T15:56:20.945Z	Robert	White	Arvada	[redacted]	No!
2025-09-28T13:37:41.995Z	Linda	Wyman	Arvada	[redacted]	
2025-09-25T18:07:03.202Z					
2025-09-25T13:00:08.936Z	Geoff	Jordan	Arvada	[redacted]	I don't want ANY more high density development ANYWHERE in Arvada(certainly not this irrational idiotic; neighborhood killing monstrosity. CHANGE the damn zoning. NO MORE town-killing high density housing. PERIOD
2025-09-23T21:09:01.574Z	Susan	Tomlinson	Arvada	[redacted]	This housing development proposes to jam 1,000 extra people into a tight spot in a single-family home neighborhood. There is only one road to access the property which would be problematic in the event of an emergency.
2025-09-23T19:07:18.058Z	Gerald	McCarthy	Arvada	[redacted]	Health, traffic, infrastructure
2025-09-23T14:25:08.716Z	Steplhen	Smith	Arvada	[redacted]	I do not want the Welby property to be zoned for high-rise development!
2025-09-21T23:44:46.341Z	Susan	Grant	Arvada	[redacted]	Density would destroy the look and feel of the carefully chosen home we spent decades saving for, traffic, mismatched architecture, spill over…I'm not against growth the is re
2025-09-21T17:19:55.106Z	Mary O'Brien	Csere	Golden	[redacted]	The density of this development is too high for the area. Single family homes make so much more sense for this land. Easly Rd cannot handle all the additional traffic.
2025-09-17T02:04:37.683Z	Mackenzie	Jones	Arvada	[redacted]	Not safe, traffic, infrastructure
2025-09-17T01:53:52.498Z	Dylan	Jones	Arvada	[redacted]	I am concerned about traffic and the incompatibility of this dense of a development in this area. In particular, I live near 64th and it is an extremely busy road. There is already little space between homes and the road so wider
2025-09-16T16:15:54.672Z	Mark	Feldmann	Arvada		I agree with all of the concerns listed. This development simply put--- does not fit in the surrounding area and does not meet the Arvada Comprehensive Plan. Why have such a Plan if it can just be ignored?!
2025-09-16T13:44:18.310Z	Edward	Cortright	Arvada	[redacted]	This proposal would devastate west Arvada and Arvada in general
2025-09-16T00:07:37.411Z	Therese	Flannery	Arvada	[redacted]	
2025-09-15T20:23:49.549Z	Meredith	Bleasdell	Arvada	[redacted]	Growth is expected but needs to be consistent with the surrounding areas and planned for with adequate accesses to roads
2025-09-15T20:20:05.960Z	Nick	Muir	Arvada	[redacted]	
2025-09-15T20:19:50.675Z	Liz	Muir	Arvada	[redacted]	
2025-09-15T17:03:04.560Z	Pam	Manresa	Arvada	[redacted]	
2025-09-15T17:01:47.935Z	Pam	Manresa	Arvada	[redacted]	
2025-09-14T20:33:06.321Z	Carol	Claycomb	Superior	[redacted]	After my divorce, I remarried and moved to my spouse's home in Superior. My renter gave me this postcard about this high rise development. I was the first homeowner in the WestWoods IIII community. Westwoods is a wo
2025-09-14T00:50:50.952Z	Gail	Blincow	Arvada		
2025-09-14T00:50:25.466Z	Craig	Blincow	Arvada	[redacted]	
2025-09-09T22:40:11.272Z	NANCY	BURNETT	ARVADA	[redacted]	
2025-09-08T20:00:07.759Z	Jeff	Herrin	ARVADA	[redacted]	why do we have to build something on every G.D. square inch of available land? Can't we have at least a few acres of undeveloped open area?
2025-09-07T13:30:23.751Z	Jeffrey	Donahue	Arvada	[redacted]	This development makes no sense for this area. No infrastructure, room at schools, Shopping centers are already beyond capacity, no traffic control, among other issues in this area.
2025-09-07T12:22:20.214Z	Erica	Koch	Arvada	[redacted]	We live directly south of this potential development. Traffic noise as well as the volume of vehicles on 64th is already too much. Not to mention the environmental impact of that many more people condensed. These develope
2025-09-06T18:13:31.751Z	dave	Penland	Arvada	[redacted]	Does not fit the neighborhood aesthetic. Traffic concerns
2025-09-06T16:47:31.401Z	Harriet	Keelen-Cain	Arvada	[redacted]	
2025-09-06T16:28:32.692Z	Brandon	Baines	Arvada	[redacted]	This would literally cripple the area
2025-09-06T15:38:15.578Z	Martha	Hamre	Arvada	[redacted]	Concerned about increased traffic, increased noise, light pollution at night, my property devaluation, and general fit in the neighborhood.
2025-09-06T15:23:45.195Z	Charles	Hamre	Arvada	[redacted]	Project does nit match neighborhood. Traffic infrastructure cannot handle increased load without further study and buildout.
2025-09-06T14:49:43.864Z	Nancy	Schott	Arvada	[redacted]	Icreased traffic at Easley and 64 will be dangerous especially during sunrise and sunset when school busses will be in the area. If the new development ever experiences a fire emergency it's residents will be at serious risk d
2025-09-05T15:20:01.562Z	Nathan	Fulton	Golden	[redacted]	
2025-09-05T15:19:42.343Z	kelly	fulton	golden	[redacted]	
2025-09-05T15:09:12.566Z	Justin	Castor	Arvada	[redacted]	Dont think Westwoods roads, trails and amenities can handle this
2025-09-05T03:01:03.033Z	Charles	Thompson	Arvada	[redacted]	TOO MUCH DEVELOPMENT!! INFORSTRUCURE CAN'T HANDLE AND QUALITY OF LIFE IS DEMINISHED.!!
2025-09-04T20:36:21.405Z	Steve	Leibold	Arvada	[redacted]	I am opposed to the proposed development of the property located at the former Welby Gardens business location at 64th and Easley. I am opposed for the following reasons: inappropriate high-density housing compared to
2025-09-04T18:51:44.231Z	julius	shelton	arvada	[redacted]	ruins views and make residents unhappy
2025-09-04T15:54:58.232Z	Julie	Ryall	Arvada	[redacted]	
2025-09-04T14:50:14.484Z	Jon	Luciano	Arvada	[redacted]	I live right next door, the traffic is a major concern....so it taking away views and access.
2025-09-04T12:13:29.058Z	Shonna	Pivic	Arvada	[redacted]	
2025-09-04T05:16:13.296Z	Colton	Urland	Arvada	[redacted]	The area cannot support more people/families in general without other accommodations made in the neighborhood of West wood's/West Arvada. The schools are already overcrowded. The roads around the area cannot reall
2025-09-04T03:35:17.582Z	Deborah	Burger	Arvada	[redacted]	We live just I n the other side of Easley, in Westwoods. Im happy to be a part if this.
2025-09-04T03:26:06.854Z	Marc	Doran	Arvada	[redacted]	Wish to sign petition and get more involved. Thx
2025-09-04T03:09:53.682Z	Jagger	Urland	Arvada	[redacted]	We need to fight!
2025-09-04T03:09:07.785Z	Colton	Urland	Arbada	[redacted]	We won't back down!
2025-09-04T03:08:28.523Z	Matt	Urland	Arvada	[redacted]	Fight this!!!!!
2025-09-04T03:07:50.641Z	Kara	Urland	Arvada	[redacted]	From the 1st meeting I have opposed this. We need to fight!
2025-09-04T02:43:58.511Z	Michael	Simpson	Arvada	[redacted]	Safety issues from already overloaded traffic in 64th
2025-09-04T02:42:39.804Z	Hannah	Simpson	Arvada	[redacted]	Dangerous traffic around children
2025-09-03T21:32:28.279Z	Kim	Balfanz	Arvada	[redacted]	
2025-09-03T20:53:48.465Z	Peter	Lynch	Arvada	[redacted]	Traffic, and lack of environmental study relating to chemicals used by nursery!
2025-09-03T20:51:37.289Z	Leticia	Overholt	Arvada	[redacted]	No development
2025-09-03T20:39:20.064Z	scott	balfanz	arvada	[redacted]	completely against this project, high density housing in this area does not and is not needed.
2025-09-03T19:26:59.394Z	Rod	Walters	Arvada	[redacted]	This should not be allowed. Homes or townhomes only!
2025-09-03T19:21:48.777Z	Jodi	Thomson	Arvada	[redacted]	I am happy to help fight this awful proposed development!
2025-09-03T17:33:21.383Z	Robert	Lohman	Arvada	[redacted]	
2025-09-03T17:30:46.394Z	Jason	Hawkins	Arvada	[redacted]	I very much appose the current proposal for development of the Welby Gardens property.
2025-09-03T16:07:51.971Z	Greg	Reiman	Arvada	[redacted]	
2025-09-03T15:02:51.865Z	George	Cain Jr	ARVADA	[redacted]	This potential development does not belong in this location.
2025-09-03T02:22:48.545Z	Jeff	Schaffer	Arvada	[redacted]	
2025-09-03T01:25:18.601Z	Robert	Classen	Arvada	[redacted]	I live in Fieldstone across the street and if the developer needs to alter zoning or has any variances it should be rejected.
2025-09-02T23:14:25.321Z	Helen	Stover	Arvada	[redacted]	64 th avenue already is busy and loud. I am very concerned about the increase in vehicles.
2025-09-02T22:38:39.348Z	Michelle	Greaves	Arvada	[redacted]	
2025-09-02T21:44:10.884Z	Beck	Whisenand	Arvada	[redacted]	No apartment no traffic I hate traffic
2025-09-02T20:31:39.193Z	Dorene	Byers	Arvada	[redacted]	Absolutely Wrong! ARVADA is being destroyed by multiple unit housing. It will only be an eventual conclusion that our open space & skyline is lost too!
2025-09-02T14:11:32.509Z	Natalie	Baker	Arvada	[redacted]	
2025-09-02T13:41:23.967Z	Gerald	McCarthy	Arvada	[redacted]	High-rise buildings in a subdivision of one a two story homes will bring traffic and density 10x of surrounding neighborhoods.
2025-09-02T12:48:46.493Z	Richard	Lindgren	Arvada	[redacted]	
2025-09-02T00:10:51.180Z	Adam	Colba	Arvada	[redacted]	The proposed complex does not fit the residential landscape.
2025-09-01T21:05:25.498Z	Pete	Georgelas	Arvada	[redacted]	The Proposed Development of Welby Gardens would be detremental to the homeowners in the area, the traffic, infrastructure and city resources would be strained and the risk of fast evacuation in the event of a wildfire woul
2025-09-01T17:08:27.139Z	richard	wanty	Arvada	[redacted]	
2025-09-01T14:41:18.345Z	Alan	Hise	Arvada	[redacted]	Environmental, traffic, noise and sight lines
2025-09-01T14:23:42.058Z	Courtney	Yarbrough	Arvada	[redacted]	
2025-09-01T02:17:51.501Z	James	Leighton	Arvada	[redacted]	
2025-08-31T22:43:24.654Z	Jeff	Wetch	Arvada	[redacted]	
2025-08-31T22:28:41.485Z	Holly	Scripter	Arvada	[redacted]	I don't understand how the entry and exit of so many cars from this proposed project would work. It makes no sense at all. Causing headache for both current residents in the community as well as those who intend to live ir
2025-08-31T21:28:53.976Z	Kiley	Knepp	Arvada	[redacted]	
2025-08-31T21:28:18.977Z	Kiley	Kunkler	Arvada	[redacted]	This type of density does not work for the surrounding neighborhood.
2025-08-31T19:55:18.629Z	Matthew	Cates	ARVADA	[redacted]	
2025-08-31T18:15:22.711Z	Benjamin	Meddaugh	Arvada	[redacted]	
2025-08-31T18:14:55.201Z	Karly	Kopczynski	Arvada	[redacted]	Westwoods Ranch resident opposing this development.
2025-08-31T17:50:05.024Z	Terri	VanGelder	Arvada	[redacted]	
2025-08-31T17:36:10.780Z	Samson	Barnes	Arvada	[redacted]	
2025-08-31T17:24:43.642Z	Brandy	Barnes	ARVADA	[redacted]	Please don't ruin our beautiful neighborhood
2025-08-30T18:10:29.814Z	Jane	Noah	Arvada	[redacted]	We are considering moving into the nearby retirement center. Not willing to pursue it if this big development will change the neighborhood. Something much lower density please.
2025-08-30T15:02:02.027Z	Melissa	Ford	Arvada	[redacted]	
2025-08-30T02:20:48.336Z	Annette	Wright	17295 W 60th Ct	[redacted]	64th and none of the other roads can handle current traffic, much less more! The grocery stores and schools already overwhelmed!
2025-08-29T13:38:54.562Z	Joanne	Clavelle	Arvada	[redacted]	
2025-08-29T02:53:27.286Z	Dana	VonFeldt	Arvada	[redacted]	Area is already too crowded and the roads cannot handle more traffic (wear & tear on roads and congestion).
2025-08-29T01:35:10.855Z	Dawn	Christofferson	Arvada	[redacted]	
2025-08-24T15:46:31.758Z	Kaylee	Aupperlee	Arvada	[redacted]	
2025-08-23T22:18:54.782Z	Jennifer	Romero	Arvada	[redacted]	

2025-08-23T01:48:59.719Z	Jacob	Cox	Arvada	[redacted]	I have lived here for many years and this complex would be very close to my house so I want to help make a stand and stop this.
2025-08-22T18:33:49.252Z	Estelle	Rapisardi	ARVADA	[redacted]	We don't need 300+ more cars on 64th, also Easley. Plus, the huge number of 18-wheelers going to McIntyre to a distribution center.
2025-08-06T15:22:53.697Z	Brooke	Yungstrom	Arvada	[redacted]	[redacted]
2025-07-21T00:33:09.425Z	Debra Colleen	Miller	Arvada	[redacted]	We moved out here to live in this low density environment. Arvada is on a path of high density. High density I'm this area is incompatible to the surroundings.
2025-07-07T15:52:22.092Z	Kristin	Goolsbey		[redacted]	This development is right in my backyard. The proposed 4-story high apartment buildings will literally tower over my backyard as my yard is already about 30 feet below the land where these units will be built! The 4-story ur
2025-07-07T14:56:57.922Z	Katherine	Zarazan		[redacted]	Our community cannot handle such an increase in traffic. Add to that our fire risk, and this plan is extremely dangerous.
2025-07-02T19:10:29.742Z	carol	weiser		[redacted]	[redacted]
2025-05-25T21:20:20.461Z	Donna	DeNomme		[redacted]	[redacted]
2025-05-23T03:37:53.060Z	Jodi	Thomson		[redacted]	NO development!
2025-05-14T15:17:18.260Z	Leah	Sullivan		[redacted]	[redacted]
2025-04-26T18:27:50.109Z	Michael	Schaefer		[redacted]	[redacted]
2025-04-26T18:27:07.441Z	Denise	Schaefer		[redacted]	[redacted]
2025-04-26T15:56:53.301Z	Corrie	Alonzo		[redacted]	Don't ruin west Arvada.
2025-04-26T15:43:51.395Z	Pam	Knepp		[redacted]	[redacted]
2025-04-26T15:41:51.608Z	Gustavo	Alonzo		[redacted]	We do not have the infrastructure, school capacity, grocery store size, roads, to support this crazy project. It also does not fit the surrounding community. Its impact is far more negative than positive.
2025-04-26T15:37:38.430Z	Garrett	Menaker		[redacted]	[redacted]
2025-04-26T15:26:40.038Z	Pam	Knepp		[redacted]	[redacted]
2025-04-26T15:12:10.885Z	Greg	Dunn		[redacted]	[redacted]
2025-04-26T15:00:36.915Z	greg	dunn		[redacted]	[redacted]
2025-04-20T16:42:48.982Z	Debra Colleen	Miller		[redacted]	Incompatible. Not consistent with Arvada's own Comprehensive Plan
2025-04-19T18:36:20.001Z	Sean	Duley		[redacted]	Not opposed to upscale luxury units in this location. Density must come down a lot and offset build costs with higher end luxury condos with garages. 2/3 bd 3 bath 1500sqft min Based on other builds this group has built I a
2025-04-19T14:42:12.900Z	John	Pavlik		[redacted]	I oppose this drastic change in zoning and character of our community. Although development of the site is inevitable, we should align the planning with current single family dwellings and parks that are predominantly in this
2025-04-18T23:18:24.057Z	J	Nunnally		[redacted]	[redacted]
2025-04-18T13:32:37.584Z	Margaret	Carter		[redacted]	[redacted]
2025-04-18T13:32:30.078Z	John	Carter		[redacted]	[redacted]
2025-04-18T03:36:57.259Z	Diane	Levy		[redacted]	[redacted]
2025-04-18T03:36:35.017Z	Diane	Levy		[redacted]	I am staunchly opposed to this horrible development! It will ruin all the neighborhoods surrounding Welby Gardens! the neighborhoods
2025-04-16T19:32:11.134Z	Sarah	Bradford		[redacted]	A really bad idea
2025-04-16T19:30:51.918Z	Sarah and Ton	Bradford		[redacted]	A really bad idea
2025-04-16T18:46:28.273Z	Kaci	Melody		[redacted]	Take your development elsewhere.
2025-04-16T14:45:23.754Z	Max	Truesdel		[redacted]	W Arvada cannot handle this increase in traffic
2025-04-16T12:16:14.994Z	carol	weiser		[redacted]	We live in morningstar and this is devastating for us
2025-04-16T12:08:21.744Z	carol	weiser		[redacted]	[redacted]
2025-04-16T02:29:58.865Z	Chrisanne	Pankratz		[redacted]	Strongly against this high density and 4 story proposal. Arvada needs to protect the view of the foothills.
2025-04-16T01:26:36.843Z	Brady	Mercer		[redacted]	[redacted]
2025-04-16T00:06:46.962Z	Diane	Ben-Avraham		[redacted]	[redacted]
2025-04-15T23:22:56.368Z	Philip	Lunnon		[redacted]	[redacted]
2025-04-15T22:16:01.834Z	Joe	Huhn		[redacted]	[redacted]
2025-04-15T21:43:21.179Z				[redacted]	[redacted]
2025-04-15T17:51:21.682Z	Amy	Mok		[redacted]	I don't like bringing in so many individuals who aren't invested in the neighborhood and may bring more traffic issues and increase crime. Non- high rise developments which are owned by the residents will help allow manage
2025-04-15T16:12:58.468Z	Doreen	McNicholas		[redacted]	[redacted]
2025-04-15T16:00:38.097Z	David	Shannon		[redacted]	[redacted]
2025-04-15T15:52:48.366Z	Miriam	Shannon		[redacted]	Please don't let the density wipe out Planning Commissions ideas for density in the west portions of Arvada!
2025-04-15T15:42:53.167Z	Amber	Rodriguez		[redacted]	[redacted]
2025-04-15T13:50:07.282Z	Leah	Harrison		[redacted]	[redacted]
2025-04-15T13:46:52.994Z	Heidi	Burtoni		[redacted]	[redacted]
2025-04-15T13:39:18.477Z	Kelly	Posiviata		[redacted]	[redacted]
2025-04-15T02:52:45.482Z	Susan	Lowe		[redacted]	[redacted]
2025-04-15T02:06:29.674Z	Anne	Earl		[redacted]	The proposal is not compatible with the nearby neighborhood, which has single family homes with values close to $1Mthe nearby neighborhood with the nearby with the nearby neighborhood which have homes close to $1M
2025-04-15T01:39:47.625Z	Jason	Stelley		[redacted]	[redacted]
2025-04-15T01:35:18.694Z	Lauren	Stelley		[redacted]	Too much density, not compatible with surroundings. Can Morning Star and the 7 HOA's combine money and power to obtain land for community use park, club house, tennis/pickle ball/basketball courts, pool etc!…
2025-04-15T01:10:08.783Z	Kathy	Thyfault		[redacted]	This is a bedroom community. Why would you think this is a good idea. There is not enough restaurants or retail to support this many people in this community. Please don't allow this
2025-04-15T00:12:22.612Z				[redacted]	[redacted]
2025-04-15T00:11:56.551Z	Chris	Moles		[redacted]	Reminder that isn't only the developer, a lot falls on our elected officials who collectively sell out to developers every day
2025-04-14T21:11:21.531Z	Anne	Earl		[redacted]	The proposal is entirely not compatible with the nearby already Built and compatible homes. The homes on this site should also be compatible
2025-04-14T18:14:03.731Z	Shannon	Thomas		[redacted]	[redacted]
2025-04-14T17:46:09.472Z	TRACY	WRIGHT		[redacted]	[redacted]
2025-04-14T16:34:29.532Z	Tamara	Yonkie		[redacted]	[redacted]
2025-04-14T15:55:58.084Z	Donna	Catalfamo		[redacted]	[redacted]
2025-04-14T14:01:48.634Z	JANICE	GARRETT		[redacted]	Does Arvada really need more housing? I think that is way too much building for the area and that many apartments are not needed here. The homeowners in the area shouldn't have to deal with the influx of people and traffic
2025-04-14T10:02:14.434Z				[redacted]	[redacted]
2025-04-14T02:48:54.543Z	Laura	Belanger		[redacted]	[redacted]
2025-04-14T02:31:30.608Z	Sharon	DeVito		[redacted]	One or two apartment buildings; not 12. EPA testing should be done on the last.
2025-04-13T23:40:27.149Z	Cheryl	Timmerman		[redacted]	[redacted]
2025-04-13T18:31:05.881Z	Christine	Cheer		[redacted]	Enough with the new construction. Fix our roads.
2025-04-13T17:32:05.327Z	Will	Taylor		[redacted]	I moved to Arvada because it was small & not much room for development. Now, the city of Arvada is pushing for high density developments. Arvada has become the stack-a- shack capital of the universe. Do people want th
2025-04-13T01:46:44.849Z	Michelle	Fenner		[redacted]	[redacted]
2025-04-12T21:22:26.216Z	Alicia	tighe		[redacted]	[redacted]
2025-04-12T20:57:42.888Z	Edward	Yevak		[redacted]	[redacted]
2025-04-12T18:09:22.302Z	Mary	Schmidt		[redacted]	[redacted]
2025-04-12T17:07:35.501Z	Tom	Young		[redacted]	[redacted]
2025-04-12T15:18:31.570Z	Kris	Coisman		[redacted]	[redacted]
2025-04-12T12:09:41.728Z	Samantha	Wheeler		[redacted]	[redacted]
2025-04-12T08:07:34.373Z	Carol	Yantorno		[redacted]	Both projects are very disturbing! They are just too large for this area!
2025-04-12T08:05:20.529Z	Carol	Yantorno		[redacted]	Both projects are disturbing to me. They both are way to large for this area.
2025-04-12T05:20:33.724Z	Laurie	Johnson		[redacted]	The traffic!!!! We are on Easley and it is not meant to handle this kind of traffic. So many recreational users biking ! A disaster waiting to happen. People do not honor the 30 mph and even pass on double yellow lines!
2025-04-12T04:13:04.253Z	Tracy	demeza		[redacted]	[redacted]
2025-04-12T04:07:44.169Z	Kinsey	Ringenberg		[redacted]	Very concerned about the access out of the community in case of emergencies as well as the environmental clean up of the gardens
2025-04-12T02:51:08.750Z	Rhonda	Akin		[redacted]	[redacted]
2025-04-11T23:59:26.263Z	Daniel	Martin		[redacted]	Too high of density compared to surrounding neighborhoods. Should be more true mixed use as designated by zoning.
2025-04-11T22:46:08.212Z	Colleen	Miller		[redacted]	Not compatible with west Arvada life style.
2025-04-11T21:46:41.093Z	Michael	Simpson		[redacted]	Westwood Links Filing III
2025-04-11T21:45:49.743Z	Hannah	Simpson		[redacted]	Part of Westwoods Links Filing III - Neighborhood at risk of becoming a thoroughfair for traffic to High -Rise development
2025-04-11T19:17:19.525Z	John	Hutchinson		[redacted]	My family of 4 is strongly opposed to adding 12 4-story buildings and 53 townhomes which would bring approximately 1,000 residents to our neighborhood. The impacts from health and environmental to traffic are not accep
2025-04-11T18:12:18.711Z	Don	Wuerth		[redacted]	[redacted]
2025-04-11T16:55:02.912Z	Faye	Belknap		[redacted]	[redacted]
2025-04-11T16:46:18.832Z	Elaine	Sutton		[redacted]	why is Arvada not getting involved to encourage working with a developer to change the zoning and build patio homes thanks so much for keeping me in the loop
2025-04-11T16:30:01.396Z	Suzy	Stafford		[redacted]	This proposed building project is too congested for the land available and will result in inconsideration on all levels to the surrounding neighborhoods
2025-04-11T16:11:36.108Z	GREG	DIPAOLO		[redacted]	[redacted]
2025-04-11T16:03:42.500Z	Kevin	Stafford		[redacted]	[redacted]
2025-04-11T15:53:50.230Z	Michael	Horwith		[redacted]	Too dense for West Arvada
2025-04-11T15:44:02.637Z	D Aaron	Kullman		[redacted]	[redacted]
2025-04-11T15:40:47.073Z	Gina	Osburn		[redacted]	[redacted]
2025-04-11T15:33:55.258Z	Ben	Sawyer		[redacted]	[redacted]
2025-04-11T04:50:10.323Z	John	Kobach		[redacted]	Thank you for fighting this ridiculous proposed development!
2025-04-11T01:46:03.207Z	Heather	Church		[redacted]	[redacted]
2025-04-11T00:22:55.233Z	Curtis	Anderson		[redacted]	[redacted]
2025-04-10T23:57:17.830Z	Ryan	McCarroll		[redacted]	This project is a horrible idea. I live in the adjacent community and cannot believe this could be approved.
2025-04-10T23:54:55.228Z	David	Haselman		[redacted]	This Development while understandable, is impractical to the location. It not only negatively impacts the surrounding businesses and neighbors but would not accommodate the new residents within this proposal.
2025-04-10T19:57:45.146Z	Renee	Stark		[redacted]	This massive development is in no way compatible with the area or the site. I live in Boyd Ponds, which is just east of this plan. Can these greedy developers just stop ruining what was once a beautiful residential area!
2025-04-10T14:29:37.282Z	Kate	Pavlik		[redacted]	No high density housing!
2025-04-10T02:59:54.596Z	Scott	Hunt		[redacted]	[redacted]
2025-04-10T02:24:55.968Z	Jeanine	Patricks		[redacted]	[redacted]
2025-04-10T02:22:08.729Z	Tim	Collins		[redacted]	[redacted]
2025-04-10T02:21:44.653Z	Collin	Hill		[redacted]	[redacted]
2025-04-10T02:20:53.436Z	David	Warren		[redacted]	[redacted]
2025-04-10T02:20:16.485Z	Penelope	Brown		[redacted]	[redacted]

2025-04-10T02:19:48.106Z	Debbie	Wolfe		[redacted]	[redacted]
2025-04-10T02:19:32.177Z	Chris	Wolfe		[redacted]	[redacted]
2025-04-10T02:17:24.650Z	Sarah	Warren		[redacted]	[redacted]
2025-04-10T02:17:10.150Z	Mariah	Laurie		[redacted]	[redacted]
2025-04-10T02:13:59.524Z	Edwin	Goode		[redacted]	[redacted]
2025-04-10T02:13:26.009Z	Jay	Rosenberg		[redacted]	[redacted]
2025-04-10T02:12:20.670Z	Madeline	Cole		[redacted]	[redacted]
2025-04-10T02:11:56.087Z	Tayler	Miles		[redacted]	[redacted]
2025-04-10T02:11:31.344Z	Natalie	Bachmeier		[redacted]	[redacted]
2025-04-10T02:11:12.808Z	Tanner	Hovendick		[redacted]	[redacted]
2025-04-10T02:09:15.066Z	Gabriel	Park		[redacted]	[redacted]
2025-04-10T02:09:03.937Z	Alyssa	Park		[redacted]	[redacted]
2025-04-10T02:08:46.354Z	Jamal	Mangelson		[redacted]	[redacted]
2025-04-10T02:08:31.492Z	Ian	Pomper		[redacted]	[redacted]
2025-04-10T02:08:16.213Z	Noah	Thice		[redacted]	[redacted]
2025-04-10T02:07:58.635Z	Jordan	Lundmark		[redacted]	[redacted]
2025-04-10T02:07:41.834Z	Adam	Cole		[redacted]	[redacted]
2025-04-10T02:07:11.349Z	Sierra	Norquay		[redacted]	[redacted]
2025-04-09T19:23:26.030Z	Isaac	Mead		[redacted]	It's crazy to put this dense of a development on an infill lot like this with no amenities or public transportation around as well. Traffic has already become quite bad in the area and 1000 cars coming in and out from one stub ro
2025-04-09T17:45:30.231Z	Paul	Ochenrider		[redacted]	This development will ruin the area and cause horrible traffic for all people. It will not be safe for kids and cause even more dangerous speeders to people on bikes and trying to cross the streets.
2025-04-09T03:51:39.607Z	robert	Toll		[redacted]	[redacted]
2025-04-09T01:46:00.564Z	Mark	Kish		[redacted]	We do not need additional multi family homes in this area.
2025-04-09T01:45:10.922Z	Samantha	Kish		[redacted]	I do not support this development that would house nearly 1000 residents in an area with no walkable amenities or public transit.
2025-04-09T01:20:34.876Z	Jessica	Bryski		[redacted]	[redacted]
2025-04-09T01:19:16.282Z	Callie	Vardal		[redacted]	[redacted]
2025-04-09T01:11:19.409Z	Becky	Carr		[redacted]	Westwoods is a beautiful neighborhood. It is not fair to the neighbors whose houses back up directly to this development, spoiling their views and diminishing their house prices. I would be livid if this was planned in my back
2025-04-09T00:43:37.016Z	Ann Marie	Juba		[redacted]	[redacted]
2025-04-08T23:56:45.052Z	Aaron	Bauer		[redacted]	[redacted]
2025-04-08T23:56:17.243Z	Claire	Bauer		[redacted]	[redacted]
2025-04-08T23:19:17.208Z	Phil	Seibert		[redacted]	Too much density Roads can't handle another 700 cars Bad planning
2025-04-08T23:04:33.402Z	Michaela	Criswell		[redacted]	[redacted]
2025-04-08T22:35:12.473Z	Lindsey	Leigh		[redacted]	[redacted]
2025-04-08T22:24:23.468Z	Jim	Cheatham		[redacted]	Thank you for doing our best to reduce the density of the proposed development to help with concerns including: ~1000 more vehicles impacts to entrance/exit congestion, fire egress, and traffic safety in the area, incompati
2025-04-08T22:23:50.889Z	B	C		[redacted]	[redacted]
2025-04-08T22:10:51.065Z	Becca	Casar		[redacted]	[redacted]
2025-04-08T22:09:10.711Z	Abby	Grip		[redacted]	[redacted]
2025-04-08T22:08:30.476Z	Michele	Heinzman		[redacted]	[redacted]
2025-04-08T16:45:30.540Z	Jason	Sinners		[redacted]	I agree that four stories is too much for our neighborhood!
2025-04-08T15:59:01.538Z	Ashlee	Weyrauch		[redacted]	[redacted]
2025-04-08T15:39:12.411Z	Terry	Hackbart		[redacted]	Traffic is already out of control in this area. Highway 93 is jammed and there are multiple accidents at 60th and Easley. This devolpment does not suit the area and the streets and roads cannot handle the traffic.
2025-04-08T01:56:35.316Z	Michael	Weicher		[redacted]	[redacted]
2025-04-07T16:30:13.721Z	Julie	Hogan		[redacted]	[redacted]
2025-04-07T14:59:57.557Z	Chris	Yungstrom		[redacted]	Do not support this development.
2025-04-07T13:40:28.451Z	Jon	Jones		[redacted]	There are better and safer alternatives for proper use of this land.
2025-04-07T12:48:11.389Z	Paul	Barnett		[redacted]	I oppose the proposed Welby Gardens apartment project.
2025-04-07T09:08:05.234Z				[redacted]	[redacted]
2025-04-07T00:08:43.680Z	Allana	Sucher		[redacted]	[redacted]
2025-04-07T00:06:30.959Z	Michael	Gray		[redacted]	[redacted]
2025-04-06T23:44:59.399Z	William	Hawkins		[redacted]	[redacted]
2025-04-06T23:44:30.463Z	Mary	Hawkins		[redacted]	Nope!
2025-04-06T20:24:50.408Z	Caleb	Rudkin		[redacted]	Strongly opposed to this high density development
2025-04-06T20:10:34.561Z	Rachael	Rudkin		[redacted]	[redacted]
2025-04-06T17:34:12.749Z	Myla	Botsford-Lyons		[redacted]	[redacted]
2025-04-06T16:50:28.306Z	THOMAS	SHUBERT		[redacted]	We don't need more congestion and trafffic. The proposed truck depot by King Soopres will add enormous truck traffic on 64th heading to hiway 93.
2025-04-06T01:03:20.640Z	Katherine	Zarazan		[redacted]	[redacted]
2025-04-05T21:35:50.236Z	Jack	Lopez		[redacted]	[redacted]
2025-04-05T21:34:11.012Z	Jack	Lopez		[redacted]	[redacted]

CED Boards and Commission <cedboardsandcommission@arvada.org>

Da2025-0035 comments

1 message

Mark Brees [redacted] Tue, Jan 20, 2026 at 8:06 AM
To: cedboardsandcommission@arvada.org, Rozalynne Thompson <rthompson@arvada.org>, lsimpson@arvada.org, bfifer@arvada.org, mgriffith@arvada.org, Randy [redacted] da.org>, "Rep. Lisa Feret" <lisa.feret.house@coleg.gov>, Randall Weiner [redacted]

Please find additional petition signatures opposing the proposed high density residential apartments at the Welby gardens site. Please add these to the public record.

Sent from my iPhone

Fieldstone Petition Signatures.pdf
6647K

Take Action: Oppose Avalon Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

City of Arvada Project #: DA2025-0035

I oppose the proposed high-density development of the Welby Gardens site and urge city officials to reject this proposal due to concerns with noise, light pollution, building height, density, traffic, access, environmental, and incompatibility with the surrounding neighborhoods.

This petition will be formally submitted to the Arvada City Council and the Planning Commission to ensure our voices are heard in the decision-making process.

Add Your Voice

Name	Address	Email	Signature
1 Russ Kutzman	17528 W 61st LN	[redacted]	
2 Heather Dix	17506 W 61st Ln	[redacted]	Heather Dix
3 Doug Heiliger	17516 W. 61st Lane	[redacted]	Doug Heiliger
4 Grant Landsbach	17526 W 61st Ln	[redacted]	
5 Vincent Davis	17536 W 61st ln	[redacted]	
6 Lisa Davis	17536 W 61st lane	[redacted]	
7 Marcy Patel	17527 W 61st LN	[redacted]	
8 Amit Patel	17527 W 61st LN	[redacted]	
9 Erin Toft	17517 W. 61st LN.	[redacted]	Erin Toft
10 Jason Toft	17517 W. 61st Ln	[redacted]	
11 Jeffrey Glover	17507 W 61st LN	[redacted]	
12 Jan Glover	17507 W. 61 Lane	[redacted]	Jan Glover
13 Laurel Bolton	6190 Virgil St.	[redacted]	Laurel Bolt
14 Tracy L. Wright	6231 Virgil St.	[redacted]	
15 Marshall Watson	6241 Virgil St	[redacted]	

[redacted]

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Add Your Voice

Name	Address	Email	Signature
1 Herbert White	6203 Umber St.	[redacted]	
2 Mark Plummer	17293 W 62nd Ct.	[redacted]	
3 Mark Geiltz	17263 W 62nd Ct.	[redacted]	
4 Sandy Miller	17233 W. 62nd	[redacted]	Sandra L Miller
5 Jarrett Green	17297 W 61st St	[redacted]	
6 Jessica Mangold	17294 W 61st Ct.	[redacted]	Jessica Mangold
7 Paul Ochenrider	17296 W 61st Ct	[redacted]	
8 Scott Franey	17293 W 60th Ct	[redacted]	
9 Celeste Spiers	6042 Umber St	[redacted]	
10 Steve Geintz	6002 Umber St.	[redacted]	
11 CHARLES HEAVILAND	6059 VIRGIL ST	[redacted]	
12 Lavonne Heaviland	6059 Virgil St.	[redacted]	
13 Susan Berman	17553 W 60th Ln	[redacted]	Susan Berman
14 G Berman	↓	[redacted]	G Berm
15 Justin Zovas	17533 W 60th Ln	[redacted]	

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Add Your Voice

Name	Address	Email	Signature
1 Andrea Casto	6033 Umber St.	[redacted]	Andrea C
2 Carlos Vacez	6033 Umber St	[redacted]	
3 GILLES LEFEBVRE	6013 Umber St	[redacted]	G. LeFebvre
4 P Thoreson	6060 Virgil St	[redacted]	Peggy Thoreson
5 R Thoreson	6060 Vigil	[redacted]	Robert Thoreson
6	6070 Virgil ST	[redacted]	
7 MARK DAVIDSON	6080 VIRGIL	[redacted]	[redacted]
8 Susan Mueller	17505 W. 61st Pl	[redacted]	Susan Mueller [redacted]
9 MIKE ZORAN	6260 VIRGIL ST	[redacted]	
10 Loren Perlan	6270 Virgil St.	[redacted]	Loren Perlan
11	6290 Virgil St	[redacted]	
12 MATTHEW METZGER	6368 Violet Ct	[redacted]	
13 Chad	6308 Violet Ct	[redacted]	
14 Tym Johnson	17384 W 63rd Dr	[redacted]	
15 Tom Langen	17364 W 63 Dr	[redacted]	

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Add Your Voice

Name	Address	Email	Signature
1 Kelley Coffin	6129 Violet Pl.	[redacted]	Kelley Colln [redacted]
2 ROBERT STITT	6109 Violet PL	[redacted]	[redacted]
3 Emily madison	6119 Violet Pl	[redacted]	[redacted]
4 Cathy Jorgen	6069 Violet Pl	[redacted]	
5 Denise Pachello	6057 Violet Pl.	[redacted]	
6 JAMG McCann	6049 Viol	[redacted]	[redacted]
7 Catherine Smith	6029 Violet PL	[redacted]	Catherine Smith
8 KEMP SMITH	6029 Violet PL	[redacted]	
9 Sonja Spitzer	6068 Violet Pl	[redacted]	
10 RICHARD MRAZ	17355 W 62ND LN	[redacted]	
11 Robyn Korkus	17344 W 62nd Lane	[redacted]	
12 Lee Spiegler	6138 Violet Pl.	[redacted]	
13 Rob Classen	17324 W. 62nd Ln	[redacted]	
14 Heather Fry	17325 W. 62nd Ln	[redacted]	[redacted]
15 James Tressell	17335 W 62nd LN	[redacted]	

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Public Comment Submission & Time Request — Avalon Arvada CUP (DA2025-0035) — Protect West Woods Neighbors

2 messages

Mark Breese [redacted] Thu, Jan 15, 2026 at 3:04 PM
To: cedboardsa a.org

Attachments available until Feb 14, 2026

I am resending this email. It appears when you copy your requested email address off the public notice one of the M's in commission comes over as a V. Please confirm receipt of this for the public record given issues with your public notice.

> Begin forwarded message:
>
> **From:** Mark Brees [redacted] >
> **Subject: Public Co & Time Request — Avalon Arvada CUP (DA2025-0035) — Protect West Woods Neighbors**
> **Date:** January 15, 2026 at 1:17:08 PM MST
> **To:** "CEDBOARDSANDCOMIVISSION@arvada.org " <CEDBOARDSANDCOMIVISSION@ARVADA.ORG>
> **Cc:** rsmetana@arvada.org, jegarner@arvada.org, Rozalynne Thompson <rthompson@arvada.org>, dwick@arvada.org, krush@arvada.org, steve.parker@arvadafireco.gov, lsimpson@arvada.org, Randy Moorman <rmoorman@arvada.org>, sambrose@arvada.org, rlovisone@arvada.org, bfifer@arvada.org, sdavis@arvada.org, mgriffith@arvada.org, "Rep. Lisa Feret" <lisa.feret.house@coleg.gov>, lindsey [redacted] ov, nmccoy@churchditch.org, kcline@cityofwestminsterous, Randall Weine [redacted] >
>
> **Dear Planning Commission Members,**
>
> On behalf of **Protect West Woods Neighbors (PWWN)**, please accept the attached materials for inclusion in the permanent public record for the **January 21, 2026 Planning Commission hearing at 6:15 PM** regarding the **Avalon Arvada Conditional Use Permit (Case DA2025-0035)**. These written comments are submitted in accordance with the City's Notice of Public Hearing, which directs that emailed comments be received by **5:00 PM the day before the meeting** at this address.
>
> ## Request for Extended Public Comment Time
>
> We respectfully request **40 minutes** of public comment time for PWWN at the hearing. The City has indicated a **5-minute** allotment; however, given the complexity and breadth of the issues and the number of residents we represent (well over **1,000** individuals across multiple HOAs and nearby residents), **5 minutes is insufficient** for meaningful, orderly, and representative testimony.
>
> As you can see from the attached materials we have gone to great lengths to organize a thoughtful, coordinated, and factual response to the proposal. Members of our four HOAs, residents of MorningStar, and other members of the community have worked as a team for the last year to review the Avalon proposal and develop this coordinated response.

Our **40-minute** request effectively equates to approximately **10 minutes per HOA** (Trail Village, Trail Village Villas, West Woods Links III, and Fieldstone), allowing us to present concise, non-duplicative expert and lay testimony that addresses life-safety, transportation, land-use consistency, environmental concerns, and emergency response access. This structured format will be **more efficient** for the Commission than multiple repetitive individual comments, while ensuring the public's perspective is fairly represented in this quasi-judicial matter. We note that the City Council has permitted such an extended time allotment for other reviews when the requestor has clearly represented a large group of individuals and has provided a coordinated response.

To further demonstrate the breadth of public interest and support for this request, we are also submitting **petition signatures** from residents endorsing PWWN's effort and testimony plan. You will find nearly 400 signatures between our direct sign-off sheets and respondents to our petition on our website. We ask that the Commission **grant the 40-minute block** to PWWN accordingly.

Attached Submittals

1. Protect West Woods Neighbors Project DA2025-0035 Comments (1.15.2026).pdf — this provides a summary statement
2. Signature Page PWWN Letter on DA2025-0035.pdf — this has the signatures of the four Presidents of the member HOAs of PWWN
3. Appendix A PWWN Comments on DA2025-0035 (1.15.2026).pdf — this provides a detailed review of how the project fails all CUP tests
4. MorningStar Support for PWWN (DA2025-0035).pdf — this letter, which MorninStar residents are sending separately, shows their support for our comments
5. Signatures - Petition Options DA2025-0035 (1.15.2026).pdf — This has the physical signatures on our petition
6. Website Signatures.PDF — This has the signatures from those who supported our petition on our website

These documents detail why the Avalon Arvada proposal does not satisfy multiple mandatory criteria for Conditional Use approval under the Arvada Land Development Code, including inconsistency with the Comprehensive Plan, incompatibility with surrounding neighborhoods, non-compliant/insufficient emergency access, incomplete and inadequate mitigations, and transportation and environmental impacts.

We respectfully request that the Commission deny the Conditional Use Permit (CUP) for the reasons set forth in the attachments.

Thank you for your consideration, for entering these materials into the public record, and for accommodating our request for adequate time to present organized, representative public testimony.

Sincerely,
Protect West Woods Neighbors (PWWN)
(Representatives as listed in the attached letter)

With respect to our request for additional time, you may respond to this email or contact me (Mark Breese, President Trail Village Villas HOA) at 410-245-0798.

Click to Download
Protect West Woods Neighbors Project DA2025-0035 Comments (1.15.2026).pdf
120 KB

Click to Download
Signature Page PWWN Letter on DA2025-0035.pdf
6.3 MB

Click to Download
Appendix A PWWN Comments on DA2025-0035 (1.15.2026).pdf
1.3 MB

Click to Download
MorningStar Support for PWWN (DA2025-0035).pdf
7.4 MB

Click to Download
Signatures - Petition Opposing DA2025-0035 (1.15.2026).pdf
29 MB

Click to Download
website signatures - pdf.pdf
556 KB

Mark Breese [redacted] Fri, Jan 16, 2026 at 12:15 PM

To: cedboardsandcommission@arvada.org
Cc: Rozalynne Thompson <rthompson@arvada.org>, rsmetana@arvada.org, Don Wick <dwick@arvada.org>, krush@arvada.org, steve.parker@arvadafireco.gov, lsimpson@arvada.org, Randy Moorman <rmoorman@arvada.org>, Jessica Garner <jegarner@arvada.org>, sambrose@arvada.org, rlovisone@arvada.org, bfifer@arvada.org, sdavis@arvada.org, mgriffith@arvada.org, "Rep. Lisa F[redacted]g.gov>, lindsey.daugherty.senate@coleg.gov, Randall Weiner

Rozalynne

I do not see our submittal (copied below) in the details regarding public response to this DA2025-0035. This is very disconcerting as our submittal provided a thoughtful, organized, and detailed review of the proposal and raises serious concerns. Please explain why our submittal has been excluded from the public documents in the staff report.

[Quoted text hidden]

January 15, 2026

Arvada Planning Commission & City Council
8101 Ralston Rd
Arvada, CO 80002
(sent via email and full color copies hand delivered)

Re: **Failure of "Avalon Arvada" Apartments/Townhomes (17201 W. 64th Ave) (Project No. DA2025-0035) to Meet Conditional Use Requirements and Provide a Complete Application**

Dear Commissioners and Council Members:

We represent **Protect West Woods Neighbors**, a coalition of HOAs in West Arvada—including Trail Village, Trail Village Villas, West Woods Links III, and Fieldstone—consisting of more than 400 homeowners, along with residents of the MorningStar retirement facility, additional HOAs in our area, and many other concerned neighbors. We submit this letter to document why the Conditional Use Permit (CUP) for the proposed **Avalon Arvada** development at the Welby Gardens Property, 17201 W. 64th Avenue (Project No. DA2025-0035), should be **denied**.

After thorough review, the evidence shows this **435-unit** apartment/townhome project is **fundamentally inconsistent** with the Comprehensive Plan, fails multiple requirements of Arvada's Land Development Code (LDC), misuses the MX-S zoning district, and remains **materially incomplete**. The applicant's claims of compliance are unsupported and repeatedly rely on assumptions or missing detail.

Following this summary, **Attachment A** provides the specific code sections, plan policies, and technical citations that substantiate these findings.

THE APPLICATION FAILS ALL SIX CUP TESTS

Test 1: Compliance with LDC Standards and Adopted Ordinances

Under Test 1, the applicant bears the burden of demonstrating full compliance. They have not met this burden. For example, the **secondary fire access** does not meet **IFC Section D106.3** regarding distance from the primary exit—by the Fire Department's own admission. Treating this as a waiver is a **material deviation** that requires explicit scrutiny by the Planning Commission and City Council. The proposed "mitigation" (installing fire sprinklers in townhomes) is **insufficient and unenforceable** given the developer's intent to sell that portion to a third-party developer, raising serious questions about how the City would guarantee compliance. Moreover, our read of the IFC suggests the incorporation of sprinklers in such a dense development is specifically excluded as a reason to waive access requirements (see Attachment A). **Attachment A** identifies additional areas where LDC compliance is lacking or unresolved.

Test 2: Consistency with the Comprehensive Plan

The proposal is **grossly inconsistent** with the Plan's goals for this area, principally due to **excessive density and traffic impacts.** On the density side, Avalon Arvada is proposing more housing units than the four surrounding neighborhoods combined in an area that is 1/7th the size. And the project's inconsistency with the transit goals in the Comprehensive Plan are so egregious that they require an entire separate section in our detailed review of issues in Attachment A. Moreover, these failures create ancillary failures with regard to safety, compatibility, and infrastructure support. CUP Test 2 requires **consistency** with the Plan; it is not optional or aspirational. The degree of misalignment alone warrants **denial**.

Test 3: Consistency with the purpose and intent of the MX-S zoning district

MX-S anticipates **mixed-use** projects that integrate residential with commercial or civic components to serve the community (e.g., neighborhood-scale retail, office, or civic space). In other reviews City Staff, the Planning Commission, and City Council have acknowledged and supported the need for true mixed use in these locations. The Avalon Arvada application is **100% residential**—a single-use, high-density project. Minimal open space primarily intended to meet code does not satisfy the MX-S mixed-use intent. The assertion that townhomes alone fulfill "mixed-use" requirements is **unsupported by the LDC** and **inconsistent with development precedent**. In substance, the application matches **High-Density Residential** and should pursue **rezoning**, not attempt to obtain that outcome via CUP. Approving a single-use, high-density project under MX-S would set a **harmful precedent** citywide and is a failure of the intent of Test 3 of the CUP.

Test 4: Size, scale, height, density, traffic, and operational characteristics are comparable with surroundings

The project is **wholly incompatible and incomparable with** adjacent single-family neighborhoods in **scale, height (3- to 4-story, ~45'), architectural character, traffic generation, and emergency access**. Concentrating **1,000+ residents** in an area roughly **1/7th** the size of the four surrounding neighborhoods and funneling access through a **single, substandard road** shared with an existing neighborhood and MorningStar is **unworkable** and unsupported by any credible capacity analysis. This development pattern is more consistent with the **core of Arvada** where mass transit and surrounding intensity exist. The project clearly fails Test 4 of the CUP.

Test 5: Facilities and services can serve the property while maintaining service levels for existing development

The application relies on a single, neighborhood-scale road—the **stub of Easley north of W. 64th**—already serving West Woods Links III and MorningStar. Even the applicant's **optimistic** traffic study anticipates **thousands of additional daily trips**, degrading levels of service for existing residents. A traffic light at Easley/W. 64th would not resolve queues or circulation; it would create **backups** and **spillover traffic** into West Woods Links III, increasing **safety risks** for residents and children. There is no credible plan to maintain **emergency response times** or protect service levels for current development. Moreover, the projects lack of adding true mixed uses means the it provides no incremental services for the local community. Rather, it simply adds over 1,000 residents that will place additional stress on existing resources (e.g., grocery stores, roads, schools, etc...). Clearly the addition of this project will degrade service levels for all residents in western Arvada. There is no proposal to mitigate this issue. As such, the Planning Commission and City Council must reject the project under Test 5 of the CUP.

Test 6: The application mitigates adverse impacts on the surrounding area

Test 6 requires **meaningful mitigation**. The applicant's measures are **limited, superficial, or absent**. There is no substantive mitigation for density-driven traffic impacts, emergency access redundancy, architectural compatibility, stresses place on existing community resources, or neighborhood safety. Rather than mitigate impacts, the application **maximizes** density and attempts to secure single-use approval in a **multi-use** district via CUP. The lack of **effective, enforceable** mitigation warrants **denial** under Test 6 of the CUP.

THE PROPOSAL IS MATERIALLY INCOMPLETE

In addition to failing the six CUP tests, the application remains **incomplete** and should be rejected on that basis. Of particular concern is the absence of **completed, substantive environmental assessments**. Our separate environmental letter details deficiencies and inconsistencies in initial findings. The City should not defer full environmental review until **after** CUP approval; approving now without a full understanding of the issues would be a significant failure to meet the City's **procedural obligations** to protect Arvada residents and the **waters of the United States**.

Further, key aspects are missing or ambiguous:

- **Townhomes**: Details are incomplete and unclear, especially given the applicant's stated intent to **sell** this area to a **third-party developer**. Approving now would effectively grant pre-approval to **subdivide**, an inappropriate use of the CUP process. The City cannot accept the application until the developer is identified, full plans are provided, and compliance with the LDC and Comprehensive Plan is confirmed.
- **Infrastructure and stormwater**: Plans are **vague**. The application lacks detail regarding the **site disturbance permit** for storm work on **taxpayer-owned golf course land** and mischaracterizes runoff areas and flow relative to actual **topography**. These deficiencies are documented in our environmental letter.

The City has a duty to ensure **full transparency** and **public review** before any approval.

COSTS TO ARVADA TAXPAYERS ARE NOT VETTED

High-density development at the fringe often requires **costly infrastructure upgrades**—roads, utilities, emergency services, and stormwater systems—that are not fully covered by developer fees. If the City must subsidize these improvements, it diverts resources from other priorities. The application provides **no fiscal impact analysis**—no estimates of infrastructure costs, service demands, or funding sources—leaving the City unable to determine whether the project is **revenue-positive, neutral, or a net cost**. If the development is primarily **rental housing**, it may not generate sufficient property tax revenue to offset increased demand on schools, parks, police, and fire. These impacts remain **unassessed**.

REQUEST FOR DENIAL

We respectfully request that the CUP be **denied** for the Avalon Arvada development. Denial is warranted on multiple independent grounds under **LDC §8-3-5-1(B)**: failure to comply with the Comprehensive Plan, failure to further MX-S intent, incompatibility with surroundings, and inadequate impact mitigation. **Any one** of these failures is sufficient for denial; **combined**, they make an overwhelming case.

If the applicant wishes to pursue a **substantially revised** project—one that truly addresses these concerns (for example, a **smaller** mixed-use development with **meaningful open space** and **guaranteed infrastructure upgrades**)—that should be a **new** application, not this CUP. As it stands, approving this CUP would be a **disservice** to the community and **inconsistent** with Arvada’s planning principles.

Thank you for your consideration. We love our community and welcome **reasonable growth**, but this proposal is not it. We ask you to **vote No** on the Avalon Arvada CUP.

Sincerely,

(see signature page PDF provided separately)

Protect West Woods Neighbors

Trail Village Representative

Jeff Wetch, President

Trail Village Villas Representative

Mark Breese, President

Fieldstone Representative

Jim Cheatham, President

West Woods Links III Representative

Scott Hallowell, President

CC: Arvada City Staff
  RSmetana@Arvada.org
  JeGarner@Arvada.org
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Arvada City Manager
  dwick@Arvada.org
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Arvada Fire Protection District
  Steve.Parker@ArvadaFireCo.gov
Mayor and City Council Members
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  RMoorman@Arvada.org
  SAmbrose@Arvada.org
  RLovisone@arvada.org
  BFifer@Arvada.org
  SDavis@Arvada.org
  MGriffith@arvada.org
House Representative
  Lisa.Fere.House@coleg.gov
Senate Representative
  Lindsey.Daugherty@senate.coleg.gov
Church Ditch Manager
  NMcCoy@ChurchDitch.org
Westminster Water Quality
  KCline@cityofwestminster.us
PWWN Legal Counsel
  Randall@RandallWeiner.com

diverts resources from other priorities. The application provides **no fiscal impact analysis**—no estimates of infrastructure costs, service demands, or funding sources—leaving the City unable to determine whether the project is **revenue-positive, neutral, or a net cost**. If the development is primarily **rental housing**, it may not generate sufficient property tax revenue to offset increased demand on schools, parks, police, and fire. These impacts remain **unassessed.**

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Sincerely,

Protect West Woods Neighbors

Trail Village Representative

Jeff Wetch

Jeff Wetch, President

Trail Village Villas Representative

Mark Breese, President

Fieldstone Representative

Jim Cheatham, President

West Woods Links III Representative

Scott Hallowell

Scott Hallowell, President

ATTACHMENT A
Detailed Findings for Avalon Arvada (DA2025-0035)

Introduction

The following provides a detailed review of the Avalon Arvada proposal relative to the City of Arvada Land Development Code (LDC) and the Comprehensive Plan. For the benefit of Staff, the Planning Commission, and the City Council, we begin with a concise Executive Summary of the key findings. We then present a structured review of failures based on each test under the CUP.

Executive Summary (Decision-Maker Brief)

- **Recommendation:** Deny the Conditional Use Permit (CUP) because the application fails multiple mandatory criteria in LDC §8-3-5-1(B)(1)–(6) and cannot be cured through reasonable conditions.

- **Specific Failures:**
    - ***Fire-code access is noncompliant***: IFC Appendix D106.2 and D106.3 require two independent, adequately remote fire apparatus access roads for developments >200 units; the "secondary" route via MorningStar is neither independent nor sufficiently separated and sprinklers do not waive this requirement. (**Impacts Tests 1, 5, 6.**)
    - ***Single functional access via a Local Street (Easley):*** The single Local Street access to the project conflicts with the Comprehensive Plan's roadway hierarchy and cannot maintain adequate levels of service for existing development even with a traffic signal. (**Impacts Tests 2, 4, 5.**)
    - ***Western-edge density/character conflict***: ~20.5 du/ac and 435 units are incompatible with adjacent neighborhoods and the Plan's west-edge direction to decrease density (e.g., CC-3.4, CC-3.5, CC-3.6). (**Impacts Tests 2, 4.**)
    - ***MX-S intent is not met under LDC §2-1-4-2***: the project is 100% residential (apartments + townhomes) with no community-serving nonresidential components; it misapplies MX-S to deliver high-density residential without mixed-use benefits. (**Impacts Test 3.**)
    - ***Transit mismatch and infrastructure burdens***: site is outside transit-supportive areas and lacks service; traffic loads a Local Street and a constrained intersection with likely spillover/cut-through; downstream impacts not fully analyzed (T1.4, T1.5, T2.1, T2.2, T4.2). (**Impacts Tests 2, 4, 5.**)

- ***Incomplete and unverifiable record:*** The record as presented is incomplete, overly vague, or relies on subsequent work not presented as part of the CUP request. This prevents lawful quasi-judicial findings under LDC §8-2-2 and §8-3-5-1(B). Examples include missing turning templates, final buffering/photometric proof (§4-6-5), and full townhome specifications (§5-1-6). (**Impacts Tests 1, 5, 6.**)
- ***Mitigation is non-existent, superficial, or impracticable***: a single signal and a small park do not address cut-through risk, turn-lane constraints, emergency egress limits, or open-space needs (LDC §8-4-3). (**Impacts Tests 5, 6.**)

TEST 1- Compliance with Specific LDC Standards

The applicant asserts full code compliance. Our review shows the proposal either fails to meet, or seriously strains, several mandatory standards in the Land Development Code (LDC) and adopted International Fire Code (IFC). These are not minor technicalities: they are life-safety and infrastructure deficiencies that cannot be cured within the current site and street context. ***City Council should deny the request.***

Fire Code Access (LDC §4-4-2; IFC Appendix D)

The City of Arvada has adopted the 2018 International Fire Code with Amendments.[1] Section D106.2 of the International Fire Code (IFC) states:

> Multiple-family residential projects having more than 200 dwelling units shall be provided with ***two separate*** and approved fire apparatus **access roads** ***regardless of whether they are equipped with an approved automatic sprinkler system***. (emphasis added)

And Section D106.3 of the IFC code further requires:

> Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be service, measured in a straight line between accesses.

In summary, IFC Appendix D requires two **separate**, **independent** fire apparatus access ***roads*** with ***adequate separation*** (remoteness) so that one route remains operable if the other is blocked.

As detailed in the figure below, Avalon's primary access is Easley Road at the southeast corner. The so-called secondary, emergency-only **route** (as opposed to 'road') is proposed across the private MorningStar Senior Living property at the southwest corner and then through MorningStar's parking lot (see figure below).

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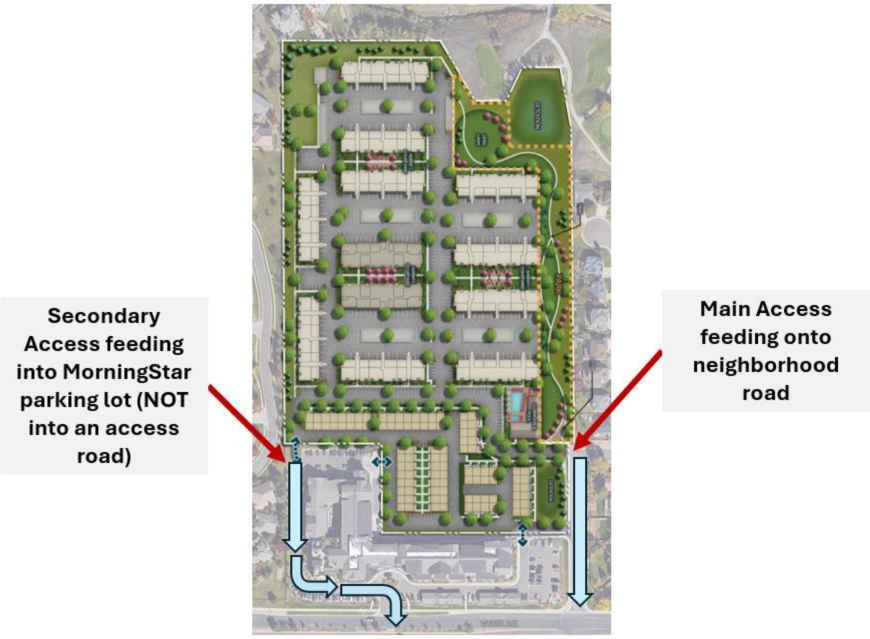
[1] See: Fire Code Resources | Arvada Fire Protection District


Secondary Access feeding into MorningStar parking lot (NOT into an access road)
Main Access feeding onto neighborhood road

Arvada Fire's review acknowledges that this secondary route does not meet the required separation distance from the primary access[2]. Moreover, because it traverses a private campus and a parking lot, the second route is not a truly **independent** access road. **This is a direct failure of Appendix D's two-access requirement, not a discretionary guideline.**

Arvada Fire proposes to accept the secondary access provided sprinklers are included in the townhomes. But Section D106.2 explicitly states that the incorporation of sprinklers is not a valid exception to the requirement for two independent access roads. Moreover, by its own admission, the second access point fails to meet Section D106.3 of the code.

Sprinklers, while valuable, do not resolve external access deficiencies—the two-access standard exists to ensure firefighters can reach and evacuate residents when one route is blocked. Moreover, **this waiver flies in the face of multiple findings and concerns raised by FEMA in their review of the Marshall wildfire**.[3] To be clear, this location is on the western-most edge of Arvada and is clearly a Wildland-Urban Interface at severe risk for wildfires. If MorningStar's gate malfunctions or the lot is obstructed during an event, Avalon functions as a one-way in/out site. That is precisely the condition Appendix D is designed to prevent.

---

[2] See Staff comments to Second Submittal

[3] See: FEMA's Mitigation Assessment Team releases first report in the aftermath of a wildfire

We also note a practical and ethical concern: routing emergency egress through a senior-living campus with more than 100 residents introduces operational conflict and added risk to a population with limited mobility. The necessity of this workaround underscores that the site cannot support the proposed intensity without bending core life-safety rules. **The City should acknowledge that the development is simply unworkable in the proposed location and should deny the CUP.**

Fire Apparatus Turning Radius (IFC §503.2.4; Appendix D §D103.3)

Given our concerns regarding fire risk and wildfire concerns we were particularly interested to identify how the proposal addresses these concerns. Our review of the record was unable to identify AutoTurn or equivalent swept-path exhibits demonstrating ladder truck and engine maneuverability at internal intersections and at the MorningStar emergency connection. Corner radii, design vehicle assumptions, and **compliance with Arvada Fire Protection District standards are not documented for public review**.

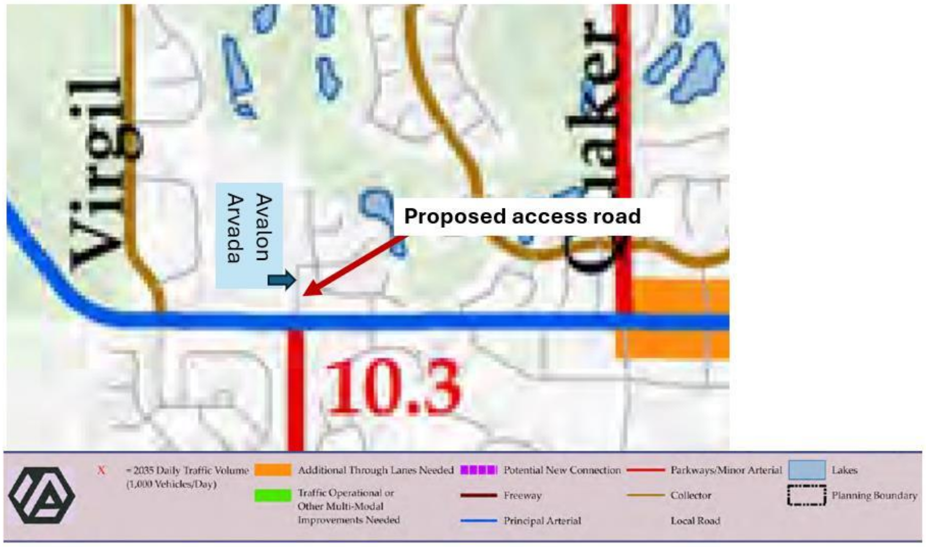
We do see where the developer has acknowledged such requirements and explained it is working with Arvada Fire to comply with all such code. Given the site's proximity to higher wildfire-risk areas and the project's scale, City Council should not rely on assurances of future coordination. Life-safety compliance must be demonstrated on the plan now; it is not a negotiable item for later.

The lack of public transparency and public record on this and related issues is a real concern. Approving this application without the required detail would prevent City Council from fulfilling its statutory duty to make informed findings of fact under the LDC. Without complete information, the Council cannot lawfully determine compliance, and approval under those circumstances would constitute a failure to meet the City's quasi-judicial obligations. At a minimum the City Council should reject the proposal as presented until such documentation is provided.

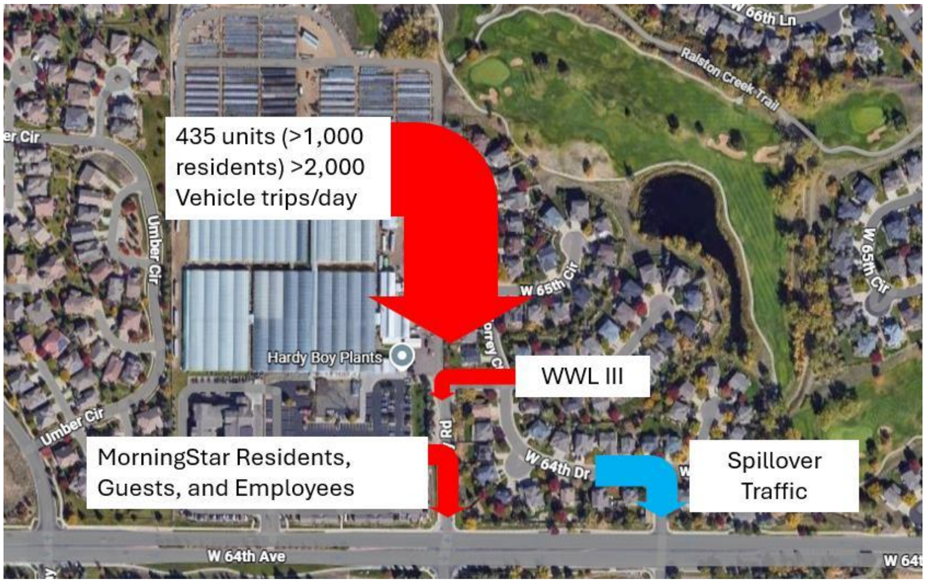
Adequate Facilities – Street Classification/Single-Spine Access (LDC §8-3-5-1(B)(5))

Section 8-3-5-1(B)(B) of the LDC requires that facilities and services not only be available to serve the project but it requires the maintenance of "adequate levels of service for existing development." The project's proposed use of the Easley Road exit onto 64th clearly fails this requirement.

As detailed on the figure below (from Comprehensive Plan Figure 3-2), Easley Road north of 64th is a **Local Street**, not a collector or arterial. The road only proceeds south to 64th. It does not provide north/south egress options. The proposal would funnel roughly 435 units—more than 1,000 vehicles—plus existing West Woods Links III and MorningStar traffic through this single neighborhood spine.


Virgil
Quaker
Avalon Arvada
Proposed access road
10.3
X = 2035 Daily Traffic Volume (1,000 Vehicles/Day)
Additional Through Lanes Needed
Traffic Operational or Other Multi-Modal Improvements Needed
Potential New Connection
Freeway
Principal Arterial
Parkways/Minor Arterial
Collector
Local Road
Lakes
Planning Boundary

Installing a traffic signal at the intersection of Easley with 64th does not create the redundancy or capacity to properly manage and accommodate the level of traffic created by this proposal. In fact, a traffic light at Easley/W. 64th would create **backups** and **spillover traffic** into West Woods Links III, increasing **safety risks** for residents and children. The illogic of such a design is further evident when looking at the figure below, which highlights how all of the proposed development will funnel through the single Local Street access or spillover into the West Woods Links III neighborhood.


435 units (>1,000 residents) >2,000 Vehicle trips/day
WWL III
MorningStar Residents, Guests, and Employees
Spillover Traffic
W 66th Ln
Ralston Creek Trail
Umber Cir
W 65th Cir
W 65th Cir
Hardy Boy Plants
Umber Cir
W 64th Dr
W 64th Ave

In contrast to this extreme proposal, neighboring developments illustrate the City's normal, more prudent practice regarding access: Trail Village (~70 homes) has two exits onto a collector road; Trail Village Villas (~69 homes) has three exits onto a collector road; Fieldstone (230+ homes) has three connections to principal/arterial streets; West Woods Links III uses 64th (principal arterial) and Easley as a secondary neighborhood connection. We are unaware of any Arvada apartment project of Avalon's scale that relies on a single Local Street as its functional spine.

In no way would the construction of this project, even after installation of a traffic signal, result in 'adequate levels of service for existing development.' West Woods Links III residents would clearly be the most impacted along with MorningStar residents and guests. Clearly, this section of Easley was never intended to handle this level of traffic. Again, this highlights the lack of facilities necessary to accommodate the proposed project and the necessity to reject the CUP.

Moreover, the proposed mitigations do not include the addition of a right turn and left turn lane at the Easley and 64th intersection. A dedicated left turn lane and left turn signal is particularly needed given most traffic from the project will be progressing east on 64th to access services such as groceries and such and for worker commutes. We suspect this mitigation has not been proposed because there is insufficient space to accommodate such a turn lane given this section of Easley is truly only a Local road. Any approval of this project must include adequate mitigations such as these. The lack of these accommodations (likely due to the inability to accomplish them) warrants outright rejection of the CUP.

Public Land Dedication and On-Site Open Space (LDC §8-4-3)

The code allows cash-in-lieu of land for parks and schools, so the developer isn't asking for a formal variance. However, it is clear the spirit of the law is not met. Arvada intended for large new developments to **provide on-site recreation space** for residents and share with the community where possible. Avalon is barely doing so. Essentially, they are buying their way out of the full responsibility by writing a check. Council should exercise discretion to demand more land instead of money. Don't let them simply pay to offset their impacts – require them to actually **offset on the ground** by enlarging the park or preserving more green space. If they balk, that's telling about their priorities.

Buffering and Screening (LDC §4-6-5)

Along single-family edges, the LDC calls for higher-opacity buffers (Type C/D), typically a solid fence or berm plus evergreen plantings to provide year-round screening. Early plans placed parking near the west lot line; later versions improved landscaping, but verification of full Type C/D compliance (widths, berm/fence, plant counts) and final **photometric plans** demonstrating full-cutoff fixtures with no glare at property lines are not in the public packet based on our review. Absent verifiable exhibits, compliance remains unproven and the proposal should be rejected until such details are provided.

Completeness – Townhome Specifications/Phasing (CUP Submittal; LDC §5-1-6)

A Conditional Use Permit should present the entire proposal in sufficient detail to evaluate compliance and impacts. **Transparency to the public is key**. The details in the proposal regarding the Townhome components lack substantive architectural drawings, lot layouts, and standards review under §5-1-6. This is particularly disconcerting given the developer's plan to sell of this land for development by a third-party. Approving a partial submittal defers essential analysis and reduces transparency. The proposal should be rejected until complete details regarding the townhome components, including the identification of the developer and proposed designs are presented.

Summary of Test 1 Implications

The project depends on a non-independent emergency route that fails Appendix D's separation standard, provides no public turning analysis, concentrates all access on a Local Street, minimizes required on-site open space, does not yet verify required buffering and lighting controls, and omits critical townhome detail. These issues are inherent to the site configuration and intensity; they are not problems that can be patched with conditions.

For these reasons, we respectfully request that City Council **deny** the Conditional Use Permit.

TEST 2 – Consistency with the Comprehensive Plan

Arvada's **Comprehensive Plan** sets a clear, intentional vision for development in far west Arvada: **lower densities, greater open space, protection of foothill views, and context-sensitive transitions** as the city approaches the foothills. The Avalon Arvada proposal, at one of the westernmost points in the city, is fundamentally **incompatible** with this vision. And the project's inconsistencies with the transportation goals in the Comprehensive Plan are so egregious that they require a separate discussion in this Test 2 review.

The project conflicts with multiple core policies of the Comprehensive Plan, and under **LDC §8-3-5-1(B)(2)**—the requirement that a Conditional Use **must** be consistent with the Comprehensive Plan—**such a proposal cannot legally be approved**.

Below are the principal areas of conflict:

Policy CC-3.5 – Decrease Density Toward the West[4]

The Comprehensive Plan explicitly states that **"overall density should decrease in the western parts of the city."** Avalon Arvada does the opposite, introducing **one of the highest residential densities in all of Arvada—approximately 20.5 dwelling units/acre—at one of its most western edges**.

This density is dramatically out of scale:

- The four adjacent neighborhoods (Trail Village, Trail Village Villas, West Woods Links III, and Fieldstone) **span ~150 acres** combined.
- Avalon would place **more units on a 20-acre site** in the center of those neighborhoods than the sum total of all units in those neighborhoods **combined**.
- It creates a **sudden and extreme spike** in intensity exactly where the Plan intends for density to **decrease**, not increase.

This 'sudden spike' and inconsistency with the policy's purpose is illustrated in the figure below. The Avalon Arvada location, which is intended to be MX-S, is on the furthest edge of Arvada. The nearest High Density Residential Areas, which is clearly what Avalon is proposing to build, are located miles to the east.

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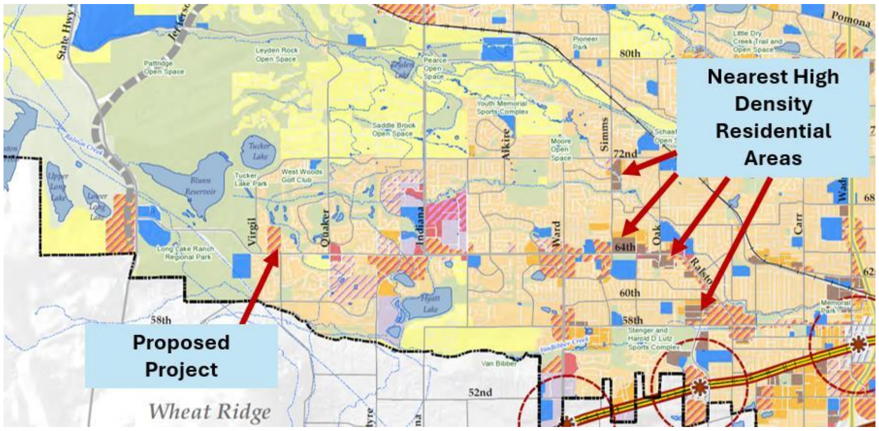
[4] Page 2-13 of the Arvada Comprehensive Plan


Nearest High Density Residential Areas

Proposed Project
Pomona
State Hwy
Jefferson
Leyden Rock Open Space
Pattridge Open Space
Pearce Open Space
Pioneer Park
80th
Little Dry Creek Trail and Open Space
Youth Memorial Sports Complex
Saddle Brook Open Space
Ralston Creek
Tucker Lake
Tucker Lake Park
West Woods Golf Club
Alkire
Moore Open Space
Simms
72nd
Blunn Reservoir
Upper Long Lake
Lower Long Lake
Long Lake Ranch Regional Park
Virgil
Quaker
Indiana
Ward
64th
Oak
Ralston
Carr
Wadsworth
60th
Hyatt Lake
58th
Stenger and Harold D Lutz Sports Complex
Memorial Park
Van Bibber Creek
Van Bibber
52nd
Wheat Ridge

This is not a "close call." It is **directly contrary** to the policy's purpose and language. Clearly there was no intent in the Comprehensive Plan to use this MX-S location for High Density Residential development.

Policy CC-3.4 – Open Feel in Low Density Areas[5]

Even though the parcel is not formally designated "Low Density Residential," it **forms the western edge** of the community—precisely where the Plan emphasizes the need for soft transitions, context-appropriate massing, lower intensities, and protection of the area's semi-rural, open character. Avalon Arvada's urban-scale form—**4-story buildings, large parking fields, minimal green space**—produces the opposite effect. It creates:

- A wall of massing against the foothill-edge neighborhoods
- A visually intrusive block along 64th and Easley
- A precedent for **urbanizing** an area the Plan intended to remain **open and transitional**

This is precisely the type of incompatibility CC-3.4 warns against. Approving this project would set a precedent for urbanizing the western edge of Arvada, undermining the city's long-term vision for balanced, context-sensitive growth.

Policy CC-3.6 – Cluster Development / Preserve Open Space[6]

When higher density is considered near areas designated on the Land Use Plan as "Low Density Residential" it emphasizes that these should be developed in a "**clustered**

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[5] Page 2-13 of the Arvada Comprehensive Plan

[6] Page 2-13 of the Arvada Comprehensive Plan

fashion”[7]. It further details that this means “development should provide housing variety and different lot sizes while conserving large, amounts of open space and natural resources”.[8]

Avalon fails every part of this policy:

- The plan **bulldozes the site from edge to edge**.
- No meaningful existing vegetation is retained.
- Buildings are **spread across the parcel**, not clustered.
- The token ~2-acre park is **not** the kind of preserved open space contemplated by the policy.

True clustering would have required **less density, different form, and substantially more open space** than is proposed. The incorporation of token townhomes in the plan does not provide true housing variety to meet the intent of the policy. Therefore, CC-3.6’s intent is unmet.

Policy CC-3.2 – Maintain View Corridors[9]

The Comprehensive Plan requires that new development **preserve important vistas** from public streets—especially **west-facing mountain and foothill views along W. 64th Avenue**.

Avalon’s **45-foot-tall, 3- and 4-story buildings** will:

- Intrude directly into these views
- Create a sense of enclosure along 64th and Easley
- Mar the westward orientation of the corridor

The applicant provides **no legitimate view corridor strategy**—only maximum allowed height and maximum massing. This is inconsistent with the policy’s intent and the long-standing community expectation of protected views at the city’s western edge. This violates CC-3.2’s intent to keep foothill and mountain views visible as the community grows.

Transportation Policies in the Comprehensive Plan

Avalon Arvada conflicts with every major transportation strategy in the Comprehensive Plan – Transit placement, roadway classification, connectivity, multimodal access, and planned network buildout. The following details the core transportation strategies of the plan, the relevant policies related to that strategy, the key goal of that strategy, and how the proposed project is in conflict with each policy.

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[7] Page 2-13 of the Arvada Comprehensive Plan

[8] Page 2-13 of the Arvada Comprehensive Plan

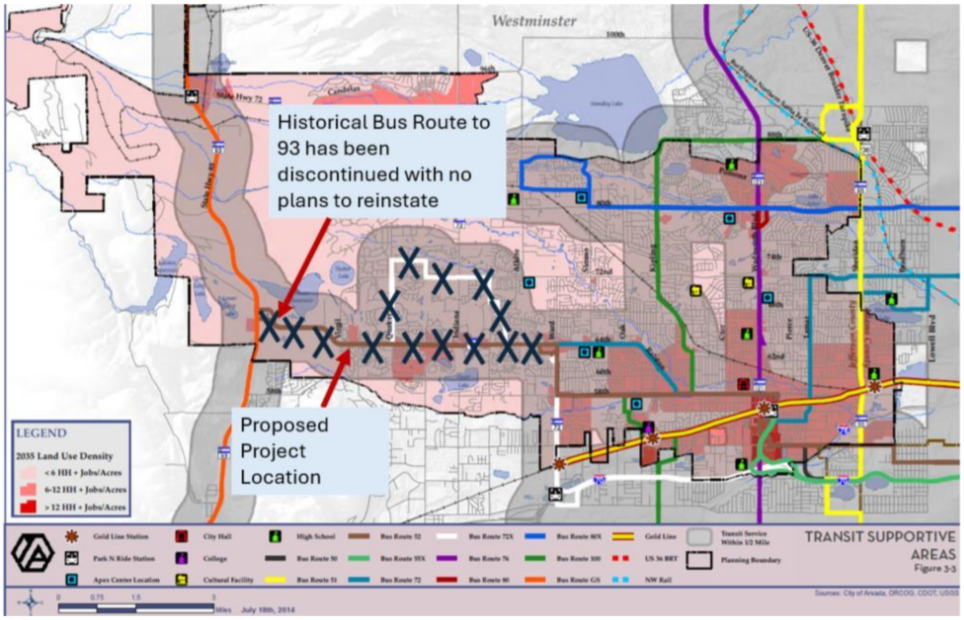
[9] Page 2-13 of the Arvada Comprehensive Plan

1) **Transit Placement & Transit-Supported Density**
   Relevant Policies
   - Policy T-1.4 – Integrate development with the Gold Line and regional transit
   - Policy T-1.5 – Expand transit routes to support new development
   - Policy T-2.1 – Consider transportation/transit implications when approving land uses
   - Policy T-2.2 – Locate higher densities only along designated transit-supportive corridors

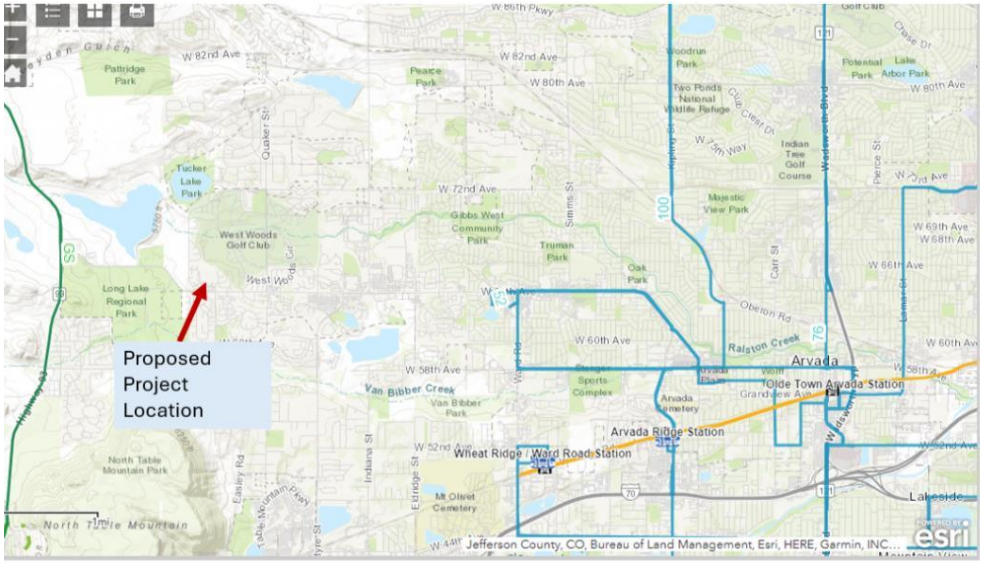
   Core Intent of These Policies
   The Comprehensive Plan directs higher-intensity residential development to be located in or near transit corridors, including:
   - Gold Line station areas
   - US-36 BRT corridor
   - Northwest Rail corridor
   - Identified transit-supportive east-west bus extensions

   The purpose is to ensure that dense housing is served by frequent transit, vehicle trips are reduced, and development aligns with Arvada's multi-modal transportation vision.

   Avalon Arvada's Conflicts
   - As detailed in the figure below (the Transit Supportive Areas map - Fig. 3-3 in the Comprehensive Plan), the site is not within a transit corridor, transit influence area, or transit-supportive zone.
   - Importantly, the former 2014 bus route shown on this figure extending to Hwy 93 on 64th has been discontinued, leaving no mass-transit service to this area whatsoever.


Westminster
Historical Bus Route to 93 has been discontinued with no plans to reinstate
Proposed Project Location
LEGEND
2035 Land Use Density
< 6 HH + Jobs/Acres
6-12 HH + Jobs/Acres
> 12 HH + Jobs/Acres
Gold Line Station
Park N Ride Station
Apex Center Location
City Hall
College
Cultural Facility
High School
Bus Route 50
Bus Route 51
Bus Route 52
Bus Route 55X
Bus Route 72
Bus Route 72X
Bus Route 76
Bus Route 80
Bus Route 80X
Bus Route 100
Bus Route GS
Gold Line
US 36 BRT
NW Rail
Transit Service Within 1/2 Mile
Planning Boundary
TRANSIT SUPPORTIVE AREAS
Figure 3-3
0 0.75 1.5 3 Miles
July 18th, 2014
Sources: City of Arvada, DRCOG, CDOT, USGS

- The lack of mass-transit service to the proposed project is further illustrated in the figure below, which shows existing RTD service routes in western Arvada (basically, none)[10].


Proposed Project Location
W 82nd Ave
W 80th Ave
W 72nd Ave
W 60th Ave
W 58th Ave
W 52nd Ave
Partridge Park
Tucker Lake Park
West Woods Golf Club
Long Lake Regional Park
North Table Mountain Park
North Table Mountain
Peaceful Park
Gibbs West Community Park
Truman Park
Oak Park
Majestic View Park
Van Bibber Creek
Van Bibber Park
Mt Olivet Cemetery
Arvada
Olde Town Arvada Station
Arvada Ridge Station
Wheat Ridge / Ward Road Station
Lakeside
100
76
GS
Jefferson County, CO, Bureau of Land Management, Esri, HERE, Garmin, INC...
esri

Conclusion: Avalon places transit-dependent density where the Comprehensive Plan explicitly ***does not*** support it. The City never intended high-density residential at a site with no existing or planned transit access.

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[10] Source: System Map | RTD-Denver

2) **Roadway Classification & Avoiding Neighborhood Traffic Impacts Relevant Policies / Maps**

Relevant Policies

- **Policy T-4.2 –** Prevent through-traffic from being funneled into Local Streets
- **Policy T-3.2 –** Address congestion on arterials, not by shifting loads into neighborhoods

Core Intent of These Policies

Arvada's transportation network is hierarchical.

- Local Streets: low-speed, low-volume, access to adjacent homes only
- Collectors/Arterials: carry higher volumes and support development traffic

The Plan explicitly states that significant traffic must not be routed to Local Streets, and ***neighborhood streets must not serve as the functional access for large developments***.

Avalon Arvada's Conflict

- Avalon funnels all vehicle traffic into Easley Road, which the Comp Plan classifies as a Local Street.
- This street is effectively a neighborhood street, serving the West Woods Links III neighborhood. As such, the proposal explicitly violates the plans prohibition against funneling access for large developments into neighborhood streets.
- No collector or arterial access exists — a fundamental violation of the network hierarchy.
- The project would generate arterial-level traffic on a Local / neighborhood Street.
- A traffic signal at 64th/Easley does not change the fact that the underlying road is not built to serve this function.

Conclusion: Avalon directly violates the Comprehensive Plan's direction to protect neighborhoods from major traffic loads and adhere to roadway classification standards.

3) **Connectivity & Internal/External Access**

Relevant Policies

- **Policy T-2.4 –** Require enhanced street connectivity in new development
- **Policy T-2.1 –** Ensure land use decisions reflect connectivity impacts

Core Intent of These Policies

New developments must create:

- Multiple points of access
- Connected street networks
- Integration with surrounding neighborhoods
- Safe, logical circulation patterns

This is essential for emergency response, congestion management, and multimodal mobility.

Avalon Arvada's Conflict

- Avalon has only one public access point.
- Its "secondary" access is not independent — it crosses a private senior living campus and fails both fire and transportation independence standards.
- The site is boxed in by a golf course, slopes, private parcels, and MorningStar's campus, preventing any future connections.
- The development cannot meet the Comprehensive Plan's connectivity requirements due to its physical constraints.

Conclusion: Avalon's street network configuration is not fixable under the Plan. It contradicts the City's requirement for connected, multi-access developments.

4) **Multi-Modal Access (Pedestrian, Bicycle, ADA)**
Relevant Policies

- **Goal T-1 –** Develop a balanced, multi-modal transportation system
- **Policy T-1.2 –** Provide a pedestrian-friendly environment
- **Policy T-1.3 –** Accommodate bicyclists
- **Policy T-1.8 –** Serve residents with mobility challenges

Core Intent of These Policies

Higher-density development must:

- Integrate into the sidewalk network
- Provide meaningful bike connections
- Offer non-auto access to services, jobs, schools, and transit
- Ensure accessibility for seniors and mobility-disadvantaged residents

These multimodal expectations are not optional for dense residential development.

Avalon Arvada's Conflict

- The project is completely auto-dependent.
- There are no meaningful bike or pedestrian connections to any employment center, commercial center, or transit corridor.
- Seniors, students, and workers cannot reasonably walk or bike to services.
- No ADA-oriented transit, paratransit, or fixed-route options exist to serve mobility-impaired populations.

Conclusion: Avalon undermines the City's multi-modal strategy, placing high-density housing where only automobiles can realistically serve residents.

5) Consistency With the Planned Roadway Network & Future Roadway Improvements

Relevant Policies and Maps

- **Policy T-1.6 –** Connect developing western areas with arterial/collector routes

Core Intent of These Policies

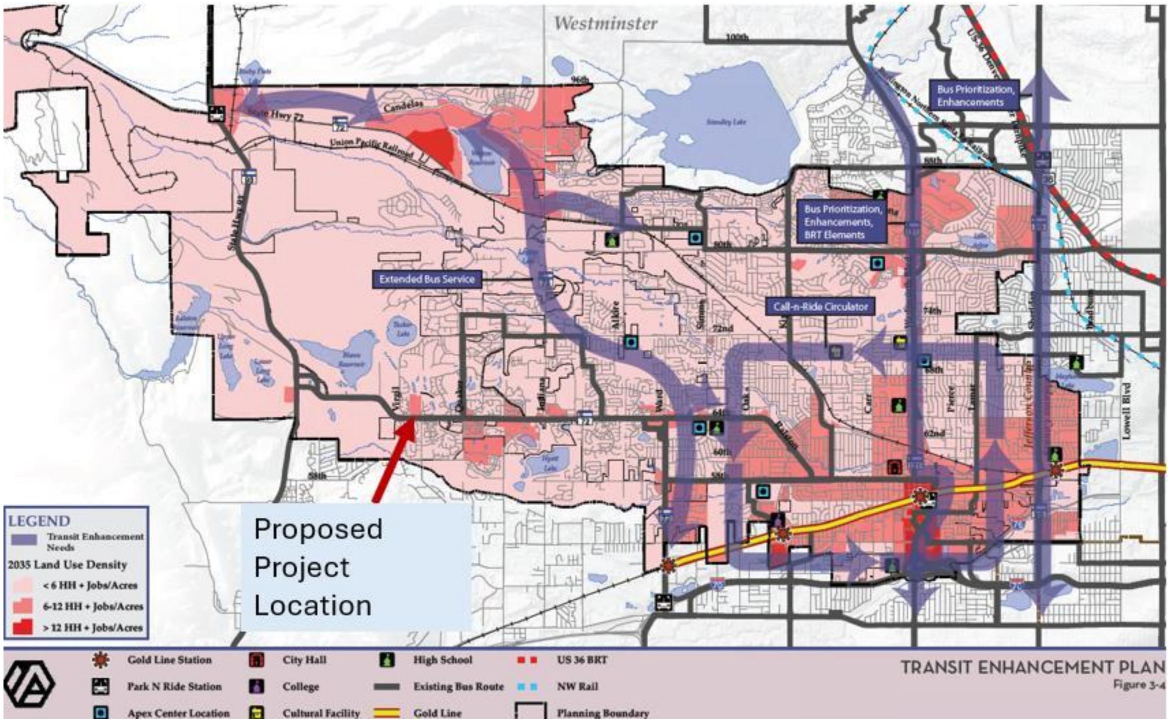
The Comprehensive Plan outlines the specific future corridors that will support growth in West Arvada, including:

- Indiana improvements
- The Kendrick Extension
- Ward–Alkire connection
- 72nd, 80th, and 64th upgrades
- Jefferson Parkway build-out

These are the citywide facilities planned to carry future traffic volumes.

Avalon Arvada's Conflict

- As detailed in the figure below (Figure 3-2 from the Comp Plan) the site is outside all planned future connections and expansion plans for Arvada.


Westminster
Bus Prioritization, Enhancements
Bus Prioritization, Enhancements, BRT Elements
Extended Bus Service
Call-n-Ride Circulator
LEGEND
Transit Enhancement Needs
2035 Land Use Density
< 6 HH + Jobs/Acres
6-12 HH + Jobs/Acres
> 12 HH + Jobs/Acres
Gold Line Station
Park N Ride Station
Apex Center Location
City Hall
College
Cultural Facility
High School
Existing Bus Route
Gold Line
US 36 BRT
NW Rail
Planning Boundary

Proposed Project Location

TRANSIT ENHANCEMENT PLAN
Figure 3-4

- None of the designated infrastructure upgrades will serve this parcel.
- The Plan simply does not contemplate high-density traffic generation at this location.
- The transportation system will not evolve to accommodate this development.

Conclusion: Avalon cannot be reconciled with the City’s planned long-term street network and would introduce major traffic where the Plan expected no such load.

Summary of Test 2 Implications

The developer repeatedly cites the site’s the **“Mixed-Use”** designation as justification for high-density apartments at this location. This **misrepresents** the intent of the Future Land Use Map and a misread of the Comprehensive Plan. **An MX-S designation on the western edge of Arvada does not override the text and policies of the Comprehensive Plan.**

The Comprehensive Plan (and more critically, the CUP test in the LDC) makes clear that land use designations **must be interpreted in context with**:

- Density policies
- Character policies
- View corridor protections

- Transition expectations
- Western edge vision statements

The applicant's narrative ignores this and selectively cites only the MX-S classification while disregarding the **rest of the Comprehensive Plan**, which directly contradicts the proposed form and intensity.

Because the proposal **conflicts with multiple foundational policies** of the Comprehensive Plan, it **fails Test 2**, the requirement that a Conditional Use Permit must be **consistent with the Comprehensive Plan**.

A project that is inconsistent with the Comprehensive Plan **cannot be approved** under the LDC.

Accordingly, City Council would **not** be fulfilling its statutory duty if it approved the project without reconciling these direct policy conflicts. The record is clear:
Avalon Arvada does not align with the Comprehensive Plan. Therefore, the CUP must be denied.

TEST 3 – Consistency with Purpose and Intent of Zoning District

The site's zoning is **Mixed-Use Suburban (MX-S)**, a district intended to promote a **blend of uses in a suburban development pattern**. We contend that Avalon's proposal does **not further the intent or purpose of MX-S**, as required by LDC §8-3-5-1(B)(3). Instead, it represents a misuse of the zone to shoehorn inappropriate density without delivering the benefits of mixed-use.

Not a True Mixed-Use Development

The MX-S zone anticipates projects that integrate residential with commercial or civic components to serve the community (e.g. neighborhood-scale retail alongside apartments). Avalon Arvada is **100% residential** – a **single-use** project. It has **no retail, no office, no civic space** (the small "park" is mostly to meet code requirements, not a town square or community facility). In effect, the developer is treating MX-S as if it were purely a High-Density Residential zone.

This undermines the very purpose of MX-S, which is to **foster mixed-use centers or corridors**. The applicant tries to spin the inclusion of both apartments and townhomes as "mix of uses". That is disingenuous – those are two housing types, not distinct uses in planning terms. The project is uniformly residential in use; thus, it **fails to provide the mix** that MX-S is meant to encourage.

Not Community-Serving Elements

MX-S is intended to create or continue "**neighborhood and community-serving centers**" in suburban areas. A successful MX-S project might include, for example, a small grocery store, cafe, or co-working space for local use, integrated with housing. Avalon offers nothing of the sort. 435 new households would have **no on-site services or employment opportunities** – meaning all their needs (groceries, dining, daycare, etc.) will be sought off-site, putting additional load on nearby centers (e.g., West Woods Shopping Center) and roads. The project does not function as a "center" at all; it's a sprawling private housing complex. It **contributes nothing to the mixed-use vision** such as walkable amenities or integrated uses. This is a lost opportunity and a clear sign that the project does not meet the spirit of the MX-S zoning.

Suburban Character Compromised

The "Suburban" in MX-S indicates that development should retain a suburban form (moderate height, substantial landscaping, open feel), distinguishing it from the urban mixed-use zones. While Avalon's team added some suburban-style architectural touches (pitched roofs at the edges, for instance), the overall **scale and intensity are urban**. Twelve large buildings plus 8 undefined townhome blocks on 20 acres is a very tight cluster by Arvada standards – more akin to an urban apartment complex than a suburban neighborhood. The MX-S zone limits building heights to 45' precisely to ensure suburban scale, but height is just one factor. Equally important is how massive and concentrated the development is. The Avalon plan pushes the envelope: almost every allowable square foot is used, up to the height cap and within minimal setback distances. The result: a development that will **feel out of place** next to one and two-story homes, even if technically within zone limits.

Lack of Required Use Mix and Overreliance on CUP

It's telling that **both primary uses (multi-family and townhomes) require a Conditional Use** in MX-S. MX-S did not automatically allow large-scale residential by-right because the City intended to review such proposals case-by-case for suitability. The applicant is asking for not one but two conditional uses (stacked multi-family and attached single-family) concurrently, which together constitute essentially a rezoning in effect. Yet, unlike a rezoning, the City cannot exact zoning-specific concessions (like a Planned Unit Development might) – it can only approve or deny the CUP on criteria.

The developer is using the CUP mechanism to transform MX-S into pure residential. **This subverts the intent of the zoning**, which expected some balance of uses. If Council approves this, MX-S zoning at this location becomes de facto **High Density Residential** zoning, with none of the originally intended commercial/civic benefits. The precedent could encourage other MX-S sites to drop their mixed-use components and go 100% residential via CUP, undermining Arvada's land use policies.

Summary of Test 3 Implications

In summary, **Avalon Arvada fails to further the purpose of MX-S zoning**. Instead of a thoughtful mixed-use suburban development that blends into the neighborhood, it offers a single-use, high-density project that capitalizes on MX-S's generous height/density allowances while delivering none of the mixed-use upsides. This is contrary to LDC §8-3-5-1(B)(3), which requires CUP uses to align with the zone's intent.

Because the project so clearly misses the mark on MX-S goals, it **cannot satisfy the CUP criterion for zoning consistency** (again, §8-3-5-1(B)(3)). The Ralston Valley Coalition's letter on "Project Indiana" made a similar point: if a proposal doesn't fit the zoning's purpose, the City **has no discretion to approve it**[11]. We urge you to apply the same principle here – the zoning intent is not being met, so the CUP should not be granted.

TEST 4 - Size, Scale, Height, Density, Traffic Comparable with Existing Uses in the Surrounding Areas

Arvada's LDC demands that a Conditional Use be **compatible with adjacent land uses**, particularly in terms of **size, scale, density, traffic, and hours of operation**. The Avalon development is **grossly incompatible** on each of these measures, even with the minor buffering measures proposed. The developer's assertions that the project is "comparable" to its surroundings are not credible.

Extreme Density Contrast

As noted, Avalon's density (~20.5 units/acre) is about **7 times greater** than that of the surrounding single-family subdivisions (which range roughly from 2.5 to 4 units/acre). This is not a subtle difference – it's a massive jump. Neighbors are rightfully alarmed that this project alone would introduce more new households than exist in entire established neighborhoods around it. For example, West Woods Links III (immediately east) has ~70 homes; Trail Village Villas (immediately west) ~70 homes; Fieldstone (South) ~230 homes; and Trail Village (northwest) ~50 homes. Avalon seeks 435 units – more than these four neighborhoods combined, in a fraction of the land area.

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[11] See: www.protectmaplevalleypark.com/documents/2021_6_7-Ralston_Valley_Coalition_Letter_RE_Project_Indiana.pdf and the public record for the Indiana Project

There is simply **no precedent** for such a density mismatch being approved next to an existing low-density area in Arvada. The **Comprehensive Plan's directive for lower densities in the west** (discussed earlier) was specifically designed to avoid this outcome. Granting a CUP that allows such an outsized density would upend the community balance. **No amount of landscaping or architectural tweaks can fully mask this disparity.** The incompatibility in land use intensity is fundamental.

Building Height & Massing Impacts

The visual and privacy impact of 3- and 4-story buildings adjacent to 1-2 story homes is of great concern. While the develop does place 3-story apartments near the west and east edges, the two 4-story buildings in the center will still visible from many angles. Even the 3-story buildings (~35' tall) will tower over the backyard fences of West Woods Links III and Trail Village Villas (where homes are ~25' tall). **Residents will lose privacy** as upper-floor units overlook their properties. Sunlight will be reduced in mornings/evenings due to the taller structures.

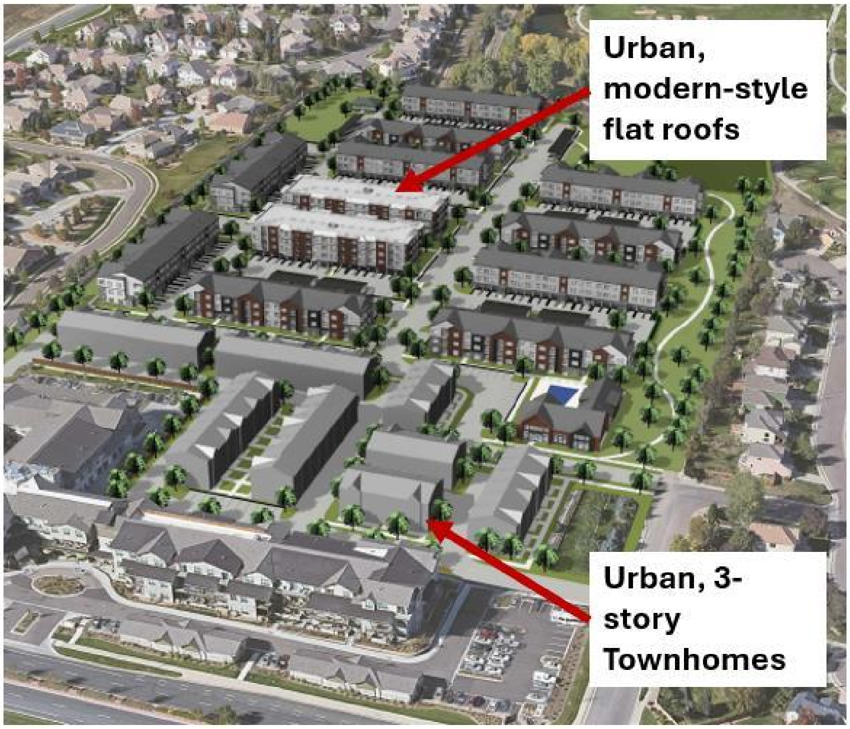
The applicant insists they meet the LDC's **Height Transition Zone** requirement (no portion of a structure over 35' tall within 35' of a low-density lot), which may be technically true – but just barely. A building can be 36' tall at 36' from the fence and "comply," yet still loom over a neighbor's yard. Complying with the letter of that rule doesn't guarantee a compatible outcome, especially given the sheer length of some apartment buildings (over 150' long). By contrast, the MorningStar senior living facility worked hard to mitigate its height. MorningStar limited its height to 2 stories on the western side, where it is closest to existing homes, and the remainder is 3 stories. The entire facility is attractively designed with pitched roofs and the 3-story section is set across the road and a parking lot from the eastern West Woods Links III neighborhood. Avalon's tall buildings would be **much closer** to homes and in greater number. This clearly violates the goal of compatibility – the new structures are too large and too close to existing residences. The LDC criterion about "size and scale" relative to surroundings is not met here.

Architectural Design and Compatibility

The LDC's multi-family design standards (Chapter 5) require compatibility with context – this includes roof forms, materials, etc., especially when near single-family areas. Despite assurances they will be using pitched roofs and traditional designs, it is clear from reviewing the developer's own drawings that they intend to construct urban focused buildings.

As shown in the developer's own drawings (see figure below), in order to meet their density goals they are planning to include flat roofs or a modern stye to achieve their 4-

story goal under the 45’ maximum. This clearly does not match with the areas’ pitched roofs and traditional forms. And given the height and size of these buildings it cannot be argued they would be invisible to surrounding neighborhoods. Likewise, the townhomes, for which there is little to no detail, are clearly depicted as three story, urban type buildings.



This should be disallowed – the City should insist on fully pitched roof designs to mimic large houses or townhomes. If the design remains contemporary/urban, it violates the intent of compatibility design standards (Comp Plan Goal CC-1.3 promotes infill that **complements existing neighborhood character**). Likewise, materials should be high-quality residential types (brick, stone, high-grade siding) – no cheap concrete panels or metal that scream “apartment complex.” We urge stringent conditions on design at approval, or else the project will stick out aesthetically as well.

Traffic Generation and Neighborhood Intrusion

A development of this magnitude will unleash a **flood of traffic** into an area with limited road infrastructure. The applicant’s traffic study predicts ~2,800 daily trips from the project (with around 200 in peak hours) – essentially **doubling or tripling** the traffic on Easley Road and adding significantly to W. 64th Ave. The section of Easley Road that serves as an exit to the project is a small neighborhood local road, not a major arterial.

Moreover, this road currently serves as the second entrances to the MorningStar facility and the West Woods Links III subdivision. It has no existing turn lanes or signal. Relying on Easley as the sole public access for 435 units is ill-conceived. ***It's akin to funneling the entirety of Trail Village Villas, Trail Village, West Woods Links III, and Fieldstone through a single entrance, and one that already serves an existing subdivision.*** The road's geometry and context are not suited to heavy volume.

The City's Transportation Master Plan (Connecting Arvada) emphasizes aligning higher-density development with appropriate infrastructure and transit – here, neither is present. There is **no RTD mass transit serving this site** (no bus route on 64th or direct connection to the G-Line), meaning **every trip from these 435 units will be by car**. This contradicts Arvada's sustainability and transit-oriented development goals, which call for concentrating density where transit can support it, not in car-dependent fringes. Avalon's location virtually guarantees increased vehicle miles traveled and traffic impacts.

Crucially, neighbors foresee that **the new traffic signal** planned at 64th & Easley (while necessary) will cause many drivers to seek shortcuts. It is highly likely that Avalon residents will cut through West Woods Links III's residential streets to avoid peak-hour delays at the Easley and 64th light – **creating dangerous traffic in a quiet subdivision where kids play**. The developer downplays this, but common sense and experience suggest it will happen (apps like Waze often direct drivers through neighborhoods to save time). Our community is rightly worried about cut-through traffic endangering pedestrians in West Woods Links III and beyond. This is an adverse impact directly tied to the project's size, one the applicant cannot fully mitigate. Further, when the traffic backs up at the Easley & 64th light, it will render West Woods Links III with only one exit, and will do the same to Morningstar Senior Living.

Insufficient Roadway Improvements

The traffic study and city engineering comments indicate that, at minimum, a **traffic signal and intersection improvements** are needed at 64th/Easley for the project. We contend even those will be insufficient. Specifically, **dedicated left- and right-turn lanes on the Easley stub** at the Easley and 64th intersection will be required to handle the added traffic exiting from the single exit of the project. However, it's unclear if even just the right-turn lane can be added at that intersection given it would encroach on MorningStar's parking area and the detainment pond underneath that parking lot. If it cannot, then the intersection will be less efficient and more dangerous and exacerbate concerns about spillover traffic into the West Woods Links III neighborhood.

The applicant has not provided detailed plans showing how they'll accommodate turn lanes – a critical omission. We fear a scenario where a signal is put in but geometry stays suboptimal, leading to ongoing congestion and accident risk. In sum, the **traffic impact is not fully mitigated.** And it's more likely that a signal will exacerbate issues as this project overloads a neighborhood road.

Failure of Traffic Study to Fully Consider Other Development in the Area

A critical flaw in the Avalon Arvada traffic analysis is its failure to consider the cumulative impacts of the proposed logistics distribution center at 5950 McIntyre Street. This warehouse project, currently under review by Jefferson County, would introduce a massive volume of truck and employee traffic onto W. 64th Avenue — the same corridor Avalon relies on for primary access.

According to public filings and community sources, the McIntyre warehouse would generate approximately 300+ heavy truck trips per day and between 1,000 and 4,000 total vehicle trips daily. Many of these trips would utilize W. 64th Avenue to access regional highways and arterial roads. Yet Avalon's traffic study does not mention this project at all. It assumes background traffic growth of just 1.4% annually and evaluates intersection performance based on that limited forecast. This omission results in a misleading picture of future traffic conditions.

The intersection at W. 64th & Easley — already flagged for signalization due to Avalon's impact — would face even greater strain if the McIntyre warehouse proceeds. Heavy trucks have longer acceleration and deceleration times, which could degrade intersection performance and increase queue lengths. The cumulative effect of Avalon's residential traffic and McIntyre's industrial traffic could push the intersection into unacceptable levels of service, especially during peak hours.

Moreover, W. 64th Avenue's current design — a two -lane arterial with bike lanes — is not equipped to handle sustained freight traffic. The safety of cyclists, school buses, and local commuters would be compromised. Avalon's traffic mitigation plan does not contemplate the infrastructure upgrades that may be necessary to accommodate this compounded demand.

This oversight undermines the credibility of Avalon's traffic impact assessment and raises serious concerns about the adequacy of its proposed mitigations. The City should not approve a project based on incomplete traffic data, especially when a major industrial development is poised to dramatically alter the same road network. At minimum, the City should require a revised traffic study that incorporates the McIntyre warehouse's projected impacts (and other known planned projects) before considering Avalon's CUP. This study should also include the intersections of 64th and Indiana, 64th and McIntyre, and 64th and Hwy 93, which will all be impacted by the additional traffic from the Avalon facility.

Summary of Test 4 Implications

In totality, the **Avalon project is not compatible or comparable with its surroundings**. It's **far denser**, **taller**, and **more traffic-intensive** than anything nearby. The token mitigations (slightly stepped-down edge heights, a traffic light) do not bridge the gap. Approving such an incompatible use would violate LDC §8-3-5-1(B)(4). The Planning Commission and Council have a duty to existing residents to prevent land use changes that would **seriously disrupt neighborhood character and safety** – and that is exactly what this CUP would do.

TEST 5 –

Facilities and Services Available while Maintaining Adequate Levels of Service for Existing Development

LDC §8-3-5-1(B)(5) requires that public facilities and services must be able to serve the proposed development without reducing service levels for existing development. This is a mandatory standard—not a guideline. The Avalon Arvada proposal fails this test in multiple, fundamental, and unmitigable ways. Many of these have already been discussed above but we are obligated to repeat the points to emphasize how they fail this additional test.

The Only Available Public Access is a Local Street Not Intended for High-Volume Development

Above we have already identified that **Easley Road north of W. 64th Avenue is a Local Street** under the Comprehensive Plan roadway classification system. Local Streets are explicitly designed for *low-speed, low-volume, neighborhood traffic*, not for carrying the daily load of a large multifamily project.

Avalon proposes **435 units**, which—per its own traffic projections—would add **~2,800 daily trips**, including ~200 peak-hour trips. Routing all of this volume onto a Local Street:

- **Directly conflicts with Comprehensive Plan policies** requiring that large developments use collector/arterial infrastructure (Policy T4.2 and T3.2).
- Creates a **spine-road overload** where a neighborhood street is forced to handle arterial-level traffic.

- Violates the LDC requirement that facilities *must continue to maintain adequate service levels* for existing residents.

No amount of signalization or minor intersection changes can convert Easley Road into a collector-scale facility. As documented above, the street width, geometry, and context cannot physically support the levels of traffic this project generates, and the applicant proposes no feasible way to correct this.

Conclusion: The project is dependent on a roadway classification fundamentally incapable of serving it without degrading levels of service for West Woods Links III, MorningStar Senior Living, and all users of the Easley/W. 64th intersection. This is a direct failure of CUP Test 5.

The Easly/64th Intersection Will Become a Bottleneck, Creating Spillover and Safety Impacts

Even with a traffic signal at Easley/W. 64th Avenue — something Engineering has already concluded will be required — the congestion forecasts show:

- Longer queues on W. 64th
- Backup into West Woods Links III's entrances
- Increased resident cut-through traffic through internal neighborhood streets
- No meaningful improvement in peak-hour delays

Any signal will force Avalon traffic and existing neighborhood traffic into direct competition, especially during morning eastbound rush hours. The left-turn volume from Easley to eastbound 64th is expected to be extremely high, yet:

- No dedicated left-turn lane is included by the applicant, even though one is clearly needed.
- Space constraints from MorningStar's retention facilities likely prevent widening to add the missing turn lanes.

Because turning capacity cannot be physically expanded, queues will routinely spill back into neighborhood streets, degrading current residents' safe ability to enter or exit their neighborhoods.

The LDC is clear: **The City may not approve a CUP that reduces service levels for existing development. The Avalon intersection design guarantees such a reduction.**

Avalon's Traffic Study Ignores Known Regional Traffic Growth, Creating an Understated Impact Assessment

As discussed previously, the Avalon traffic impact study:

- Failed to incorporate the proposed 5950 McIntyre logistics distribution center, which is projected to generate 300+ heavy-truck trips and up to 4,000 total daily trips feeding into W. 64th Avenue.
- Assumed only 1.4% background growth, which is unrealistically low given west Arvada's documented development pipeline.
- Did not model impacts at critical intersections affected by Avalon traffic, including 64th & Indiana, 64th & McIntyre, and 64th & Hwy 93.

The exclusion of the additional 64th intersections is a major gap in the transportation study. Indiana, McIntyre, and Hwy 93 are the next major regional intersections for east/west mobility on 64th Avenue. A 400+ unit development generating **2,875 daily trips**—with up to **213 PM peak hour trips**—*will* influence traffic patterns beyond Virgil, Easley, Terry, and Quaker. Our understanding is the City typically expects analysis to extend to the next major collector/arterial intersections when trip loads justify it.

Because LDC §8-2-6 requires traffic studies to reflect conditions "reasonably expected during the life of the project," **the omission of major known developments and key downstream intersections renders the study non-compliant**. This artificially masks the severity of deteriorating service levels for existing development—another failure of Test 5.

Emergency Response Access and Service Levels Cannot Be Maintained

LDC §8-3-5-1(B)(5) stresses **adequate public services**, including **emergency services**. Avalon's plan clearly undermines both:

Single Functional Access Point

Avalon depends on a **single public access point** (Easley), with the so-called "secondary access" routed:

- Through private MorningStar property
- Across a parking lot
- With inadequate distance separation from the primary access (failing IFC Appendix D106.3)

Arvada Fire acknowledges this secondary route **fails required fire code separation** and is **not a compliant second access**. This violates:

- IFC Appendix D106.2 (two *independent* access roads required for developments > 200 units)
- LDC requirements to maintain adequate emergency service levels

Wildfire Evacuation Risks

Avalon sits on the western edge of Arvada—**a documented Wildland-Urban Interface risk zone.** Routing hundreds of evacuating vehicles plus fire apparatus through a senior-living parking lot creates life-safety hazards.

Service levels for existing development—MorningStar seniors in particular—would be **dramatically degraded** in an emergency.

Conclusion: Emergency capacity is insufficient, and service levels for existing residents cannot be preserved

Public Services (Parks, Schools, Stores, Road Capacity) Are Already Strained and Receive No Compensating Benefit

Avalon adds over **1,000 residents**, yet:

- Provides only a **2-acre park**, far below what is needed for a project of this magnitude.
- Offers **no on-site services**, meaning all new demand is offloaded onto existing commercial nodes (e.g., West Woods Center, King Soopers corridors).
- Provides no analysis of **school impacts**, despite being located in an area where elementary and middle schools already run near capacity.
- Does not provide any neighborhood-serving mixed-use elements, contrary to MX-S intent, meaning all services for Avalon residents must be absorbed by existing facilities.

The standard in Test 5 is not whether the new development can be served at all — it is whether **existing service levels can be maintained**. They cannot.

Summary of Test 5 Implications

Based on project's own submittals the following is clearly evident:

1. Primary access uses a Local Street not designed for this intensity.
2. Intersection performance will degrade, harming existing neighborhoods.
3. Traffic analysis is incomplete and understates true future loads.
4. Emergency access is non-compliant and unsafe.
5. All community services (parks, roads, emergency, retail) suffer reduced levels of service.

Each of these failures independently violates **LDC §8-3-5-1(B)(5)**. Together, they present overwhelming grounds for **mandatory denial** of the CUP.

TEST 6 –
Adverse Impacts Mitigated

LDC §8-3-5-1(B)(6) requires that a conditional use **“minimize adverse impacts on adjacent properties to the maximum extent practicable”**. The developer has **not done enough** to mitigate the host of adverse impacts this project would create. We highlight a few key areas where mitigation is insufficient or impractical, despite the applicant’s optimistic claims:

Traffic & Neighborhood Intrusion

As detailed above, the **traffic mitigation (signalization)**, while necessary, doesn’t eliminate cut-through risks or neighborhood traffic burdens. The **primary access on Easley Road** remains problematic – it channels all trips through a residential area on a road not designed for such volume. A single new light cannot magically absorb 2,800 cars/day without collateral effects.

Truly mitigating this would require additional measures (e.g., physical diverters to prevent cut-through, funding of traffic calming in West Woods Links III, etc.), none of which the developer has offered. Moreover, having only one general access point means any incident at that intersection could snarl the entire complex’s traffic (see more on emergency egress below).

Bottom line: Traffic impacts on neighbors are *not fully mitigated* – they’re just “managed” to a degree by a signal, leaving residual impacts that the community must bear (more congestion on 64th, more cars on local streets, increased accident exposure). This falls short of “maximum extent practicable” mitigation.

Emergency Access & Wildfire Evacuation

We find the **emergency egress plan through MorningStar** to be dangerously inadequate. The proposal to use a gated connection through an assisted living facility’s parking lot as the second fire access is frankly **alarming**. MorningStar is home to over 100 elderly residents, many with mobility issues. In a major emergency (say a wildfire racing in from the west – a real threat given this area’s Wildland-Urban Interface status), **fire trucks and 435 families’ cars would be routed through the middle of MorningStar’s campus**. This is a recipe for **chaos and tragedy**: large fire apparatus trying to maneuver past panicked evacuating senior citizens and Avalon residents all in a constrained parking lot/drive. It could turn a senior living facility into a disaster scene.

During the Marshall Fire (2021) in Boulder County, we saw how fast-moving urban wildfires can necessitate rapid, multi-direction evacuations. Here, Avalon would largely depend on one substandard route (the Easley “stub”) and a second even more problematic route (MorningStar) for 1,000+ people. This poses **life-safety risks** not only for Avalon residents but also MorningStar's residents (and could even compromise fire response if engines get stuck in traffic).

This underscores that the site is being **overloaded beyond its safe capacity**. The fire district might accept the plan with conditions (sprinklers, etc.), but as community members we do not feel this is a **practicable mitigation** for the safety risk. You cannot "mitigate" having hundreds of extra people in a wildfire zone with such substandard access; the only real mitigation is to *not put so many people there in the first place*. Council must consider worst-case scenarios (wildfire, flood, etc.) – does this CUP create an **undue public safety risk**? We believe it does.

Open Space Deficit & Recreation Impacts

Avalon's token **2-acre park** is offered as a mitigation (a public amenity to offset the increased use of area parks). We appreciate that the developer moved the park to the edge for public access, but let's be clear: 2 acres is insufficient for 435 units (>2,000 residents). Again, recall that this one project adds more residents than the combination of the surrounding four sub-divisions. Moreover, the applicant wants to pay cash instead of providing the additional park space required by code. That might satisfy the ordinance on paper, but it doesn't mitigate the on-the-ground impact.

Those new residents will flood existing parks and trails (West Woods Park, Long Lake Park, Ralston Creek Trail) because their on-site park is small. Our parks are already busy, and the City historically has struggled to acquire new parkland in built-out areas. A fee doesn't immediately create a new park for the community – it goes into a fund and might be used elsewhere years later. Meanwhile, we gain only a modest playground/green sitting area that is dedicated to the Avalon residents as opposed to true open space.

This strategy highlights the developer's goal to maximize density as opposed to build a project truly consistent with the surrounding community. To truly mitigate, the project should have dedicated much more land to park – but that would mean far fewer units, which they refused to do. So they try to mitigate with money, which doesn't truly address the requirement for open space and the pressures this development would place on existing parks. In our view, this fails to meet the *spirit* of the mitigation requirement. As neighbors, we still end up with a more crowded, less green environment.

Environmental & Drainage Concerns

The site naturally drains toward **Ralston Creek.** Paving and roofing 20 acres will greatly increase runoff and potentially introduce pollutants (oil, grease, etc.) unless perfectly managed. The developer's drainage report promises to detain and not exceed historic flows, which is required. But even small deviations or heavy storm events could impact downstream floodplains. More importantly, tests have shown that Welby Gardens has residual agrichemicals in the soil from decades of greenhouse operations (fertilizers, pesticides). Large-scale earthwork and runoff during construction could carry contaminants into Ralston Creek, affecting water quality and wildlife.

We are not convinced enough analysis has been done on soil conditions and whether special remediation is needed to prevent downstream contamination. Furthermore, more hard surfaces mean higher temperature runoff and less groundwater recharge – subtle environmental degradation that is hard to "mitigate" fully. The point is, by maxing out development on this land, the project heightens environmental risks, and the mitigation (detention ponds) only addresses part of it. Conserving more open area would have been a natural mitigation – again, they chose not to.

Moreover, the proposal provides scant details on how it will mitigate these issues beyond a 'trust us, we've done these projects before.' We believe the proposal is seriously incomplete in this regard and are submitting a separate letter to the Commissions detailing our concerns in this area.

Incomplete Plans (Townhome Details and Phasing)

Finally, we note the developer has provided scant detail on the **51 townhomes** that are part of the project. Are these to be platted and sold to individual owners? (If so, that creates a whole separate subdivision process.) What do they look like? How will they be integrated or buffered? The current submittal is heavy on the apartment component, light on townhome specifics – possibly treating them as a future phase to worry about later.

Approving the CUP without full clarity on all components is risky. Those townhomes could end up quite differently than implied (especially given Avalon's plan to have another builder take these on). This incomplete information is itself a lack of mitigation – we cannot evaluate how those will impact neighbors (for example, if some townhomes lack proper buffering on the west edge because details were deferred or if they are designed as urban rather than suburban townhomes). The City should require full details now, or not grant approval. A half-baked plan can lead to nasty surprises down the road.

Summary of Test 6 Implications

In sum, the project's adverse impacts – on **traffic, safety, open space, and environment** – are only superficially addressed. The developer often meets the **bare minimum** code requirement and declares it "mitigated." But from a community perspective, many impacts remain. The LDC requires impacts to be minimized to the

maximum extent practicable. We do not see evidence of that level of commitment. We see a developer doing what's convenient or cost-effective (a signal, a small park, some trees) but not truly altering the project to reduce impact (e.g., substantially fewer units, real secondary access, more open space, etc.). Therefore, the CUP fails criterion §8-3-5-1(B)(6) as well. You have grounds to deny it for this reason alone – that it leaves the community with significant unmitigated burdens.

Does Not Address Any Housing Needs in Arvada

A final critical point is that **Avalon Arvada does not address a genuine housing need in our community**.

No Benefit for Low-Income Housing Concerns and the Wrong Location

We recognize City Council has historically expressed a concern regarding affordable housing. We support these concerns and support thoughtful development that works to address this issue in our community. However, **nothing in Avalon's proposal would address concerns regarding affordable housing.** In fact, Avalon Arvada presents themselves as a higher-end apartment developer, implying their rents and focus will not be on affordability.

Moreover, as detailed above, the proposed project is located in an area with no meaningful access to mass transit and with very limited services within walking distance. Because low-income households disproportionately rely on transit access and proximity to daily-needs services, this site is fundamentally unsuitable for addressing the City's stated goals regarding affordable or attainable housing. Projects intended to serve low-income populations must be sited in locations that reduce transportation burdens, support access to employment and essential services, and avoid isolating residents from the broader community. The Avalon site does not meet these basic locational criteria.

Arvada Not Facing Shortage of Apartments

Evidence shows that Arvada is **not experiencing significant population growth** and that the **existing apartment market is already oversupplied**:

- **Stagnant/Declining Population:** Arvada's population has actually **decreased in recent years**, contrary to the developer's implication that high-density housing is needed to accommodate growth. According to the U.S. Census Bureau, Arvada's population peaked around 124,400 in 2020 but dropped to about **121,873 by 2024 – a 2% decline**. World Population Review confirms this trend, noting Arvada's population **"has decreased by 2% since the most recent**

census". With a flat or shrinking population base, there is **no pressing demand** for an influx of 435 new housing units at this time. In a city where the number of residents is not climbing, building such a massive complex risks creating empty units, increased competition for a limited pool of renters, and ultimately, economic strain on existing properties.

- **Apartment Overcapacity & Discounts:** The broader Denver metro apartment market has shifted into **over-supply**, and Arvada is part of this trend. In the **first quarter of 2025, metro Denver apartment vacancy hit 7.0% – the highest in 15 years**. Even in Jefferson County (which includes Arvada), vacancy stood around 5.2% in mid-2025, well above the ultra-low vacancy rates (2–3%) of just a couple years ago. As a result, **rents are dropping and landlords are offering steep concessions** to attract tenants. The Apartment Association of Metro Denver reports that average rents in the region fell ~3.7% year-over-year as of mid-2025, and **renters are routinely getting incentives equivalent to 1–3 months free rent**. In Arvada specifically, there are currently **at least 53 apartment communities advertising move-in specials** – examples include *"Live Big, Pay Small: Ultra-Low Rents starting at $1300 + Free Utilities Through May 2026"* and *"Up to 10–12 weeks FREE on select homes"* at new developments. These extraordinary giveaways (effectively a 20%+ discount on annual rent) are a clear sign of **excess capacity**. Property owners are struggling to fill existing units; adding 435 more units at Avalon will only worsen this glut
- **Significant New Construction in Pipeline:** The soft market is due in part to a **wave of new apartment construction** that has recently come online or is nearing completion across the metro area. Although developers have started pulling back on new projects after mid-2023, the effects of the construction boom are being felt now in high vacancies. Arvada itself has seen multiple large complexes built in the past few years (e.g., Parkview, Solana Olde Town, Oxenfree, etc.), contributing to the current oversupply. With **more than 1,000 apartment units approved or under construction in Arvada** (outside of Avalon) – many in transit-accessible areas like the G-Line corridor – the city's housing pipeline is already robust. We do not need Avalon's units, especially given their car-dependent location and likely higher price point. If built, Avalon could very well sit partially empty or force its owners to offer the same steep discounts, undermining the project's financial viability and potentially leading to declining property maintenance.

Why This Matters: A core argument for approving any large housing development is that it fulfills a demand – but here, the data indicates **demand is lacking**. Arvada is not growing in population, and those who are seeking rentals have plenty of options at lower rents **closer to transit and amenities**. Building 435 units on this peripheral site (far from rail transit, walkability, or major job centers) is not only ill-suited – it's unnecessary.

Conclusion on Need

The City's own **Housing Needs Assessment** (2023) emphasizes the need for *affordable* and *workforce* housing; Avalon offers neither (it's market-rate luxury aimed at upper incomes). Instead, it would flood the high-end market segment with more supply that the city doesn't currently need, while doing nothing to address actual housing gaps (like affordable family homes or senior housing).

In summary, **Avalon is a solution in search of a problem**. Arvada doesn't have a population boom to accommodate – if anything, we're seeing an exodus or leveling off. And the local rental market is telling us loudly that it's a **renter's market** with high vacancies and concessions. Approving another huge apartment complex under these conditions is not sound planning; it risks creating a "ghost complex" or triggering a price war that could destabilize other properties. The City should carefully evaluate whether a demonstrated need for these units exists. Right now, all signs point to **no need, and thus no justification** for overriding the many concerns we've raised throughout this letter.

January 15, 2026

Arvada Planning Commission
Arvada City Hall
8101 Ralston Road
Arvada, CO

Dear Commissioners,

We, the undersigned residents of **MorningStar Senior Living**, respectfully submit this letter in support of the enclosed petition regarding the proposed **Avalon Apartments and Townhomes development** on the former Welby Gardens property.

As longtime community members, many of us have spent the past year closely following the ongoing and frequently changing conversations between Avalon and the City's Planning staff. While we understand that the Welby property will eventually be sold and redeveloped, we are deeply concerned that the current Avalon proposal contains **significant deficiencies** that meaningfully jeopardize the safety, well-being, and quality of life of seniors living immediately adjacent to the site.

We also want to express our support for the efforts of our neighbors in the **Protect West Woods Neighbors** group and the issues raised in their submitted letter and Appendix A. Their concerns reflect many of our own, and their analysis provides important context that we hope the Commission will carefully consider.

However, we write today to share **our unique, senior-specific concerns**, which we believe deserve special attention:

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1. The Proposed Secondary Access Road Through Our Facility

The idea of routing a secondary emergency or service exit through or alongside the MorningStar property poses very real risks to elderly residents. Many of us have mobility limitations, rely on walkers or wheelchairs, and frequently use the outdoor paths surrounding our building for fresh air and exercise. Increased vehicle movements—especially those connected to a large apartment complex—introduce unsafe and unpredictable conditions for seniors who cannot react quickly to traffic.

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2. Undefined Nature and Closeness of the Proposed Townhomes

Avalon has **not provided any plans, elevations, drawings, or meaningful detail** about the townhomes they intend to build immediately next to our living facility. Approving a development without these essential materials would be unprecedented and, in our view, irresponsible. Without clear plans, neither residents nor the City can evaluate building heights, setbacks, window placements, or impacts on privacy, noise, and light.

The proximity of these undefined structures to MorningStar is particularly troubling. Seniors deserve the stability and dignity of knowing what is planned outside their windows—not a vague promise of future design work.

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3. Height and Massing of the Proposed Apartments

The high-rise apartment buildings in Avalon's concept appear out of scale with the surrounding neighborhood and with our community. Large multi-story structures so close to a senior facility create shadowing, loss of privacy, and a fundamental change in the character of our immediate environment.

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4. Traffic and Pedestrian Safety for Seniors

Many MorningStar residents walk daily around our building and nearby sidewalks. The traffic projections offered by Avalon's consultants do not align with what we know from lived experience in this area. The proposed increases in vehicle trips—combined with uncertain circulation patterns—present genuine dangers for residents who walk slowly, use mobility aids, or have impaired hearing or vision.

A development plan that does not fully protect its most vulnerable neighbors requires reevaluation.

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5. Emergency Access Concerns

While we appreciate that the fire department has provided preliminary input, we do not believe that their technical compliance review fully addresses the real-world challenges of emergency access for both the proposed Avalon development **and** the MorningStar community. Our facility must maintain dependable access for ambulances, fire trucks, and medical responders multiple times each week.

Given the narrowness of proposed routes and the complexity of the site, we remain unconvinced that emergency access needs have been sufficiently resolved.

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6. Need for an On-Site Visit by Planners and Commissioners

We strongly encourage the Planning staff and City Commissioners to conduct a full **on-site visit**. Only by walking the property, seeing the connections, and experiencing the limited mobility environment firsthand can decision-makers grasp the shortcomings of the current design. Seniors navigate the world differently, and that reality must be understood at ground level.

Conclusion and Request

Given the above concerns—and the lack of essential information about major components of the project—we believe it is both reasonable and necessary for the City to **table this proposal** until a complete, responsible plan is submitted.

We respectfully ask the Arvada Planning Commission to delay approval until Avalon provides:

- Full, detailed, publicly reviewable plans for the townhomes
- Revised traffic and circulation designs that prioritize pedestrian and senior safety
- A coherent site plan that demonstrates safe emergency access for all nearby residents
- A development vision that fits harmoniously with the existing community

Thank you for your time, your service, and your willingness to consider the voices of seniors who will be most directly impacted by this proposal. We appreciate your thoughtful attention to our concerns.

Sincerely,
The Undersigned Residents of MorningStar Senior Living
[petition attached]

LETTER TO OPPOSE THE CURRENT PROPOSED DEVELOPMENT AT EASLEY STREET AND WEST 64TH AVENUE, ARVADA

WE, THE UNDERSIGNED RESIDENTS OF MORNING STAR SENIOR RESIDENCE, WHO LIVE AT 17351 WEST 64TH AVENUE, ARVADA, CO 80007, OPPOSE THE CURRENT PROPOSAL FOR THE USE OF WELBY PROPERTY.

Miriam Shannon	Apt 3034
David H. Shannon	Apt. 3034
Beverly Brayden	apt 1011
Barbara Bomba	Apt 3008
Pat Reinhard	" 3032
Sharon Guthrey	apt 3031
Harriet Bender	3002
Harry D James	
	-2133
Judy Wolvington	- 2120
Charlotte [illegible]	1014
Betty Jean Cole	
Elaine Sullivan	
Sandy Quickenden	1018
Diane M. T Thompson	2130
Reid Bicknell	3016

Ann Marron 1009

Sharon L. Beery

Patricia A. Weigert

Patricia J. Breinhardt

Jeanne Wright 2017

2016

Robert Abercrombie

Loretta Chessmore

Thomas G. Okonski

Jan J. Okorinski

Neva Appelhans

Mary Pflum 3020

Eugene W Pflum 3020

2015

Phyllis Punshon

Carol Weiser 1005

Ginny Warburg

Elsie Riley

Joel T. Christman 2013

Melva C Archer

Miriam A. Shannon 3034

Lawrence D. Ackerman

Thomas W. Cann

Mary J. Applegate

Apartment 3001

Jean E. LaCrosse

Apt. 3029

Robert Abercrombie

APT 3011

🛑 Take Action: Oppose Avalon Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

Petition ID: #DA2022-0035

📢 I oppose the proposed high-density development of the Welby Gardens site and urge city officials to reject this proposal due to concerns with light pollution, building height, density, traffic, access, environmental impact and incompatibility with surrounding neighborhoods.

This petition will be formally submitted to the Arvada City Council and the Planning Commission to ensure our voices are heard in the decision-making process.

✍ Add Your Voice

	Name	Signature	Address	Neighborhood	Email
1	DAVID CLAVELLE	David A Clavelle	17013 W. 64th CIRCLE ARVADA 80007	Westwood Ranch III	[redacted]
2	Joanne Clavelle	Joanne J. Clavelle	17013 W. 64th CIRCLE ARVADA CO 80007	〃 WW III	[redacted]
3	ARIEL MIGUEZ		6497 TORREY CT ARVADA, CO 80007	WW III	[redacted]
4	Rachael Rudkin	Rachael Rudkin	6507 Torrey Ct Arvada, CO 80007	WW III	[redacted]
5	David Pivic		6527 Torrey Ct Arvada CO 80007	WW III	[redacted]
6	Shonna Pivic	Shonna Pivic	6527 Torrey Ct Arvada CO 80007	WW III	[redacted]

Name	~~signatures~~ address	~~address~~ signature	neighborhood	[redacted]
7 John L. Browdy	6576 Torrey Ct	John L. Browdy	WW III	
8 Marc Doran	6506 Torrey Ct.		WW III	[redacted]
9 Janette Doran	6566 Torrey Ct.	Janette Dom	WW III	[redacted]
10 Austin Stone	6506 Torrey Ct		WW III	[redacted]
11 Claire Stone	6506 Torrey Ct		WW III	[redacted]
12 Caleb Rudkin	6507 Torrey Ct	Caleb Redken	WW III	[redacted]
13 Lea Petersen	17154 W. 65th Cir		WW III	[redacted]
14 Mark Petersen	17154 W 65th Cir	Mark Petersen	WW III	[redacted]
15 LYLE HAYS	17164 W. 65TH CIR.		WW III	[redacted]
16 Jade Hays	17164 W 65th Cir	Jade Hays	WW III	[redacted]
17 DEBORAH BURGER	17140 W 64th		WW III	[redacted]
18 JOHN KOBACH	17080 W 64TH DR		WW III	[redacted]
19 WANDA CLARY	17080 W 64TH DR	W Clary	WW III	[redacted]
20 MASON MCCUSKEY	17120 W 64th Dr		WW III	[redacted]
21 ROD Weber	17153 W. 64th Cir	Rodney J Weber	WW III	[redacted]
22 Lindsey Schmidt	17160 W 64th Dr.	Lindsey Schmidt	WW III	[redacted]

	Name	Signature	Address	Neighborhood	Email
23	Eric Schmidt		17160 w 64th drive	link 3	[redacted]
24	Wendee Vezzetti	WendVezzetti	17001 W. 64th Dr.	Links 3	[redacted]
25	Kaylee Aupperlee	KAupperle	16940 W 64th Dr Arvada CO 80007	Links 3	[redacted]
26	[illegible]		16911 W. 64 Dr.	Links 3	[redacted]
27	Robert Coisman	Robert C	16911 W. 64th Dr	Links 3	[redacted]
28	TRINA CHAPMAN	Trina Chapman	16921 W. 64th Dr.	Links 3	[redacted]
29	Mike Simpson		6410 Secrest Ct	Links 3	[redacted]
30	Katie Whitcomb		6440 Secrest Ct.	WW III	[redacted]
31	Kim Carl	Kim Carl	6441 Secrest Ct.	WW III	[redacted]
32	STEVE Carl	Stephen Carl	6441 Secrest Ct.	WW III	[redacted]
33	Siena Carl	Siena Carl	6441 Secrest Ct	WW III	[redacted]
34	Lauren McCarroll	Lau McCarroll	17093 W 64th Cir	WW3	[redacted]
35	Ryan McCarroll		17093 W. 64th Cir	WW3	[redacted]
36	Mike Weicher	Michael Weicher	17052 W. 64th Cir	WW3	[redacted]
37	Alena Weicher	Alena Weicher	17052 W. 64th Cir	WW3	[redacted]
38	BRET YOUNG		17112 W 64TH CIR	WW3	[redacted]

Name	Signature	Address -	Neighborhood	Email
39 Karen Kjoller	Karen Kjoller	17132 W. 64th Circle Arvada CO 80007	WW III	[redacted]
40 Greg Dreese	Greg Dreese	" "	WW III	[redacted]
41 Christian Ramaker		17152 W. 64th Circle	WW III	[redacted]
42 Jennifer Ramaker	Jennifer L. Ramaker	17152 W. 64th Cir	WW III	[redacted]
43 Jennifer Samp	Jennifer Samp	17073 W. 64th Cir	WW III	[redacted]
44 Tim CARLSON		17053 W. 64 CIR	WW II	[redacted]
45 Kelley Allen		17053 W. 64th Cir	WW II	[redacted]
46 James DeYoung	James DeYoung	17113 W 64 Cr	WW III	[redacted]
47 Traci DeYoung		17113 W. 64th Circle	WW III	[redacted]
48 Matt Urland		17134 W 65th Cir	WW III	[redacted]
49 Kara Urland		17134 W. 65th Cir	WW III	[redacted]
50 Jaxon Urland		17134 W 65th Cir	WW III	
51 Colten Urland		17134 W 65th Cir	WW III	
52 Jagger Urland		17134 W 65th	WW III	
53 Brett Carter	Brett Car	17124 W 65th Cir.	WW III	
54 John Helfen		17115 W 65th Cir	WW III	[redacted]

	Name Kala	Signature	address	Neighborhood	Email
55	Kelley Koul		17180 W 64th Dr.	WW3	
56	Jasmine Smith	Jasmine Smith	17032 W 64th Cir	WW3	[redacted]
57	Chad Smith	Chad Smith	17032 W. 64th Cir.	WW3	[redacted]
58	JON LUCIANO		17173 W. 64th Cir	WW3	[redacted]
59	Alisha Luciano		17173 W. 64th Cir	WW3	[redacted]
60	KURT Lichty	Kurt Lichty	6477 TORREY CT	WW3	[redacted]
61	DOUG McCuen	Doug McCuen	6556 Torrey Court	WW3	[redacted]
62	Trina McCuen		6556 Torrey Court	WW3	[redacted]
63	Renee Baines	Renee Baines	17114 W 65th Cr.	WW3	[redacted]
64	Brandon Barnes	BB	17114 W 65th Cir	WW3	[redacted]
65	Anne Earl	Earl	17104 W. 65th Circle	WW3	[redacted]
66	KIMBERLY WOBERMIN	Kimberly Woberman	17072 W. 64th CIRCLE	WW3	[redacted]
67	Keely Langdon		17101 W 64th Drive	WW3	[redacted]
68	Lisa McClurg	Lisa McClurg	17012 West 64th Cir.	WW3	[redacted]
69	CJ McCLURG		17012 W 64th Cir	WW3	[redacted]
70	Jeff Cox		17092 West 64th Cir.	WW3	[redacted]

	Name	Signature	address	Neighborhood	Email
71	Coby McClurg	Coby McClurg	17012 West 64th Circle	WW3	[redacted]
72	Hunter McClurg		17012 W. 64th Cir.	WW3	[redacted]
73	Michele Cox		17092 W 64th Circle	WW3	[redacted]
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🛑 Take Action: Oppose AvalonBay Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

City of Arvada Project #: DA2025-0035

📣 I oppose the proposed high-density development of the Welby Gardens site and urge city officials to reject this proposal due to concerns with noise, light pollution, building height, density, traffic, access, environmental, and incompatibility with the surrounding neighborhoods.

This petition will be formally submitted to the Arvada City Council and the Planning Commission to ensure our voices are heard in the decision-making process.

✍️ Add Your Voice

Name	Address	Email	Signature
1 Scott Finlay	6454 Umber	[redacted]	S Finlay
2 Elaine Sutton	6460 "	[redacted]	Elaine
3 Terri VanGelder	6458 Umber C	[redacted]	T VanGelder
4 Mary Reimer	6458 UMBER CiR	[redacted]	Mary Reimer
5 Mike Peffer	6464 Umber Cir	[redacted]	MP
6 Les Johnson	6470 Virgil Way	[redacted]	
7 Jill Zika	6430 Virgil WAY	[redacted]	Jill Zika
8 Deborah Pearce	6520 Virgil Way	[redacted]	Deborah Pearce
9 Greg Dunn	6490 Virgil WAY	[redacted]	Greg Dunn
10 Theresa Donahue	6500 Virgil Way	[redacted]	
11 Robert Lohman	6495 Umber Circle	[redacted]	Robert Lohman
12 Carol Lohman	6495 Umber Circle	[redacted]	Carol Lohman
13 Alicia Tighe	6491 Umber Cir.	[redacted]	alicia Tighe
14 Patricia A Stewart	4505 Umber Ct.	[redacted]	Patricia Stewart
15 Marika Jaquet	6547 Umber Cir	[redacted]	M Jaquet

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✍ Add Your Voice

Name	Address	Email	Signature
1 Joel Balduc	6503 Umber Cir	[redacted]	Joel Balduc
2 Randy Belknap	6499 Umber Cir	[redacted]	
3 Faye Belknap	6499 Umber Cir	[redacted]	Faye Belknap
4 Corrine + Don Wuerth	6497 umber circle	[redacted]	Corrine Wuerth
5 Tim Schell	6493 Umper Cir	[redacted]	
6 John Carter	6475 Umber Cir	[redacted]	J Carter
7 Steve Leibold	6481 Umber Cir	[redacted]	Steve Leibold
8 Susan Flower	6439 Umber C	[redacted]	Sue
9 Carl Brechtel	6439 umber Circle	[redacted]	Carl Brechtel
10 Doug Miller	6435 Umber Cr	[redacted]	Douglas Miller
11 Terri Miller	6435 Umber Cr.	[redacted]	Terri Miller
12 Rosanne Hindes	6443 Umber Cir.	[redacted]	Rosanne Hindes
13 Sarah Sawyer	6433 Umber cir	[redacted]	
14 Isa Sharayer	6431 Umber Cir	[redacted]	
15 Tom Duggan	6452 Umber Cr	[redacted]	

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Name	Address	Email	Signature
1 Tracy Demera	6471 UMBER CIR ARVADA, CO 80007	[redacted]	
2 GARY COE	6483 UMBER CIR ARVADA CO 80007	[redacted]	Gary Coe
3 Pat Coe	6483 Umber Cir Arvada Co 80007	[redacted]	Pat Coe
4 TERRY Hummel	6539 Umber Cir Arvada	[redacted]	
5 Phil Lunnon	6473 Umber Cir Arvada, Co 80007	[redacted]	Phil Lunnon
6 Elaine Lunnon	6473 Umber Cir Arvada, CO 80007	[redacted]	Elaine Lunnon
7 Donald Marks	6545 Umber Ci. 80007	[redacted]	
8 Susan Marks	80007 6545 Umber Circle	[redacted]	SMarks
9 CAROL YANTORNO	6456 UMBER Cr.	[redacted]	Carol Yantorno
10 Patricia Hay	6566 Umber Cir	[redacted]	Patricia Hay
11 Gary Ruptak	6554 Umber Cir	[redacted]	Gary Ruptak
12 Karen Ruptak	6554 Umber Cir	[redacted]	Karen Ruptak
13 Pam Dukker	6522 Umber Cir	[redacted]	
14 Glenn Calder	6524 Umber C	[redacted]	Glenn Calder
15 Ron Williams	6516 Umber Cr.	[redacted]	Ronald E Williams

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Name	Address	Email	Signature
1 Debbie Williams	6516 Umber Cir	[redacted]	Debbie Williams
2 Benjamin Sawyer	6433 Umber Cir	[redacted]	
3 JEFF DONAHUE	6577 UMBER C	[redacted]	
4 Beth Bolduc	6503 Umber Cir.	[redacted]	Beth Bolduc
5 Patty Shannon	6526 Umber Cir	[redacted]	Patricia Shannon
6 Mark Breese	6533 Umber Ci	[redacted]	
7 Phyllis Breese	6533 Umber Cir	[redacted]	Phyllis Breese
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✍ Add Your Voice

Name	Address	Email	Signature
1 Alan Hise	6700 Violet Way	[redacted]	
2 Gavin Karen Keelen	17491 W 67th A	[redacted]	
3 George Cain	17491 W 67th	[redacted]	
4 Martha Hamre	17481 W. 67th Ave	[redacted]	Martha E Hamre
5 Markus Hamre	17481 W 67th Ave	[redacted]	Markus Hamre
6 Cortney Ansing	7083 Umber St.	[redacted]	
7 Albert Ansing	7083 Umber St	[redacted]	
8 LINDA CALL	17500 W. 67TH AVE	[redacted]	Linda C Call
9 SUE COLE	17500 W 67TH AV	[redacted]	Sue Cole
10 Nancy Schott	6650 Violet Way	[redacted]	
11 Katherine Eazen	6051 violet way	[redacted]	
12 Riley Kunkler	17416 W 69th Ave	[redacted]	
13 Kelly Eads	6081 Violet Way	[redacted]	
14 Jessica Kregg	15442 W 66th Ave	[redacted]	
15 Pam R Kriggs	6641 Violet	[redacted]	Pamela R Kriggs

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✍ Add Your Voice

	Name	Address	Email	Signature
1	Holly Sumpter	6631 Violet W	[redacted]	
2	NEIL BEATY	6630 VIOLET	[redacted]	
3	Kyle Zarazan	6651 Violet Way	[redacted]	
4	JOHN FEHLING	6659 VIOLET WAY	[redacted]	John Fehling
5	DIANA FEHLING	6659 Violet wy ARVADA	[redacted]	
6	Lucas Eads	6681 violet way	[redacted]	
7	Elizabeth Alcorn	6680 Violet Way	[redacted]	
8	Greg Little	6676 Violet	[redacted]	
9	Brad Rix	6660 Violet Wy	[redacted]	Brad
10	PETE GEORGELAS	17470 W. 67th AVE	[redacted]	
11	Pete Georgelas	17470 W 67th A.	[redacted]	Georgelas
12	Lisa Cole	6671 Violet way	[redacted]	Lisa Cole
13	Lindey Petrella	6670 Violet Way	[redacted]	
14	DANIEL PETRELLA	6670 VIOLET WAY	[redacted]	
15	Rich Lindgren	17454 W 67th Pl	[redacted]	

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Add Your Voice

Name	Address	Email	Signature
1 Leticia Overholt	6740 Violet Way	[redacted]	
2 CAROL DUFF	5850 CENTRAL AVE, WEST MI	[redacted]	
3	80031	[redacted]	
4 MIKE DUFFY	MORNINGS	[redacted]	Mike Duffy
5 CHARLES HAMRE	17401 W 67 ARVADA	[redacted]	
6 Brad Alwin	6680 Violet Way	[redacted]	
7 RICK GETZ	17450 W 67th AVE	[redacted]	
8 David Tomlinson	6780 Violet Way	[redacted]	
9 JONI RIX	6660 VIOLET WAY	[redacted]	
10 Brian Gross	17480 W 67th	[redacted]	
11 Zach Deliza	6690 Violet Wy	[redacted]	
12 Jeff Welch	17471 W 67th Pl ARVADA, CO 80007	[redacted]	
13 Regina Welch	17471 W 67th Pl ARVADA, CO 80007	[redacted]	
14 Scott Clemens	6772 Violet Way Arvada, CO 80007	[redacted]	
15 Philip R Shuman	6473 Umber Cir Arvada, CO 80007	[redacted]	Philip R Shuman

Thank you Pam!

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Petition to Protect Our Community and Preserve Our Neighborhood

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✍️ Add Your Voice

Name	Address	Email	Signature
1 Audrey Spaen	15397 W. 66th Dr Arvada Unit B 80007	[redacted]	Audrey Spaen
2 Sue Gallagher	17461 W 67th Arvada 80007	[redacted]	
3 Arianna Scripter	6631 Violet way, Arvada	[redacted]	
4 Savanna Scripter	6631 Violet way, Arvada	[redacted]	
5 Andrew Scripter	6631 Violet way Arvad	[redacted]	
6 Kristin Goobby	6682 Violet Way Arvada CO	[redacted]	
7 Andrew Kunich	17416 W. 69th Ave Arvada, CO 80007	[redacted]	
8 Susie Grant	6692 Violet Way Arvada CO 80007	[redacted]	
9 John Peterson	6692 Violet Way Arvada CO 80007	[redacted]	John Peters
10 Shayne Grant	6692 Violet Way Arvada CO 8000	[redacted]	ShayneGran
11 Annie Harvey	15443 W 65th Ave #B Arvada, CO 80007	[redacted]	Annie Harvey
12		[redacted]	
13		[redacted]	
14		[redacted]	
15		[redacted]	

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Add Your Voice

Name	Address	Email	Signature
1 Ashley Lindgren	17454 W 67th Pl	[redacted]	Ashley Lindgren
2 Gregg Hendrickson	17455 W. 67th Pl.	[redacted]	
3 Amy Hendrickson	17455 W 67th PL Arvada CO 80007	[redacted]	
4 Courtney Yarbrough	17475 W. 67th	[redacted]	
5		[redacted]	
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Sign Petition

Submission time	First name	Last name	City of Residence	Email	Comments and Concerns
2025-10-18T00:00:58.233Z	Mason	McCuskey	Arvada	[redacted]	
2025-10-14T02:41:41.895Z	Alisa	Shanks	Arvada	[redacted]	We live right near this development and want to help stop it or change it.
2025-10-11T12:01:01.704Z					
2025-10-11T12:00:55.199Z	Eric	Samp	Arvada	[redacted]	I am completely against this proposed development
2025-10-09T14:00:46.639Z	Kathleen	Peterson	Arvada	[redacted]	Not mixed use or pedestrian friendly.
2025-10-08T19:21:16.209Z	Gail	Shaw	Golden	[redacted]	The increased traffic in the area, in particular to Easley Rd., incompatibility with area and the the prior use of chemicals at this site and its effect on the environment of the area.
2025-10-08T15:18:25.506Z	Barbara	Ruley	Arvada	[redacted]	The current plan is to large for the infrastructure in the area.
2025-10-07T23:54:45.741Z	Sue	Gallagher	ARVADA	[redacted]	
2025-10-07T17:09:47.757Z	Christine	Loughran	Arvada	[redacted]	I am 100% opposed to bringing apartment buildings and the traffic that will go with them, to this area.
2025-10-05T23:57:39.816Z	Joel	Bolduc	Arvada	[redacted]	Visual Impact, Noise, Traffic
2025-10-03T16:42:06.099Z	Christa	Wingate	Arvada	[redacted]	So tired of having to fight developers who want to have the city make exceptions to current acceptable zoning and who don't care about the people who live in our communities.
2025-10-02T12:33:06.920Z	Stu	Wright	Arvada	[redacted]	I oppose this development as it would have a severe negative impact on the surrounding neighborhood due to additional traffic, single-point access, the huge densification of a single family home area, and the lack of infrastr
2025-09-28T15:56:20.945Z	Robert	White	Arvada	[redacted]	No!
2025-09-28T13:37:41.995Z	Linda	Wyman	Arvada	[redacted]	
2025-09-25T18:07:03.202Z					
2025-09-25T13:00:08.936Z	Geoff	Jordan	Arvada	[redacted]	I don't want ANY more high density development ANYWHERE in Arvada(certainly not this irrational idiotic; neighborhood killing monstrosity. CHANGE the damn zoning. NO MORE town-killing high density housing. PERIOD
2025-09-23T21:09:01.574Z	Susan	Tomlinson	Arvada	[redacted]	This housing development proposes to jam 1,000 extra people into a tight spot in a single-family home neighborhood. There is only one road to access the property which would be problematic in the event of an emergency.
2025-09-23T19:07:18.058Z	Gerald	McCarthy	Arvada	[redacted]	Health, traffic, infrastructure
2025-09-23T14:25:08.716Z	Steplhen	Smith	Arvada	[redacted]	I do not want the Welby property to be zoned for high-rise development!
2025-09-21T23:44:46.341Z	Susan	Grant	Arvada	[redacted]	Density would destroy the look and feel of the carefully chosen home we spent decades saving for, traffic, mismatched architecture, spill over…I'm not against growth the is re
2025-09-21T17:19:55.106Z	Mary O'Brien	Csere	Golden	[redacted]	The density of this development is too high for the area. Single family homes make so much more sense for this land. Easly Rd cannot handle all the additional traffic.
2025-09-17T02:04:37.683Z	Mackenzie	Jones	Arvada	[redacted]	Not safe, traffic, infrastructure
2025-09-17T01:53:52.498Z	Dylan	Jones	Arvada	[redacted]	I am concerned about traffic and the incompatibility of this dense of a development in this area. In particular, I live near 64th and it is an extremely busy road. There is already little space between homes and the road so wider
2025-09-16T16:15:54.672Z	Mark	Feldmann	Arvada		I agree with all of the concerns listed. This development simply put--- does not fit in the surrounding area and does not meet the Arvada Comprehensive Plan. Why have such a Plan if it can just be ignored?!
2025-09-16T13:44:18.310Z	Edward	Cortright	Arvada	[redacted]	This proposal would devastate west Arvada and Arvada in general
2025-09-16T00:07:37.411Z	Therese	Flannery	Arvada	[redacted]	
2025-09-15T20:23:49.549Z	Meredith	Bleasdell	Arvada	[redacted]	Growth is expected but needs to be consistent with the surrounding areas and planned for with adequate accesses to roads
2025-09-15T20:20:05.960Z	Nick	Muir	Arvada	[redacted]	
2025-09-15T20:19:50.675Z	Liz	Muir	Arvada	[redacted]	
2025-09-15T17:03:04.560Z	Pam	Manresa	Arvada	[redacted]	
2025-09-15T17:01:47.935Z	Pam	Manresa	Arvada	[redacted]	
2025-09-14T20:33:06.321Z	Carol	Claycomb	Superior	[redacted]	After my divorce, I remarried and moved to my spouse's home in Superior. My renter gave me this postcard about this high rise development. I was the first homeowner in the WestWoods IIII community. Westwoods is a wo
2025-09-14T00:50:50.952Z	Gail	Blincow	Arvada		
2025-09-14T00:50:25.466Z	Craig	Blincow	Arvada	[redacted]	
2025-09-09T22:40:11.272Z	NANCY	BURNETT	ARVADA	[redacted]	
2025-09-08T20:00:07.759Z	Jeff	Herrin	ARVADA	[redacted]	why do we have to build something on every G.D. square inch of available land? Can't we have at least a few acres of undeveloped open area?
2025-09-07T13:30:23.751Z	Jeffrey	Donahue	Arvada	[redacted]	This development makes no sense for this area. No infrastructure, room at schools, Shopping centers are already beyond capacity, no traffic control, among other issues in this area.
2025-09-07T12:22:20.214Z	Erica	Koch	Arvada	[redacted]	We live directly south of this potential development. Traffic noise as well as the volume of vehicles on 64th is already too much. Not to mention the environmental impact of that many more people condensed. These develope
2025-09-06T18:13:31.751Z	dave	Penland	Arvada	[redacted]	Does not fit the neighborhood aesthetic. Traffic concerns
2025-09-06T16:47:31.401Z	Harriet	Keelen-Cain	Arvada	[redacted]	
2025-09-06T16:28:32.692Z	Brandon	Baines	Arvada	[redacted]	This would literally cripple the area
2025-09-06T15:38:15.578Z	Martha	Hamre	Arvada	[redacted]	Concerned about increased traffic, increased noise, light pollution at night, my property devaluation, and general fit in the neighborhood.
2025-09-06T15:23:45.195Z	Charles	Hamre	Arvada	[redacted]	Project does nit match neighborhood. Traffic infrastructure cannot handle increased load without further study and buildout.
2025-09-06T14:49:43.864Z	Nancy	Schott	Arvada	[redacted]	Icreased traffic at Easley and 64 will be dangerous especially during sunrise and sunset when school busses will be in the area. If the new development ever experiences a fire emergency it's residents will be at serious risk d
2025-09-05T15:20:01.562Z	Nathan	Fulton	Golden	[redacted]	
2025-09-05T15:19:42.343Z	kelly	fulton	golden	[redacted]	
2025-09-05T15:09:12.566Z	Justin	Castor	Arvada	[redacted]	Dont think Westwoods roads, trails and amenities can handle this
2025-09-05T03:01:03.033Z	Charles	Thompson	Arvada	[redacted]	TOO MUCH DEVELOPMENT!! INFORSTRUCURE CAN'T HANDLE AND QUALITY OF LIFE IS DEMINISHED.!!
2025-09-04T20:36:21.405Z	Steve	Leibold	Arvada	[redacted]	I am opposed to the proposed development of the property located at the former Welby Gardens business location at 64th and Easley. I am opposed for the following reasons: inappropriate high-density housing compared to
2025-09-04T18:51:44.231Z	julius	shelton	arvada	[redacted]	ruins views and make residents unhappy
2025-09-04T15:54:58.232Z	Julie	Ryall	Arvada	[redacted]	
2025-09-04T14:50:14.484Z	Jon	Luciano	Arvada	[redacted]	I live right next door, the traffic is a major concern....so it taking away views and access.
2025-09-04T12:13:29.058Z	Shonna	Pivic	Arvada	[redacted]	
2025-09-04T05:16:13.296Z	Colton	Urland	Arvada	[redacted]	The area cannot support more people/families in general without other accommodations made in the neighborhood of West wood's/West Arvada. The schools are already overcrowded. The roads around the area cannot reall
2025-09-04T03:35:17.582Z	Deborah	Burger	Arvada	[redacted]	We live just I n the other side of Easley, in Westwoods. Im happy to be a part if this.
2025-09-04T03:26:06.854Z	Marc	Doran	Arvada	[redacted]	Wish to sign petition and get more involved. Thx
2025-09-04T03:09:53.682Z	Jagger	Urland	Arvada	[redacted]	We need to fight!
2025-09-04T03:09:07.785Z	Colton	Urland	Arbada	[redacted]	We won't back down!
2025-09-04T03:08:28.523Z	Matt	Urland	Arvada	[redacted]	Fight this!!!!!
2025-09-04T03:07:50.641Z	Kara	Urland	Arvada	[redacted]	From the 1st meeting I have opposed this. We need to fight!
2025-09-04T02:43:58.511Z	Michael	Simpson	Arvada	[redacted]	Safety issues from already overloaded traffic in 64th
2025-09-04T02:42:39.804Z	Hannah	Simpson	Arvada	[redacted]	Dangerous traffic around children
2025-09-03T21:32:28.279Z	Kim	Balfanz	Arvada	[redacted]	
2025-09-03T20:53:48.465Z	Peter	Lynch	Arvada	[redacted]	Traffic, and lack of environmental study relating to chemicals used by nursery!
2025-09-03T20:51:37.289Z	Leticia	Overholt	Arvada	[redacted]	No development
2025-09-03T20:39:20.064Z	scott	balfanz	arvada	[redacted]	completely against this project, high density housing in this area does not and is not needed.
2025-09-03T19:26:59.394Z	Rod	Walters	Arvada	[redacted]	This should not be allowed. Homes or townhomes only!
2025-09-03T19:21:48.777Z	Jodi	Thomson	Arvada	[redacted]	I am happy to help fight this awful proposed development!
2025-09-03T17:33:21.383Z	Robert	Lohman	Arvada	[redacted]	
2025-09-03T17:30:46.394Z	Jason	Hawkins	Arvada	[redacted]	I very much appose the current proposal for development of the Welby Gardens property.
2025-09-03T16:07:51.971Z	Greg	Reiman	Arvada	[redacted]	
2025-09-03T15:02:51.865Z	George	Cain Jr	ARVADA	[redacted]	This potential development does not belong in this location.
2025-09-03T02:22:48.545Z	Jeff	Schaffer	Arvada	[redacted]	
2025-09-03T01:25:18.601Z	Robert	Classen	Arvada	[redacted]	I live in Fieldstone across the street and if the developer needs to alter zoning or has any variances it should be rejected.
2025-09-02T23:14:25.321Z	Helen	Stover	Arvada	[redacted]	64 th avenue already is busy and loud. I am very concerned about the increase in vehicles.
2025-09-02T22:38:39.348Z	Michelle	Greaves	Arvada	[redacted]	
2025-09-02T21:44:10.884Z	Beck	Whisenand	Arvada	[redacted]	No apartment no traffic I hate traffic
2025-09-02T20:31:39.193Z	Dorene	Byers	Arvada	[redacted]	Absolutely Wrong! ARVADA is being destroyed by multiple unit housing. It will only be an eventual conclusion that our open space & skyline is lost too!
2025-09-02T14:11:32.509Z	Natalie	Baker	Arvada	[redacted]	
2025-09-02T13:41:23.967Z	Gerald	McCarthy	Arvada	[redacted]	High-rise buildings in a subdivision of one a two story homes will bring traffic and density 10x of surrounding neighborhoods.
2025-09-02T12:48:46.493Z	Richard	Lindgren	Arvada	[redacted]	
2025-09-02T00:10:51.180Z	Adam	Colba	Arvada	[redacted]	The proposed complex does not fit the residential landscape.
2025-09-01T21:05:25.498Z	Pete	Georgelas	Arvada	[redacted]	The Proposed Development of Welby Gardens would be detremental to the homeowners in the area, the traffic, infrastructure and city resources would be strained and the risk of fast evacuation in the event of a wildfire woul
2025-09-01T17:08:27.139Z	richard	wanty	Arvada	[redacted]	
2025-09-01T14:41:18.345Z	Alan	Hise	Arvada	[redacted]	Environmental, traffic, noise and sight lines
2025-09-01T14:23:42.058Z	Courtney	Yarbrough	Arvada	[redacted]	
2025-09-01T02:17:51.501Z	James	Leighton	Arvada	[redacted]	
2025-08-31T22:43:24.654Z	Jeff	Wetch	Arvada	[redacted]	
2025-08-31T22:28:41.485Z	Holly	Scripter	Arvada	[redacted]	I don't understand how the entry and exit of so many cars from this proposed project would work. It makes no sense at all. Causing headache for both current residents in the community as well as those who intend to live ir
2025-08-31T21:28:53.976Z	Kiley	Knepp	Arvada	[redacted]	
2025-08-31T21:28:18.977Z	Kiley	Kunkler	Arvada	[redacted]	This type of density does not work for the surrounding neighborhood.
2025-08-31T19:55:18.629Z	Matthew	Cates	ARVADA	[redacted]	
2025-08-31T18:15:22.711Z	Benjamin	Meddaugh	Arvada	[redacted]	
2025-08-31T18:14:55.201Z	Karly	Kopczynski	Arvada	[redacted]	Westwoods Ranch resident opposing this development.
2025-08-31T17:50:05.024Z	Terri	VanGelder	Arvada	[redacted]	
2025-08-31T17:36:10.780Z	Samson	Barnes	Arvada	[redacted]	
2025-08-31T17:24:43.642Z	Brandy	Barnes	ARVADA	[redacted]	Please don't ruin our beautiful neighborhood
2025-08-30T18:10:29.814Z	Jane	Noah	Arvada	[redacted]	We are considering moving into the nearby retirement center. Not willing to pursue it if this big development will change the neighborhood. Something much lower density please.
2025-08-30T15:02:02.027Z	Melissa	Ford	Arvada	[redacted]	
2025-08-30T02:20:48.336Z	Annette	Wright	17295 W 60th Ct	[redacted]	64th and none of the other roads can handle current traffic, much less more! The grocery stores and schools already overwhelmed!
2025-08-29T13:38:54.562Z	Joanne	Clavelle	Arvada	[redacted]	
2025-08-29T02:53:27.286Z	Dana	VonFeldt	Arvada	[redacted]	Area is already too crowded and the roads cannot handle more traffic (wear & tear on roads and congestion).
2025-08-29T01:35:10.855Z	Dawn	Christofferso	Arvada	[redacted]	
2025-08-24T15:46:31.758Z	Kaylee	Aupperlee	Arvada	[redacted]	
2025-08-23T22:18:54.782Z	Jennifer	Romero	Arvada	[redacted]	

2025-08-23T01:48:59.719Z	Jacob	Cox	Arvada	[redacted]	I have lived here for many years and this complex would be very close to my house so I want to help make a stand and stop this.
2025-08-22T18:33:49.252Z	Estelle	Rapisardi	ARVADA	[redacted]	We don't need 300+ more cars on 64th, also Easley. Plus, the huge number of 18-wheelers going to McIntyre to a distribution center.
2025-08-06T15:22:53.697Z	Brooke	Yungstrom	Arvada	[redacted]	[redacted]
2025-07-21T00:33:09.425Z	Debra Colleen	Miller	Arvada	[redacted]	We moved out here to live in this low density environment. Arvada is on a path of high density. High density I'm this area is incompatible to the surroundings.
2025-07-07T15:52:22.092Z	Kristin	Goolsbey		[redacted]	This development is right in my backyard. The proposed 4-story high apartment buildings will literally tower over my backyard as my yard is already about 30 feet below the land where these units will be built! The 4-story u
2025-07-07T14:56:57.922Z	Katherine	Zarazan		[redacted]	Our community cannot handle such an increase in traffic. Add to that our fire risk, and this plan is extremely dangerous.
2025-07-02T19:10:29.742Z	carol	weiser		[redacted]	[redacted]
2025-05-25T21:20:20.461Z	Donna	DeNomme		[redacted]	[redacted]
2025-05-23T03:37:53.060Z	Jodi	Thomson		[redacted]	NO development!
2025-05-14T15:17:18.260Z	Leah	Sullivan		[redacted]	[redacted]
2025-04-26T18:27:50.109Z	Michael	Schaefer		[redacted]	[redacted]
2025-04-26T18:27:07.441Z	Denise	Schaefer		[redacted]	[redacted]
2025-04-26T15:56:53.301Z	Corrie	Alonzo		[redacted]	Don't ruin west Arvada.
2025-04-26T15:43:51.395Z	Pam	Knepp		[redacted]	[redacted]
2025-04-26T15:41:51.608Z	Gustavo	Alonzo		[redacted]	We do not have the infrastructure, school capacity, grocery store size, roads, to support this crazy project. It also does not fit the surrounding community. Its impact is far more negative than positive.
2025-04-26T15:37:38.430Z	Garrett	Menaker		[redacted]	[redacted]
2025-04-26T15:26:40.038Z	Pam	Knepp		[redacted]	[redacted]
2025-04-26T15:12:10.885Z	Greg	Dunn		[redacted]	[redacted]
2025-04-26T15:00:36.915Z	greg	dunn		[redacted]	[redacted]
2025-04-20T16:42:48.982Z	Debra Colleen	Miller		[redacted]	Incompatible. Not consistent with Arvada's own Comprehensive Plan
2025-04-19T18:36:20.001Z	Sean	Duley		[redacted]	Not opposed to upscale luxury units in this location. Density must come down a lot and offset build costs with higher end luxury condos with garages. 2/3 bd 3 bath 1500sqft min Based on other builds this group has built I a
2025-04-19T14:42:12.900Z	John	Pavlik		[redacted]	I oppose this drastic change in zoning and character of our community. Although development of the site is inevitable, we should align the planning with current single family dwellings and parks that are predominantly in this
2025-04-18T23:18:24.057Z	J	Nunnally		[redacted]	[redacted]
2025-04-18T13:32:37.584Z	Margaret	Carter		[redacted]	[redacted]
2025-04-18T13:32:30.078Z	John	Carter		[redacted]	[redacted]
2025-04-18T03:36:57.259Z	Diane	Levy		[redacted]	
2025-04-18T03:36:35.017Z	Diane	Levy		[redacted]	I am staunchly opposed to this horrible development! It will ruin all the neighborhoods surrounding Welby Gardens! the neighborhoods
2025-04-16T19:32:11.134Z	Sarah	Bradford		[redacted]	A really bad idea
2025-04-16T19:30:51.918Z	Sarah and Tor	Bradford		[redacted]	A really bad idea
2025-04-16T18:46:28.273Z	Kaci	Melody		[redacted]	Take your development elsewhere.
2025-04-16T14:45:23.754Z	Max	Truesdel		[redacted]	W Arvada cannot handle this increase in traffic
2025-04-16T12:16:14.994Z	carol	weiser		[redacted]	We live in morningstar and this is devastating for us
2025-04-16T12:08:21.744Z	carol	weiser		[redacted]	[redacted]
2025-04-16T02:29:58.865Z	Chrisanne	Pankratz		[redacted]	Strongly against this high density and 4 story proposal. Arvada needs to protect the view of the foothills.
2025-04-16T01:26:36.843Z	Brady	Mercer		[redacted]	[redacted]
2025-04-16T00:06:46.962Z	Diane	Ben-Avraham		[redacted]	[redacted]
2025-04-15T23:22:56.368Z	Philip	Lunnon		[redacted]	[redacted]
2025-04-15T22:16:01.834Z	Joe	Huhn		[redacted]	[redacted]
2025-04-15T21:43:21.179Z				[redacted]	[redacted]
2025-04-15T17:51:21.682Z	Amy	Mok		[redacted]	I don't like bringing in so many individuals who aren't invested in the neighborhood and may bring more traffic issues and increase crime. Non- high rise developments which are owned by the residents will help allow manag
2025-04-15T16:12:58.468Z	Doreen	McNicholas		[redacted]	[redacted]
2025-04-15T16:00:38.097Z	David	Shannon		[redacted]	[redacted]
2025-04-15T15:52:48.366Z	Miriam	Shannon		[redacted]	Please don't let the density wipe out Planning Commissions ideas for density in the west portions of Arvada!
2025-04-15T15:42:53.167Z	Amber	Rodriguez		[redacted]	[redacted]
2025-04-15T13:50:07.282Z	Leah	Harrison		[redacted]	[redacted]
2025-04-15T13:46:52.994Z	Heidi	Burtoni		[redacted]	[redacted]
2025-04-15T13:39:18.477Z	Kelly	Posiviata		[redacted]	[redacted]
2025-04-15T02:52:45.482Z	Susan	Lowe		[redacted]	[redacted]
2025-04-15T02:06:29.674Z	Anne	Earl		[redacted]	The proposal is not compatible with the nearby neighborhood, which has single family homes with values close to $1Mthe nearby neighborhood with the nearby with the nearby neighborhood which have homes close to $1
2025-04-15T01:39:47.625Z	Jason	Stelley		[redacted]	[redacted]
2025-04-15T01:35:18.694Z	Lauren	Stelley		[redacted]	Too much density, not compatible with surroundings. Can Morning Star and the 7 HOA's combine money and power to obtain land for community use park, club house, tennis/pickle ball/basketball courts, pool etc!…
2025-04-15T01:10:08.783Z	Kathy	Thyfault		[redacted]	This is a bedroom community. Why would you think this is a good idea. There is not enough restaurants or retail to support this many people in this community. Please don't allow this
2025-04-15T00:12:22.612Z				[redacted]	[redacted]
2025-04-15T00:11:56.551Z	Chris	Moles		[redacted]	Reminder that isn't only the developer, a lot falls on our elected officials who collectively sell out to developers every day
2025-04-14T21:11:21.531Z	Anne	Earl		[redacted]	The proposal is entirely not compatible with the nearby already Built and compatible homes. The homes on this site should also be compatible
2025-04-14T18:14:03.731Z	Shannon	Thomas		[redacted]	[redacted]
2025-04-14T17:46:09.472Z	TRACY	WRIGHT		[redacted]	[redacted]
2025-04-14T16:34:29.532Z	Tamara	Yonkie		[redacted]	[redacted]
2025-04-14T15:55:58.084Z	Donna	Catalfamo		[redacted]	[redacted]
2025-04-14T14:01:48.634Z	JANICE	GARRETT		[redacted]	Does Arvada really need more housing? I think that is way too much building for the area and that many apartments are not needed here. The homeowners in the area shouldn't have to deal with the influx of people and traffi
2025-04-14T10:02:14.434Z				[redacted]	[redacted]
2025-04-14T02:48:54.543Z	Laura	Belanger		[redacted]	[redacted]
2025-04-14T02:31:30.608Z	Sharon	DeVito		[redacted]	One or two apartment buildings; not 12. EPA testing should be done on the last.
2025-04-13T23:40:27.149Z	Cheryl	Timmerman		[redacted]	[redacted]
2025-04-13T18:31:05.881Z	Christine	Cheer		[redacted]	Enough with the new construction. Fix our roads.
2025-04-13T17:32:05.327Z	Will	Taylor		[redacted]	I moved to Arvada because it was small & not much room for development. Now, the city of Arvada is pushing for high density developments. Arvada has become the stack-a- shack capital of the universe. Do people want t
2025-04-13T01:46:44.849Z	Michelle	Fenner		[redacted]	[redacted]
2025-04-12T21:22:26.216Z	Alicia	tighe		[redacted]	[redacted]
2025-04-12T20:57:42.888Z	Edward	Yevak		[redacted]	[redacted]
2025-04-12T18:09:22.302Z	Mary	Schmidt		[redacted]	[redacted]
2025-04-12T17:07:35.501Z	Tom	Young		[redacted]	[redacted]
2025-04-12T15:18:31.570Z	Kris	Coisman		[redacted]	[redacted]
2025-04-12T12:09:41.728Z	Samantha	Wheeler		[redacted]	[redacted]
2025-04-12T08:07:34.373Z	Carol	Yantorno		[redacted]	Both projects are very disturbing! They are just too large for this area!
2025-04-12T08:05:20.529Z	Carol	Yantorno		[redacted]	Both projects are disturbing to me. They both are way to large for this area.
2025-04-12T05:20:33.724Z	Laurie	Johnson		[redacted]	The traffic!!!! We are on Easley and it is not meant to handle this kind of traffic. So many recreational users biking ! A disaster waiting to happen. People do not honor the 30 mph and even pass on double yellow lines!
2025-04-12T04:13:04.253Z	Tracy	demeza		[redacted]	[redacted]
2025-04-12T04:07:44.169Z	Kinsey	Ringenberg		[redacted]	Very concerned about the access out of the community in case of emergencies as well as the environmental clean up of the gardens
2025-04-12T02:51:08.750Z	Rhonda	Akin		[redacted]	[redacted]
2025-04-11T23:59:26.263Z	Daniel	Martin		[redacted]	Too high of density compared to surrounding neighborhoods. Should be more true mixed use as designated by zoning.
2025-04-11T22:46:08.212Z	Colleen	Miller		[redacted]	Not compatible with west Arvada life style.
2025-04-11T21:46:41.093Z	Michael	Simpson		[redacted]	Westwood Links Filing III
2025-04-11T21:45:49.743Z	Hannah	Simpson		[redacted]	Part of Westwoods Links Filing III - Neighborhood at risk of becoming a thoroughfair for traffic to High -Rise development
2025-04-11T19:17:19.525Z	John	Hutchinson		[redacted]	My family of 4 is strongly opposed to adding 12 4-story buildings and 53 townhomes which would bring approximately 1,000 residents to our neighborhood. The impacts from health and environmental to traffic are not accep
2025-04-11T18:12:18.711Z	Don	Wuerth		[redacted]	[redacted]
2025-04-11T16:55:02.912Z	Faye	Belknap		[redacted]	[redacted]
2025-04-11T16:46:18.832Z	Elaine	Sutton		[redacted]	why is Arvada not getting involved to encourage working with a developer to change the zoning and build patio homes thanks so much for keeping me in the loop
2025-04-11T16:30:01.396Z	Suzy	Stafford		[redacted]	This proposed building project is too congested for the land available and will result in inconsideration on all levels to the surrounding neighborhoods
2025-04-11T16:11:36.108Z	GREG	DIPAOLO		[redacted]	[redacted]
2025-04-11T16:03:42.500Z	Kevin	Stafford		[redacted]	[redacted]
2025-04-11T15:53:50.230Z	Michael	Horwith		[redacted]	Too dense for West Arvada
2025-04-11T15:44:02.637Z	D Aaron	Kullman		[redacted]	[redacted]
2025-04-11T15:40:47.073Z	Gina	Osburn		[redacted]	[redacted]
2025-04-11T15:33:55.258Z	Ben	Sawyer		[redacted]	[redacted]
2025-04-11T04:50:10.323Z	John	Kobach		[redacted]	Thank you for fighting this ridiculous proposed development!
2025-04-11T01:46:03.207Z	Heather	Church		[redacted]	[redacted]
2025-04-11T00:22:55.233Z	Curtis	Anderson		[redacted]	[redacted]
2025-04-10T23:57:17.830Z	Ryan	McCarroll		[redacted]	This project is a horrible idea. I live in the adjacent community and cannot believe this could be approved.
2025-04-10T23:54:55.228Z	David	Haselman		[redacted]	This Development while understandable, is impractical to the location. It not only negatively impacts the surrounding businesses and neighbors but would not accommodate the new residents within this proposal.
2025-04-10T19:57:45.146Z	Renee	Stark		[redacted]	This massive development is in no way compatible with the area or the site. I live in Boyd Ponds, which is just east of this plan. Can these greedy developers just stop ruining what was once a beautiful residential area!
2025-04-10T14:29:37.282Z	Kate	Pavlik		[redacted]	No high density housing!
2025-04-10T02:59:54.596Z	Scott	Hunt		[redacted]	[redacted]
2025-04-10T02:24:55.968Z	Jeanine	Patricks		[redacted]	[redacted]
2025-04-10T02:22:08.729Z	Tim	Collins		[redacted]	[redacted]
2025-04-10T02:21:44.653Z	Collin	Hill		[redacted]	[redacted]
2025-04-10T02:20:53.436Z	David	Warren		[redacted]	[redacted]
2025-04-10T02:20:16.485Z	Penelope	Brown		[redacted]	[redacted]

2025-04-10T02:19:48.106Z	Debbie	Wolfe		[redacted]	[redacted]
2025-04-10T02:19:32.177Z	Chris	Wolfe		[redacted]	[redacted]
2025-04-10T02:17:24.650Z	Sarah	Warren		[redacted]	[redacted]
2025-04-10T02:17:10.150Z	Mariah	Laurie		[redacted]	[redacted]
2025-04-10T02:13:59.524Z	Edwin	Goode		[redacted]	[redacted]
2025-04-10T02:13:26.009Z	Jay	Rosenberg		[redacted]	[redacted]
2025-04-10T02:12:20.670Z	Madeline	Cole		[redacted]	[redacted]
2025-04-10T02:11:56.087Z	Tayler	Miles		[redacted]	[redacted]
2025-04-10T02:11:31.344Z	Natalie	Bachmeier		[redacted]	[redacted]
2025-04-10T02:11:12.808Z	Tanner	Hovendick		[redacted]	[redacted]
2025-04-10T02:09:15.066Z	Gabriel	Park		[redacted]	[redacted]
2025-04-10T02:09:03.937Z	Alyssa	Park		[redacted]	[redacted]
2025-04-10T02:08:46.354Z	Jamal	Mangelson		[redacted]	[redacted]
2025-04-10T02:08:31.492Z	Ian	Pomper		[redacted]	[redacted]
2025-04-10T02:08:16.213Z	Noah	Thice		[redacted]	[redacted]
2025-04-10T02:07:58.635Z	Jordan	Lundmark		[redacted]	[redacted]
2025-04-10T02:07:41.834Z	Adam	Cole		[redacted]	[redacted]
2025-04-10T02:07:11.349Z	Sierra	Norquay		[redacted]	[redacted]
2025-04-09T19:23:26.030Z	Isaac	Mead		[redacted]	It's crazy to put this dense of a development on an infill lot like this with no amenities or public transportation around as well. Traffic has already become quite bad in the area and 1000 cars coming in and out from one stub ro
2025-04-09T17:45:30.231Z	Paul	Ochenrider		[redacted]	This development will ruin the area and cause horrible traffic for all people. It will not be safe for kids and cause even more dangerous speeders to people on bikes and trying to cross the streets.
2025-04-09T03:51:39.607Z	robert	Toll		[redacted]	[redacted]
2025-04-09T01:46:00.564Z	Mark	Kish		[redacted]	We do not need additional multi family homes in this area.
2025-04-09T01:45:10.922Z	Samantha	Kish		[redacted]	I do not support this development that would house nearly 1000 residents in an area with no walkable amenities or public transit.
2025-04-09T01:20:34.876Z	Jessica	Bryski		[redacted]	[redacted]
2025-04-09T01:19:16.282Z	Callie	Vardal		[redacted]	[redacted]
2025-04-09T01:11:19.409Z	Becky	Carr		[redacted]	Westwoods is a beautiful neighborhood. It is not fair to the neighbors whose houses back up directly to this development, spoiling their views and diminishing their house prices. I would be livid if this was planned in my back
2025-04-09T00:43:37.016Z	Ann Marie	Juba		[redacted]	[redacted]
2025-04-08T23:56:45.052Z	Aaron	Bauer		[redacted]	[redacted]
2025-04-08T23:56:17.243Z	Claire	Bauer		[redacted]	[redacted]
2025-04-08T23:19:17.208Z	Phil	Seibert		[redacted]	Too much density Roads can't handle another 700 cars Bad planning
2025-04-08T23:04:33.402Z	Michaela	Criswell		[redacted]	[redacted]
2025-04-08T22:35:12.473Z	Lindsey	Leigh		[redacted]	[redacted]
2025-04-08T22:24:23.468Z	Jim	Cheatham		[redacted]	Thank you for doing our best to reduce the density of the proposed development to help with concerns including: ~1000 more vehicles impacts to entrance/exit congestion, fire egress, and traffic safety in the area, incompati
2025-04-08T22:23:50.889Z	B	C		[redacted]	[redacted]
2025-04-08T22:10:51.065Z	Becca	Casar		[redacted]	[redacted]
2025-04-08T22:09:10.711Z	Abby	Grip		[redacted]	[redacted]
2025-04-08T22:08:30.476Z	Michele	Heinzman		[redacted]	[redacted]
2025-04-08T16:45:30.540Z	Jason	Sinners		[redacted]	I agree that four stories is too much for our neighborhood!
2025-04-08T15:59:01.538Z	Ashlee	Weyrauch		[redacted]	[redacted]
2025-04-08T15:39:12.411Z	Terry	Hackbart		[redacted]	Traffic is already out of control in this area. Highway 93 is jammed and there are multiple accidents at 60th and Easley. This devolpment does not suit the area and the streets and roads cannot handle the traffic.
2025-04-08T01:56:35.316Z	Michael	Weicher		[redacted]	[redacted]
2025-04-07T16:30:13.721Z	Julie	Hogan		[redacted]	[redacted]
2025-04-07T14:59:57.557Z	Chris	Yungstrom		[redacted]	Do not support this development.
2025-04-07T13:40:28.451Z	Jon	Jones		[redacted]	There are better and safer alternatives for proper use of this land.
2025-04-07T12:48:11.389Z	Paul	Barnett		[redacted]	I oppose the proposed Welby Gardens apartment project.
2025-04-07T09:08:05.234Z				[redacted]	[redacted]
2025-04-07T00:08:43.680Z	Allana	Sucher		[redacted]	[redacted]
2025-04-07T00:06:30.959Z	Michael	Gray		[redacted]	[redacted]
2025-04-06T23:44:59.399Z	William	Hawkins		[redacted]	[redacted]
2025-04-06T23:44:30.463Z	Mary	Hawkins		[redacted]	Nope!
2025-04-06T20:24:50.408Z	Caleb	Rudkin		[redacted]	Strongly opposed to this high density development
2025-04-06T20:10:34.561Z	Rachael	Rudkin		[redacted]	[redacted]
2025-04-06T17:34:12.749Z	Myla	Botsford-Lyons		[redacted]	[redacted]
2025-04-06T16:50:28.306Z	THOMAS	SHUBERT		[redacted]	We don't need more congestion and trafffic. The proposed truck depot by King Soopres will add enormous truck traffic on 64th heading to hiway 93.
2025-04-06T01:03:20.640Z	Katherine	Zarazan		[redacted]	[redacted]
2025-04-05T21:35:50.236Z	Jack	Lopez		[redacted]	[redacted]
2025-04-05T21:34:11.012Z	Jack	Lopez		[redacted]	[redacted]

CED Boards and Commission <cedboardsandcommission@arvada.org>

Jan 21, 2026 - Avalon Arvada Conditional Use Permit (DA2025-0035)

1 message

Mike Faunda [redacted]
To: cedboards

Mon, Jan 19, 2026 at 3:22 PM

Dear Commission Officers,

I am writing to express my disapproval of the conditional use permit and development of multi-family units at 17201 W. 64th Ave.

Construction taking place throughout Arvada has adversely impacted both the quality of living and the housing market in west Arvada due to the increased heavy truck traffic on West 64th. This construction will not only add to that heavy traffic but will ultimately result in anywhere from 500 to 1000 (or more) additional vehicles traveling this stretch of road on a daily basis, further endangering pedestrian traffic, increasing congestion, and requiring Arvada to spend funds for more stoplights and crosswalks.

This area consists of quiet communities that value our neighbors, neighborhoods and open spaces - there is a strong sense of community and despite any arguments to the contrary, this development will, in my opinion, turn one of Arvada's gems into another densely populated area forcing longtime residents to rethink where they live. Whatever the developer stands to gain in this effort, Arvada will certainly lose.

If this moves forward, I would like to request that Arvada require the developer to install sound walls along both sides of West 64th from Quaker St to the open space past Virgil to reduce the noise and traffic impact to current residents.

Thank you for the opportunity to comment. Let's keep the quiet areas of Arvada peaceful.

Mike Faunda
Arvada, CO

Oct 3, 2025

Dear Mr. Fifer,

I am very much against the proposed development of the Welby property next to MorningStar. The traffic will be terrible and we dont need any more people in apts. right next door to us in MorningStar Senior Living. Think long and hard before going ahead with this plan.

Respectfully,

Suite # 3020
MorningStar Senior Living

Oct 3, 2025

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Marie Irene Fagan

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MorningStar Senior Living

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Marion Irene [illegible]

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17351. W 64th Ave. #1002
Arvada, CO 80007
August 8, 2024

Mayor Lauren Simpson
8101 Ralston Road
Arvada, CO 80003

Dear Mayor Simpson,

I am a senior living within fifty feet of the proposed Welby Gardens Project. I have several health and safety concerns about this project. Our air quality is rarely above fair and adding over six hundred cars is certainly going to impact the air quality of the neighborhood with only one road access. With all these extra cars adding to the carbon monoxide our indoor air quality is going to suffer exacerbating my/our breathing conditions.

We are absolutely within the ten mile radius that was contaminated several times throughout the history of Rocky Flats causing numerous cancers in those living within this radius. Even though the government claims to have buried any residual contamination the strong winds have slowly been eroding the layers of dirt they used to cover it up. How can we be assured that digging the ground to build this new community won't cause some contamination to those of us living in and around the West Woods community?

Everyone moving into the new Welby Gardens community will have no choice but to drive to wherever they are going since there is absolutely no public transportation this far out. With little or no amenities residents will have no choice but to drive to get the supplies they need for daily living. The additional cars will certainly impact the traffic flow onto 64th Avenue. Turning East onto 64th Avenue is going to become a nightmare with only one access to 64th Avenue. I have only lived here a short time and find it challenging to get straight across 64th Avenue or to turn onto it going east, especially when some cars are speeding down 64th.

The developer does not expect any children which is totally unrealistic. Even if children aren't living in the community they will be visiting their family members. Any planned facilities for children and their families should definitely be located far away from any automobile traffic, preferably with a secured fenced area to minimize any child running into any moving vehicle.

With only one proposed access road this is going to be a life threatening hazard not only for the proposed new community but those of us living at Arvada Morningstar Senior Living, Emergency vehicles may have difficulties maneuvering trying to gain access due to one narrow road. Think about the Marshall Fire which had many more egress exists and still people had difficulty escaping the quickly moving fire.

Thank you for your attention to my many concerns about his proposed new community.

Mary Kaiser
Mary Kaiser

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Mary Kaiser
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Dear Mr. Fifer;

I am a resident of MorningStar Arvada Senior Living facility at 64th Street and Easley Road and I respectfully request that you reject approval of the Welby Gardens Development Project. As currently proposed, this mega apartment project (435 living units with over 650 automobiles) would add only one new exit to Easley Road in addition to the existing outlet we share with Welby Gardens resulting in overwhelming the intersection of 64th Street and Easley Road.
Our senior residents (approximately 160 with an average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially thru our private parking lot.
I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

[redacted]

Marge LaDuke

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[redacted]

Marge LaDuke

Fwd: Proposed Avalon Apt Development #DA2025-0035

Josie Suk <jsuk@arvada.org> Wed, Dec 3, 2025 at 4:18 PM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Wed, Dec 3, 2025 at 3:15 PM
Subject: Fwd: Proposed Avalon Apt Development #DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Michael Griffith** <mgriffith@arvada.org>
Date: Wed, Dec 3, 2025 at 2:57 PM
Subject: Re: Proposed Avalon Apt Development #DA2025-0035
To: Myla Lyons [redacted]>, Council <Council@arvada.org>, Kristen Rush <kristen@arvada.org>, Rachel Morris <rmorris@arvada.org>

Hi Myla,

Thank you for your email and congratulations. To ensure all members of Council are also aware of the concerns you mentioned and that these comments make it into the permanent record - I am copying all council members and including the City Clerk.

The project you mentioned is currently “in application,” meaning that it will come before Council at a future date for approval/denial. You are free to provide comments in text or in person at the future meeting, but council members need to remain impartial for the pending case and may not respond directly.

To ensure a fair process for all applicants, Council members cannot “prejudge” a project by expressing opinions or concerns outside of the public hearing. It is also important that any information shared with one council member is shared with all members, which is why I copied the whole group.

I apologize for the formality of this response and understand some of this might be new information. I am happy to meet with you and discuss procedures and/or other concerns you have, we would just need to avoid discussing the project you mentioned or any other project that has an open application.

Thank you,

Mike Griffith
[redacted]

On Tue, Dec 2, 2025 at 3:21 PM Myla Lyons <mylalyons@yahoo.com> wrote:

> Hi Mike -
>
> Congratulations on your new role! Thank you for meeting with our community HOA a couple of months ago.

> My name is Myla Lyons (6552 Umber Circle, Arvada). I am hoping you will help in supporting a more thoughtful development rather than apartments right in the middle of single family housing (corners of 64th and Easley). The west side of Arvada was originally part of West Woods Ranch and part of a comprehensive plan to build lower structures as to not impact views of the foothills.
>
> My family moved into Trail Village Villas 8 years ago from the Tablerock community because of the close knit community and a less dense area. The welby property was founded in the 1970s before the residential communities were built in the surrounding area and I believe it was just overlooked by the city to appropriately rezone.
>
> These high density apts will not have public transit (no light rail or bus) which will increase the number of cars parking in the area. In addition, the apts will be directly behind Morningstar where the elderly frequently walk across the road there. There's a lot of bikers that cross that cross 64th and Easley to access the Tucker Lake paths. We also have quick a bit of wildlife (three different bears this summer, fox and coyotes, cooper hawks, red tail hawks, an occasional mountain lion, and bobcats.
>
> Another important issue is access points in and out of the future Avalon Apt property. Only one access in and out or apt residents can drive through a congested residential neighborhood. The Avalon Apts housing approx 480 units and approx 50 townhomes will be going in and out of basically one entrance/exit point. And, an emergency exit right through Morningstar. What happens if there's a fire? Emergency vehicles will need access to Morningstar to evacuate their elderly.
>
> Thank you for your support and the support of your colleagues on the City Council. There are other better uses for this land (residential housing, townhomes, farmers market, etc.). This is just not the right area to place high density apts.
>
> Thank you,
> Myla Lyons
>
> [redacted]

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

CITY OF ARVADA

--
Josie Suk
Development Systems and Administrative Manager
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon/Welby Gardens development

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:37 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded m
From: **MINDY MOHR** [redacted]>
Date: Fri, Jul 25, 2025
Subject: Re: Avalon/Welby Gardens development
To: POD CD <pod@arvada.org>
Cc: Rozalynne Thompson <rthompson@arvada.org>

Thank you Julia for responding so quickly!
I keep an eye on some of the housing projects in particular, so that we know when they will likely be going to the planning commission for public hearing.

Any additional information that Rozalynne can provide (especially when/if the public can submit written comments) will be greatly appreciated!

Mindy Mohr
Sent from my iPhone

> On Jul 25, 2025, at 3:38 PM, POD CD <pod@arvada.org> wrote:
>
> Good Afternoon Mindy,
>
> I have copied the Project Manager, Rozalynne, here, who may be able to provide additional information. I have also let out Admin team know. The application has not been withdrawn, but the second submission was not accepted by staff as it needed additional information. I will let you know when I have an update. Have a wonderful weekend.
>
> Sincerely,
>
> Julia
>
> On Fri, Jul 25, 2025 at 2:45 PM MINDY MOHR [redacted]> wrote:
>
>> It appears that this project at 17201 W. 64th from the city's development map — I had seen it on there about a month ago, showing that it was under review by the city. Has the application been withdrawn?
>>
>> Thank you,
>> Mindy Mohr 11560 W 70th Pl Unit A
>> Arvada
>
> --
> To find the zoning of a property, including what uses are allowed, please use the **Address and Property Search** tool.

For information about active development projects, please use the **Development Projects Interactive Map** tool.

Thank you,

Planning Staff
Front Desk: (720) 898-7435
pod@arvada.org

Facebook Icon |
Twitter Icon |
LinkedIn Icon |
YouTube Icon |
E-Mail Icon

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Public Comments for January 21, 2026 meeting on AvalonBay Arvada Project DA2025-0035

1 message

[redacted] Tue, Jan 13, 2026 at 10:24 AM
dboardsandcommission@arvada.org>

To the Arvada Planning Commission:

Thank you to the Commissioners for all that you do for our City! Please accept the following comments IN SUPPORT of the proposed project before you known as ***Welby Gardens Residential Community*** **(or AvalonBay Communities); Arvada Project Project Numbe**r: DA2025-0035
Address: 17201 W 64th Ave, Arvada, CO 80007

First, It's been noted that **there are currently NO rental apartments west of Ward Road in Arvada, other than senior living centers like Springwood, Morningstar, etc…That means that anyone who wants to live in west Arvada must BUY a home – typically an expensive single family home or townhome. Workers who can't afford to buy something have to drive in to work, adding traffic to our roads and emissions to our air.**

Given that current lack of rentals, and knowing that our workers deserve housing options, I fully Support this project which will bring in some needed Housing Diversity (via workforce housing) to west Arvada. Increasing the production of housing that expands price point and product diversity is one of the goals in Arvada's Housing Strategic Plan https://www.arvadaco.gov/DocumentCenter/View/4233/Final-Arvada-Housing-Strategic-Plan-pdf

Some other points in support of this project:

- We have heard for years that west/NW Arvada residents want services – those Arvada businesses serving them need workers, and those workers need workforce housing!
- New market-rate homes add needed supply and help reduce rent pressure across the housing market, benefiting affordability at multiple income levels
- We recently learned from workshops to city council that the city is already planning a traffic light at W. 64th Ave. and Easley (based on current needs). That will help the neighbors' concerns with traffic, plus 64th is already a 4-lane road, facilitating transportation during normal periods as well as during potential emergency situations (e.g. wildfire). (This is in marked contrast to 2 lane roads for wildfire evacuation such as 82nd Avenue at Leyden Rock or portions of Indiana Ave).
- The proposed buildings range from 3-4 stories, but are NOT higher than the adjacent Morningstar apartments. Thus they are compatible with the surrounding area.
- Finally, we understand that **AvalonBay is proposing to reserve 5 units FREE of RENT for 1 year to Jefferson County school teachers (similar to what they have done with Denver Public Schools).** This is a commendable step to help our workforce.

Sincerely,

Mindy Mohr
11570 W. 70th Place Unit A

Arvada, CO 80004

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Concerns re: Project # DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Jan 20, 2026 at 8:36 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

Here's another public comment sent to Council.

Rozalynne

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Tue, Jan 20, 2026 at 8:04 AM
Subject: Fwd: Concerns re: Project # DA2025-0035
To: Rozalynne Thompson <rthompson@arvada.org>

for the record,
Jessica

---------- Forwarded message ---------
From: **Don Wick** <dwick@arvada.org>
Date: Mon, Jan 19, 2026 at 7:05 AM
Subject: Fwd: Concerns re: Project # DA2025-0035
To: Jessica Garner <jegarner@arvada.org>, Allison Scheck <ascheck@arvada.org>, Linda Haley <lhaley@arvada.org>

FYI

---------- Forwarded message ---------
From: **Sharon Davis** <sdavis@arvada.org>
Date: Sun, Jan 18, 2026 at 9:10 AM
Subject: Fwd: Concerns re: Project # DA2025-0035
To: Ask Arvada <askarvada@arvada.org>
Cc: Council <council@arvada.org>, Don Wick <dwick@arvada.org>

For your attention.

Sincerely,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

---------- Forwarded m
From: **Maria Omran** [redacted]
Date: Sun, Jan 18, 20
Subject: Concerns re: Project # DA2025-0035
To: LSimpson@Arvada.org <LSimpson@arvada.org>, RMoorman@Arvada.org <RMoorman@arvada.org>, BFifer@Arvada.org <BFifer@arvada.org>, SAmbrose@Arvada.org <SAmbrose@arvada.org>, MGriffith@Arvada.org <MGriffith@arvada.org>, SDavis@Arvada.org <SDavis@arvada.org>, RLovisone@Arvada.org <RLovisone@arvada.org>

Dear Mayor and Council Members,

I am a homeowner who lives across from the proposed development at 17201 W. 64th Ave (Project # DA2025-0035), and I am writing to formally express my opposition to this project. I shared my thoughts with the planning committee, but I wanted to further voice my concerns.

I understand the need for additional housing in Arvada, but this development introduces an excessive level of density without adequate planning or enforceable mitigation to address its impacts to W. 64th Ave that already experiences significant traffic, and the lack of clearly defined traffic improvements and pedestrian safety places surrounding neighborhoods at risk.

I am also concerned about parking adequacy and spillover into adjacent residential streets, which regularly occurs with high-density multi-family developments. Additionally, the project's height, massing, and proximity to established single-family neighborhoods are incompatible with the surrounding area and lack sufficient buffering to mitigate these impacts.

The proposed urban park lacks a clear plan regarding ownership, maintenance, security, and long-term stewardship. Without binding commitments, this will become a liability not a community asset.

For these reasons, I am opposed to approval of this development as proposed. At a minimum, I urge the City to require substantial revisions and enforceable conditions addressing traffic mitigation, parking capacity, infrastructure readiness, buffering, and long-term maintenance before any approval is considered.

I respectfully ask that the City prioritize responsible planning, public safety, and neighborhood livability in its evaluation of this proposal.

Sincerely,
Maria Omran

--

Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm
CITY OF ARVADA

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Concerns Re: Proposed Development at 17201 W. 64th Ave

2 messages

Maria Omran [redacted] Mon, Jan 12, 2026 at 8:55 PM
To: "CEDBOARDSANDCOMMISSION@ARVADA.ORG" <CEDBOARDSANDCOMMISSION@arvada.org>

Dear Planning Commission,

I am a homeowner in the neighborhood directly across from the proposed development at 17201 W. 64th Ave, and I am writing to share several questions and concerns for consideration as part of the Conditional Use Permit review. I understand the need to increase housing supply, but I have concerns with the project's scale and its immediate proximity to existing residential neighborhoods.

First, the impact to traffic and safety. Has a traffic impact analysis been completed? and what the peak-hour impacts from approximately 435 new residential units? I believe the increased traffic affects safety for residents and pedestrians.

Second, are there measures in place to prevent parking spillover into adjacent residential neighborhoods?

Third, who will own, maintain, and manage the proposed 2-acre urban park? What safety and maintenance standards will be required to ensure the park does not invite crime or criminal activity?

Lastly, I have concerns with the anticipated construction. What restrictions will be in place regarding construction hours, truck routing, noise, and dust mitigation? How will it be monitored?

I am opposed to this new development, however given the conditional nature of this development, I ask that any approval include clear, enforceable conditions addressing traffic mitigation, parking management, park maintenance, and construction impacts to ensure compatibility with the surrounding community.

Thank you for the opportunity to provide input on this project.

Sincerely,
Maria Omran
Arvada Homeowner

Maria Omran [redacted]> Mon, Jan 12, 2026 at 8:56 PM
To: "CEDBOARDSANDCOMMISSION@ARVADA.ORG" <cedboardsandcommission@arvada.org>
Cc: "rthompson@arvada.org" <rthompson@arvada.org>

[Quoted text hidden]

Fwd: Hi Rozalynne, how are you? Can you help with a Welay Gardens question?

1 message

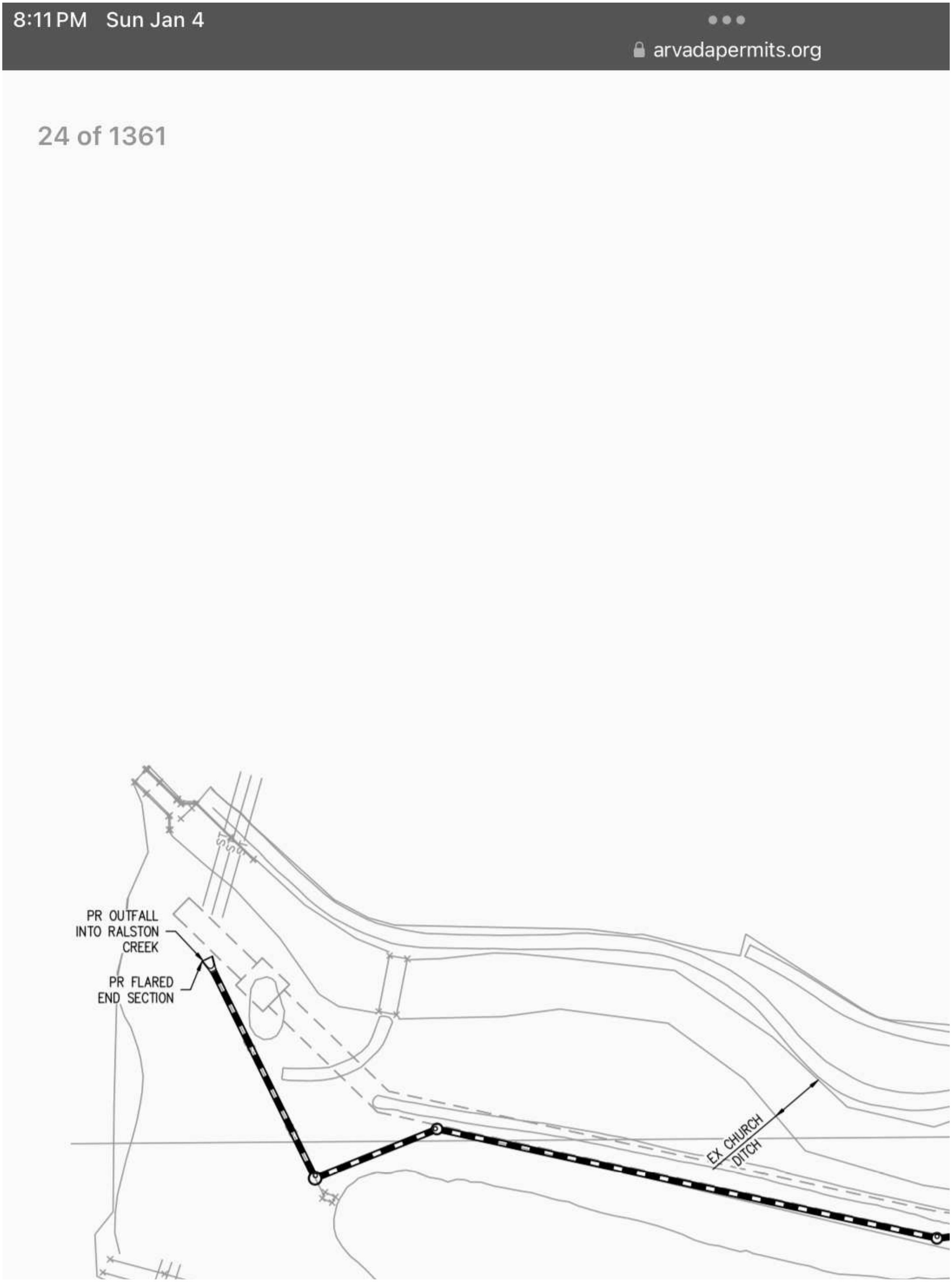
Rozalynne Thompson <rthompson@arvada.org>
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **mike rawluk** [redacted] >
Date: Sun, Jan 4, 20
Subject: Re: Hi Rozalynne, how are you? Can you help with a Welay Gardens question?
To: Rozalynne Thomps org>
Cc: Richard BOHLING [redacted]>, Patty Shannon [redacted]

Hi Rozalynne how are you? I attached some screenshots from the third referral regarding the stormwater drainage. It looks like the plan is to have an actua
This main bypasses the Ex Retention Pond on the golf course. Is this still the case in the fourth referral? I did not see any discussion of stormwater in the fo

What would the storm main be constructed from? Is it a pipe?

Thank you.
Mike Rawluk

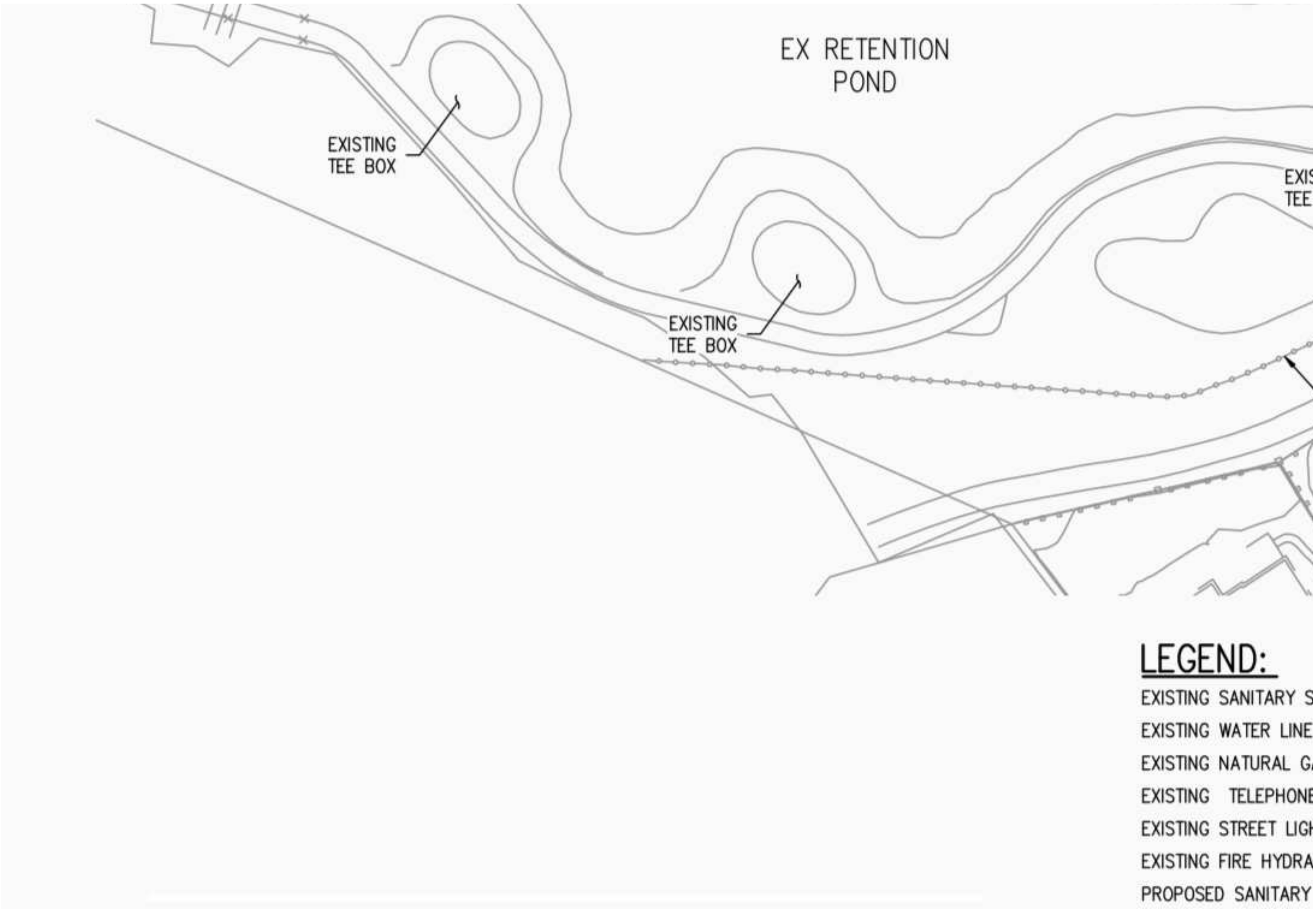


8:11 PM Sun Jan 4

arvadapermits.org

24 of 1361

PR OUTFALL INTO RALSTON CREEK
PR FLARED END SECTION
EX CHURCH DITCH
ST
SS


EX RETENTION
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EXISTING SANITARY S
EXISTING WATER LINE
EXISTING NATURAL G
EXISTING TELEPHONE
EXISTING STREET LIGH
EXISTING FIRE HYDRA
PROPOSED SANITARY

On Tuesday, June 17, 2025 at 01:39:18 PM MDT, Rozalynne Thompson <rthompson@arvada.org> wrote:

Hi Mike,

The Engineering and Stormwater Divisions have provided answers to your questions. Please see the responses below:

Does Avalon Bay have the right to convey detention pond water across OS zoned land that is publicly owned?

The proposed drainage plan follows the historic path, which currently outfalls to the Westwoods Golf Course Pond. Any proposed utility through City property must be coordinated with the ap

Does Avalon Bay have the right to extend the drainage system beyond the assumptions of historical drainage? (PR storm main label on page 331) Does this require a separate land use app

The proposed drainage plan follows the historic path, and Avalon Bay will be required to coordinate with Westwoods Golf Course regarding any proposed changes through their property. This

Would this land disturbance equal 1/2 acre in total, and as such require a grading permit?

Yes, this will require a City Site Disturbance Permit, which models the CDPHE permit because the City is a Qualifying Local Program, meaning the two permits are the same. This developme acres.

Does Avalon Bay have the right to increase the drainage volume onto OS zoned land that is publicly owned, as the impervious surfaces will change on the Welby Gardens land?

All developments are required to meet pre-historic drainage patterns and flow rates. The developer must ensure that the downstream capacity of the public storm system is adequate to conv quality capture volume (WQCV) and release it at historic rates along the historic drainage path.

Will the city contact not only MHFD, but also WQCD and the EPA regarding the plans to discharge into a 303d impaired Water of the United States?

The developer is responsible for making contact with all appropriate agencies to ensure environmental compliance. This development does not appear to be proposing channel improvement responsible for the 303d listing (eColi) of Ralston Creek as this is part of our Municipal Separate Storm Sewer System (MS4). In other words, developments are not referred to these agencie jurisdiction in accordance with the Phase II General MS4 Permit.

Will USACE have to approve a 404 permit for any alterations to Ralston Creek that may constitute dredge or fill?

Any proposed alterations of the Creek will have to follow the appropriate 404 permitting and USACE approvals depending on the impact. If the development proposes a direct outfall to Ralsto

Will FEMA need to be contacted about the additional (PR Storm Main on page 331) work in a Zone AE floodplain (see attached) and the additional water to be added?

The majority of the project occurs outside of Zone AE and will have no impact on the regulated floodplain (LOMR and CLOMR not required). If the utility work occurs within this zone, a floodp 90% of the historic/pre-developed flows.

Has there been ESA Phase 2 testing similar to what we saw at the greenhouses at 51st and Marshall? That particular Phase 2 tested for commonly used and also historical chemicals once u the Kilmer Landfill, which was looking for heavy metals and VOC's primarily.

Phase I ESA is required in the submittal, which will dictate the requirement of a Phase II ESA. The City will ensure this is reviewed and commented on appropriately with the submittal of a Ph

Will the city ensure that the proper permit from WQCD will be obtained by the applicant before releasing any stormwater from the detention pond into Ralston Creek?

WQCD construction permit (COR400000) and City Site Disturbance Permit will be required prior to mobilization and construction and will remain effective until final stabilization is achieved fo permits.

Please let me know if you have any additional questions.

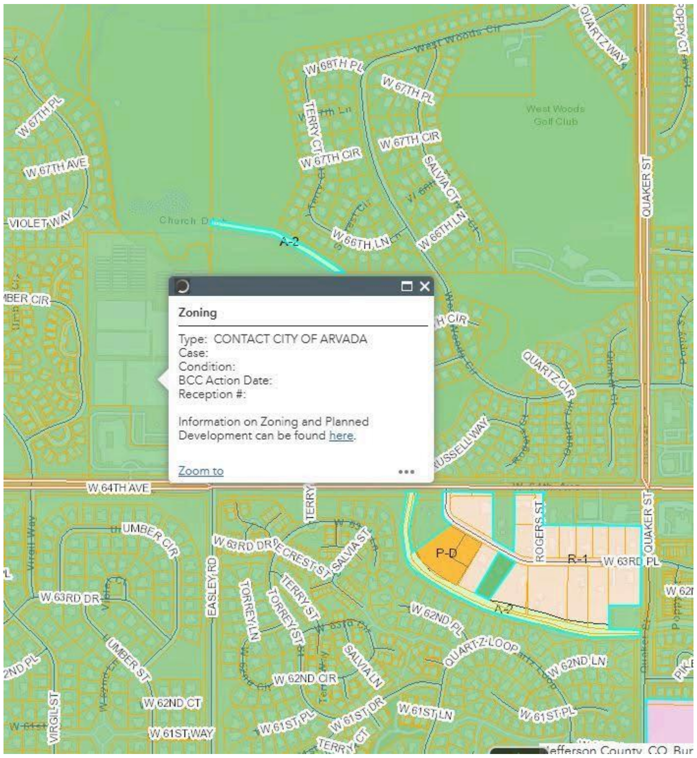
Sincerely,
Rozalynne

On Tue, Jun 10, 2025 at 7:42 AM mike rawluk [redacted]> wrote:

> Hi Rozalynne, how are you?
> I see that the pre application is in for Welby Gardens from Avalon Bay.
>
> One concern I have is the detention pond plans on pages 330-331. It would appear that the applicant wants to release detention pond water through city 303(d) impaired water on the Colorado list of impaired waters. It is also a Waters of the United States, and as such may be subject to provisions in the Cl
>
> It would appear that they are trying to justify this use via the assumption of historic drainage patterns.
> Unfortunately this does not take into account the change in impervious surfaces that will come about if Welby Gardens is built. This would mean that mor find its way off the property and past the assumed historic drainage limits at the house labeled as 6760.
>
> So I have a few basic questions.
>
> Does Avalon Bay have the right to convey detention pond water across OS zoned land that is publicly owned?
>
> Does Avalon Bay have the right to extend the drainage system beyond the assumptions of historical drainage? (PR storm main label on page 331) Doe work on OS land?
>
> Would this land disturbance equal 1/2 acre in total, and as such require a grading permit?
>
> Does Avalon Bay have the right to increase the drainage volume onto OS zoned land that is publicly owned, as the impervious surfaces will change on th
>
> Will the city contact not only MHFD, but also WQCD and the EPA regarding the plans to discharge into a 303d impaired Water of the United States?
>
> Will USACE have to approve a 404 permit for any alterations to Ralston Creek that may constitute dredge or fill?
>
> Will FEMA need to be contacted about the additional (PR Storm Main on page 331) work in a Zone AE floodplain (see attached) and the additional wate

> Has there been ESA Phase 2 testing similar to what we saw at the greenhouses at 51st and Marshall? That particular Phase 2 tested for commonly usec
> potentially different test parameter set than what we saw at the Kilmer Landfill, which was looking for heavy metals and VOC's primarily.
>
> Will the city ensure that the proper permit from WQCD will be obtained by the applicant before releasing any stormwater from the detention pond into Ral
>
> https://cdphe.colorado.gov/wq-per-forms
>
> I attached the 51st and Marshall ESA phase 2 as a basis of comparison. It tested for a wide range of pesticides. Some of these chemicals require notifica
>
> Also, if there is a ESA phase two available, can you please send it?
> Thank you,
> Mike Rawluk
> Ralston Valley Coalition
>
> On Wednesday, February 5, 2025 at 09:34:27 AM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:
>
> Hi Mike,
>
> The pre-application did not include details on the detention pond. However, the City will receive additional details regarding the detention pond in the formal submittal. Staff review of the fo
>
> You may speak to Council about this pre-app; however, given that the project is in the preliminary stages, the project may change from pre-application to formal submittal.
>
> Sincerely,
> Rozalynne
>
> On Wed, Feb 5, 2025 at 8:41 AM mike rawluk [redacted] > wrote:
>
>> Hi Rozalynne, thank you for the quick reply!
>> My first question pertains to the detention pond.
>> Does the pond design have a pathway for release into the Croke Canal?
>> If so, I suggest you reach out to Scott Edgar at FRICO. From what I have learned over the past five years, the canal companies don't usually allow rele
>> well as irrigation canal, and it feeds Standley Lake. As such, my guess is that the applicant may want that feedback pretty early in the process.
>> Also, do you have any of the permeability figures for this development yet?
>> Jake Moyer may know more. Has he looked at this proposal?
>>
>> Also, as it is still in pre app, does this still allow us to speak with City Council still?
>>
>> Thank you,
>> Mike Rawluk
>> Ralston Valley Coalition
>>
>> On Wednesday, February 5, 2025 at 08:09:30 AM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:
>>
>> Hello Mike,
>>
>> My name is Rozalynne Thompson and Jeremiah Bebo forwarded your message to me. I am the planner who will be assigned to this Welby Gardens project should a formal application b
>>
>> The property owners recently submitted a pre-application for the property, which means they are at the beginning of the process and are seeking feedback on their concept. Given that th
>> Once a formal application is submitted for the project, the application will require a Conditional Use Permit, which will involve a public hearing and a decision by the City Council in order t
>>
>> As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the he
>>
>> Sincerely,
>> Rozalynne
>>
>>> ---------- Forwarded
>>> From: **mike rawluk** [redacted]
>>> Date: Tue, Feb 4, 20
>>> Subject: Re: Hi Jeremiah, how are you? Can you help with a MX-S question?
>>> To: Jeremiah Bebo <jbebo@arvada.org>
>>>
>>> Hi again, I hear there has a been a pre app for this project now? Does this mean that we can not discuss with council members? Also, do you have th
>>>
>>> Thank you,
>>> Mike Rawluk
>>>
>>> On Wednesday, January 22, 2025 at 09:15:20 AM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
>>>
>>> You got it!
>>>
>>> **Best,**
>>>
>>> **Jeremiah Bebo, AICP**
>>> ***He/Him/His***
>>> **Senior Planner**
>>> **Community & Economic Development**
>>> **(720)898-7438**
>>> jbebo@arvada.org

On Tue, Jan 21, 2025 at 2:58 PM mike rawluk [redacted]> wrote:

> Oh ok that makes sense then. So it’[redacted] but it’s zoned as mx-s under the city.
>
> On Tuesday, January 21, 2025 at 02:54:52 PM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
>
> JeffCo zoning map shows it as "CONTACT CITY OF ARVADA." What you're looking at as it refers to as "agricultural" is how the County assesses property taxes on the property. Sinc
> anything zoning related.
>
> 
>
> Zoning
>
> Type: CONTACT CITY OF ARVADA
> Case:
> Condition:
> BCC Action Date:
> Reception #:
>
> Information on Zoning and Planned Development can be found here.
>
>

Zoom to
> W 68TH PL
> West Woods Cir
> W 67TH PL
> QUARTZ WAY
> West Woods Golf Club
> W 67TH AVE
> W 67TH CIR
> TERRY CT
> SALVIA CT
> VIOLET WAY
> Church D
> A-2
> W 66TH LN
> QUAKER ST
> QUARTZ CIR
> RUSSELL WAY
> W 64TH AVE
> UMBER CIR
> W 63RD DR
> CREST ST
> EASLEY RD
> TORREY LN
> TORREY ST
> ROGERS ST
> P-D
> R-1
> W 63RD PL
> W 62ND PL
> QUARTZ LOOP
> W 62ND LN
> W 62ND CIR
> W 62ND CT
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> W 61ST WAY
> W 61ST PL
> W 61ST DR
> W 61ST LN
> VIRGIL ST
> Jefferson County, CO, Bur
>
> **Best,**
>
> **Jeremiah Bebo, AICP**
> ***He/Him/His***
> **Senior Planner**
> **Community & Economic Development**
> **(720)898-7438**
> jbebo@arvada.org
>
> On Tue, Jan 21, 2025 at 2:50 PM Jeremiah Bebo <jbebo@arvada.org> wrote:
>
> > I would rather you didn't since I'm not assigned to a project there (and likely won't be if this comes in).
> >
> > For now, the Planner of the Day (POD) can be emailed with questions and that is how we are able to better manage workflow for unassigned tasks.That email is POD@arvada.org
> >
> > **Best,**
> >
> > **Jeremiah Bebo, AICP**
> > ***He/Him/His***
> > **Senior Planner**
> > **Community & Economic Development**

(720)898-7438
jbebo@arvada.org

On Tue, Jan 21, 2025 at 2:32 PM mike rawluk < [redacted] wrote:

> Thank you for this. May we share you[redacted]y other information as we are hearing rumors right now? There was also some form of application. Rumors don't do any of us any good, and we respect the city council, staff, and the process for land use.
>
> Thank you!
> Mike Rawluk
> Ralston Valley Coalition
>
> On Tuesday, January 21, 2025 at 10:41:42 AM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
>
> Hi Mike,
>
> I am unaware of any project for that site and it doesn't look like we have a formal application for it.
>
> MX-S allows for up to 100% residential subject to a Conditional Use approval. That process requires a neighborhood meeting and Planning Commission and City Council hearin
>
> Mixed Use zoning has no maximum density, but they are required to meet all other zoning rules such as a 45 foot height limitation, minimum parking, minimum open space, etc.
>
> The Comprehensive Plan says that the site should be Mixed Use so no comp plan amendment is required.
>
> **Best,**
>
> **Jeremiah Bebo, AICP**
> ***He/Him/His***
> **Senior Planner**
> **Community & Economic Development**
> **(720)898-7438**
> jbebo@arvada.org
>
> On Tue, Jan 21, 2025 at 10:31 AM mike rawluk [redacted] wrote:
>
> > Hi, Jeremiah me how are you? Is the [redacted]4th and Easley all ready zoned for residential? On the Jeffco parcel map it still says
> > Also, what is the max density of MX-S? Does MX-S require uses other than residential only?
> >
> > Do you know if there would then be a need for a Comp Plan amendment for the Welby parcel if it is planned to be 100% residential?
> >
> > Thank you,
> > Mike Rawluk
> > Ralston Valley Coalition

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
8001 Ralston Rd.
Arvada, CO 80002
Phone: 720-898-7436

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
8001 Ralston Rd.
Arvada, CO 80002
Phone: 720-898-7436

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Rozalynne D. Thompson, AICP, J.D.
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Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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2 attachments

IMG_5147.png
528K

IMG_5148.png
580K

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Hi Rozalynne, how are you? Can you help with a Welay Gardens question?

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:38 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **mike rawluk** [redacted] >
Date: Tue, Jun 10,
Subject: Hi Rozalynne, how are you? Can you help with a Welay Gardens question?
To: Rozalynne Th rvada.org>
[redacted] [redacted] LING
[redacted] rk Breese [redacted] [redacted] Gina Hallisey
[redacted] >, Pam Durkee < [redacted] >, Michael Welcher
[redacted] >

Hi Rozalynne, how are you?
I see that the pre application is in for Welby Gardens from Avalon Bay.

One concern I have is the detention pond plans on pages 330-331. It would appear that the applicant wants to release detention pond water through city owned OS zoned land (the golf course) and then into Ralston Creek, which is a 303(d) impaired water on the Colorado list of impaired waters. It is also a Waters of the United States, and as such may be subject to provisions in the Clean Water Act.

It would appear that they are trying to justify this use via the assumption of historic drainage patterns.
Unfortunately this does not take into account the change in impervious surfaces that will come about if Welby Gardens is built. This would mean that more water is not infiltrating into the Welby Gardens property, and would therefore find its way off the property and past the assumed historic drainage limits at the house labeled as 6760.

So I have a few basic questions.

Does Avalon Bay have the right to convey detention pond water across OS zoned land that is publicly owned?

Does Avalon Bay have the right to extend the drainage system beyond the assumptions of historical drainage? (PR storm main label on page 331) Does this require a separate land use application and notification as it would require work on OS land?

Would this land disturbance equal 1/2 acre in total, and as such require a grading permit?

Does Avalon Bay have the right to increase the drainage volume onto OS zoned land that is publicly owned, as the impervious surfaces will change on the Welby Gardens land?

Will the city contact not only MHFD, but also WQCD and the EPA regarding the plans to discharge into a 303d impaired Water of the United States?

Will USACE have to approve a 404 permit for any alterations to Ralston Creek that may constitute dredge or fill?

Will FEMA need to be contacted about the additional (PR Storm Main on page 331) work in a Zone AE floodplain (see attached) and the additional water to be added?

Has there been ESA Phase 2 testing similar to what we saw at the greenhouses at 51st and Marshall? That particular Phase 2 tested for commonly used and also historical chemicals once used but now banned. This would be a potentially different test parameter set than what we saw at the Kilmer Landfill, which was looking for heavy metals and VOC's primarily.

Will the city ensure that the proper permit from WQCD will be obtained by the applicant before releasing any stormwater from the detention pond into Ralston Creek?

https://cdphe.colorado.gov/wq-per-forms

I attached the 51st and Marshall ESA phase 2 as a basis of comparison. It tested for a wide range of pesticides. Some of these chemicals require notification of the federal agency. (see attached)

Also, if there is a ESA phase two available, can you please send it?
Thank you,
Mike Rawluk
Ralston Valley Coalition

On Wednesday, February 5, 2025 at 09:34:27 AM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:

Hi Mike,

The pre-application did not include details on the detention pond. However, the City will receive additional details regarding the detention pond in the formal submittal. Staff review of the formal submittal will include Jake Moyer.

You may speak to Council about this pre-app; however, given that the project is in the preliminary stages, the project may change from pre-application to formal submittal.

Sincerely,
Rozalynne

On Wed, Feb 5, 2025 at 8:41 AM mike rawluk <rawlukm@yahoo.com> wrote:

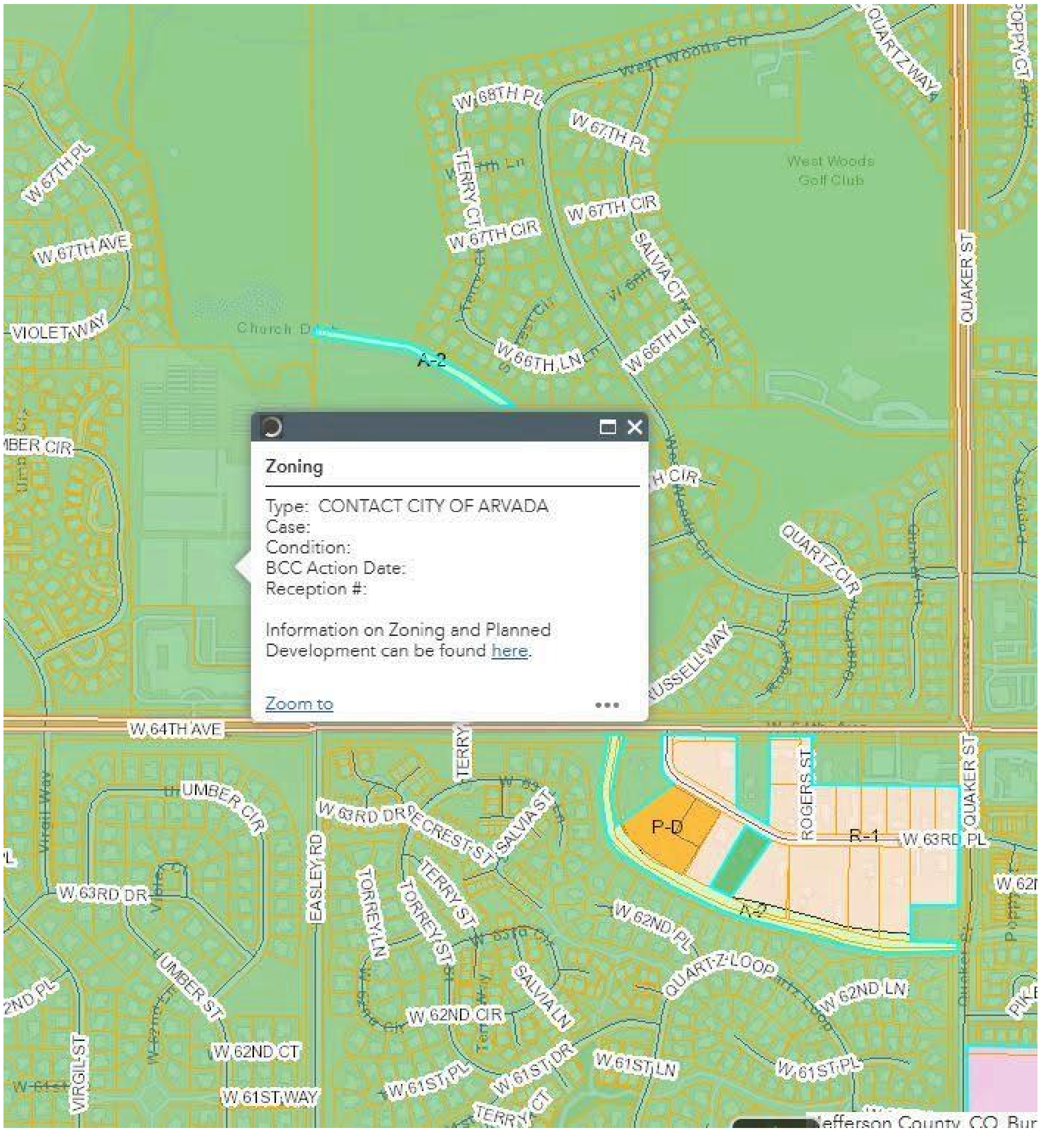
> Hi Rozalynne, thank you for the quick reply!
> My first question pertains to the detention pond.
> Does the pond design have a pathway for release into the Croke Canal?
> If so, I suggest you reach out to Scott Edgar at FRICO. From what I have learned over the past five years, the canal companies don't usually allow release from detention ponds into their canals. Croke Canal is a drinking water as well as irrigation canal, and it feeds Standley Lake. As such, my guess is that the applicant may want that feedback pretty early in the process.
> Also, do you have any of the permeability figures for this development yet?
> Jake Moyer may know more. Has he looked at this proposal?
>
> Also, as it is still in pre app, does this still allow us to speak with City Council still?

> Thank you,
> Mike Rawluk
> Ralston Valley Coalition
>
> On Wednesday, February 5, 2025 at 08:09:30 AM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:
>
> Hello Mike,
>
> My name is Rozalynne Thompson and Jeremiah Bebo forwarded your message to me. I am the planner who will be assigned to this Welby Gardens project should a formal application be submitted.
>
> The property owners recently submitted a pre-application for the property, which means they are at the beginning of the process and are seeking feedback on their concept. Given that they are in the preliminary stages of their project, the City has not received a formal application. Once a formal application is submitted for the project, the application will require a Conditional Use Permit, which will involve a public hearing and a decision by the City Council in order to move forward.
>
> As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.
>
> Sincerely,
> Rozalynne
>
>> ---------- Forwarded message ---------
>> From: **mike rawluk** <rawlukm@yahoo.com>
>> Date: Tue, Feb 4, 2025 at 5:36 PM
>> Subject: Re: Hi Jeremiah, how are you? Can you help with a MX-S question?
>> To: Jeremiah Bebo <jbebo@arvada.org>
>>
>> Hi again, I hear there has a been a pre app for this project now? Does this mean that we can not discuss with council members? Also, do you have the contact information for the specific planner?
>>
>> Thank you,
>> Mike Rawluk
>>
>> On Wednesday, January 22, 2025 at 09:15:20 AM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
>>
>> You got it!
>>
>> **Best,**
>>
>> **Jeremiah Bebo, AICP**
>> ***He/Him/His***
>> **Senior Planner**
>> **Community & Economic Development**
>> **(720)898-7438**
>> jbebo@arvada.org
>>
>> AICP CERTIFIED

CITY OF ARVADA

On Tue, Jan 21, 2025 at 2:58 PM mike rawluk <rawlukm@yahoo.com> wrote:

> Oh ok that makes sense then. So it's still taxed as ag, but it's zoned as mx-s under the city.
>
> On Tuesday, January 21, 2025 at 02:54:52 PM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
>
> JeffCo zoning map shows it as "CONTACT CITY OF ARVADA." What you're looking at as it refers to as "agricultural" is how the County assesses property taxes on the property. Since it is a greenhouse now, they are taxes on an agricultural basis. That doesn't have an impact on anything zoning related.


West Woods Cir
QUARTZ WAY
W 68TH PL
W 67TH PL
West Woods Golf Club
W 67TH PL
TERRY CT
W 67TH AVE
W 67TH CIR
W 67TH CIR
SALVIA CT
VIOLET WAY
Church Ditch
A-2
W 66TH LN
W 66TH LN
QUAKER ST
UMBER CIR
H CIR
QUARTZ CIR
RUSSELL WAY
W 64TH AVE
TERRY
UMBER CIR
W 63RD DR
CRESTST
SALVIA ST
ROGERS ST
QUAKER ST
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R-1
W 63RD PL
A-2
W 63RD DR
EASLEY RD
TORREY LN
TORREY ST
TERRY ST
W 62ND PL
QUARTZ LOOP
W 62ND LN
UMBER ST
W 62ND CIR
SALVIA LN
2ND PL
VIRGIL ST
W 62ND CT
W 61ST WAY
W 61ST PL
W 61ST DR
W 61ST LN
W 61ST PL
TERRY CT
Jefferson County, CO, Bur

Zoning

Type: CONTACT CITY OF ARVADA
Case:
Condition:
BCC Action Date:
Reception #:

Information on Zoning and Planned Development can be found here.

Zoom to

Best,

Jeremiah Bebo, AICP
He/Him/His
Senior Planner
Community & Economic Development
(720)898-7438
jbebo@arvada.org

> > > On Tue, Jan 21, 2025 at 2:50 PM Jeremiah Bebo <jbebo@arvada.org> wrote:
> > >
> > > > I would rather you didn't since I'm not assigned to a project there (and likely won't be if this comes in).
> > > >
> > > > For now, the Planner of the Day (POD) can be emailed with questions and that is how we are able to better manage workflow for unassigned tasks.That email is POD@arvada.org.
> > > >
> > > > **Best,**
> > > >
> > > > **Jeremiah Bebo, AICP**
> > > > ***He/Him/His***
> > > > **Senior Planner**
> > > > **Community & Economic Development**
> > > > **(720)898-7438**
> > > > jbebo@arvada.org
> > > >
> > > > On Tue, Jan 21, 2025 at 2:32 PM mike rawluk <rawlukm@yahoo.com> wrote:
> > > >
> > > > > Thank you for this. May we share your information, or any other information as we are hearing rumors right now? There was also some form of community meeting held last week, but not a City organized meeting based on an application. Rumors don't do any of us any good, and we respect the city council, staff, and the process for land use.
> > > > >
> > > > > Thank you!
> > > > > Mike Rawluk
> > > > > Ralston Valley Coalition
> > > > >
> > > > > On Tuesday, January 21, 2025 at 10:41:42 AM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
> > > > >
> > > > > Hi Mike,
> > > > >
> > > > > I am unaware of any project for that site and it doesn't look like we have a formal application for it.
> > > > >
> > > > > MX-S allows for up to 100% residential subject to a Conditional Use approval. That process requires a neighborhood meeting and Planning Commission and City Council hearings.

> > > > > Mixed Use zoning has no maximum density, but they are required to meet all other zoning rules such as a 45 foot height limitation, minimum parking, minimum open space, etc. which limits the number of units that can be built.
> > > > >
> > > > > The Comprehensive Plan says that the site should be Mixed Use so no comp plan amendment is required.
> > > > >
> > > > > **Best,**
> > > > >
> > > > > **Jeremiah Bebo, AICP**
> > > > > ***He/Him/His***
> > > > > **Senior Planner**
> > > > > **Community & Economic Development**
> > > > > **(720)898-7438**
> > > > > jbebo@arvada.org
> > > > >
> > > > > On Tue, Jan 21, 2025 at 10:31 AM mike rawluk <rawlukm@yahoo.com> wrote:
> > > > >
> > > > > > Hi, Jeremiah me how are you? Is the Welby property at 64th and Easley all ready zoned for residential? On the Jeffco parcel map it still says Agricultural.
> > > > > > Also, what is the max density of MX-S? Does MX-S require uses other than residential only?
> > > > > >
> > > > > > Do you know if there would then be a need for a Comp Plan amendment for the Welby parcel if it is planned to be 100% residential?
> > > > > >
> > > > > > Thank you,
> > > > > > Mike Rawluk
> > > > > > Ralston Valley Coalition

> --
> **Rozalynne D. Thompson, AICP, J.D.**
> Principal Planner
> 8001 Ralston Rd.
> Arvada, CO 80002
> Phone: 720-898-7436

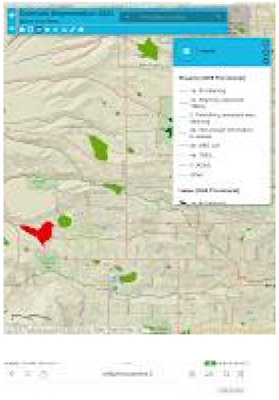
--
Rozalynne D. Thompson, AICP, J.D.

Principal Planner
8001 Ralston Rd.
Arvada, CO 80002
Phone: 720-898-7436

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

7 attachments



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801K

IMG_2281.png
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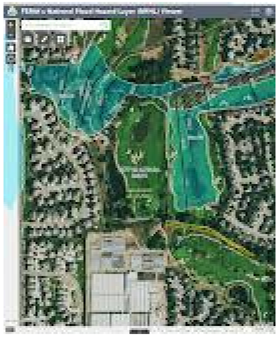

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2896K

ESA Phase 2.pdf
2151K

Oct. 3, 2025

Ms Jessica Garner
Mr. Rob Smetana

Regarding the Avalon Bay proposal for Welby Gardens, we agree with Arvada Comprehensive Plan evaluating development proposals: Compatible infill with the scale and character of existing neighborhoods, integrate development proposals/projects that enrich the character of the district, and lower densities in the western parts of Arvada.

The Avalon Bay development project hoping to replace Welby Gardens with a 435 unit apartment complex does not meet the implied goals of the Comprehensive plan.

We are concerned about our personal safety and that of the other seniors at Morning Star Arvada as we walk each day on our property. The probable 650 vehicles belonging to the proposed units will impact the narrow Easley road north of 64th Ave. I foresee no overflow parking on Easley for our guests and employees. I do foresee impatient drivers cutting through our property to avoid the needed stoplight.

This is my most pressing concern. Surely the water supply for 435 apartments and the safety of that water supply coming through the Welby property after many years of use by growers will be of great concern to you as it is to Morning Star residents.

We ask that you visit the site and make a determination that takes our concerns into your decision-making process.

Respectfully,
Miriam A. Shannon

17351 W. 64th Avenue Unit 3034
Arvada, CO. 80007

CITY OF ARVADA
NOV 14 2025
RECEIVED

CED Boards and Commission <cedboardsandcommission@arvada.org>

No High rise buildings in west Arvada.

2 messages

---

mikecstover Stover [redacted] Sun, Jan 11, 2026 at 12:51 PM
To: "Cedboard [redacted] .org" <Cedboardsandcom
C [redacted] r Tyus [redacted] nt Lindholm
[redacted] >, Phil Fry [redacted] ove [redacted] L FRANCIS
n Twehous <D [redacted] e Talley [redacted]
k Dietz [redacted] Sisk [redacted] cott
[redacted] >, Sean [redacted] >,
[redacted] Stoecke [redacted] >, Marty Smyth
[redacted] teve Storch [redacted] >, "Mik [redacted]
[redacted] pson [redacted] >, Bob Kennedy [redacted] >, Tom
Campbe [redacted] >

FYI

Arvada commissioner we will to go a voice our concerns over 385 new units in our back yard that will most certainly make 64th avenue a very busy street and add at least 700 more vehicles to merge into our streets, plus lower the price of our homes to a point where living in the western Arvada a metropolis with people
Issues and higher crime in our once quiet neighborhood!!!!!!

Say NO MORE MULTIPLE HOUSEING IN WEST ARVADA!!!!!! FYI we might want to go a voice our opinion on 385 new units in our back yard that will most certainly make 64th avenue a very busy street and add at least 700 more vehicles to merge into our streets, plus lower the price of our homes to a point where living in the western Arvada a metropolis with people
Issues and higher crime in our once quiet neighborhood!!!!!!

Say NO MORE MULTIPLE HOUSEING IN WEST ARVADA!!!!!!
Sent from my iPhone

Carey [redacted] Sun, Jan 11, 2026 at 1:38 PM
To: mikecstover Stover [redacted] >
ission@arvada.o [redacted] Tyus
[redacted] >, Kent Lindholm [redacted] , Phil Fry [redacted] er
[redacted] NIEL FRANCIS [redacted] Twehous [redacted]
Talley [redacted] n Phillips [redacted]
[redacted] >, [redacted]
[redacted] t>, Sean [redacted] >,
S [redacted] Stoecke [redacted] >, Marty Smyth
[redacted] >, Steve Storch [redacted] >, "Mike [redacted]
[redacted] on [redacted] >, Bob Kennedy [redacted] >, Tom
Campbell [redacted]

Here is the link describing the project located @ 64th & Easley.
https://www.arvadaco.gov/1465/Avalon-Arvada-Welby-Center

Carey Dietz
'58 Packard Hawk #42!
[Quoted text hidden]

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: WELBY GARDEN VENUE

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:33 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: <nandrp@aol.com>
Date: Mon, Dec 8, 2025 at 2:48 PM
Subject: Re: WELBY GARDEN VENUE
To: <rthompson@arvada.org>

Rozalynne,

Thank you so much for your prompt response. I appreciate your making my comments known as I will be out of town to see my grandchildren in Europe until December 31st. Happy Holidays!

With kind regards,

Nan

In a message dated 12/8/2025 8:31:46 AM Mountain Standard Time, rthompson@arvada.org writes:

> Hello Nan,
>
> As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.
>
> Sincerely,
> Rozalynne
>
> On Sat, Dec 6, 2025 at 4:33 PM <nandrp@aol.com> wrote:
>
> > **RE: The proposed multifamily project on the current Welby Gardens property.**
> >
> > I am distressed that the City Council would even consider another high-rise multifamily project on this site. It is nested within the borders of West Wood Estates. There is no infrastructure to support such a large development. The plot should be developed into single family homes or at the very least senior duplexes similar to Ironstone or Trail Village. When the City Council allowed West Town to be built it threw the traffic intersection at 64th and McIntyre into a high traffic zone similar to 52nd and Wadsworth. It is a nightmare. If this project goes forward it would devastate current environment on 64th and Quaker west to Virgil, again with no infrastructure to support it. The landscape created by developers building one area of little gray boxes after another will be appalling in West Arvada which before this current building fashion was a pristine community and embraced the open space in our region. I urge you to drive around the area and see the effect of what you are considering. I pray that you will stop this project from going forward and find a developer who is willing to support a project that matches the current architecture and structure of West Woods Estates.
> >
> > With kind regards,

> Nan Waller Burnett
>
> Nan Waller Burnett, MA
> Advanced Practitioner -ACR / High Conflict Specialist
> Dispute Resolution Professionals, LLC
> 6437 Umber Circle
> Arvada, CO 80007
> 303-881-8003 direct
> nanmbb@gmail.com
>
> ***CONFIDENTIAL***
> ***This communication may contain CONFIDENTIAL INFORMATION, which may include, but not be limited to, Protected Health Information and be Legally Privileged and is intended only for the use by the Addressee named above. If the reader of this e-mail is not the intended recipient or his or her authorized agent, the reader is hereby notified that any dissemination, distribution, or copying of this e-mail.***
>
> --
> **Rozalynne D. Thompson, AICP, J.D.**
> Principal Planner
> Phone: 720-898-7436
> Email: rthompson@arvada.org
> **Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm**
>
> CITY OF ARVADA

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: WELBY GARDEN VENUE

Josie Suk <jsuk@arvada.org> Tue, Dec 9, 2025 at 10:07 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Dec 9, 2025 at 10:05 AM
Subject: Fwd: WELBY GARDEN VENUE
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Lauren Simpson** <lsimpson@arvada.org>
Date: Tue, Dec 9, 2025 at 9:41 AM
Subject: Fwd: WELBY GARDEN VENUE
To: Kristen Rush <kristen@arvada.org>

For the record for Welby Gardens. Thanks!

Lauren Simpson,
Mayor
City of Arvada
Ph: 720-961-3779
E: LSimpson@arvada.org

---------- Forwarded message ---------
From: <[redacted]>
Date: Sat, Dec 6, 2025 at 4:33 PM
Subject: WELBY GARDEN VENUE
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>, <rsmetana@arvada.org>, <jegarner@arvada.org>, <sdavis@arvada.org>
Cc: <GREG@highlandfab.com>

RE: The proposed multifamily project on the current Welby Gardens property.

I am distressed that the City Council would even consider another high-rise multifamily project on this site. It is nested within the borders of West Wood Estates. There is no infrastructure to support such a large development. The plot should be developed into single family homes or at the very least senior duplexes similar to Ironstone or Trail Village. When the City Council allowed West Town to be built it threw the traffic intersection at 64th and McIntyre into a high traffic zone similar to 52nd and Wadsworth. It is a nightmare. If this project goes forward it would devastate current environment on 64th and Quaker west to Virgil, again with no infrastructure to support it. The landscape created by developers building one area of little gray boxes after another will be appalling in West Arvada which before this current building fashion was a pristine community and embraced the open space in our region. I urge you to drive around the area and see the effect of what you are considering. I pray that you will stop this project from going forward and find a developer who is willing to support a project that matches the current architecture and structure of West Woods Estates.

With kind regards,

Nan Waller Burnett

Nan Waller Burnett, MA
[redacted]
6437 Umber Circle
Arvada, CO 80007
[redacted]

CONFIDENTIAL
This communication may contain CONFIDENTIAL INFORMATION, which may include, but not be limited to, Protected Health Information and be Legally Privileged and is intended only for the use by the Addressee named above. If the reader of this e-mail is not the intended recipient or his or her authorized agent, the reader is hereby notified that any dissemination, distribution, or copying of this e-mail.

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Development Systems and Administrative Manager
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

---

Welby Gardens.docx
15K

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:30 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded m
From: **Nicole Kunde** [redacted]
Date: Mon, Jan 5, 202
Subject: Re: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site
To: Rozalynne Thompson <rthompson@arvada.org>

Thank you for the update.

On Mon, Jan 5, 2026, 4:29 PM Rozalynne Thompson <rthompson@arvada.org> wrote:

> Hello Nicole,
>
> We have received the email from John L. Browdy and it is now in the public record. If you have additional comments, you may either send them to me via email at rthompson@arvada.org or give public comment at the January 21st Planning Commission meeting.
>
> Sincerely,
> Rozalynne
>
> ---------- Forwarded m
> From: **Nicole Kunde** [redacted] >
> Date: Sun, Dec 28, 20
> Subject: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site
> To: jegarner@arvada.org <jegarner@arvada.org>
>
> John L. Browdy
> 6576 Torrey Court
> Arvada, CO 80007
> Phone [redacted]
>
> Westwood Links Filing #3
>
> December 28, 2025
>
> Jennifer Garner
> Arvada Planning Development
> 8101 Ralston Rd
> Arvada, CO 80001
> Phone: (720) 898-7500
> Email: JEGarner@Arvada.org
>
> Re: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site

To Jennifer Garner,

I am writing to formally express my opposition to the proposed Avalon Development on the Welby Garden site (Project #DA2025-0035).

This proposed development is incompatible with the existing surrounding neighborhoods. Our community consists primarily of one- and two-story single-family homes adjacent to the City golf course. The proposed plan includes twelve three- and four-story buildings along with 53 townhomes. These 45-foot-high structures will overshadow existing homes, block sunsets, and significantly diminish the scenic mountain views that were a major factor in my decision to purchase my property.

The location of this development is also inappropriate. There are no retail services within walking distance, which will increase reliance on vehicles. The development will introduce significant light pollution from multi-story buildings and increased traffic, negatively affecting the character and livability of the neighborhood.

Noise impacts are another serious concern. Prolonged construction noise, combined with ongoing noise from increased traffic and proposed amenities such as a pool, will disrupt the quiet residential environment that currently exists.

Traffic impacts are particularly troubling. The site lacks convenient access to light rail or alternative transportation options. The proposed complex is estimated to generate approximately 2,800 new vehicle trips per day. This increased traffic will spill into surrounding neighborhoods, decreasing safety for residents, school bus stops, pedestrians, and those who choose to ride bicycles for transportation or recreation.

Emergency Access and Egress present a significant and unacceptable safety concern. The proposed development would have only one access and egress point via a single, unlined stub road. This configuration is inadequate for safe and rapid evacuation during an emergency. I offer this concern not as speculation, but based on professional experience. I served 36 years with the Denver Fire Department as a firefighter first-grade and relief engineer. From this perspective, it is clear that a single access point for a development of this size poses a serious risk. In the event of a wildfire or other emergency, approximately 1,000 residents would be attempting to evacuate through one stub road, potentially routing through the parking lot of a senior living facility at the same time emergency personnel would be attempting to evacuate the vulnerable residents of that facility. This design creates an unnecessary and dangerous conflict for evacuation and emergency response operations.

There are also environmental concerns, including negative impacts on air quality and increased stormwater runoff, which will affect both the immediate area and surrounding properties.

I urge you and other city officials to fully educate yourselves on the deficiencies and negative impacts of this poorly designed project. I respectfully ask that you take decisive steps to prevent approval of this development in its current form and protect the safety, character, and quality of life of our community.

Thank you for your time and consideration.

Sincerely,

John L. Browdy
Westwood Links Filing #3

--
Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:36 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Tue, Sep 9, 2025 at 8:12 AM
Subject: Re: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers
To: Don Wick <dwick@arvada.org>
Cc: Rozalynne Thompson <rthompson@arvada.org>

Thanks for sharing this, Don. Rozalynne can use this information when she gets more emails like this one!
Jessica

On Mon, Sep 8, 2025 at 8:10 PM Don Wick <dwick@arvada.org> wrote:

> FYI as follow up to the Welby Garden question. Thank you both for your help. Sounds like the state has this covered.
>
> ---------- Forwarded message ---------
> From: **White - CDPHE, Tracie** <tracie.white@state.co.us>
> Date: Mon, Sep 8, 2025 at 12:17 PM
> Subject: Re: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containe
> To: Pam Durkee : [redacted]>
> Cc: <jennifer.talbert@state.co.us>, <fonda.apostolopoulos@state.co.us>, <lindsey.daugherty.senate@coleg.gov>, <lisa.feret.house@coleg.gov>, <tvolkman@co.jefferson.co.us>, <rlaws@co.jefferson.co.us>, <mpitts@co.jefferson.co.us>, <council@arvada.org>, <dwick@arvada.org>
>
> Hello Ms. Durkee -
>
> Thank you for your email. The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with this property owner. An environmental investigation and cleanup at this property will take place under our Voluntary Cleanup and Redevelopment Program (VCUP). As part of the investigation, we have asked for extensive soil and groundwater sampling to determine the nature and extent of contamination at this site. We do know there is some level of soil contamination, which the owner intends to excavate and clean up to residential standards. At this time, we are awaiting a VCUP application so we can review and provide comments on the property owner's proposed cleanup plans. Fonda Apostolopoulos (fonda.apostolopoulos@state.co.us) will be overseeing this project for CDPHE. Please feel free to contact him with any further questions. Thank you again for alerting us to your concerns.
>
> Thanks,
>
> Tracie White
>
> **Tracie M. White, P.E.**
> **Division Director, Hazardous Materials & Waste Management Division**
> **Colorado Department of Public Health & Environment**

COLORADO
Hazardous Materials
& Waste Management Division
Department of Public Health & Environment

P 720.483.3926
4300 Cherry Creek Drive South, Denver, CO 80246-1530
tracie.white@state.co.us | www.colorado.gov/cdphe/hm

Executive Assistant: Dana Campbell, dana.campbell@state.co.us

On Mon, Sep 8, 2025 at 10:14 AM Pam Durkee : [redacted]> wrote:

> Hello City, County, and State folks,
>
> I live in Trail Village Villas which is directly next to the Welby Garden Wholesale property. Welby Gardens Nursery has sold their property and is currently tearing down greenhouses and doing some level of demolition not the property. It is my understanding the Nursery has been on the property going back to the early 1970's. There is a high probability they utilized chemicals back then that have since been banned. In addition, they continued to used pesticides/chemicals related to their nursery operation up until the point they chose to sell their property.
>
> It is GRAVELY concerning to see Industrial Chemical Barrels and ongoing demolition of their property NOT KNOWING if an in-depth EPA study/testing has been done. Is there something you can do to ensure our safety and have EPA inspections/testing done?
>
> I have attached photos I took this week of the ongoing work happening and the Industrial Barrels.
>
> I would greatly appreciate it if someone could get back to me. There are many other neighbors very concerned about this.
>
> I appreciate your time and hope pray you give attention to our concerns.
>
> Thank you,
>
> Pam Durkee [redacted]

--

Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm
CITY OF
ARVADA

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF
ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:36 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Mon, Sep 8, 2025 at 3:57 PM
Subject: Re: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers
To: Rozalynne Thompson <rthompson@arvada.org>
Cc: Rob Smetana <rsmetana@arvada.org>

Thank you!
Jessica

On Mon, Sep 8, 2025 at 3:52 PM Rozalynne Thompson <rthompson@arvada.org> wrote:

> Hi Jessica,
>
> Yes, that is correct. If there is suspected violation of environmental laws, a resident can lodge a complaint with the EPA (federal) and/or the Colorado Department of Public Health and Environment (state). Each agency has a website dedicated to filing complaints regarding potential violations by a facility.
>
> As for the project, we have still not received a Phase II ESA from the applicant. The applicant has been told that the project will not be able to move forward to a public hearing until the City receives a Phase II ESA.
>
> Sincerely,
> Rozalynne
>
> On Mon, Sep 8, 2025 at 3:36 PM Jessica Garner <jegarner@arvada.org> wrote:
>
>> Hi, anything to clarify with this project? I'm not sure how regulators would know to come out and inspect the site, but couldn't a resident file a complaint with someone there?
>> Thanks,
>> Jessica
>>
>> ---------- Forwarded message ---------
>> From: **Don Wick** <dwick@arvada.org>
>> Date: Mon, Sep 8, 2025 at 10:47 AM
>> Subject: Fwd: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers
>> To: Jessica Garner <jegarner@arvada.org>
>>
>> Hi Jessica,
>> FYI, and if you have any insight. Thank you.
>>
>> ---------- Forwarded me
>> From: **Pam Durkee :** [redacted]
>> Date: Mon, Sep 8, 202
>> Subject: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers
>> To: <tracie.white@state.co.us>, <jennifer.talbert@state.co.us>, <fonda.apostolopoulos@state.co.us>,

<lindsey.daugherty.senate@coleg.gov>, <lisa.feret.house@coleg.gov>, <tvolkman@co.jefferson.co.us>, <rlaws@co.jefferson.co.us>, <mpitts@co.jefferson.co.us>, <council@arvada.org>, <dwick@arvada.org>

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It is GRAVELY concerning to see Industrial Chemical Barrels and ongoing demolition of their property NOT KNOWING if an in-depth EPA study/testing has been done. Is there something you can do to ensure our safety and have EPA inspections/testing done?

I have attached photos I took this week of the ongoing work happening and the Industrial Barrels.

I would greatly appreciate it if someone could get back to me. There are many other neighbors very concerned about this.

I appreciate your time and hope pray you give attention to our concerns.

Thank you,

Pam Durkee [redacted]

--
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CITY OF ARVADA

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Customer Submission #25-4487 Open

Print

Created on September 16, 2025 by Ben Perko

Assigned to	Collaborator/s	Due By	Submission Age
Isaac Romero	Dixielee Rodriguez	09/19/2025	2 Days

Attachments	Customer Messages	Internal Comments	Tasks
3	0	0	0

Source	Category	Department	Customer Name	Customer Email
Internal by Ben Perko	Planning and Development	Community and Economic Development	Pam Durkee	[redacted]

Cell Phone
[redacted]

Description

Submitted on behalf of Councilmember Ambrose and Pam Durkee: Hello City Council, City employees, I had previously emailed on 9/8/25 and expressed EPA related concerns about the Welby Garden Wholesale Nursery. Adjacent residents/neighborhoods met and feel it is imperative that the Voluntary Cleanup Program (VCUP) be approved before ANY " Conditional Use" vote occurs. How can a vote occur on residential use if they don’t know if any Environmental Use Restrictions (EUR's) will be placed on this land? And if these restrictions would restrict residential? Welby Gardens needs to be approved into the Voluntary Clean-up Program. In order to do this, they would need to fully characterize (soil sampling/groundwater sampling) the site for pesticides, herbicides, metals, and volatile organic compounds. Based on those results, Welby Gardens will need to have an approved cleanup plan, which will need to be performed under the supervision of an environmental professional. As a minimum, they will need to excavate soils, removing any contaminants, until they achieve residential standards. They will also need to have upgradient and downgradient groundwater monitoring wells to determine if groundwater has been affected. If groundwater is found to be affected, due to their operations on site, they will also need to clean that up to drinking water standards. We are aware of at least three large industrial drum containers on the Welby Garden site. These drums were probably used to place soil cuttings. These soil cuttings also need to be sampled and disposed of at an appropriate landfill. We strongly feel that the Voluntary Clean-up Program (VCUP) must occur before any conditional use vote takes place. The VCUP process is in the best interests of EVERYONE. We can't imagine that city and state personnel would allow a conditional use without the VCUP. I appreciate your time, Pam Durkee *Please see full attached email, abbreviated for size

Location

17201 W
64TH AVE,
Arvada, CO
80007

Street Address
17201 W 64TH AVE

#-

City
Arvada

State
CO

Zip
80007

APN
30-023-01-083

Council District
District 4

Business Name
-

Owner Name
WELBY GARDENS CO LLC

Owner's Mailing Address
17201 W 64TH AVE,
ARVADA, CO 80007

Flagged?
No

Section 1: Assessor's Addresses

Assessor's Address
17201 W 64TH AVE,
ARVADA, CO 80007

Section 2: CDBG Information

CDBG Eligible?	CDBG Approved?	Census Tract	Block Group	LowModPct
No	No	009838	080590098382	4

Customer Messages (2)

ArvadaCO@customerportal.help 09/16/2025 02:44pm Email Text

Issue # 25-4487: We have received your submission!

Hello Pam Durkee,

Thank you for submitting the following request:

Request Number: 25-4487

Your request is being routed to a subject matter expert who will review and determine the next steps in resolving the issue.

You can monitor the request status through the Ask Arvada system by checking back at this link in your email, or by going to http://askarvada.comcate.com and choosing "view my submissions" on the top right hand side of the web portal.

Thank you,

The Customer Experience Team

This email is in reference to issue 25-4487 (CRM-YDWtgG2qw). In case of any queries, you can respond to this email and we will get back to you as soon as we can.
Arvada, CO
8101 Ralston Rd., Arvada, CO 80002

Josie Suk 09/18/2025 11:28am Email Text

Issue # 25-4487: We have received your submission!

Good Morning,

We understand that you have high concerns over this property. In response to your concern about the Conditional Use permit being approved prior to a VCUP approval, our process requires that the Conditional Use be reviewed first prior to any engineering or site development can commence. However, for this project, we have made a condition for this applicant to have this process initiated before any public hearing takes place. The applicant has agreed and is working with the State. If the Council decides to approve the Conditional Use then an application for a Site Plan is required for review. The Site Plan application will have to include the VCUP among many other documents for a technical review.

Your comment will be retained as part of the record for public comment for this request. If you have further questions, we are happy to address them and please reach out as you see necessary.

This email is in reference to issue 25-4487 (CRM-YDWtgG2qw). In case of any queries, you can respond to this email and we will get back to you as soon as we can.
Arvada, CO
8101 Ralston Rd., Arvada, CO 80002

Planning and Development

Public Information

Email Address

[redacted]

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Garden Proposed Development

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:34 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Rozalynne Thompson** <rthompson@arvada.org>
Date: Fri, Oct 17, 2025 at 2:05 PM
Subject: Re: We [redacted] Development
To: Pam Knepp [redacted]

Hello Pam,

Thank you for your email. City staff is evaluating Avalon Arvada's application to ensure that all the required information has been submitted. Ultimately, the Conditional Use Permit involves a public hearing and a decision by the City Council in order to move forward.

As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.

Sincerely,
Rozalynne

On Thu, Oct 16, 2025 at 12:53 PM Pam Knepp [redacted]> wrote:

> Hello. My name is Pam Knepp. We live [redacted] in Trail Village II, 80007. I am writing today to ask that you give "grave" consideration to the apartment proposal at Welby Gardens location. Clearly, we have enjoyed and benefited from having Welby as a neighbor and wish them the very best as they move into retirement.
>
> That said, we are extremely concerned with the apartment proposal for those 20 acres. The plans for the entire project are not compatible with the Arvada's Comprehensive Code. The density proposed is larger than if we moved the people of Sunrise Ridge, Fieldstone, West Wood Links III, and the three areas of Trail Village onto that acreage.
>
> Another concern is that they will leave part of the area undeveloped for an unknown group to build an unknown design of townhomes.
>
> Such density would have a huge impact on already stressed traffic patterns. Avalon is estimating 2,800 traffic trips per day; a more educated guestimate would be closer to 4,500 trips. The entrance to Welby (64th and Easley) cannot be enlarged. Consequently, the corner of Easley and 64th will become a major traffic hazard, both in and out, particularly at rush hour. And leaving Morningstar is hazardous 24 hours a day! Trying to make a U-turn at Virgil Way, with oncoming traffic speeding down 64th from Highway 93 is another accident waiting to happen. Currently, exiting our neighborhood (Virgil Way onto 64th) is dangerous! And rush hour is maddeningly impossible.
>
> Another concern, with far greater consequences, would be the event of another Marshall Fire. Living on this beautiful urban wild corridor has new cautions; once you know of the danger firsthand you cannot

> un-know that danger!   Also, with the proposed density, an emergency vehicle maneuvering in the tight spaces between buildings would cause a hazard just on their own.
>
> The list goes on and on. Land pollution because of pesticides and fertilizers. Water run-off into church ditch is a real thing. Noise and light pollution coming from a high rise immediate neighbor. We can hear the trains along 88th when our windows are open at night. What would it be like right next door?
>
> Lastly, and as kindly as I can, I'd like to say you are an elected official representing the voting residents of the City of Arvada. When we built this house 22 years ago, we paid an additional fee for THIS lot because of the views to the west. I was impressed with a City Council that was interested in developing and maintaining the beauty and peacefulness of western Arvada, as per the Master Plan and City Code. You have done a terrific job with parks and trails - it's what makes Arvada such a desirable community. Please do not ruin that. It would never, ever be the same.
>
> Thank you for giving this your utmost attention. Please vote no on high rise, high density in western Arvada.
>
> Kind Regards. Pam and Bill Knepp

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

[redacted]

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Project # DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org>	Thu, Jan 15, 2026 at 2:52 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Here's another one.

Rozalynne

---------- Forwarded mes
From: **Paul Ochenride** [redacted]
Date: Thu, Jan 15, 2026
Subject: Project # DA2025-0035
To: RThompson@arvada.org <RThompson@arvada.org>

Rozalynne:

I am writing to express my serious concerns regarding the proposed development project #DA2025-0035. Please place this letter on the public record.

My family of four lives in the Fieldstone neighborhood directly south of the proposed project. I have two children, ages 6 and 8, and we love our neighborhood. However, this project would significantly harm the area and negatively impact future generations.

This development would place a major strain on the local water supply. Additionally, the land has been treated with generations of pesticides and chemicals that should not be disturbed.

The traffic generated by 435 residential units would dramatically increase congestion on 64th Avenue and Easley Road. There are only two access points to and from the development, which would also be shared with existing access at Easley and 64th. Westwoods and Morningstar already rely on this intersection. A traffic light would be required just to make crossing this area safe. In the event of a wildfire, can you imagine the mass departure from the area, combined with the evacuation of elderly residents at Morningstar? This situation would not be safe.

64th Avenue is already busy, especially during events at the football and baseball fields. On Friday nights, it already feels like a racetrack. With this development, that level of traffic would become constant, day and night. During rush hour, traffic would back up from Easley and 64th all the way to 58th Avenue. There is simply not enough space to accommodate this increase.

If a wildfire, emergency, or other situation required a mass evacuation, there would be major safety issues and accidents as a result of approving this project. The area cannot handle this level of development. Please do not approve it.

Lastly, our area does not have sufficient fire and EMS resources to support 435 additional homes, approximately 870 more vehicles, and thousands of new residents. Local infrastructure, including King Soopers, cannot handle the additional traffic. Overall, this project is not appropriate for the area. We strongly request a safer alternative that is more compatible with the surrounding neighborhoods and environment. While I understand the developer’s desire for profit, this proposal is not safe.

Please help keep Arvada West as wild and livable as possible for my children and future generations.

Thank you for your time and consideration.

Paul Ochenrider
17296 W 61st Ct
Arvada, CO 80403

[redacted]

paul.ochenrider@gmail.com

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Project # DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 15, 2026 at 2:51 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Hi Dixie,

Here is another comment for the record.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Thu, Jan 15, 2026 at 2:48 PM
Subject: Fwd: Project # DA2025-0035
To: Rozalynne Thompson <rthompson@arvada.org>

Please add to the record.

---------- Forwarded mes
From: **Paul Ochenride** [redacted]
Date: Thu, Jan 15, 2026
Subject: Project # DA2025-0035
To: JEGarner@arvada.org <JEGarner@arvada.org>

Jessica:

I am writing to express my serious concerns regarding the proposed development project #DA2025-0035. Please place this letter on the public record.

My family of four lives in the Fieldstone neighborhood directly south of the proposed project. I have two children, ages 6 and 8, and we love our neighborhood. However, this project would significantly harm the area and negatively impact future generations.

This development would place a major strain on the local water supply. Additionally, the land has been treated with generations of pesticides and chemicals that should not be disturbed.

The traffic generated by 435 residential units would dramatically increase congestion on 64th Avenue and Easley Road. There are only two access points to and from the development, which would also be shared with existing access at Easley and 64th. Westwoods and Morningstar already rely on this intersection. A traffic light would be required just to make crossing this area safe. In the event of a wildfire, can you imagine the mass departure from the area, combined with the evacuation of elderly residents at Morningstar? This situation would not be safe.

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Please help keep Arvada West as wild and livable as possible for my children and future generations.

Thank you for your time and consideration.

Paul Ochenrider
17296 W 61st Ct
Arvada, CO 80403

[redacted]

--
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Oct 3, 2025

Dear Mr. Bob Fifer,

I am writing to you inorder to express my opposition to the proposed plan for the Welby Gardens property on 64th Ave. ; Easley Rd.

My concerns are several - increased traffic - limited access ; egress causing traffic problems - so many cars pose danger to the elderly residents living at MorningStar Senior Living and complicate driving to and from our residence. If access is granted through the west end of MorningStar property, traffic there will pose significant danger to residents who frequently walk there.

Change to configuration of Easley Rd. will eliminate any parking there and will impose a hardship on tradespeople, visitors, ; residents of MorningStar.

Sincerely yours,

Phyllis [illegible]

Suite 3014 MorningStar
(95 yrs.) Senior Living

Oct 3, 2025

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Sincerely yours,

Phyllis [illegible]

Suite 3014 MorningStar
(95 yrs.) Senior Living

Patricia Wingert
Morning Star of Arvada
Ste 2012
September 10, 2025

Arvada City Council,
8101 Ralston Road
Arvada CO 80002

As a ~~M~~ senior citizen & taxpayer of Arvada, I'm writing this letter to express my concerns about the proposed development of Welby Gardens.

My main interests are for the safety and health of our aging Morning Star resident, ~~of which~~ where I am living. We will be directly impacted by the proposed plan to develop this land. No consideration has been given to the safety of our residents & traffic problems will be devastating for us. With only one access for an estimated population of 700 residents, this will lead to overuse of Morning star drives & parking areas, as well as perilous conditions for our residents, many using walkers & wheelchairs who enjoy walks in our beautiful Colorado weather. We love living in Arvada & pay a premium dollars for our home.

The health of senior citizens would be adversely affected by possible soil contamination, pollution & constructio
Large population in these dwellings in a very compact space will generate impossible refuse management for large trucks with a single street for the area which, would also be major problems for fire & police vehicles

with resulting traffic on Morning Star property, which is private.

Last but no least is the extremely dangerous situation at 64th avenue & Easley. Vehicles, large & small, drive at ~~dangerously~~ alarmingly high speeds on 64th avenue & present serious problems for our residents who must use Easley to access 64th. With no signal light & heavy, speeding traffic of on 64th, it is a critical situation, which will be multiplied many times if the proposed area is built.

Please ~~con~~ carefully consider these problems before making your decision

Patricia Wingert
Morning Star resident

Patricia Wingert
Morning Star of Arvada
Ste 2012
September 10, 2025

Arvada City Council,
8101 Ralston Road
Arvada CO 80002

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Ste 2012
September 10, 2025

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The health of senior citizens would be adversely affected by possible soil contamination, pollution & construction. Large population in these dwellings in a very compact space will generate impossible refuse management for large trucks with a single street for the area which, would also be major problems for fire & police vehicles

with resulting traffic on Morning Star property, which is private.

Last but no least is the extremely dangerous situation at 64th avenue & Easley. Vehicles, large & small, drive at ~~dangerously~~ alarmingly high speeds on 64th avenue & present serious problems for our residents who must use Easley to access 64th. With no signal light & heavy, speeding traffic ~~of~~ on 64th, it is a critical situation, which will be multiplied many times if the proposed area is built.

Please ~~so~~ carefully consider these problems before making your decision

Patricia Wingert
Morning Star resident

Patricia Wingert
Morning Star of Arvada
Ste 2012
September 10, 2025

Arvada City Council,
8101 Ralston Road
Arvada CO 80002

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Patricia Wingert
Morning Star resident

CED Boards and Commission <cedboardsandcommission@arvada.org>

No development on Easley

1 message

Anastasia Horwith [redacted] Fri, Jan 9, 2026 at 10:14 AM
To: Cedboardsandcommission@arvada.org

Please don’t allow all these high density properties to be built in this location. Arvada has a serious problem in that they keep building tons more high density housing but don’t have the resources or infrastructure to support it. We have water issues, road issues and lack of good management of development so far. I understand that this property will be developed eventually but please no high density housing. This approach to development, especially in west Arvada, is destroying the quality of life and our property values.
Sent from my iPhone

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Opposing Development at Welby Gardens

1 message

Ard [redacted] Mon, Jan 12, 2026 at 12:37 PM
To: "C sion@arvada.org" <Cedboardsandcommission@arvada.org>

This email is to express to you that my family and I vehemently disagree with the planned, new development at Welby Gardens. We have been residents in this area for 50 years. We have seen Quaker street go from dirt road to paved, farm land lost, and suffered a slew of new residents moving in over the years. We have put up with the added traffic and crime that has entered into our lives. Now you want to add more people and traffic and problems. This is very sad for us (again) to have to put up with and experience. Our quiet residential area is no longer the place we delighted in living. More taxes, higher energy costs, water, noise and lack of road egress. This adds no value to anyone. Please do not build here.

Regards,

A. Kesson & family

17351 W 64th Ave Suite
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Councilman Fifer,

I am a resident of MorningStar Arvada Senior Living facility at 64th Street and Easley Road and I respectfully request that you reject approval of the Welby Gardens Development Project. As currently proposed, this mega apartment project (435 living units with over 650 automobiles) would add only one new exit to Easley Road in addition to the existing outlet we share with Welby Gardens resulting in overwhelming the intersection of 64th Street and Easley Road.

Our senior residents (approximately 160 with a average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially through our private parking lot.

I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully,

Ann E Marion

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

17351 W 64th Ave Suite
Arvada CO 80007

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Michael Griffith Planning Commission

CED Boards and Commission <cedboardsandcommission@arvada.org>

Avalon Arvada

1 message

Andy McAvi [redacted] Wed, Jan 14, 2026 at 8:16 AM
To: "cedboards" <cedboardsandcommission@arvada.org>

Dear, Community and Economic Development Department:

Does Arvada really need any more Multi-Family?

One of my main concerns is the traffic of course, McIntyre is already constantly in gridlock and I doubt the Northwest Parkway will ever get approved. (Someone put up a sign that says “Think Traffic is Bad now Just Wait”) How true is that statement?

Another concern is Avilla Mesa Vista at 5400 McIntyre with 128 Units to be delivered soon and by the way the Community and Board recommended a no vote and yet the Commission voted in favor and then increased the Density, so is this where we are headed here by saying approximately 384 Multi-Family and approximately 51 Townhomes?

Let’s not forget Golden Technology Center to be built at 60th and McIntyre those three buildings totaling 512,321 S/F, once they get their water issues solved. You can bet Amazon will be occupying one of those buildings, you know how bad Amazon wants an Arvada presence.

Thanks in advance for your time reading my commits and look forward to your solutions.

Regards,

Andy McAvin

16864 W 71st Ave

Arvada, Co. 80007

CED Boards and Commission <cedboardsandcommission@arvada.org>

Yes to housing diversity in West Arvada

1 message

Allison Phipp [redacted] Mon, Jan 12, 2026 at 10:44 PM
To: cedboardsa

This comment is for the Arvada Planning Commission in regards to the following:
January 21, 2026 meeting
Welby Gardens Residential Community (or AvalonBay Communities
Arvada Project)
Project Number: DA2025-0035
Address: 17201 W 64th Ave, Arvada, CO 80007

Housing Diversity is important and our workers in west and NW Arvada deserve housing options. Teachers and grocery store workers need places to live that are close by where they are working. This would cut down on commuting congestion and pollution and serve for a better quality of life for residents and workers in the area. New market-rate homes add needed supply and help reduce rent pressure across the housing market, benefiting affordability at multiple income levels. The infrastructure of roads and stop lights are already adequate in the area to accommodate a condensed housing project. I hope you will consider housing diversity a priority in Arvada.

Thank you for hearing my comment.

Allison Phipps
Arvada resident, 80002

CED Boards and Commission <cedboardsandcommission@arvada.org>

Re: Welby Gardens - Jan 21 Planning meeting

1 message

Barbara Bigelow [redacted] Sun, Jan 11, 2026 at 10:00 AM
To: "cedboardsandc ardsandcommission@arvada.org>
Cc: "rthompson@arvada.org" <rthompson@arvada.org>

Correcting for the arvada.ORG email address. Thank you!

Barbara

From: Barbara Bigelow [redacted]
Sent: Sunday, January
To: cedboardsandcommission@arvada.com <cedboardsandcommission@arvada.com>
Cc: rthompson@arvada.org <rthompson@arvada.org>
Subject: Re: Welby Gardens - Jan 21 Planning meeting

Hi,
Here are a series of questions that I'm hoping can be addressed at the upcoming planning meeting. Further below are other questions as well. Thank you for your time and consideration!!!

1. Will the planning meeting provide answers to citizen concerns about the safety and humanity of this type of development that seems to only maximize profits for the developer?
2. Have the developer's plans changed since last April?
3. Will there be more than one ingress/egress road for all these people to use in the event of a Marshall type of fire? What would incentivize the developer to provide more ingress/egress roads?
4. Are there plans to investigate and mitigate any environmental concerns from how the land has been used for the previous ~20 years? What would incentivize this to occur?
5. Will a small percentage of the housing be affordable? What would incentivize the developer to include affordable housing?
6. What would incentivize the developer to include solar charging stations?
7. What would bring RTD into the planning phase to provide public transportation to the new development?

Barbara

From: Todd Nicotra [redacted]
Sent: Thursday, Apr
To: Barbara Bigelow [redacted]
Cc: rthompson@ar >; Gregory Himme [redacted] >;

Marcus Pachne [redacted]
Subject: RE: Wel

Dear Ms. Bigelow,
Thank you for your questions. We are very early in the planning and design process, so we don't yet have complete answers to every single question below. We will, however, cover almost all of the topics that you have raised in our presentation tonight. So I think and hope that we will be able to address most of your questions this evening. If we do not answer all of your questions tonight, please feel free to ask questions during the Q&A portion or even after the meeting. I plan to stick around after the meeting in case people have additional questions.
Thank you again for reaching out.
Best regards,
Todd Nicotra

Todd Nicotra
Vice President - Development

AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025

[redacted]

From: Barbara Bigelow [redacted]
Sent: Thursday, A
To: Todd Nicotra [redacted] >
Cc: rthompson@
Subject: Re: Welby Gardens

You don't often get email from barbarabigelow@hotmail.com. Learn why this is important

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

And one more question for tonight: will 10% of these housing units be affordable housing units?

Thank you,
Barbara

From: Barbara Bigelow [redacted]>
Se
To [redacted]>
Cc:
Subject: Re: Welby Gardens

Apologies, Rozalynne, I thought I had added you as a recipient.

Barbara

From: Barbara Bigelow [redacted]
Se
To [redacted] [redacted] >
Subject: Welby Gardens

Hi Todd and Rozalynne,

I have some questions about the proposed development replacing Welby Gardens. I do plan on attending the meeting on Thursday, April 10.

1. Will there be adequate parking for the apartments and townhomes including visitors? What is the anticipated ratio of parking spots to residences? Will solar powered charging stations be available?
2. Will there be access to public transportation?
3. What is the expected impact on major road traffic heading to Golden, Boulder, Arvada business areas, and downtown Denver?
4. What are the plans for the increased demand on water supplies? Which reservoir will be used to meet this demand?
5. What are the plans for increased demand on energy supplies? Will solar be deployed?
6. Are bike lanes included in the development with access to the Ralston Creek trail?
7. How many levels/floors high will the apartments and townhomes be to fit within the 45 feet maximum allowed height?
8. How many apartments per building are planned to be built? Will there be a mix of 1-, 2-, and 3-bedroom apartments? Will the apartments be walk-up accessible?
9. Will apartment sharing be anticipated?
10. Which schools are expected to be impacted by this development and how are students expected to travel to these schools?
11. Are there any environmental issues with any of this land or nearby land? Any previous landfills nearby? Any previous soil contamination?
12. What is the expected impact on existing nearby waterways?
13. Will the park be intended for only young children or will it include community gathering areas?

Thank you,
Barbara

NOTICE: This message, including any attachments, is proprietary to AvalonBay Communities, Inc., intended solely for the use of the individual or entity to whom it is addressed and may contain information designated as internal use, confidential, and/or attorney-client privileged work product doctrine information. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this message are prohibited. If you have received this email in error, please destroy it and notify the sender immediately.

Beverly Brayden
Morning Star of Arva
Apartment 1011
August 4, 2025

Mr. Bob Fifer, Arvada City Council
8101 Ralston Road
Arvada, CO 80002

Dear Mr. Fifer,

As a Morning Star of Arvada resident for five years I would like to express my feelings about the townhouses and apartments project that is being proposed for the Welby property north of our senior living facility.

My apartment is on the first floor on the north side of the east wing of the building. As I understand it, fifty-one townhomes three stories high wi be built directly north of my apartment. The propose distance from Morning Star property is 45 feet.

On the north side of my apartment is a porch tha is the length of the apartment and about 6 feet wide. It is a quiet place to have an ice cream cone after lunc There is a view of the south end of the Flatirons. This is what I will be losing with a three story building to north. The only access for an estimated 600 cars is directly next to the property line. Because of the short distance to 69th and a proprosed traffic light, I can in gine cars lined up idling their motors waiting for the ligh

the air will be poisoned with gas fumes.

The fire truck solution is another questionable one. It goes through MorningStar property on the northwest employee parking.

This Avalon Bay project, if built, may turn out to be a major headache for the police, t city council and business people in the area. For me and for other north side residents it wi be a disaster.

Sincerely,

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Basically, I see two major problems. HEALTH and SAFETY. For example, there will be increased traffic, a problem with emergency access, the possible elimination of on-street parking on Easley, and or the cutting down of resident parking for MORNINGSTAR, perhaps an issue with chemical contamination caused by fertilizer, pesticide and herbicide use by the Nursery. There a number of sub-issues within these two major problems. No doubt others have addressed those in their letters of concern.

Perhaps thought should be given to lower density housing, such as single-family dwellings, bringing in new soil, installing better paths, and construction of adequate emergency access and suitable pedestrian walkways.

Thank you for your consideration.

Sincerely,

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Rupert (Council Member at Large)

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Basically, I see two major problems. HEALTH and SAFETY. For example, there will be increased traffic, a problem with emergency access, the possible elimination of on-street parking on Easley, and or the cutting down of resident parking for MORNINGSTAR, perhaps an issue with chemical contamination caused by fertilizer, pesticide and herbicide use by the Nursery. There a number of sub-issues within these two major problems. No doubt others have addressed those in their letters of concern.

Perhaps thought should be given to lower density housing, such as single-family dwellings, bringing in new soil, installing better paths, and construction of adequate emergency access and suitable pedestrian walkways.

Thank you for your consideration.

Sincerely,

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Rupert (Council Member at Large)

8101 Ralston Road
Arvada, CO 80002

17351 W 64th Ave
Arvada CO 80007

October 3, 2025

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Arvada, CO 80002.

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CED Boards and Commission <cedboardsandcommission@arvada.org>

Community and economic development - Avalon Arvada conditional use permit DA2025-0035

1 message

Cheryl MEE [redacted] Sat, Jan 10, 2026 at 12:49 PM
To: "cedboards a.org" <cedboardsandcommission@arvada.org>

Planning Commission:

This email is being sent to you because of our outrage, as well as our neighbors, located in the Fieldstone subdivision located right across 64th from the proposed high density proposed building permit site.
We have lived in Arvada for 50 years and realize that Arvada has grown and will continue to grow, but with common sense instead of townhouses and condos being thrown up everywhere. Each one crammed n every open space the developers can purchase along with rubber stamp approval from the planning commission!
Now this! In a community of single family homes, sticking a project of 384 multi-family units and 51 townhouse units, what are you thinking? Common sense should again tell you that the traffic patterns alone cannotsustain this additional development. Right now, if any of you have been caught in traffic hour at the intersections of both McIntyre and 64th or Indiana and 64th you would realize how unworkable any additional traffic would be!
We are planning to protest this project in every possible way becausewe know what is at stake!
Please take our give our concerns serious consideration.

Larry and Cheryl Mee
6251 Virgil St
Arvada, CO

Sent from my iPad

17351 W 64th Ave Suite
Arvada CO 80007

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Our senior residents (approximately 160 with a average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially through our private parking lot.

I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully, CHARLES A. SCHOELER

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Chuck Shultz

Morning Star Arvada resident

10/13/2025

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CED Boards and Commission <cedboardsandcommission@arvada.org>

Arvada growth YES

1 message

Christina Story [redacted] Wed, Jan 14, 2026 at 3:14 PM
To: cedboardsandcommission@arvada.org

Dear board,
I am a homeowner in the Westwoods community and I would like to offer my support for the building of new housing on 64th Avenue. First time home buyers need more availability during our current housing crisis.
Thanks,
Christina Story

10/3/25

DEAR MR. ROPERT,

I AM SCARED! THE AVALON BAY DEVELOPMENT TOWN HOUSES ARE GOING TOBE INCHES FROM MY WINDOWS AT MORNINGSTAR. I AM AN 86 YEAR-OLD WOMAN WHO IS VULNERABLE. ALL OF US HERE ARE VULNERABLE!! ANY YOUNG PERSON, WHO FEELS FIT, CAN BREAK IN AND THAT SO WORRIES US.

IN ADDITION, THE INFLUX OF TRAFFIC IS SUCH A WORRISOME CONCERN. THIS AREA IS JUST NOT CONDUCIVE TO THE AMOUNT OF CARS THAT WILL BE HERE.

BUT MY BIGGEST CONCERN, HOWEVER, IS SOIL CONTAMINATION. I KNOW FORMER EMPLOYEES OF BOTH THE GARDEN CENTERS THAT WERE HERE. THESE PERSONS KNOW ABOUT DUMPING CHEMICALS INTO THE GROUND. I HOPE AN INDEPENDENT SOIL STUDY IS CONDUCTED RATHER THAN TRUSTING AVALON BAY'S STATISTICS!

PLEASE RECONSIDER THIS MASSIVE INTRUSION TO OUR BEAUTIFUL ARVADA.

THANK YOU,
CAROL WEISER, RESIDENT
MORNINGSTAR OF ARVADA

10/3/25

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17351 W 64th Ave Suite 2016

Arvada CO 80007

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CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Public Comment: DA2025-0035 Avalon Arvada Welby Center - January 21, 2026

1 message

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emdenver@gmail.com [redacted] Mon, Jan 12, 2026 at 5:51 PM
To: cedboardsandcommission@arvada.org

RE: Welby Gardens Residential Community (or AvalonBay Communities Arvada Project)

Project Number: DA2025-0035

Address: 17201 W 64th Ave, Arvada, CO 80007

Dear Planning Commission Members:

I believe that the proposed Avalon Arvada Welby Center housing project meets key housing needs of our community. HOWEVER, the project lacks any commitment to making these units affordable.

- Housing Diversity is important. Our workers in west and NW Arvada deserve sustainable housing rental options
- New market-rate homes add needed supply and help reduce rent pressure across the housing market, benefiting affordability at multiple income levels.
- New affordable housing is equally, if not more, important than market-rate homes. Arvada has stated goals to provide large-scale affordable projects (<80% AMI), a 2,790-unit shortage below 50% AMI, and B.O.L.D. 2026 workforce housing goals. The developer should be required to commit to meeting Arvada's housing goals. There is no evidence that affordability is part of this project.
- It is worth noting that AvalonBay is planning to reserve 5 units free of rent for 1 year to Jefferson County teachers (similar to what they have done with Denver Public Schools). That does not address the need for sustainability housing opportunities

Thank you very much.

Emily Ward

13308 W. 68th Place

Arvada, CO 80004

[redacted]

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: DA2025-0035

Josie Suk <jsuk@arvada.org> Tue, Dec 16, 2025 at 10:03 PM
To: Heidi Van Gieson <hvangieson@arvada.org>

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Dec 16, 2025, 6:30 PM
Subject: Fwd: DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Shawna Ambrose** <sambrose@arvada.org>
Date: Tue, Dec 16, 2025 at 6:29 PM
Subject: Re: DA2025-0035
To: Gary Coe <[redacted]>
Cc: Arvada Ask <askarvada@arvada.org>, <krush@arvada.org>, <jgarner@arvada.org>, Don Wick <dwick@arvada.org>

Thank you for your comments. Due to the quasi-judicial matter of this subject, I must remain neutral but am always glad to listen to residents. I am sending this opinion to the entire council, city officials, and to our constituency service desk to make sure that your comment gets registered as part of the public record of this subject. If we have information regarding your concerns on this development such as emergency response, service calls, traffic congestion, and noise/light pollution we will be sure to send it your way.

Again, thank you for reaching out!
Shawna

Rev. Shawna Ambrose | CouncilMember for District Two
Phone: 970-425-3060 | Email: SAmbrose@arvada.org
8101 Ralston Road, Arvada, Colorado, 80002
ARVADACO.GOV

On Dec 16, 2025, at 11:59 AM, Gary Coe <glcoe02@yahoo.com> wrote:

Good morning,
My name is Gary COE, I live at 6483 Umber Circle, Arvada Colorado, 80007
We have lived here for almost 20 years.
I know you must be very busy and I'm sorry to bother you but I would like to explain why we are opposed to the proposal to build several apartments and numerous townhomes just east of us.
My wife and I are retired and we built our home here because we liked the quiet neighborhood and pleasant looking homes all around the neighborhood.
This proposal will drastically change the entire personality of our neighborhood.
Approximately 1000 new residents will be squeezed into this relatively small area with an estimated 2800 new vehicle trips every day. At the present time there are only a few workers present at the nursery business, and I imagine the fire department gets few calls to respond to injuries etc at the nursery. But with 1000 residents there are going to be a lot more ambulance and other calls for service to this location and the only entrance also poses a problem for the responders.
To my knowledge there are no apartment buildings anywhere near this area. If the developers built more single family homes that would match the area I don't think anyone would mind. But allowing this proposal will add to traffic congestion, noise and light pollution, and change forever our quiet neighborhood.
Please consider these things as if you lived here and please vote no on this proposal.
Thank you for your time, Gary

Sent from my iPad

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

CITY OF
ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:32 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Tue, Dec 16, 2025 at 6:34 PM
Subject: Fwd: DA2025-0035
To: Rozalynne Thompson <rthompson@arvada.org>

For the public record.
Thanks,
Jessica

---------- Forwarded message ---------
From: **Jason Garner** <jgarner@arvada.org>
Date: Tue, Dec 16, 2025 at 6:33 PM
Subject: Fwd: DA2025-0035
To: Jessica Garner <jegarner@arvada.org>

Jason Garner
City of Arvada
Parks Program Manager
720-898-7419

---------- Forwarded message ---------
From: **Shawna Ambrose** <sambrose@arvada.org>
Date: Tue, Dec 16, 2025 at 6:29 PM
Subject: Re: DA2025-0035
To: Gary Coe <glcoe02@yahoo.com>
CC: Arvada Ask <askarvada@arvada.org>, <krush@arvada.org>, <jgarner@arvada.org>, Don Wick <dwick@arvada.org>

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Shawna

Rev. Shawna Ambrose | CouncilMember for District Two
Phone: 970-425-3060 | Email: SAmbrose@arvada.org
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ARVADACO.GOV

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> Please consider these things as if you lived here and please vote no on this proposal.
> Thank you for your time, Gary
>
> Sent from my iPad

--
Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

**Heidi Van Gieson <hvangieson@arvada.org>

Fwd: DA2025-0035

Rob Smetana <rsmetana@arvada.org> Thu, Dec 11, 2025 at 11:40 AM
To: Rozalynne Thompson <rthompson@arvada.org>
Cc: Heidi Van Gieson <hvangieson@arvada.org>

FYI

Rob Smetana, AICP
Manager of City Planning and Development
720.898.7440
rsmetana@arvada.org
Regular Office Hours: Monday through Friday 8:00am to 5pm

---------- Forwarded message ---------
From: **Gary Coe** <[redacted]>
Date: Thu, Dec 11, 2025 at 11:38 AM
Subject: DA2025-0035
To: <rsmetana@arvada.org>

Good morning,
My name is Gary COE, I live at 6483 Umber Circle, Arvada Colorado, 80007
We have lived here for almost 20 years.
I know you must be very busy and I'm sorry to bother you but I would like to explain why we are opposed to the proposal to build several apartments and numerous townhomes just east of us.
My wife and I are retired and we built our home here because we liked the quiet neighborhood and pleasant looking homes all around the neighborhood.
This proposal will drastically change the entire personality of our neighborhood forever.
This proposal will bring approximately 1000 new residents squeezed into this relatively small area with an estimated 2800 new vehicle trips every day.
Presently there are only a few workers in the nursery now located in the proposed area. But with 1000 new residents here I imagine there will a huge increase in calls for service for the fire department and ambulance. As I understand it, there is only one entrance into and out of the proposed area. I would think this would be a huge problem for responding emergency vehicles.
To my knowledge there are no apartment buildings anywhere near this area. If the developers built more single family homes that would match the area I don't think anyone would mind. But allowing this proposal would add to traffic congestion, noise and light pollution, and change forever our quiet neighborhood.
Please consider these things as if you lived here and please vote no on this proposal.
Thank you for your time, Gary

Sent from my iPad

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Opposition to Proposed High-Density Development at 17201 W 64th Ave, Arvada CO 80007 (Avalon Arvada Conditional Use Permit DA2025-0035)

1 message

Heather Churc [redacted] Mon, Jan 12, 2026 at 10:46 AM
To: "cedboardsa edboardsandcommission@arvada.org>

Dear Members of the Planning Commission,

We are writing to formally oppose the proposed **high-density development at 17201 W 64th Ave, Arvada CO 80007**. Our concerns are outlined below:

- **Single Point of Access and Emergency Safety**
    - The proposed development includes only **one vehicular exit**, which is inadequate for a high-density project.
    - A single access point poses serious risks related to traffic congestion, emergency response times, and evacuation during emergencies, including wildfire events or road closures.
- **Increased Wildfire Risk**
    - The project is located in or near an area with existing wildfire risk.
    - High-density development increases ignition sources, reduces defensible space, and complicates evacuation and fire response.
    - Limited access with only one exit would significantly hinder safe evacuation and firefighter access during a wildfire.
- **Impact on Nearby Senior Citizen Development**
    - The site is located near a **senior citizen residential community**, where residents may have limited mobility and increased reliance on emergency services.
    - Increased traffic congestion near the single exit could delay emergency vehicles and create unsafe conditions for senior residents.
    - **In an emergency situation, including wildfire evacuation, congestion and limited access could prevent timely evacuation and place senior residents at heightened risk.**
- **Traffic Congestion and Road Safety**
    - High-density development will significantly increase daily vehicle trips.
    - Existing roadways already experience congestion, which would be exacerbated by this proposal, increasing safety risks for motorists, pedestrians, and cyclists.
- **Pedestrian Safety**
    - Increased traffic volumes raise concerns for pedestrian safety, particularly for vulnerable populations, including seniors.
- **Neighborhood Compatibility**
    - The proposed density, scale, and intensity of use are not compatible with the existing character of the surrounding area.
    - The development is out of proportion with adjacent residential uses.

- **Parking and Spillover Impacts**
    - Insufficient on-site parking could result in overflow parking on nearby residential streets.
    - This would further reduce roadway capacity and emergency access.
- **Impact on Property Values**
    - Increased congestion, safety risks, and loss of neighborhood character may negatively affect nearby property values.
- **Strain on Schools**
    - The development will increase demand on local schools.
    - There is no evidence that school capacity can accommodate this growth without adverse impacts.
- **Strain on Trails, Parks, and Recreational Facilities**
    - Increased population density will place additional pressure on nearby trails, parks, and recreational amenities, potentially leading to overuse and degradation.
- **Strain on Local Businesses**
    - Increased population density without corresponding infrastructure improvements may place strain on nearby local businesses.
    - Traffic congestion, limited parking, and overcrowding could negatively affect customer access, deliveries, and day-to-day operations.
    - These impacts may disproportionately affect small, locally owned businesses.
- **Environmental Impacts**
    - Potential impacts include increased stormwater runoff, loss of vegetation and tree canopy, habitat disruption, noise, and light pollution.
    - These impacts may further elevate wildfire risk and environmental degradation.
- **Insufficient Mitigation and Analysis**
    - The application does not adequately address wildfire risk, evacuation planning, emergency access, traffic mitigation, infrastructure capacity, or environmental impact

For these reasons, I respectfully request that the Planning Commission **deny the application.**

Thank you for your time and consideration of public input.

Sincerely,

Heather and Wade Church
6714 Terry Court
Arvada, CO 80007

17351 W 64th Ave
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Mr. Fifer,

I am writing to express my concern over the CONTENT and MAGNITUDE of the proposed AVALON BAY project/proposal. Yes, as a resident of MORNINGSTAR, I am "a renter", but at the same time, I also vote!

Basically, I see two major problems. HEALTH and SAFETY. For example, there will be increased traffic, a problem with emergency access, the possible elimination of on-street parking on Easley, and or the cutting down of resident parking for MORNINGSTAR, perhaps an issue with chemical contamination caused by fertilizer, pesticide and herbicide use by the Nursery. There a number of sub-issues within these two major problems. No doubt others have addressed those in their letters of concern.

Perhaps thought should be given to lower density housing, such as single-family dwellings, bringing in new soil, installing better paths, and construction of adequate emergency access and suitable pedestrian walkways.

Thank you for your consideration.

Sincerely,

J. Elaine Sullivan

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Ruper (Council Member at Large)

8101 Ralston Road
Arvada, CO 80002

17351 W 64th Ave
Arvada CO 80007

October 3, 2025

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Ms. Sharon Davis (Council Member at Large)
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8101 Ralston Road
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Arvada, CO 80002.

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Michael Griffith Planning Commission
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8101 Ralston Road
Arvada, CO 80002

17351 W 64th Ave
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October 3, 2025

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8101 Ralston Road
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Sincerely,

J. Claire Sullivan

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Ruper (Council Member at Large)

8101 Ralston Road
Arvada, CO 80002

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Alternative solution to Welby Gardens development

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:32 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Jim Bartley** <basswest@live.com>
Date: Mon, Dec 22, 2025 at 1:35 PM
Subject: Alternative solution to Welby Gardens development
To: BFifer@Arvada.org <BFifer@arvada.org>, RThompson@Arvada.org <RThompson@arvada.org>

Hello,
I would like to suggest an alternative to the current thinking about the Welby Gardens apartment development by Avalon Bay Communities. You've heard the concerns from the residents of our neighborhood, and I think this suggestion has the potential to mitigate some of those concerns.

There is an 'empty' plot of land on the NW corner of Virgil Way and W. 64th Ave. Only about a block from the Welby Gardens site. I'm assuming this land is owned by the City of Arvada. It is currently occupied by a disc golf course. What if that land was used for the Avalon Bay apartment development instead of the Welby Gardens site, and the Welby Gardens site was instead developed into a beautiful neighborhood park by the City of Arvada. I believe the City feels strongly about providing its citizens with easily accessible parks/open space. And I am certain the surrounding neighborhoods would cherish the idea that the City of Arvada is investing their taxpayer dollars into such a facility.

I'm not a planning or development engineer, I'm just a resident, so I'm certain there are things I'm not thinking about. But here are some potential benefits I see from making this change:

.Utility tie-ins at the vacant plot wouldn't be any more difficult than the Welby site for Avalon Bay - perhaps even easier.
.An apartment development of nearly 400 units would almost be hidden in the natural alcove that exists at 64th and Virgil. Instead of trying to squeeze such a development into the Welby Gardens site, the new site would eliminate the major light/noise/visual pollution that the development at Welby Gardens would create. My back yard will be 80 feet from the proposed development at Welby Gardens. Putting that development at 64th and Virgil would move it to several hundred feet from the nearest existing residences, and the impact of 3 and 4 story apartment buildings would be significantly reduced. Perhaps it could be spread out more than allowed by the Welby Gardens site to reduce the impact even more.
.Multiple opportunities for traffic access to the apartment development exist at 64th and Virgil. There is only ONE access point at the Welby Gardens site. ONE choke point for almost 400 new residences, plus the existing 70 plus homes in West Woods Links III, plus Morningstar Senior Living. This would alleviate the traffic concerns of the residents in our neighborhood regarding safety for children loading a school bus, traffic jams at certain times of day, and additional traffic congestion overall.
.The park would create a natural tie-in to the golf course and the Ralston Creek recreation trail system.
.The existing disc golf course could be easily moved to the new park.
.I'm certain the residents at Morningstar would LOVE a park in their back yard, and all of the residents in the surrounding neighborhoods would smile and say "What a great city we live in", if the City of Arvada were to

place a beautiful new park in the middle of our neighborhood, instead of jamming a high rise apartment development where it doesn't fit.

Of course, Welby Gardens would have to remain whole in the financial transaction. But perhaps it would be called a land swap. Perhaps the City of Arvada buys the Welby site and Avalon buys the plot at 64th and Virgil from the City of Arvada. Perhaps Avalon Bay would benefit financially from an accelerated development process. Perhaps Avalon Bay could contribute to the development of the park because they wouldn't have to spend as much money on the Welby site demolition. Perhaps there are other synergies that I'm not thinking about. I don't know exactly how it could work, but I'm hopeful that you would do the research to at least give the idea thoughtful consideration.

Finally, I'd like to compliment Avalon Bay for their willingness to listen to our concerns and make changes to their initial proposal that addressed those concerns to the extent possible. But if the development is allowed at Welby Gardens, I will forever be living in the shadow of that development - permanently losing views of our precious foothills - and that is not as appealing to me as a beautiful new neighborhood park in my back yard. I look forward to your feedback regarding this idea. Happy Holidays!

Jim Bartley
basswest@live.com
303-905-6765

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF
ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Alternative solution to Welby Gardens development

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:31 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **Jim Bartley** [redacted]
Date: Tue, Dec 30,
Subject: Re: Alternative solution to Welby Gardens development
To: Rozalynne Thompson <rthompson@arvada.org>, BFifer@Arvada.org <bfifer@arvada.org>

Hi Rozalynne, thanks for your response, I appreciate it. Do you have any suggestions for how I could advance this idea further than "part of the public record"? I just don't want this Welby Gardens project to get too far down the road without at least considering the alternatives. Should I contact other people at City of Arvada? Should I contact the developer? Any feedback/guidance you might have is much appreciated!

[redacted]

From: Rozalynne Thompson <rthompson@arvada.org>
Sent: Monday, PM
To: Jim Bartle [redacted]
Subject: Re: Al y Gardens development

Hello Jim,

As the planner that is assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.

Sincerely,
Rozalynne

On Mon, Dec 22, 2025 at 1:35 PM Jim Bartley [redacted] > wrote:

> Hello,
> I would like to suggest an alternative to the current thinking about the Welby Gardens apartment development by Avalon Bay Communities. You've heard the concerns from the residents of our neighborhood, and I think this suggestion has the potential to mitigate some of those concerns.
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Of course, Welby Gardens would have to remain whole in the financial transaction. But perhaps it would be called a land swap. Perhaps the City of Arvada buys the Welby site and Avalon buys the plot at 64th and Virgil from the City of Arvada. Perhaps Avalon Bay would benefit financially from an accelerated development process. Perhaps Avalon Bay could contribute to the development of the park because they wouldn't have to spend as much money on the Welby site demolition. Perhaps there are other synergies that I'm not thinking about. I don't know exactly how it could work, but I'm hopeful that you would do the research to at least give the idea thoughtful consideration.

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[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

--
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CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Case Number DA2025-0035, Welby Gardens Development

1 message

Jim Bartley [redacted] Wed, Jan 14, 2026 at 8:09 AM
To: "cedboardsandcommission@arvada.org" <cedboardsandcommission@arvada.org>

I live right next to Welby Gardens. With the frequency and severity of the windstorms we have, I am terrified of flying debris during the demolition and construction phase of this project. IF this development gets approved, what codes/guidelines are in place to prevent property damage and/or bodily harm?

[redacted]

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:35 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **Joel Bolduc** [redacted]>
Date: Mon, Oct 13,
Subject: Re: DA2025-0035
To: Rozalynne Thompson <rthompson@arvada.org>

Thank you for the quick response! I'll have questions, but have to review the documents first. Have a great rest of the week!

On Monday, October 13, 2025 at 08:10:18 AM MDT, Rozalynne Thompson <rthompson@arvada.org> wrote:

Hello Joel,

The project has had two reviews by City staff and we are awaiting the third submittal from the applicant. We have yet to receive a third submittal from the applicants and the City Council agendas for the rest of the year are already full, so it is anticipated that the project may be heard sometime in the first quarter of 2026. Of course, that depends on the date we receive the resubmittal from the applicants and whether a fourth submittal is warranted.

If you have any other questions, please let me know.

Sincerely,
Rozalynne

On Mon, Oct 13, 2025 at 8:03 AM Joel Bolduc [redacted]> wrote:

> Good morning Rozalynne,
>
> I am inquiring about the Avalon Bay Welby project. Can you tell me the status of the project and your best guess as to when it will be in front of the Planning Commission?
>
> Based on the Arvada website, the City has provided 2nd review comments to Avalon. I have downloaded those documents, but haven't reviewed them yet.
>
> Thank you, Joel

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens, Arvada

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 15, 2026 at 9:03 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Hi Dixie,

Here's another email that I received this morning.

Sincerely,
Rozalynne
---------- Forwarded
From: **Joel Bolduc** [redacted] >
Date: Thu, Jan 15,
Subject: Welby Gardens, Arvada
To: fonda.apostolopoulos@state.co.us <fonda.apostolopoulos@state.co.us>, mark.rudolph@state.co.us
<mark.rudolph@st
Cc: John Peterson [redacted]>, Rozalynne Thompson <rthompson@arvada.org>

Mark and Fonda,

Please find attached a letter identifying environmental concerns with a property in Arvada under review by the City of Arvada for proposed residential development.

Rozalynne Thompson is the Arvada Planner for the project.

The ESA Phase I and Phase II Reports total 133MB and are too large to email. I'll share a Dropbox link with you in a moment so you can download those reports.

Let us know if you have any questions.

Thank you,

Joel Bolduc and John Peterson
Protect West Woods

Virus-free.www.avast.com

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

2026 0113 Letter to CDPHE Welby Gardens.pdf
638K

January 13, 2026

Via email to mark.rudolph@state.co.us and fonda.apostolopoulos@state.co.us

Colorado Department of Public Health & Environment
Hazardous Materials and Waste Management Division
Voluntary Cleanup Program (VCUP)
4300 Cherry Creek Drive South
Denver, CO 80246

Cc: Rozalynne Thompson, AICP, Principal Planner, City of Arvada

Subject: Summary of Deficiencies Identified in Phase I and Phase II Environmental Site Assessment Reports
Site: Welby Gardens – 17201 West 64th Avenue, Arvada, CO 80007
Applicant: AvalonBay Communities

To Whom It May Concern:

On behalf of **Protect West Woods,** we conducted an independent technical review of the **Phase I Environmental Site Assessment (ESA)** dated December 26, 2024 and **Phase II ESA** dated October 17, 2025 for the referenced property.

Executive Summary

Protect West Woods conducted an independent technical review of the Phase I Environmental Site Assessment (December 26, 2024) and Phase II Environmental Site Assessment (October 17, 2025) prepared for the Welby Gardens property in Arvada, Colorado. This review identified extensive data gaps, methodological flaws, and inconsistencies that prevent a reliable characterization of environmental conditions at the site and do not support a No Further Action (NFA) determination under Colorado's Voluntary Cleanup Program (VCUP).

Moreover, these reports are being used in a Conditional Use review by the City of Arvada Planning Commission to demonstrate that the applicant has effectively addressed environmental concerns. Neither the City of Arvada nor the Arvada Planning Commission have jurisdiction over these matters. Protect West Woods urges CDPHE to provide regulatory oversight and compliance evaluation of current available data and historical site use to support the City of Arvada in its review of this application.

The Phase I ESA fails to identify and properly evaluate several major potential sources and pathways of contamination. Suspected asbestos-containing materials (ACM) associated with greenhouse piping and boiler systems were not adequately investigated or documented prior to

demolition, and no evidence of proper asbestos abatement or disposal was provided. The subsurface stormwater system—including vaults, sumps, and detention structures—is poorly characterized despite visible evidence of contaminated surface runoff. Most critically, stormwater from the northwest portion of the property is discharging offsite into Church Ditch, which ultimately feeds Standley Lake, a municipal water supply. This contradicts the Phase I conclusion that no offsite discharge occurs and represents a significant potential pathway for offsite contaminant migration.

Additional unaddressed Phase I deficiencies include undocumented floor drains and buried sumps that may act as conduits to soil and groundwater, historical soil piles or waste pits visible in aerial photography that were not identified as Recognized Environmental Conditions (RECs), and contradictory or unreliable information provided by site owners regarding historical contamination and chemical use.

The Phase II ESA does not adequately investigate the highest-risk areas identified in the Phase I or evident from site conditions. No sampling was conducted in or near the stormwater pond, which is a primary accumulation area for runoff-borne contaminants. Drainage ditches, visibly stained soils, erosional basins, and areas downgradient of greenhouses were either insufficiently sampled or not sampled at all. Fuel storage areas, leach fields, floor drains, hoop house areas, and historical soil pile locations were not properly investigated despite being identified or implied as potential source areas.

Groundwater evaluation is also fundamentally flawed. Monitoring well placement does not reliably intercept potential contaminant flow paths from key source areas, and winter-only sampling likely underestimated impacts due to seasonally low groundwater levels. The investigation failed to assess shallow alluvial groundwater or seasonal perched water that could transport contaminants offsite.

Laboratory methods further limit the usefulness of the data. Detection limits for multiple pesticides, fumigants, and volatile organic compounds exceeded applicable Risk Screening Levels (RSLs) and Colorado groundwater standards, preventing meaningful evaluation of regulatory compliance. Soil results were compared only to direct-contact screening levels, while the more stringent migration-to-groundwater criteria—which are especially relevant for agricultural and greenhouse sites—were not evaluated.

Chromium presents a specific unresolved risk. While total chromium was detected below EPA RSLs, the site was not tested for hexavalent chromium (Chromium-VI), a highly toxic and mobile form commonly associated with historical pesticide, fungicide, fertilizer, and greenhouse operations. Given its very low residential and groundwater-protection screening levels, failure to speciate chromium represents a significant data gap.

Finally, no cross-reference was provided to demonstrate that all Phase I RECs were adequately tested in the Phase II program, making it impossible to confirm that potential contaminant sources and pathways have been properly evaluated.

In summary, the current Phase I and Phase II ESAs do not provide a defensible understanding of site conditions and fail to adequately assess risks to soil, groundwater, surface water, or offsite receptors. These deficiencies are particularly concerning given that the property discharges stormwater into a ditch connected to a municipal drinking water reservoir and is under review by the City of Arvada for a Conditional Use Permit that requires mitigation of adverse environmental impacts.

Protect West Woods therefore recommends that the Colorado Department of Public Health and Environment consult with the City of Arvada on these matters and require substantial additional investigation, clarification, and supplemental documentation for the site before any VCUP No Further Action determination is considered.

The following findings are provided to assist CDPHE in evaluating the completeness of the submittals and determining whether additional investigation or clarification is warranted. Page numbers referenced are the PDF page numbers in AvalonBay's 3rd application submittal submitted to City of Arvada in October 2025 (1,355 pages total).

I. Phase I ESA – Potential Issues Not Sufficiently Addressed

1. **Asbestos-Containing Materials (ACM) in Greenhouse Piping and Prior Demolition Activities (pp. 542, 567, 568, 1001)**
   – Suspected ACM on greenhouse piping in deteriorated condition was not addressed
   – Several greenhouses have already been demolished; however, the report does not indicate whether demolition permits were obtained or whether required asbestos inspections occurred prior to demolition
   – It is unclear whether suspect ACMs were disturbed during demolition or how these materials were handled

   -It is unclear whether the ACM was properly disposed of in a hazardous materials landfill and the manifest associated with such disposal should be attached
   – The Phase I does not describe future plans for ACM assessment or management
2. **Potential ACM Associated with the Boiler System (pp. 563, 565, 976, 977)**
   – The potential for asbestos in older boiler insulation or components was not evaluated
   – The ESA does not state whether ACM abatement occurred prior to boiler replacement
   – There appear to be multiple boilers at the site. It is unclear which boiler(s) were upgraded,

if ACM was considered during the upgrade(s), or if ACM may be present associated with any of the boilers

SITE:	Welby Gardens	BASELINE	PROJECT NO.:	45033.02
LOCATION:	17201 W. 64th Avenue, Arvada, Colorado		VISIT DATE:	December 6, 2024

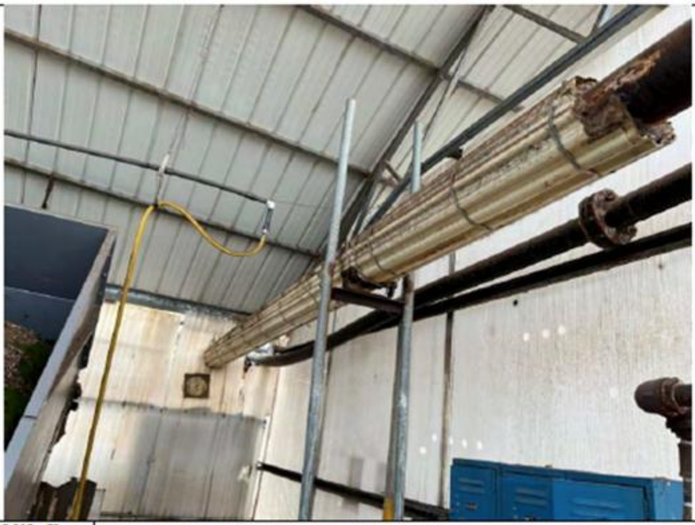


PHOTO NO. 71 DESCRIPTION: Example of potential asbestos-containing material on piping.

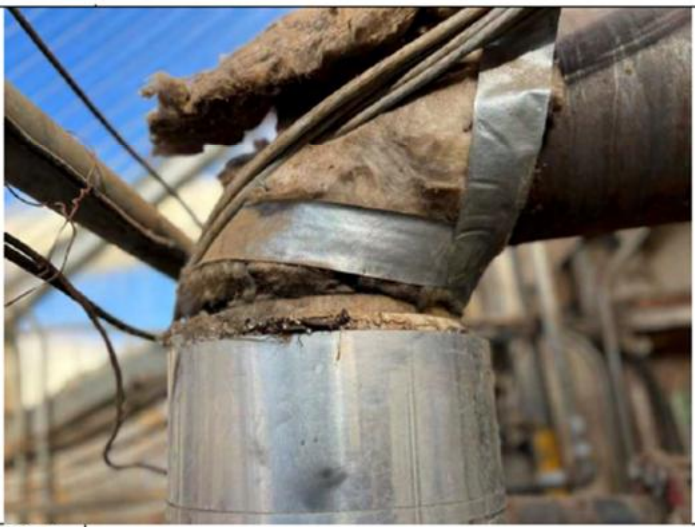
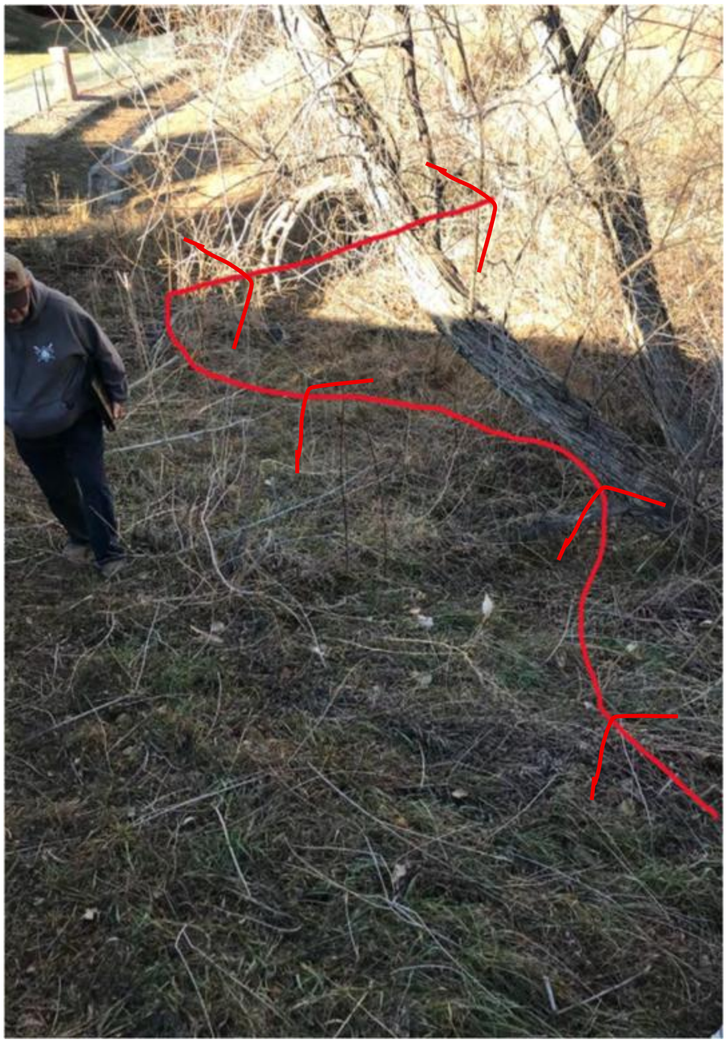


PHOTO NO. 72 DESCRIPTION: Example of potential asbestos-containing material on piping.

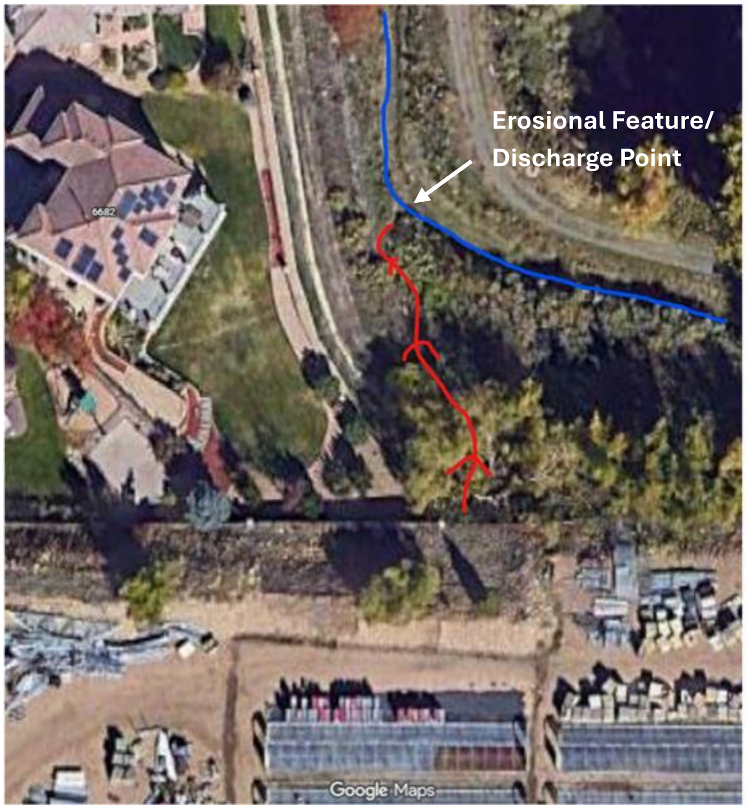
3. **Insufficient Information Regarding the Underground Stormwater System (pp. 997, 998)**
   – Subsurface stormwater infrastructure, including detention vessels and vaults, is inadequately described
   – These structures may concentrate contaminants conveyed in stormwater and serve as conduits for subsurface impacts
   – Observed contaminated surface drainage indicates stormwater is a known migratory pathway for contaminated stormwater waste yet the Phase I indicates that the Subject

Property does not discharge any waste water to the stormwater or sanitary sewer systems (pp. 563, 568)

4. **Potentially Impacted Stormwater Currently Discharges into Church Ditch (pp. 566, 568)**
   - Stormwater from the northwest corner of the property discharges offsite to the north. It is eroding a channel that ultimately enters Church Ditch, which connects to City of Westminster water supply at Standley Lake. Surface soil potentially contaminated with dieldrin may be impacting stormwater leaving the site in this area or others
   - Additional investigation is need to characterize impacts to the soil on the property and at the outfalls for stormwater discharges
   - Church Ditch owners should also be notified of this discharge onto their property and into their water supply



Stormwater Flow Path (NE outfall)



Stormwater Discharge (red) into Church Ditch (blue)

5. **Floor Drains – Unknown Construction and Discharge Points (pp. 566, 991)**
   – Floor drains are present and appear cut into concrete. Their construction (bottomed vs. bottomless) is not documented
   – Discharge locations are unclear; if connected to leach fields, contamination of soil or groundwater is possible

6. **Buried Water Sumps (pp. 990, 991)**
   – At least one buried sump is noted but not assessed
   – No information is provided regarding number, construction, contents, or potential as conduits for contamination

7. **Historical Soil Piles and Potential Waste Pits (pp. 723, 724)**
   – Aerial photos (1983, 1994) show features consistent with soil stockpiles or waste pits in the northwest corner of the property
   – These areas were not addressed and should have been identified as Recognized Environmental Conditions (RECs)

8. **Contradictory Information from Owner Interviews**
   – Statements from the current owners conflict with site conditions documented by the environmental professional. Owner stated they were not aware of any issues except for

petroleum staining near the waste oil tank (p. 551) yet staining was observed in the drainage ditch at the site and the site has had extensive use of pesticides/ herbicides including a spill kit in place for any agricultural-chemical spills (p. 563)
– Reliability of the interview responses is questionable and should have been addressed beyond the minimal follow-up emails

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II. Phase II ESA – Potential Issues Not Sufficiently Addressed

1. **Lack of Borings/Sampling in the Stormwater Pond (North End of Property) (p. 1065)**
   – No sediment, soil, or groundwater samples were collected in or near the stormwater pond, despite it being a primary potential accumulation area for contaminants in stormwater
2. **Insufficient Investigation of the Subsurface Stormwater System**
   – Construction, integrity, and components (separators, sumps, vaults) were not assessed
   – This system may act as a preferential pathway for contaminant migration
3. **Insufficient Surface Soil Assessment Along Drainage Ditches (p. 1065)**
   – Only one sample was collected between North and South Greenhouse #2
   – High-risk downgradient areas, including the erosional basin east of WGB-10, were not sampled
4. **Unaddressed Drainages and Discolored Soil Areas (p. 1065)**
   – Multiple visible drainages north of Southern Greenhouse #1 and Northern Greenhouse #3 were not evaluated
   – Significant areas of soil discoloration along the east property edge and west of Southern Greenhouse #3 were not sampled
5. **Inadequate Investigation of Fuel Storage Areas (p. 1065)**
   – Borings were not placed directly beneath tanks where contamination likelihood is highest
   – Hand augers could have been used if access was limited
   – Borings WGB-1 and WGB-2 are poorly located and not topographically downgradient based on interpreted groundwater flow
6. **Lack of Correlation Between Floor Drains and Soil Borings (p. 1065)**
   – Borings within greenhouses were not collocated with floor drain locations

– Integrity of floor drain systems and potential as pathways to subsurface or septic systems were not evaluated

7. **Lack of Borings In or Downgradient of Leach Fields (p. 582)**
   – Despite being a Phase I REC, multiple leach fields were not investigated for potential impacts from wastewater discharge
8. **Improper Placement of Groundwater Monitoring Well MW-02 (p. 1065)**
   – MW-02 is not located where it can reliably detect impacts from the fuel storage area
   – Bedrock surface contours indicate groundwater flow may bypass the well
9. **Laboratory Detection Limits Above RSLs (pp. 1035-1038, 1054, 1056, 1057, 1058)**
   – Several analytes [Delta BHC (delta-Hexachlorocyclohexane, Aldrin, Alpha BHC (alpha-Hexachlorocyclohexane, Chlordane, Dieldrin, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Toxaphene, 1,2,3-Trichloropropane, 1,2-Dibromo-3-Chloropropane, 1,2-Dibromoethane, Acrylonitrile, and Vinyl chloride)] have method detection limits (MDLs) exceeding applicable Risk Screening Levels (RSLs) or Colorado Groundwater Standards preventing complete evaluation of potential contaminants at the site
10. **Potential for Chromium Impacts Not Investigated (pp. 1045)**
    - Chromium detected in soil at concentrations below the EPA RSLs for total chromium but speciation for Chromium-VI (Hexavalent) was not performed.
    - Chromium-VI is commonly associated with pesticides and fungicides as well as fertilizers and soil amendments in agricultural and greenhouse operations
    - The Residential RSL for Chromium-VI is 0.31 mg/kg and the migration to groundwater SSL is 0.03-0.04 mg/kg
    - The presence or absence of Chromium-VI should be investigated throughout the Welby Gardens property based on historical land use
11. **Lack of Evaluation for Migration-to-Groundwater Pathway (pp. 1033-1053)**
    – Soil results were compared only to direct-contact RSLs (residential/industrial)
    – More stringent migration-to-groundwater RSLs were not evaluated, overlooking threats to groundwater and potential regulatory compliance
12. **No Correlation of Sampling Locations with Phase I RECs**
    – No table or crosswalk was provided to demonstrate coverage of all identified RECs. From the Phase I ESA
    – Such correlation would highlight data gaps
13. **No Sampling or Inspection of Potential ACMs**
    – Despite being outside ASTM scope, ACMs remain a relevant environmental and health hazard not addressed in the Phase II ESA

14. **No Sampling in Former Hoop House Areas (p. 1065)**
    – Hoop Houses lacked flooring and sat directly on soil, increasing potential for impacts to soil and the subsurface
    – No soil or groundwater samples were collected in the Hoop House areas
15. **Groundwater Assessment Conducted in Winter (Lowest Water Table) (pp. 1054-1061)**
    – Winter sampling (January 8, January 23, and January 24 of 2025) may fail to capture impacts due to depressed groundwater levels
    – Alluvial zones, potential seasonal water-bearing units, and their connectivity to bedrock groundwater were not evaluated
16. **No Sampling of Historical Soil Piles or Potential Waste Pits (p. 1065)**
    – Historical features in the NW corner observed in historical aerial photographs were not investigated nor identified as a REC in the Phase I ESA
    – Boring WGB-09 was placed east of the area and is insufficient to evaluate this REC
17. **No Groundwater Sampling Beneath the Greenhouses (p. 1065)**
    – Greenhouses are the likely source areas based on historical operations and use of agricultural chemicals; however, no monitoring wells were installed beneath or immediately downgradient of the potential source areas
    – Existing downgradient wells may be improperly placed or too distant to detect groundwater impacts from historical operations
18. **Future Construction Stormwater Discharge Permitting**
    - Assuming the project moves forward into a construction phase, future construction stormwater Notice of Intent (NOI) to Discharge by the property owner under the General Permit COR400000 with the CDPHE must consider the potential for chemical contaminants present in soil to be discharged offsite via stormwater and mitigated as such

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Summary

Based on the deficiencies summarized above, the current Phase I and Phase II ESA documents do **not** adequately characterize environmental conditions at the property. Numerous potential source areas, contaminant pathways, and historical features require additional investigation to meet the expectations of the VCUP program and to ensure that potential impacts to soil, groundwater, and human health are fully understood.

Furthermore, this property is under review by the City of Arvada Planning Commission for a Conditional Use Permit per the Land Development Code. Approval Criteria #6 requires the applicant to mitigate any adverse impacts on the surrounding area to the degree practicable. We

recognize that the CDPHE has jurisdiction over the contaminants present at the property but the City officials are heavily dependent upon thorough consideration and regulatory management provided by the CDPHE to enforce regulatory compliance on the applicant's property. CDPHE must take an active role in evaluating site conditions at the property to ensure adverse impacts to human health and the environment are mitigated.

We respectfully recommend that CDPHE require the applicant to address these deficiencies through additional site investigation, clarification, or supplemental documentation before a No Further Action (NFA) determination is provided.

If you ha [redacted] ions or require supporting materials, please contact us a [redacted] (John) o [redacted] (Joel).

Sincerely,

Joel Bolduc

John D. Peterson, P.G.
Protect West Woods

Joel Bolduc
Protect West Woods

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:30 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **Joel Bolduc** [redacted]>
Date: Sat, Jan 10, 2
Subject: Re: Avalon Arvada
To: Rozalynne Thompson <rthompson@arvada.org>

That sounds great. Tuesday at 3PM. 8101 Ralston Rd?

On Friday, January 9, 2026 at 05:00:06 PM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:

Hi Joel,

The best day to meet with me is on Tuesday, January 13th in the afternoon. I am available from 1 pm to 2 pm and 3 pm to 4 pm. Do any of those times work for you?

Sincerely,
Rozalynne

On Fri, Jan 9, 2026 at 2:47 PM Joel Bolduc [redacted]> wrote:

> Hi Rozalynne,
>
> Would it be possible to meet with you next week to discuss the upcoming hearing process for Avalon Arvada proposal and ask some questions about the proposal?
>
> At the moment, I could make anytime work on Tuesday Jan. 13. Later in the day Monday too.
>
> I can come visit you in person.
>
> Thank you, Joel Bolduc
> 6503 Umber Cir, Arvada, CO 80007

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Virus-free.www.avast.com

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site

1 message

Rob Smetana <rsmetana@arvada.org> Mon, Dec 29, 2025 at 8:14 AM
To: Planning Admin <plnadmin@arvada.org>, Rozalynne Thompson <rthompson@arvada.org>

FYI

Rob Smetana, AICP
Manager of City Planning and Development
720.898.7440
rsmetana@arvada.org
Regular Office Hours: Monday through Friday 8:00am to 5pm

---------- Forwarded message ---------
From: **Nicole Kunde** <[redacted]>
Date: Sun, Dec 28, 2025 at 9:37 AM
Subject: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site
To: rsmetana@arvada.org <rsmetana@arvada.org>

John L. Browdy
6576 Torrey Court
Arvada, CO 80007
Phone: [redacted]

Westwood Links Filing #3

December 28, 2025

Rob Smetana
Arvada Manager City Planning & Development
8101 Ralston Rd
Arvada, CO 80001
Phone: (720) 898-7500
Email: BFifer@Arvada.org

Re: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site

To Rob Smetana,

I am writing to formally express my opposition to the proposed Avalon Development on the Welby Garden site (Project #DA2025-0035).

This proposed development is incompatible with the existing surrounding neighborhoods. Our community consists primarily of one- and two-story single-family homes adjacent to the City golf course. The proposed plan includes twelve three- and four-story buildings along with 53 townhomes. These 45-foot-high structures will overshadow existing homes, block sunsets, and significantly diminish the scenic mountain views that were a major factor in my decision to purchase my property.

The location of this development is also inappropriate. There are no retail services within walking distance, which will increase reliance on vehicles. The development will introduce significant light pollution from multi-story buildings and increased traffic, negatively affecting the character and livability of the neighborhood.

Noise impacts are another serious concern. Prolonged construction noise, combined with ongoing noise from increased traffic and proposed amenities such as a pool, will disrupt the quiet residential environment that currently exists.

Traffic impacts are particularly troubling. The site lacks convenient access to light rail or alternative transportation options. The proposed complex is estimated to generate approximately 2,800 new vehicle trips per day. This increased traffic will spill into surrounding neighborhoods, decreasing safety for residents, school bus stops, pedestrians, and those who choose to ride bicycles for transportation or recreation.

Emergency Access and Egress present a significant and unacceptable safety concern. The proposed development would have only one access and egress point via a single, unlined stub road. This configuration is inadequate for safe and rapid evacuation during an emergency. I offer this concern not as speculation, but based on professional experience. I served 36 years with the Denver Fire Department as a firefighter first-grade and relief engineer. From this perspective, it is clear that a single access point for a development of this size poses a serious risk. In the event of a wildfire or other emergency, approximately 1,000 residents would be attempting to evacuate through one stub road, potentially routing through the parking lot of a senior living facility at the same time emergency personnel would be attempting to evacuate the vulnerable residents of that facility. This design creates an unnecessary and dangerous conflict for evacuation and emergency response operations.

There are also environmental concerns, including negative impacts on air quality and increased stormwater runoff, which will affect both the immediate area and surrounding properties.

I urge you and other city officials to fully educate yourselves on the deficiencies and negative impacts of this poorly designed project. I respectfully ask that you take decisive steps to prevent approval of this development in its current form and protect the safety, character, and quality of life of our community.

Thank you for your time and consideration.

Sincerely,

John L. Browdy
Westwood Links Filing #3

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens Project

1 message

Jerry Burke [redacted]> Wed, Jan 14, 2026 at 3:28 PM
To: "Cedboards[redacted]@arvada.org" <Cedboardsandcommission@arvada.org>

To Members of the Arvada Planning Commission:
I have recently learned and reviewed the proposed project for the current Welby Gardens Project. I fully understand this property will be developed, and I am not opposed to development. I have previously served as a volunteer member on the Jefferson Planning Commission for five years. This proposed project is an in-fill development, and I believe projects like these require additional consideration. The development should harmonize with the surrounding neighborhood in terms of density and zoning. However, this project does not achieve that, particularly with the suggestion of multi-family housing, as there is no such housing in the immediate area. Yes, there are townhouses nearby. I strongly recommend rejecting this project in its current form and resubmitting it to better align with the surrounding neighborhood.

As a side note, I have lived in Jefferson County for the past 55 years. When we decided to move away from the density that was occurring in Lakewood, we settled in the west Arvada area because I believed it was a well-planned and thoughtful community. Over the years, I have begun to question what the City of Arvada is trying to achieve. There is really nothing wrong with a city that has a part of it not as dense as your city center area and urban corridors are. Please do not let developers dictate your cities planning and consider why your residence have moved to an area that is not so dense not everybody wants that type of zoning.

Sincerely
Jerry Burke

17351 W 64th Ave
Apt 2013
Arvada, Colorado 800

September 11, 2025

Arvada City Council,

Avalon Westwoods Project

My apartment is on the second floor of the Morning Star building looking directly north, where the proposed townhomes will be built. I have several concerns regarding this proposal.

Acess/Egress:
Right now the only access/egress to the townhome area is directly below my window (22' below) with only a 17'-25' set back. Where is the second access/egress required by code that does not dump back onto Easley Road??

Safety:
The plan shows the entry road to the townhomes with only a 17'-25' setback from the north side of Morning Star. That traffic is too close to Morning Star:
- Danger to elderly residents

- Traffic noise is excessive for the elderly when they sleep, take naps, and use the balconies etc.
- Lights from trucks and autos shinning into our living rooms, bed rooms, etc.
- Emergency vehicles going in and out at all hours of the day and night.

One solution would be to change the configuration of the entry road to keep the traffic away from the north side of Morning Star?

With more than 384 apartments, 51 townhomes, and over 600 autos in and out every day don't we owe all residents better access/egress, and safety than what is being proposed?

Respectfully submitted by a thoughtful voter.

Regards,
Joel T. Christman
Joel T. Christman
303-720-2499

17351 W 64th Ave
Apt 2013
Arvada, Colorado 800
September 11, 2025

Arvada City Council,

Avalon Westwoods Project

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One solution would be to change the configuration of the entry road to keep the traffic away from the north side of Morning Star?.

With more than 384 apartments, 51 townhomes, and over 600 autos in and out every day don't we owe all residents better access/egress, and safety than what is being proposed?

Respectfully submitted by a thoughtful voter.

Regards,

Joel T. Christman

Joel T. Christman
303-720-2499

17351 W 64th Ave
Apt 2013
Arvada, Colorado 800
September 11, 2025

Arvada City Council,

Avalon Westwoods Project

My apartment is on the second floor of the Morning Star building looking directly north, where the proposed townhomes will be built. I have several concerns regarding this proposal.

Acess / Egress:
Right now the only access/egress to the townhome area is directly below my windo (22' below) with only a 17'-25' set back. Where is the second access/egress required by code that does not dump back onto Easley Road??

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- Danger to elderly residents

- Traffic noise is excessive for the elderly when they sleep, take naps, and use the balconies etc.
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CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Written Comment for City of Arvada Planning Commission Meeting 1.21.26

1 message

Joanne Clavelle [redacted] Fri, Jan 9, 2026 at 9:26 AM
To: "cedboardsand <cedboardsandcommission@arvada.org>

Dear Commissioners and Council Members:

I am writing on behalf of my husband, David Clavelle and I who have lived at 17013 West 64th Circle in Arvada for the past 9 years. As concerned residents, we must voice our strong opposition to the **Conditional Use Permit** (CUP) for the proposed **Avalon Arvada** development at **17201 W. 64th Avenue (Project No. DA2025-0035)**. This project is just down the street from where we live.

It is not that we oppose development at this site, it is that the proposed development is **inconsistent with the goals of the Comprehensive Plan**, **does not meet multiple requirements of Arvada's Land Development Code (LDC), and is essentially incompatible with the quiet suburban nature of western Arvada**. Below are specific code sections that demonstrate these shortcomings:

- **Consistency with the Comprehensive Plan** –The proposal is **extremely dense**, which exceeds the population of four surrounding neighborhoods combined. The proposed four story buildings will block our current view of the foothills. During construction he northwesterly winds that blow from the foothills will blow dust and chemicals from the toxic former greenhouse gourds directly to our back yard and home.

- **Compatibility with Surrounding Uses** – The project is incompatible with adjacent single-family neighborhoods in terms of scale, traffic generation, architectural design, and emergency access. The 3- and 4-story buildings (45′ tall) will loom over the surrounding neighborhoods, obstruct views, and create traffic congestion in a historically suburban area. There is NO Mass-Transit infrastructure to support this population.

The proposal references townhome development but no details are provided as they plan to "sell off" this component of the plan.

- **Detriment to Public Health, Safety, or Welfare** – As a registered nurse, public health and safety are of primary concern, including traffic safety and emergency service access. Environmental concerns are significant, as this development is on former greenhouse land that **has tested positive for dangerous chemicals and proposes to essentially dump run-off from the project into Ralston Valley Creek.** My husband and I often walk on the Ralston Creek path that is adjacent to this, and wildlife abounds. Fox, coyotes, beaver, rabbits and geese are wildlife who may be harmed not to mention human inhabitants of our community.

- **Adequacy of Public Facilities and Services** – Emergency access for the exit road for the main exit of the facility feeds into a neighborhood-scale road (the ‘stub’ of Easley north of West 64th) inadequate for emergency access. And secondary access, which by the Fire Department’s own admission does not meet IFC Section D106.3 requirements regarding distance from the first exit, does not access an external thoroughfare. Rather this secondary access feeds through the MorningStar facility. While this secondary access may have been sufficient for greenhouses it is sorely lacking as a secondary emergency ingress/egress for over 1,000 residents. The project provides no details regarding the site disturbance permit that will be required for storm work to be performed on taxpayer owned golf course land.

All four homeowner associations in the surrounding neighborhoods as well as the residents of Morning Star Living Facility OPPOSE this project.

WE sincerely ask that the Planning Commission and City Council **deny the CUP application for Avalon Arvada.**

Sincerely yours,

Dr. Joanne T. Clavelle & Mr. David A. Clavelle

17013 West 64th Circle

Arvada, CO 80007

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens Development

1 message

Jessica DePetro [redacted] Fri, Jan 9, 2026 at 4:24 PM
To: "Cedboardsandcommission@arvada.org" <Cedboardsandcommission@arvada.org>

Hello -

I am writing to share my strong opposition to the proposed Welby Gardens Development project. Our road infrastructure in this area of Arvada is already under pressure and cannot support increased housing density. Moreover, there is also insufficient retail to support the housing communities that exist today. How can I engage in the community planning process to express my concerns and those of my neighbors about proposed commercial and residential development in West Arvada?

Best regards,
Jessica DePetro

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Support for Welby Gardens Residential Community

1 message

Judy Douglass [redacted]
To: cedboardsandcommission@arvada.org

Wed, Jan 14, 2026 at 10:03 AM

Re: AvalonBay Communities Arvada Project) ■ Project Number: DA2025-0035

Dear Planning Commission,

I would like to support this project as it brings needed housing options to Arvada.

- The development is **not** located in existing lower income areas of Arvada where density already exists.
-
- Work force housing and housing for seniors who need to downsize is severely needed and backed up by City of Arvada studies.
-
- On my block (72nd and Kipling), my neighbors are teacher and teacher aid, dental hygienist, butcher, cleaning lady, City of Arvada employee, retired seniors. None of these people could afford to move into my neighborhood now.
-
- Traffic is caused by cross-city driving because housing and jobs are never close by. My husband's care givers in Memory Care lived in Commerce City and Aurora.
-
- **The people who work in the surrounding area of the proposed development include people who work in restaurants, senior care facilities, Big Box stores, small businesses, etc. Employees in the nearby area cannot live close to work. This drives their sustainable incomes downward with car expense (ie need for public assistance) and causes more traffic.**

Thank you for the opportunity to speak out. Please realize that NIMBism has become the gold standard for people who put personal exclusiveness against community wellbeing. It’s time for that to stop. Only the results of this development and others like it will help dispel the myths that continue to be propagated.

Sincerely, Judy Douglass
10122W 70th Drive
Arvada 80004

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: DA 2025-0035 Avalon Arvada/ citizen letter opposing the project as proposed

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 3:00 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Here's another one that just came in.

Rozalynne

---------- Forwarded
From: **Julie Hoga** [redacted]
Date: Wed, Jan 14,
Subject: DA 2025-0035 Avalon Arvada/ citizen letter opposing the project as proposed
To: Rob Smetana <rsmetana@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>
Cc: <bfifer@arvada.org>

To: Arvada Plan Commission, Planning Staff and Arvada City Council

From: Julie Hogan, volunteer with McIntyre Neighbors United and Protect Westwoods

Please accept this email communication regarding concerns about the proposed Avalon Arvada (Welby Gardens) multifamily project and share as appropriate.

The McIntyre Neighbors United (MNU) coalition has 25 HOAs participating in order to follow projects in northern Jefferson county that will greatly impact our quality of life. Avalon Arvada as proposed is not compatible with the adjacent neighborhoods. The density, poor ingress/egress and impacts on traffic in west Arvada are three areas of concern. We appreciate the efforts of the Protect Westwoods coalition and Ralston Valley Coalition in bringing these matters to the attention of the Arvada Plan Commission and City Council.

MNU has been opposing the Golden Technology Center project in Jefferson County at 60th and McIntyre for the past 3 years. One of the most obvious impacts of the proposed 512,000 s.f. distribution warehouse project will be the traffic along McIntyre and 64th. The county has accepted a flawed transportation study concluding that 927 "trips" in/out are expected at 60th and McIntyre. This is a gross underestimate; an independent traffic engineer report was sent to Jeffco and if the project is leased to the type of tenants that the applicants anticipate, t**he daily trips will be more than 3000 with likely 500+ trucks daily.** This independent engineer report was sent to Mr. Smetana last September.

Along with the Westside 64th recently-approved industrial project with likely 100 or more truck trips per day at Indiana and 64th, **the 64th corridor will see a significant level of service decline**. These industrial projects and the related traffic impacts need to be reviewed as Arvada considers adding more than 800 vehicle trips to the 64th corridor with the Avalon Arvada project.

Thank you for considering the residents of west Arvada as you review the proposed multifamily project. The noise, emissions and decline in traffic safety in west Arvada when combined with other anticipated projects will diminish the quality of life for decades.

Julie Hogan
6113 Umber St. (Fieldstone)
Arvada, CO 80403

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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Welby Gardens Residential Community

1 message

Joe McLaughli [redacted]> Sun, Jan 11, 2026 at 2:54 PM
To: cedboardsan

Meeting Date: January 21,2026
Welby Gardens Residential Community/AvalonBay Communities Arvada Project
Project Number: DA2025-0035
Address: 17201 W 64th Avenue, Arvada CO

It is important for the city of Arvada that a variety of housing options are available. Housing diversity and a range of housing costs are important for the people who work in Arvada to be able to afford to live here.
West Arvada is a fast growing area. The businesses that are in West Arvada need workers to provide the services that residents need. These workers need affordable housing.
New varieties of housing add needed supply and reduce pressures across the housing market. The proposed buildings do not exceed the height of the adjacent Morningstar apartments. The city is already planning a traffic light at West 64th and Easley that should help manage neighborhood traffic concerns.
For the future of Arvada, please approve this housing proposal. Thank you.

Joseph McLaughlin
9444 Kilmer Way
007
[redacted]

10/3/25

DEAR MS. AMBROSE,

I AM AN 85 YEAR-OLD WOMAN LIVING IN MORNINGSTAR RETIREMENT COMMUNITY. I AM DEEPLY CONCERNED ABOUT THE AVALON BAY DEVELOPMENT:

1. TRAFFIC
2. SOIL CONTAMINATION
3. SAFETY OF RESIDENTS
    a. FROM TOO MUCH TRAFFIC ACTIVITY
    b. TOO MANY UNRULY YOUNG PEOPLE
4. NOISE
5. LOOSING VIEWS OF THE MOUNTAINS
6. SAFETY OF US RESIDENTS BECAUSE OF SUCH INFLUX OF PEOPLE AND CARS.

THANK YOU
JUDY PFLUM, RESIDENT OF
MORNINGSTAR OF ARVADA

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MORNINGSTAR OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens Redevelopment

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:46 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded m
From: **Jim Upchurc** [redacted]
Date: Thu, May 1, 202
Subject: Welby Gardens Redevelopment
To: RThompson@arvada.org <RThompson@arvada.org>

Ms. Thompson,

There has been significant discussion regarding the redevelopment of the Welby Gardens property at 64th and Easley. I do not subscribe to the philosophy of many people in the area, that nothing should ever be built within 100 miles of their house ever again. Developing infill sites like this is far better than additional sprawl and the bulldozing of virgin open space. However, there are issues with the current proposal that need to be addressed.

1. The proposed 4-story apartments would loom over the existing neighborhoods. Current residents, especially when using their yard, would have people staring down at them from 20 or 30 feet above. The shadows cast by the new building could also impact existing solar installations.
2. Having only one viable access point (64th to Easley) for this many units creates a huge safety issue. If a traffic accident closed that intersection and then an emergency occurred inside the complex; police, fire, and paramedics would have a very difficult time responding.
3. The intersection at 64th and Easley will almost certainly require expensive improvements, including a new traffic light.
4. There is no access to mass transit. The nearest RTD stop is over 3 miles away.
5. Development of high-density housing on this site will increase pressure on the city to allow additional high-density projects in the area.
6. There is nothing in the development plan that addresses renewable energy.
7. The only access for walking or biking to the Ralston Creek Trail or the open space around Blum Reservoir is to risk your life along 64th.
8. The current zoning for the property may not require but certainly envisions walkable developments like Old Towne Arvada with commercial / retail on the ground floor and residential above. This plan includes none of that. There is absolutely nothing the residents could do without getting in their car.
9. While we undoubtably need housing of all kinds, the most pressing is the need for affordable housing. Witness the ongoing homelessness crisis. This proposal says nothing about affordable housing.

The following improvements to the development plan should be required before the city gives the go ahead.

1. The height of the new buildings should be limited to 3-stories and/or the site plan rearranged to concentrate the buildings in the center and south end of the site. This would minimize the impact on the existing residents. Also, to minimize the overall visual impact, the buildings should be limited to flat rooves.
2. A second access point, for emergency vehicles only, should be added from Umber Circle. The street that borders the site on the west.
3. The developer should pay for improvements to the intersection at 64th and Easley, including a new traffic light. To offset the traffic slowdowns caused by an additional light, the city should remove the totally useless traffic light at 64th and Pike.
4. Before approval, a plan should be in place to provide mass transit access to the development along 64th.
5. The city should commit to limiting any similar projects in this general area for the foreseeable future.
6. The developer should be required to build all electric units, no natural gas, and install enough solar to provide at least 50% of the complex's energy needs. The complex should also include charging stations for electric vehicles.

7. The site should be connected via a paved path to the Ralston Creek Trail so residents can walk or bike there free from traffic.
8. The city should stick to its development goals and require a multi-use development that provides services for its residents and people in the surrounding neighborhoods.
9. Require that some percentage of these unit be affordable.

Thank you.

Jim Upchurch

6650 Violet Way

Arvada, Colorado 80007-6840

[redacted]

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens/ Avalon Bay

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:45 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **Kim DeLisa** [redacted]>
Date: Thu, May 1,
Subject: Welby Gardens/ Avalon Bay
To: RThompson@arvada.org <RThompson@arvada.org>

I am writing to express my concern to the development plan for the current Welby Gardens area. While I am not opposed to residential development, the current plan proposed by Avalon Bay seems too high density for this small area. I do not believe the city should allow such a high density development in a tight area that does not have the infrastructure to support the amount of people, cars, and number of apartments. As a community member and West Woods Elementary teacher, I believe over 1000 cars will impact the intersection at Easley & 64th. This will combine with West Woods neighborhood as they use this as an entry/exit point. Even with a stop light at Easley, there will be huge traffic jams at certain times of day.

I believe you have a responsibility to the citizens of Arvada to not allow this development to continue as currently proposed by Avalon Bay. Please work with community members to bring in a development that is appropriate in density and size for the surrounding neighborhoods.

Thank you,

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Dear Mr. Fifer,

I would like to add my voice to the chorus of dissenters concerning to proposed development of the Welby Gardens property on West 64th Ave. I can't imagine the traffic snarls that will result from the 600+ cars expected to exit and enter the two! (2!) access points onto Easley Rd, not to even mention that the elimination of parking on Easley will create problems for persons connected to MorningStar Senior Living. Our residents here are frequently out around the building, and since many have vision, hearing, and/or mobility problems, this increased traffic will pose significant dangers, most especially if the requested access via the west end of our property is granted.
Please reconsider the welfare of our elderly family members.

Sincerely,

Kay Hemingway

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Sincerely,

Kay Hemingway

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens development

1 message

karen kjo [redacted] Fri, Jan 9, 2026 at 8:34 AM
To: "Cedbo vada.org" <Cedboardsandcommission@arvada.org>

I live in Westwoods Links III. I am concerned that if there is a fire on a windy day that it will take a very long time to get everyone from my subdivision out because we only have two streets to exit onto 64th.

If they add more housing without being able to add any streets to exit, it will be a death trap. There's no place to add any more streets and one or two wouldn't do it with that kind of density.

Please do not put us in this position.

K. Kjoller

CED Boards and Commission <cedboardsandcommission@arvada.org>

Opposition to Proposed Multifamily Development Traffic Impacts – West Woods Neighborhood

1 message

Kelley Kou [redacted] Tue, Jan 13, 2026 at 1:25 PM
To: cedboard[redacted].org

Dear Members of the Arvada Planning Commission,

I, along with my husband, Kalhan Koul, am writing to express our opposition to the proposed multifamily development in the West Woods neighborhood, based specifically on concerns regarding motor vehicle traffic and public safety.

Our primary concern is not the residential development itself, but rather the significant increase in traffic that this project would introduce onto two existing residential streets that were not designed, sized, or intended to accommodate the volume of vehicles associated with a multifamily housing development. These streets currently serve local neighborhood traffic and lack the capacity and infrastructure necessary to safely support increased daily vehicle use.

Our home is located directly at the intersection of these two residential streets, 17180 W 64th Dr., which places our family —particularly our young children—at heightened risk. Increased traffic volume and speed would significantly impact visibility, crossing safety, and overall neighborhood livability. Of particular concern is that our children's school bus stop is located across one of these streets. With no clear plan for traffic regulation, calming measures, or enforcement, the safety of children waiting for and crossing to the bus stop would be placed at unacceptable risk.

We want to be clear that we are not opposed to residential growth or development within the City of Arvada, even on this site specifically. However, we strongly believe that this project requires additional entry and exit roads that divert traffic away from existing residential streets. Without alternative access points, the burden of traffic from this development would be placed entirely on neighborhood roads that are not suitable for such use, creating safety hazards for residents, pedestrians, and children.

We respectfully request that the Planning Commission carefully consider the traffic impacts of this proposal and require meaningful solutions—such as additional access routes or significant traffic mitigation measures—before approving the development. Ensuring the safety of existing residents while planning for growth is essential for the long-term wellbeing of our community.

We will be in attendance at the upcoming Jan. 21 6:15pm public hearing on this development, and we look forward to further discussion on the matter.

Thank you for your time and consideration.

Sincerely,
Kelley Koul & Kalhan Koul
West Woods Neighborhood Residents
City of Arvada

CED Boards and Commission <cedboardsandcommission@arvada.org>

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City of Arvada

CED Boards and Commission <cedboardsandcommission@arvada.org>

Proposed Development at Welby Gardens - Property Case # DA2025-0035

1 message

Kurt Licht [redacted] Mon, Jan 12, 2026 at 5:18 PM
To: "lsimpson@arvada.org" <lsimpson@arvada.org>, "rmoorman@arvada.org" <rmoorman@arvada.org>, "bfifer@arvada.org" <bfifer@arvada.org>, "sambrose@arvada.org" <sambrose@arvada.org>, Jmariott@arvada.org, "sdavis@arvada.org" <sdavis@arvada.org>, Brupurt@arvada.org, "rthom mpson@arvada.org>, RSmetana@srvada.org, "jegarner@arvada.org" <jegarner@arvada.org [redacted]
"cedboardsandcommissi oardsandcommission@arvada.org> [redacted]
"sehallow@gmail.com" [redacted]

Hello all, I hope you and yours had a joyous holiday season. I want to say thank you in advance for reading this long winded email. Please let me introduce myself. My name is Kurt Lichty, and I live directly east of the entrance to the Welby Gardens complex and I'm very concerned about the change in the quality of life for the west side of Arvada (near the ball fields off hywy 93) that will occur if Avalon Bay succeeds in obtaining approval to install 384 apartments and 51 Townhomes on the Welby Gardens site. I am a Colorado native (graduated from Wheatridge High and CSU Ft. Collins) and have spent my entire life savings to accumulate the wealth in order to purchase my house at 6477 Torrey Ct, Arvada, CO 80007. I'm very concerned about what is happening in Colorado in terms of rapid development of the entire metro area. I call it the Californication of Colorado. Currently the population in Arvada is decreasing and there is currently at least 780 homes and apartments on the books to be constructed in Candelas (56 townhouses and up to 324 apartments), Marshall Street Landing (affordable Housing), Legacy Senior Residences (72 unit affordable), Downtown Housing (options for 300-328 units), I'm not opposed to development of the Welby complex. But PLEASE, let's use some common sense here. 384 apartments and 51 Townhomes is just not a fit for the surrounding neighborhood. The city council has a chance here to establish a legacy of reasonable growth and sustainable development in Arvada. Please put the brakes on this uncontrolled growth. For example, the traffic on ward road is ridiculous after all the development on the east side of Ward road between 58th and 50th.. The traffic on Ward road is deplorable and could have been avoided with thoughtful development. It seems to me that the rationale for this development is money based. More Tax revenue. But what will really happen is there will be a huge impact on infrastructure and quality of life. Right now the lines at the King Soopers on 64th and Mcintire are long and an addition of 435 households in the area will only exacerbate the limited services we have in west Arvada. It is unconscionable to think that our public servants would approve a project that has only one access point (off 64th and Easley road) to accommodate an estimated 2500 car trips in and out of the facility per day. I can't imagine a city government that would approve that sort of saturation in any neighborhood. You need to ask yourself. Would I want a development like this behind or close to my house? The entire neighborhood is single family homes and a development like this is just a square peg in a round hole. There is NO mass transit in this area. How is the city going to provide an environmentally responsible commute option to the residents of this apartment community? Fire egress is a major concern after what happened in the Marshall fire. Also fire truck entry. One entry and exit to 435 residences in the project, as well as the 70 or so residences in Westwoods III, plus the 120 residences at Morningstar Senior Living Center. There is a street on the west side of the proposed development that could handle 2 additional entrances off Umber Circle off of Virgil rd.. It's just NOT safe for anyone residing in the area. There are definitely environmental hazards that must be remediated and that will be very tough in this area due to wind and possibility of contaminating neighboring houses during the remediation process. We live in a wind tunnel here. 60 to 100 mile an hour winds are not uncommon here. Usually the wind is anywhere from 5 to 30 mph. This could result in exposure to the city in the form of litigation. None of us want that. There will be a significant stress on the police department and additional officers will undoubtedly need to be hired to fill the void. It is my understanding that conditional approval must be granted from the planning commission and council members to develop this area with apartments. Please be smart and make the variance to be able to install single family homes like the rest of the area. Or at a minimum, low density townhomes. Apartments are just not a fit in this westwoods neighborhood. I know all the neighbors in the surrounding area are against this project for obvious reasons. I've spoken to many of them on my dog walks.. Tell me where there are any other apartment complexes near this neighborhood. There are not. My Logic tells me that since this development will mostly be apartments, it will bring a criminal element to the west side of Arvada. This must be considered and additional patrols will be needed in the surrounding neighborhoods. Currently, I very rarely see police cars in my Neighborhood at Westwoods III. And I'm fine with that. We have a very safe neighborhood, and we want to keep it that way. Currently Easley road is a crowded 2 lane road that has very high Cycling traffic. And there is no lane for Bicycling. I'm a biker and this road is very dangerous. It's just a matter of time before someone gets fatally injured riding on that road. Easley road will become the new cutoff road for the apartments that are proposed to reside at the northern edge of Easley Road. In order to go south and hook up with Mcintyre road the apartment residents will head sound on Easley road to avoid the congestion at 64th and Mcintyre, making Easley road even more dangerous. And there is no light rail or bus service in the area. So it will all be car traffic, 2500 trips per day. That is a lot of car traffic coming in and out of one entrance. This development has been touted as low income. There will be no section 8 housing in the development. And the price of a standard 1 bedroom will be around $2000/mo. That is NOT low income...

I would be happy to meet with any and all personnel with the city that are interested in the development, for a site walk, to help acquaint you all with the area. When I talked to the mayor she indicated that she had heard of Easley road but didn't know exactly where it was. That's a problem.

All I ask is that you vote with your heart, conscience, morals, and ethics, and not your pocket book. Please be kind to your constituents.

Here are some excerpts from the Protect Westwoods protest site in Which I TOTALLY AGREE with. And some of my notes at the bottom.

Health and Environment

The current site has been a greenhouse grow site for nearly fifty years and has likely been treated with a multitude of pesticides and fertilizers that may have contained many highly toxic and carcinogenic chemicals including Chlorodane, Nitrofen, Paraquat, Asbestos. The developer has also stated that the site will need environmental cleanup. The developer also plans to extend the water run off plan to drain potentially contaminated water into Ralston Creek.
The development would house nearly 1000 residents in an area with no walkable amenities or public transit. The site is accessed by one single unlined stub road onto a busy section of 64th, currently with no traffic light. The developer has conducted a traffic study estimating 2800 new vehicle trips per day from the complex, and Jefferson County has already commented that the current traffic study is not sufficient. There is also high concern for considerable spillover and through traffic in the surrounding neighborhoods

Emergency Access and Egress

The development would have only one access and egress point for 450 residences (1000 cars) and the setup requires both a variance from the fire department as well as special approval from the Planning Commission Director. For reference, the neighborhood on the east has 72 homes, and two access points. The backup emergency egress for the development would be through the parking lot of the Senior Living Facility it abuts to. In the event of a major emergency, like a wildfire, nearly 1000 residents would be attempting to exit through one stub road, or through the parking lot while emergency responders would be attempting to reach and evacuate the residents of the Senior Living facility.

Overall Compatibility

The site is currently zoned Arvada MX-S, which is a mixed-use suburban designation. The Arvada Comprehensive Plan states that these type of sites should **"be strategically located...** The site is currently zoned Arvada MX-S, which is a mixed-use suburban designation. The Arvada Comprehensive Plan states that these type of sites should **"be strategically located... pedestrian oriented activity centers"** and should **"be located in urban centers or designated corridors"** and **"demonstrate the following characteristics:"**

-transit supportive residential densities

-transit supportive mix of retail and employment

-streets or other features that define the center

-public plazas, gathering centers, or amenities

-transit service

-pedestrian oriented

-interconnected network of multimodal streets

The proposal falls short on all items.

The Comprehensive Plan also states that:

-building height transitions and building step-downs should be compatible with adjacent development
-use major arterials or collector streets and boundaries between developments
-maintain appropriate view corridors
-density will generally decrease in the western part

I have talked to my realtor and she advized me that the value of my house will go down 5 to 7 percent when ground is broken. That is $49,000 of lost equity on just one house. Consider what the impact is on the house values in the entire area.

Here is a laundry list that the Planning Commission and City Council members need to keep in mind when voting on this development.

Kurt Lichty's Concerns with Development of Welby Gardens

I know you all have probably thought of all these issues, but I just wanted to give you this document to formalize my complaints

1.) First Priority - I think the planning commision should try and get the area rezoned to single family houses like the surrounding area. And at a minimum, the same kind of density as our neighborhood. We need a requirement in zoning to stipulate Max Density.
2.) The key problem is Density, we need to reduce the density as much as possible – there are not ANY 4 story buildings in Arvada as far as I know. The closest town homes units are at West Town and have 3 seperate entrances. This development has one entrance. 384 Apartments and 51 townhomes is just not feasible. And we have NO layout of the final townhouse section of the development because that land will be sold to a seperate investor. Who knows how that section of the property will be developed. Promises are not worth anything.
3.) This will reduce Home Prices
4.) What is the city going to get out of this? More traffic, more congestion, reduced quality of life, more crime.
5.) What is Jefferson County going to get out of this? Property taxes.
6.) What increased services is the city going to provide? Fire, Water, Electricity, drainage, water, police presence. improvements.
7.) If they do go ahead with the development, we need to get a gate off 64th place so people don't cut through our neighborhood. I did some research and the development across from King Soopers has 3 access points. One off 64th and 2 off McIntire Street. We need to try and get access points off Umber road from Virgil on the west side of the development west of Welby. This would help with emergency vehicle access.
8.) Problems with Density
    a. Crowded Streets
    b. Over-crowded Schools. Right now, the elementary 5th grade is housed in Temp Buildings
    c. Crime – if there is an apt building, there will be drug dealers living there. I guarantee it. We currently have a very safe neighborhood. No Drug dealers that I am aware of.
    d. Late night Parties from younger clientele and associated noise and traffic in the area late at night.
    e. The King's shopping center is already crowded and there are always long lines at Kings. This will exacerbate these problems

f. Lots of Dogs and associated barking and poop.. Massive amount of trash generated
g. More road maintenance
h. Need for traffic lights. Easely road will become very dangerous
I. No retail facilities within walking distance
J. Light Polution
K. Noise from construction

9.) There could be a lot of environmental restoration due to the Welby facility being there for decades and the fact that they were obviously using chemicals there.

10) Probability of NOT-Reelecting of officials within city government. We have a really good voting base here.

I appreciated all of the dedication and time all of the parties copied on this email have put into their service at the city and sincerely hope that you can find a better solution than what is proposed for the Welby Gardens property.

Sincerely,

Kurt A. Lichty

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposition to the Proposed AvalonBay Development at Welby Garden Site

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:34 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Rozalynne Thompson** <rthompson@arvada.org>
Date: Fri, Oct 17, 2025 at 2:06 PM
Subject: Re: Oppositio[redacted]evelopment at Welby Garden Site
To: Katherine Zaraza [redacted]>

Hello Katherine,

Hello Pam,

Thank you for your email. City staff is evaluating Avalon Arvada's application to ensure that all the required information has been submitted. Ultimately, the Conditional Use Permit involves a public hearing and a decision by the City Council in order to move forward.

As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.

Sincerely,
Rozalynne

On Thu, Oct 16, 2025 at 2:31 PM Katherine Zarazan [redacted]wrote:

> Dear Members of the Arvada City Council,
>
> I am writing to express my strong opposition to the proposed **AvalonBay apartment development at the Welby Garden site**.
>
> As a resident of western Arvada, I am deeply concerned about the impact this project would have on our community's **safety, infrastructure, and character**.
>
> Adding approximately **450 new housing units** to this area would significantly increase traffic on roads that are already overburdened. The infrastructure in this part of Arvada was not designed to accommodate this level of growth, and we are already experiencing congestion.
>
> Equally troubling is the **heightened fire risk**. With the surrounding open space and limited evacuation routes, introducing dense housing dramatically increases the potential danger to residents in the event of a wildfire or other emergency.
>
> Beyond these immediate concerns, the proposed development simply **does not fit with the existing neighborhood**. The Welby Garden property has long been part of the open, natural character that makes this area special. A large-scale apartment complex would permanently alter that character and undermine the balance between thoughtful growth and community preservation that residents have consistently voiced support for.
>
> Many of us feel **disheartened** by recent City Council decisions that appear to prioritize rapid development over residents' concerns. We urge you to **listen to the community** and **reconsider approval of this project**.
>
> Please take the time to fully evaluate the long-term impact this development would have on western Arvada's safety, livability, and identity. Responsible growth requires balance, and this proposal is not that.

> Thank you for your time and for representing the voices of your constituents.
>
> Sincerely,
>
> Katherine Zarazan
>
> 6651 Violet Way
> Arvada, CO 80007.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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Ms. Loretta Chessmore
MorningStar Arvada #1008
17351 W. 64th Ave.
Arvada, CO 80007

To Arvada City Council Members:

This letter is in regard to the Avalon Bay apartment development plan for Welby Gardens at 17201 W. 64th Ave. Arvada.
I am a sixty-seven year Colorado resident, a registered voter in Jefferson County, and live at MorningStart Senior Living Arvada, which serves those needing memory care, assisted and independent living amenities, such as a restaurant, life assistance services, and life enrichment for residents.
MorningStar shares the full south boundary with the proposed development.
Please note that no portion of the Development property is located on 64th Avenue. That address is a post office designation for their mail delivery to a single roadside mailbox located off Easley, on their own property.

The impact of traffic on Health and Safety is the topic of this portion.

1. The apartment development access is on the small street of Easley, over 250 feet from the 64th Ave. intersection. MorningStar's major guest/staff/ resident parking lot is also off Easley, closer (175') to 64th Ave. Backed up traffic will block our access out of and into MorningStar. Ambulances, fire trucks, health vendors, food service trucks, trash trucks, staff, family, and residents expect to retain a safe and accessible driveway.

2. The single access for 384 apartments is not adequate. Most concerning: is the number of the 614 to 2400 vehicles daily volume which may be driven on our private parking aisles to avoid the bottleneck at Easley and 64th, even with a traffic light. The aisles are narrow and every one must be crossed on foot/by walker/by wheelchair to access our private vehicles, the main building, or even to walk a pet. This is not ever going to be a safe situation for MorningStar residents, staff nor visitors.

3. The turn for eastbound 64th from Easley presents another hazard. Facing a wait in a full left turn lane, drivers may instead choose to turn west to keep traffic moving, only to make a risky U-turn at Virgil in order to go east. Those leaving to the west from MorningStar face the same U-turn . Ambulances leaving MorningStar will face the same issue. Our fire stations and medical care centers are east of us, not west - that is all open space for miles.

The impact of past decisions is the topic of this portion.

1 The decisions of the original landowner prior to Avalon Bay resulted in totally isolating the property for their specific use, though it served them well. Even Easley St. was vacated. In the past, subdivisions were approved on either side of them, and the city golf course was built up. The original owners even sold the land for MorningStar to build upon years ago.

2. The choice to experiment with growth enhancing chemicals, fully available in the 40's, 50's and 60's to improve their seeds, plants and hydroponic produce introduced now-known forever chemicals and microplastics (they put synthetic fiber 'floors' in seven buildings) into the soil wherever liquids/solids fell. In retrospect, that was a choice with unseen consequences. But now, the health of persons on or surrounding the property, even down-stream, must be considered very seriously.

In conclusion, I would recommend that the Council vote NO on the presented proposal by Avalon Bay.

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2. The choice to experiment with growth enhancing chemicals, fully available in the 40's, 50's and 60's to improve their seeds, plants and hydroponic produce introduced now-known forever chemicals and microplastics (they put synthetic fiber 'floors' in seven buildings) into the soil wherever liquids/solids fell. In retrospect, that was a choice with unseen consequences. But now, the health of persons on or surrounding the property, even down-stream, must be considered very seriously.

In conclusion, I would recommend that the Council vote NO on the presented proposal by Avalon Bay.

Sincerely,

Loretta Chessmore

Ms. Loretta Chessmore
MorningStar Arvada #1008
17351 W. 64th Ave.
Arvada, CO 80007

To Arvada City Council Members:

This letter is in regard to the Avalon Bay apartment development plan for Welby Gardens at 17201 W. 64th Ave. Arvada.
I am a sixty-seven year Colorado resident, a registered voter in Jefferson County, and live at MorningStart Senior Living Arvada, which serves those needing memory care, assisted and independent living amenities, such as a restaurant, life assistance services, and life enrichment for residents. MorningStar shares the full south boundary with the proposed development. Please note that no portion of the Development property is located on 64th Avenue. That address is a post office designation for their mail delivery to a single roadside mailbox located off Easley, on their own property.

The impact of traffic on Health and Safety is the topic of this portion.

1. The apartment development access is on the small street of Easley, over 250 feet from the 64th Ave. intersection. MorningStar's major guest/staff/ resident parking lot is also off Easley, closer (175') to 64th Ave. Backed up traffic will block our access out of and into MorningStar. Ambulances, fire trucks, health vendors, food service trucks, trash trucks, staff, family, and residents expect to retain a safe and accessible driveway.

2. The single access for 384 apartments is not adequate. Most concerning: is the number of the 614 to 2400 vehicles daily volume which may be driven on our private parking aisles to avoid the bottleneck at Easley and 64th, even with a traffic light. The aisles are narrow and every one must be crossed on foot/by walker/by wheelchair to access our private vehicles, the main building, or even to walk a pet. This is not ever going to be a safe situation for MorningStar residents, staff nor visitors.

3. The turn for eastbound 64th from Easley presents another hazard. Facing a wait in a full left turn lane, drivers may instead choose to turn west to keep traffic moving, only to make a risky U-turn at Virgil in order to go east. Those leaving to the west from MorningStar face the same U-turn . Ambulances leaving MorningStar will face the same issue. Our fire stations and medical care centers are east of us, not west - that is all open space for miles.

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1 The decisions of the original landowner prior to Avalon Bay resulted in totally isolating the property for their specific use, though it served them well. Even Easley St. was vacated. In the past, subdivisions were approved on either side of them, and the city golf course was built up. The original owners even sold the land for MorningStar to build upon years ago.

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In conclusion, I would recommend that the Council vote NO on the presented proposal by Avalon Bay.

Sincerely,

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CITY OF ARVADA **Heidi Van Gieson <hvangieson@arvada.org>**

Fwd: Project #DA2025-0035

Josie Suk <jsuk@arvada.org> Wed, Dec 17, 2025 at 11:44 AM
To: Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Wed, Dec 17, 2025 at 11:43 AM
Subject: Fwd: Project #DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Sharon Davis** <sdavis@arvada.org>
Date: Wed, Dec 17, 2025 at 10:00 AM
Subject: Fwd: Project #DA2025-0035
To: Kristen Rush <kristen@arvada.org>

Hi Kristen!

For the record.

Sincerely,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

---------- Forwarded message ---------
From: **Larry Middle** <[redacted]>
Date: Wed, Dec 17, 2025 at 9:13 AM
Subject: Project #DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>, rsmetana@arvada.org <rsmetana@arvada.org>, jegarner@arvada.org <jegarner@arvada.org>

Hello - I am writing you to express my concerns about this Avalon project on the current Welby Gardens site. I have lived in this location for 25 years and am sympathetic to driving new business as a founder of tech companies myself. However, trying to fit this complex into this location doesn't make sense from a number of angles. Some of the problems can be solved, but I unfortunately don't think others can be, and it ultimately puts people at risk.
Some of the issues that I think can be solved:
- Ability for cars to safely enter 64th. Putting a light at Easley and 64th certainly can help with this, although with the number of cars expected, it may need an additional light and road coming out of the Avalon complex
- Parking, and traffic into the westwoods adjacent neighborhood. It is a very kid-friendly neighborhood with its own traffic and parking issues. I believe this complex will push this over the top and create a dangerous environment. There is no way of stopping the traffic coming off of 64th through the neighborhood and into the proposed complex.

- For traffic, parking, safety, emergency, the ingress / egress proposed solution will not work. This is creating issues across the board
- I know the height and noise is also going to be problematic for adjacent neighborhoods but I also know its a matter of time before more business expands to the west of quaker. What makes Arvada such an ideal place to live for most is the well thought out open spaces, quiet/safe neighborhoods. Packing more density is going to hurt Arvada in the long term. I grew up in applewood and spent most of my adult life in Arvada/Golden. This building in this particular spot goes against what I think makes this area so ideal for families to locate in. I don't think anyone wants that.

Thanks, I am happy to speak live with anyone that wants to understand more about the concerns the community has.

Larry Middle (1 adult in my house)
17125 W 65th Circle (Westwoods Links III)

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Bay Arvada - Welby Gardens

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:40 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwa
From: **Lore L** [redacted]
Date: Tue, Ma
Subject: Avalon Bay Arvada - Welby Gardens
To: <rthompson@arvada.org>

Dear Rozalynne,

I hope this message finds you well.

My name is Lorena, and I was invited to attend a meeting regarding a proposed development north of Morning Star Senior Living. Unfortunately, I was out of town at the time and have just returned. Could you please provide me with an update on the status of this project?

For your reference, I've attached the meeting letter I received.

I also wanted to express some concerns. Lately, it seems that Arvada has been approving projects that contribute to a sense of clutter in the city. While I understand the need for growth, development should focus on enhancing the quality of life for residents. This includes ensuring there are sufficient public services, improving traffic flow, addressing parking shortages, and maintaining a clean and aesthetically pleasing environment.

Some recent developments appear to lack thoughtful design and style, and it raises the question of whether financial gain is being prioritized over the long-term well-being of the community.

Please feel free to share my message with others if it helps support a broader discussion.

Thank you for your time and for any information you can provide.

Warm regards,
Lorena Poling.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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Welby Gardens.pdf
2318K

NOTICE OF NEIGHBORHOOD MEETING

This notice is to inform you of an upcoming opportunity to participate in a neighborhood meeting for a potential development project planned within the City of Arvada.

Date of Notice: March 26th, 2025

PROJECT NAME: Avalon Bay Arvada – Welby Gardens

PROPERTY LOCATION: 17201 W. 64th Ave., Arvada, CO 80007

APPLICATION SUMMARY: The proposed development shall be located on 20.1 acres north of the existing MorningStar Senior Living of Arvada and comprise of a mix of multi-family and townhome residential units. This residential community proposes approximately 390 multi-family units and approximately 50 townhome units with a total proposed density of 21.9 dwelling units per acre (DU/Acre). The community will include a minimum 2-acre Urban Park. All residential buildings are proposed to comply with the maximum allowed height of 45 feet.

MEETING INFORMATION
DATE: Thursday, April 10, 2025
LOCATION: West Woods Elementary School Gym - 16650 W. 72nd Ave., Arvada, CO 80007
TIME: 6:00 p.m.

PROJECT REPRESENTATIVE
NAME: Todd Nicotra, and Gregory Himmel
Avalon Bay Communities
PHONE NUMBER: 720-245-6941
EMAIL ADDRESS: todd_nicotra@avalonbay.com

ARVADA STAFF CONTACT
NAME: Rozalynne Thompson
PHONE NUMBER: 720-898-7436
EMAIL ADDRESS: rthompson@arvada.org

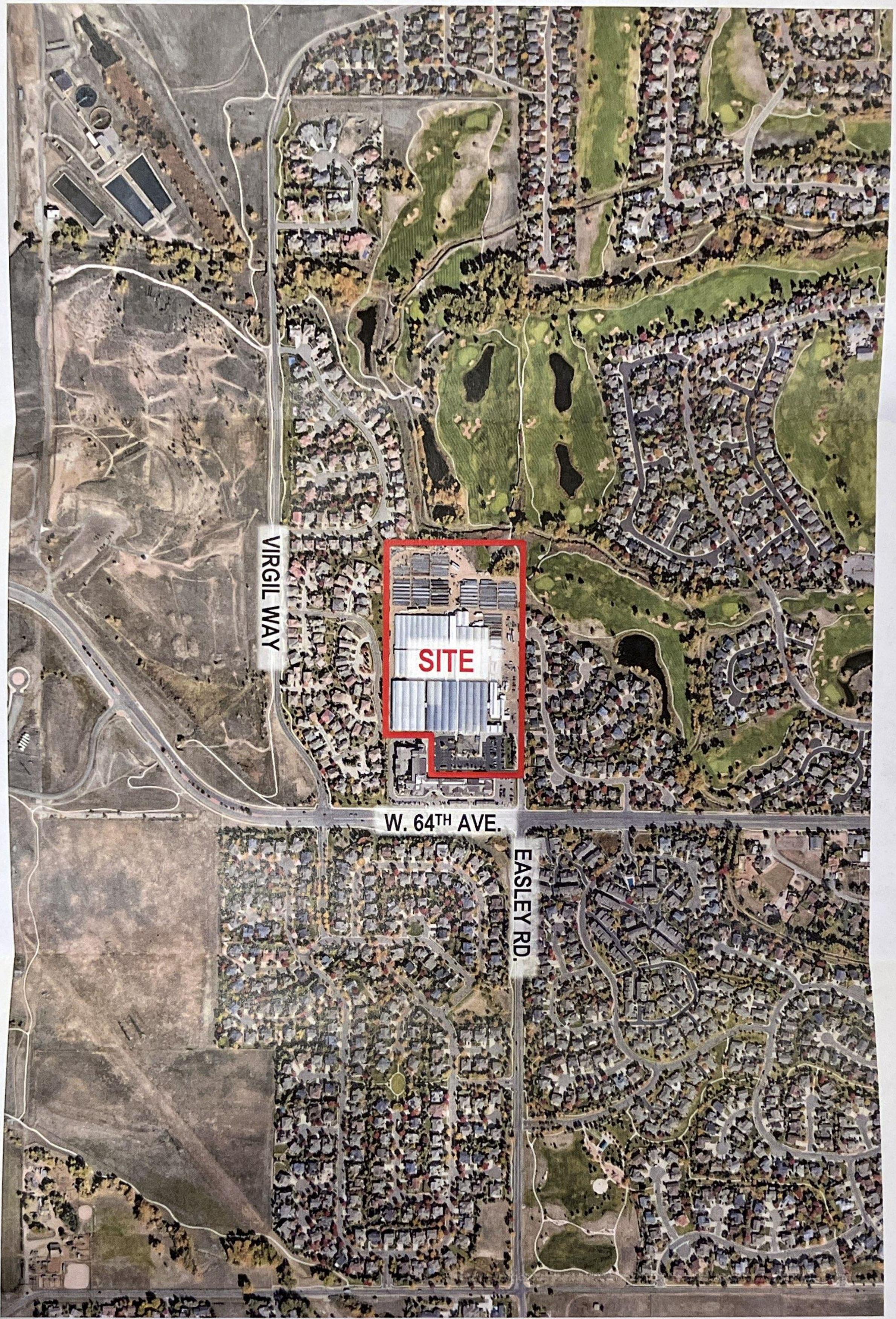
A neighborhood meeting is the first step of the public process in the City of Arvada for developments that require a public hearing. This is done to help ensure community input and feedback into proposed developments prior to any formal application being submitted. If an application is submitted and the project moves forward, property owners and Homeowners Associations located within 500 feet of the subject property will be notified of the dates of both the Planning Commission hearing and the City Council hearing approximately 10 days in advance of the hearing dates.

During the neighborhood meeting, the project representative will present the proposal to the audience, and may have a graphical representation of the proposal, a project fact sheet, and/or detailed handouts regarding specific details of the planned development for audience review.

Audience members will be given an opportunity to ask questions and provide comments regarding the proposed project. Arvada city staff will be available at the meeting to address any questions regarding the development review and application process.

Please feel free to contact the project representative or the Arvada staff contact listed above with any questions regarding the meeting.

PROJECT VICINITY MAP


VIRGIL WAY
SITE
W. 64TH AVE.
EASLEY RD.

10/3/2035

Dear Bob Fifer,

I am concerned about traffic on Easley, because we have many seniors who like to walk as prescribed by their doctors. With Easley limited to 3 lanes, 1 in, 1 out, 1 turn it would be very difficult with traffic in and out of Morningstar. And when there is snow, it would be impossible to walk on the side walk. So where do we go? We would only have 1 entrance to MorningStar so I am also concerned about congestion. I live on the North side of the building, I enjoy sitting on my patio so the noise would make that impossible, and I would lose the view of the mountains. I don't want to see into someone else's apartment nor do I want people able to view into mine.

Respectfully,

Louise Webber

Louise Webber

10/3/2035

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We used to climb mountains, but now we can't. We used to run races but no longer can. So, we have come here to this quiet and safe place, to live peacefully and enjoy our years protected. Please do not steal that place from us for we need it very much.

Mary E. Albers

Sincerely,

Marnie Albers

10/3/2035

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Marnie Albers

Oct 3, 2025

Dear Mr. Fifer,

I am very much against the proposed development
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Think long and hard before going ahead with this plan.

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MorningStar Senior Living

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17351. W 64th Ave. #1002
Arvada, CO 80007
August 8, 2024

Mayor Lauren Simpson
8101 Ralston Road
Arvada, CO 80003

Dear Mayor Simpson,

I am a senior living within fifty feet of the proposed Welby Gardens Project. I have several health and safety concerns about this project. Our air quality is rarely above fair and adding over six hundred cars is certainly going to impact the air quality of the neighborhood with only one road access. With all these extra cars adding to the carbon monoxide our indoor air quality is going to suffer exacerbating my/our breathing conditions.

We are absolutely within the ten mile radius that was contaminated several times throughout the history of Rocky Flats causing numerous cancers in those living within this radius. Even though the government claims to have buried any residual contamination the strong winds have slowly been eroding the layers of dirt they used to cover it up. How can we be assured that digging the ground to build this new community won't cause some contamination to those of us living in and around the West Woods community?

Everyone moving into the new Welby Gardens community will have no choice but to drive to wherever they are going since there is absolutely no public transportation this far out. With little or no amenities residents will have no choice but to drive to get the supplies they need for daily living. The additional cars will certainly impact the traffic flow onto 64th Avenue. Turning East onto 64th Avenue is going to become a nightmare with only one access to 64th Avenue. I have only lived here a short time and find it challenging to get straight across 64th Avenue or to turn onto it going east, especially when some cars are speeding down 64th.

The developer does not expect any children which is totally unrealistic. Even if children aren't living in the community they will be visiting their family members. Any planned facilities for children and their families should definitely be located far away from any automobile traffic, preferably with a secured fenced area to minimize any child running into any moving vehicle.

With only one proposed access road this is going to be a life threatening hazard not only for the proposed new community but those of us living at Arvada Morningstar Senior Living, Emergency vehicles may have difficulties maneuvering trying to gain access due to one narrow road. Think about the Marshall Fire which had many more egress exists and still people had difficulty escaping the quickly moving fire.

Thank you for your attention to my many concerns about his proposed new community.

Mary Kaiser
Mary Kaiser

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I am a senior living within fifty feet of the proposed Welby Gardens Project. I have several health and safety concerns about this project. Our air quality is rarely above fair and adding over six hundred cars is certainly going to impact the air quality of the neighborhood with only one road access. With all these extra cars adding to the carbon monoxide our indoor air quality is going to suffer exacerbating my/our breathing conditions.

We are absolutely within the ten mile radius that was contaminated several times throughout the history of Rocky Flats causing numerous cancers in those living within this radius. Even though the government claims to have buried any residual contamination the strong winds have slowly been eroding the layers of dirt they used to cover it up. How can we be assured that digging the ground to build this new community won't cause some contamination to those of us living in and around the West Woods community?

Everyone moving into the new Welby Gardens community will have no choice but to drive to wherever they are going since there is absolutely no public transportation this far out. With little or no amenities residents will have no choice but to drive to get the supplies they need for daily living. The additional cars will certainly impact the traffic flow onto 64th Avenue. Turning East onto 64th Avenue is going to become a nightmare with only one access to 64th Avenue. I have only lived here a short time and find it challenging to get straight across 64th Avenue or to turn onto it going east, especially when some cars are speeding down 64th.

The developer does not expect any children which is totally unrealistic. Even if children aren't living in the community they will be visiting their family members. Any planned facilities for children and their families should definitely be located far away from any automobile traffic, preferably with a secured fenced area to minimize any child running into any moving vehicle.

With only one proposed access road this is going to be a life threatening hazard not only for the proposed new community but those of us living at Arvada Morningstar Senior Living, Emergency vehicles may have difficulties maneuvering trying to gain access due to one narrow road. Think about the Marshall Fire which had many more egress exists and still people had difficulty escaping the quickly moving fire.

Thank you for your attention to my many concerns about his proposed new community.

Mary Kaiser
Mary Kaiser

Dear Mr. Fifer;

I am a resident of MorningStar Arvada Senior Living facility at 64th Street and Easley Road and I respectfully request that you reject approval of the Welby Gardens Development Project. As currently proposed, this mega apartment project (435 living units with over 650 automobiles) would add only one new exit to Easley Road in addition to the existing outlet we share with Welby Gardens resulting in overwhelming the intersection of 64th Street and Easley Road.
Our senior residents (approximately 160 with an average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially thru our private parking lot.
I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

[redacted]

Marge LaDuke

Dear Mr. Fifer;

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[redacted]

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[redacted]

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I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

[redacted]

Marge LaDuke

Fwd: Proposed Avalon Apt Development #DA2025-0035

Josie Suk <jsuk@arvada.org> Wed, Dec 3, 2025 at 4:18 PM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Wed, Dec 3, 2025 at 3:15 PM
Subject: Fwd: Proposed Avalon Apt Development #DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Michael Griffith** <mgriffith@arvada.org>
Date: Wed, Dec 3, 2025 at 2:57 PM
Subject: Re: Proposed Avalon Apt Development #DA2025-0035
To: Myla Lyons [redacted]>, Council <Council@arvada.org>, Kristen Rush <kristen@arvada.org>, Rachel Morris <rmorris@arvada.org>

Hi Myla,

Thank you for your email and congratulations. To ensure all members of Council are also aware of the concerns you mentioned and that these comments make it into the permanent record - I am copying all council members and including the City Clerk.

The project you mentioned is currently “in application,” meaning that it will come before Council at a future date for approval/denial. You are free to provide comments in text or in person at the future meeting, but council members need to remain impartial for the pending case and may not respond directly.

To ensure a fair process for all applicants, Council members cannot “prejudge” a project by expressing opinions or concerns outside of the public hearing. It is also important that any information shared with one council member is shared with all members, which is why I copied the whole group.

I apologize for the formality of this response and understand some of this might be new information. I am happy to meet with you and discuss procedures and/or other concerns you have, we would just need to avoid discussing the project you mentioned or any other project that has an open application.

Thank you,

Mike Griffith
[redacted]

On Tue, Dec 2, 2025 at 3:21 PM Myla Lyons <mylalyons@yahoo.com> wrote:

> Hi Mike -
>
> Congratulations on your new role! Thank you for meeting with our community HOA a couple of months ago.

> My name is Myla Lyons (6552 Umber Circle, Arvada). I am hoping you will help in supporting a more thoughtful development rather than apartments right in the middle of single family housing (corners of 64th and Easley). The west side of Arvada was originally part of West Woods Ranch and part of a comprehensive plan to build lower structures as to not impact views of the foothills.
>
> My family moved into Trail Village Villas 8 years ago from the Tablerock community because of the close knit community and a less dense area. The welby property was founded in the 1970s before the residential communities were built in the surrounding area and I believe it was just overlooked by the city to appropriately rezone.
>
> These high density apts will not have public transit (no light rail or bus) which will increase the number of cars parking in the area. In addition, the apts will be directly behind Morningstar where the elderly frequently walk across the road there. There's a lot of bikers that cross that cross 64th and Easley to access the Tucker Lake paths. We also have quick a bit of wildlife (three different bears this summer, fox and coyotes, cooper hawks, red tail hawks, an occasional mountain lion, and bobcats.
>
> Another important issue is access points in and out of the future Avalon Apt property. Only one access in and out or apt residents can drive through a congested residential neighborhood. The Avalon Apts housing approx 480 units and approx 50 townhomes will be going in and out of basically one entrance/exit point. And, an emergency exit right through Morningstar. What happens if there's a fire? Emergency vehicles will need access to Morningstar to evacuate their elderly.
>
> Thank you for your support and the support of your colleagues on the City Council. There are other better uses for this land (residential housing, townhomes, farmers market, etc.). This is just not the right area to place high density apts.
>
> Thank you,
> Myla Lyons
>
> [redacted]

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Development Systems and Administrative Manager
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon/Welby Gardens development

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:37 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded m
From: **MINDY MOHR** [redacted]>
Date: Fri, Jul 25, 2025
Subject: Re: Avalon/Welby Gardens development
To: POD CD <pod@arvada.org>
Cc: Rozalynne Thompson <rthompson@arvada.org>

Thank you Julia for responding so quickly!
I keep an eye on some of the housing projects in particular, so that we know when they will likely be going to the planning commission for public hearing.

Any additional information that Rozalynne can provide (especially when/if the public can submit written comments) will be greatly appreciated!

Mindy Mohr
Sent from my iPhone

> On Jul 25, 2025, at 3:38 PM, POD CD <pod@arvada.org> wrote:
>
> Good Afternoon Mindy,
>
> I have copied the Project Manager, Rozalynne, here, who may be able to provide additional information. I have also let out Admin team know. The application has not been withdrawn, but the second submission was not accepted by staff as it needed additional information. I will let you know when I have an update. Have a wonderful weekend.
>
> Sincerely,
>
> Julia
>
> On Fri, Jul 25, 2025 at 2:45 PM MINDY MOHR [redacted]> wrote:
>
>> It appears that this project at 17201 W. 64th from the city's development map — I had seen it on there about a month ago, showing that it was under review by the city. Has the application been withdrawn?
>>
>> Thank you,
>> Mindy Mohr 11560 W 70th Pl Unit A
>> Arvada
>
> --
> To find the zoning of a property, including what uses are allowed, please use the **Address and Property Search** tool.

For information about active development projects, please use the **Development Projects Interactive Map** tool.

Thank you,

Planning Staff
Front Desk: (720) 898-7435
pod@arvada.org

Facebook Icon |
Twitter Icon |
LinkedIn Icon |
YouTube Icon |
E-Mail Icon

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Public Comments for January 21, 2026 meeting on AvalonBay Arvada Project DA2025-0035

1 message

[redacted] Tue, Jan 13, 2026 at 10:24 AM

dboardsandcommission@arvada.org>

To the Arvada Planning Commission:

Thank you to the Commissioners for all that you do for our City! Please accept the following comments IN SUPPORT of the proposed project before you known as ***Welby Gardens Residential Community*** **(or AvalonBay Communities); Arvada Project Project Numbe**r: DA2025-0035
Address: 17201 W 64th Ave, Arvada, CO 80007

First, It's been noted that **there are currently NO rental apartments west of Ward Road in Arvada, other than senior living centers like Springwood, Morningstar, etc…That means that anyone who wants to live in west Arvada must BUY a home – typically an expensive single family home or townhome. Workers who can't afford to buy something have to drive in to work, adding traffic to our roads and emissions to our air.**

Given that current lack of rentals, and knowing that our workers deserve housing options, I fully Support this project which will bring in some needed Housing Diversity (via workforce housing) to west Arvada. Increasing the production of housing that expands price point and product diversity is one of the goals in Arvada's Housing Strategic Plan https://www.arvadaco.gov/DocumentCenter/View/4233/Final-Arvada-Housing-Strategic-Plan-pdf

Some other points in support of this project:

- We have heard for years that west/NW Arvada residents want services – those Arvada businesses serving them need workers, and those workers need workforce housing!
- New market-rate homes add needed supply and help reduce rent pressure across the housing market, benefiting affordability at multiple income levels
- We recently learned from workshops to city council that the city is already planning a traffic light at W. 64th Ave. and Easley (based on current needs). That will help the neighbors' concerns with traffic, plus 64th is already a 4-lane road, facilitating transportation during normal periods as well as during potential emergency situations (e.g. wildfire). (This is in marked contrast to 2 lane roads for wildfire evacuation such as 82nd Avenue at Leyden Rock or portions of Indiana Ave).
- The proposed buildings range from 3-4 stories, but are NOT higher than the adjacent Morningstar apartments. Thus they are compatible with the surrounding area.
- Finally, we understand that **AvalonBay is proposing to reserve 5 units FREE of RENT for 1 year to Jefferson County school teachers (similar to what they have done with Denver Public Schools).** This is a commendable step to help our workforce.

Sincerely,

Mindy Mohr
11570 W. 70th Place Unit A

Arvada, CO 80004

CED Boards and Commission <cedboardsandcommission@arvada.org>

Concerns Re: Proposed Development at 17201 W. 64th Ave

2 messages

Maria Omran [redacted] Mon, Jan 12, 2026 at 8:55 PM
To: "CEDBOARDSANDCOMMISSION@ARVADA.ORG" <CEDBOARDSANDCOMMISSION@arvada.org>

Dear Planning Commission,

I am a homeowner in the neighborhood directly across from the proposed development at 17201 W. 64th Ave, and I am writing to share several questions and concerns for consideration as part of the Conditional Use Permit review. I understand the need to increase housing supply, but I have concerns with the project's scale and its immediate proximity to existing residential neighborhoods.

First, the impact to traffic and safety. Has a traffic impact analysis been completed? and what the peak-hour impacts from approximately 435 new residential units? I believe the increased traffic affects safety for residents and pedestrians.

Second, are there measures in place to prevent parking spillover into adjacent residential neighborhoods?

Third, who will own, maintain, and manage the proposed 2-acre urban park? What safety and maintenance standards will be required to ensure the park does not invite crime or criminal activity?

Lastly, I have concerns with the anticipated construction. What restrictions will be in place regarding construction hours, truck routing, noise, and dust mitigation? How will it be monitored?

I am opposed to this new development, however given the conditional nature of this development, I ask that any approval include clear, enforceable conditions addressing traffic mitigation, parking management, park maintenance, and construction impacts to ensure compatibility with the surrounding community.

Thank you for the opportunity to provide input on this project.

Sincerely,
Maria Omran
Arvada Homeowner

Maria Omran [redacted]> Mon, Jan 12, 2026 at 8:56 PM
To: "CEDBOARDSANDCOMMISSION@ARVADA.ORG" <cedboardsandcommission@arvada.org>
Cc: "rthompson@arvada.org" <rthompson@arvada.org>

[Quoted text hidden]

ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Hi Rozalynne, how are you? Can you help with a Welay Gardens question?

1 message

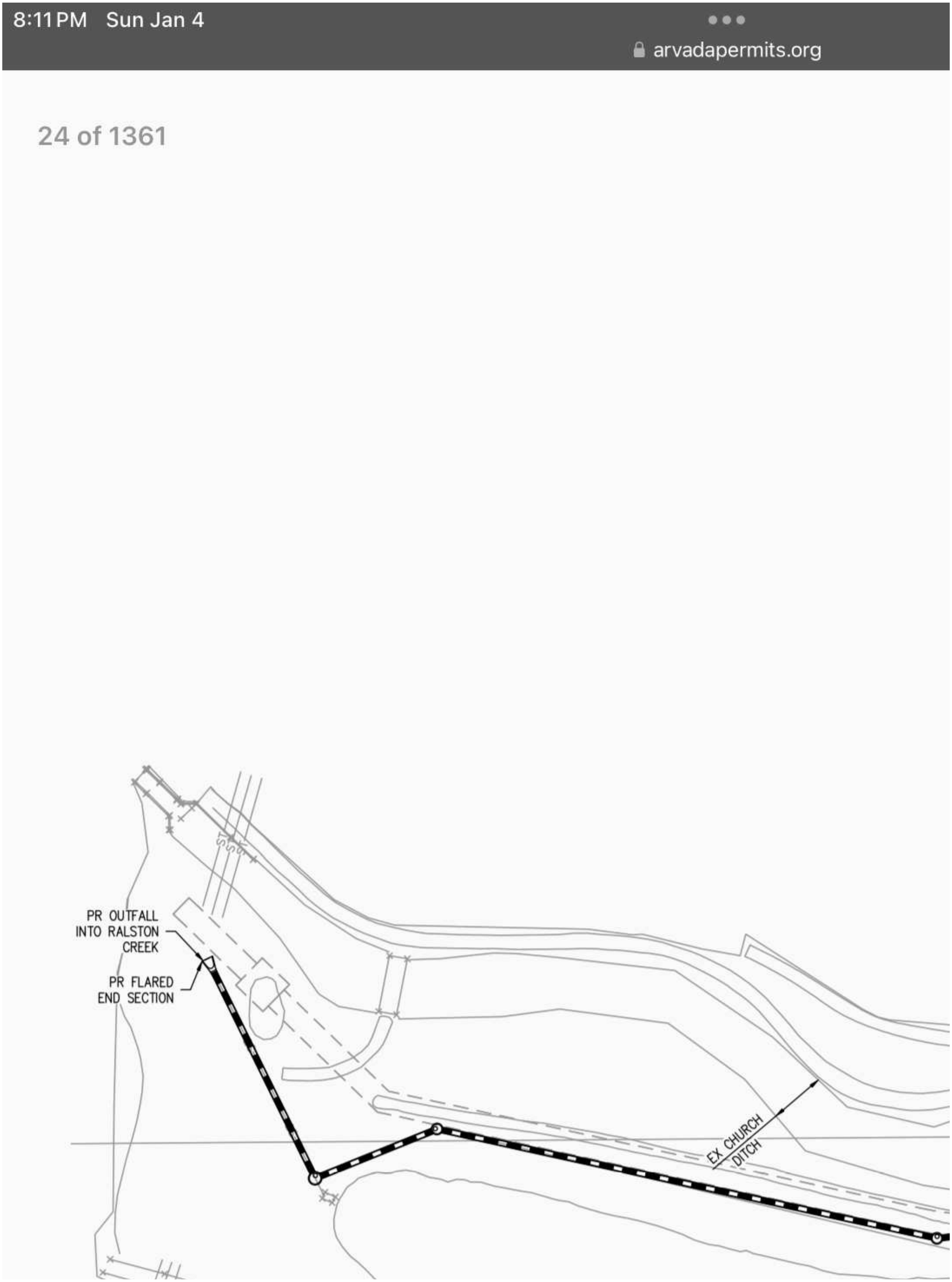
Rozalynne Thompson <rthompson@arvada.org>
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **mike rawluk** [redacted] >
Date: Sun, Jan 4, 20
Subject: Re: Hi Rozalynne, how are you? Can you help with a Welay Gardens question?
To: Rozalynne Thomps [redacted] org>
Cc: Richard BOHLING [redacted]>, Patty Shannon [redacted]

Hi Rozalynne how are you? I attached some screenshots from the third referral regarding the stormwater drainage. It looks like the plan is to have an actua
This main bypasses the Ex Retention Pond on the golf course. Is this still the case in the fourth referral? I did not see any discussion of stormwater in the fo

What would the storm main be constructed from? Is it a pipe?

Thank you.
Mike Rawluk

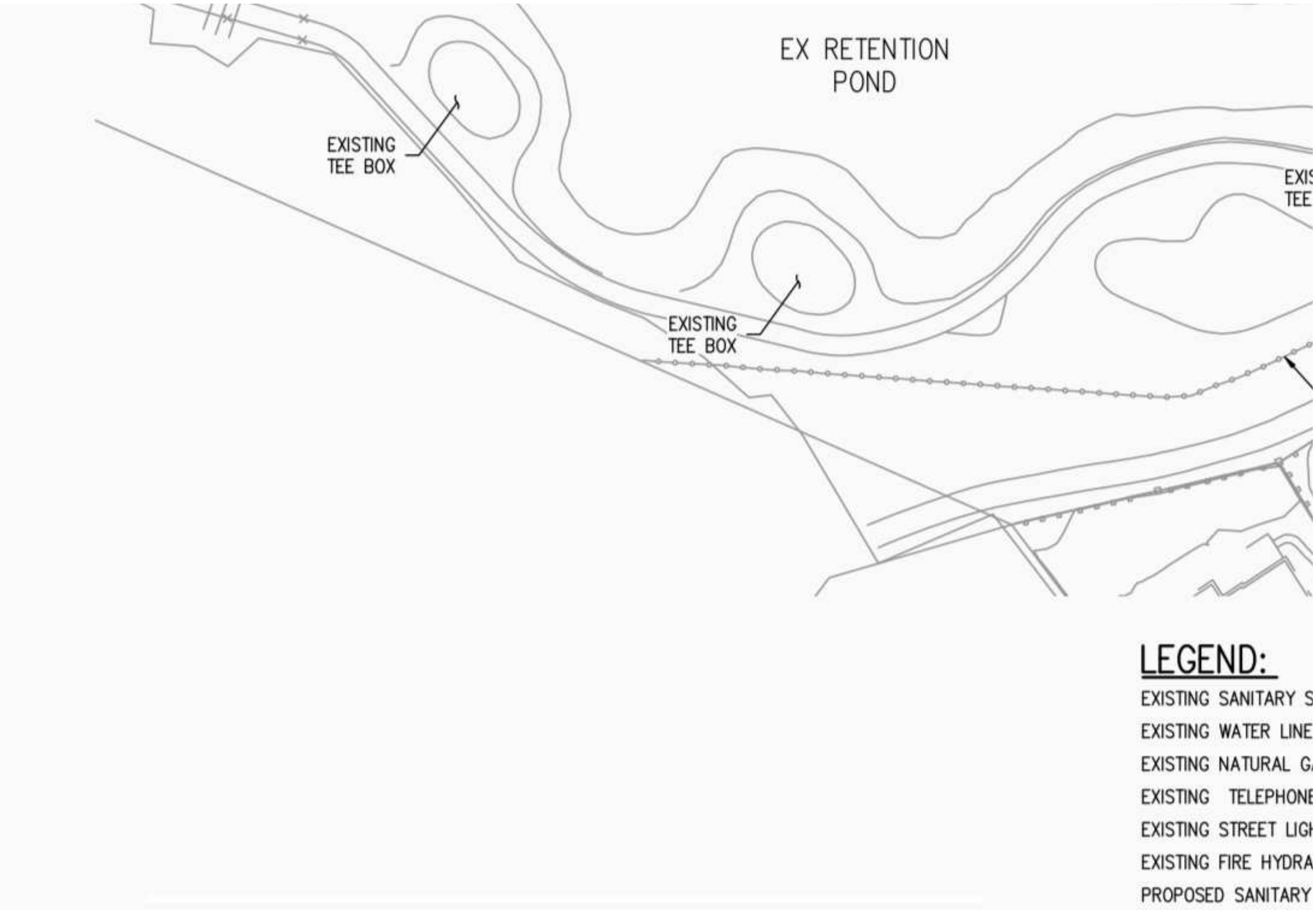


8:11 PM Sun Jan 4

arvadapermits.org

24 of 1361

PR OUTFALL
INTO RALSTON
CREEK
PR FLARED
END SECTION
EX CHURCH
DITCH
ST
SS


EX RETENTION
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EXISTING TELEPHONE
EXISTING STREET LIGH
EXISTING FIRE HYDRA
PROPOSED SANITARY

On Tuesday, June 17, 2025 at 01:39:18 PM MDT, Rozalynne Thompson <rthompson@arvada.org> wrote:

Hi Mike,

The Engineering and Stormwater Divisions have provided answers to your questions. Please see the responses below:

Does Avalon Bay have the right to convey detention pond water across OS zoned land that is publicly owned?

The proposed drainage plan follows the historic path, which currently outfalls to the Westwoods Golf Course Pond. Any proposed utility through City property must be coordinated with the ap

Does Avalon Bay have the right to extend the drainage system beyond the assumptions of historical drainage? (PR storm main label on page 331) Does this require a separate land use app

The proposed drainage plan follows the historic path, and Avalon Bay will be required to coordinate with Westwoods Golf Course regarding any proposed changes through their property. This

Would this land disturbance equal 1/2 acre in total, and as such require a grading permit?

Yes, this will require a City Site Disturbance Permit, which models the CDPHE permit because the City is a Qualifying Local Program, meaning the two permits are the same. This developme
acres.

Does Avalon Bay have the right to increase the drainage volume onto OS zoned land that is publicly owned, as the impervious surfaces will change on the Welby Gardens land?

All developments are required to meet pre-historic drainage patterns and flow rates. The developer must ensure that the downstream capacity of the public storm system is adequate to conv
quality capture volume (WQCV) and release it at historic rates along the historic drainage path.

Will the city contact not only MHFD, but also WQCD and the EPA regarding the plans to discharge into a 303d impaired Water of the United States?

The developer is responsible for making contact with all appropriate agencies to ensure environmental compliance. This development does not appear to be proposing channel improvements
responsible for the 303d listing (eColi) of Ralston Creek as this is part of our Municipal Separate Storm Sewer System (MS4). In other words, developments are not referred to these agencies
jurisdiction in accordance with the Phase II General MS4 Permit.

Will USACE have to approve a 404 permit for any alterations to Ralston Creek that may constitute dredge or fill?

Any proposed alterations of the Creek will have to follow the appropriate 404 permitting and USACE approvals depending on the impact. If the development proposes a direct outfall to Ralsto

Will FEMA need to be contacted about the additional (PR Storm Main on page 331) work in a Zone AE floodplain (see attached) and the additional water to be added?

The majority of the project occurs outside of Zone AE and will have no impact on the regulated floodplain (LOMR and CLOMR not required). If the utility work occurs within this zone, a floodp
90% of the historic/pre-developed flows.

Has there been ESA Phase 2 testing similar to what we saw at the greenhouses at 51st and Marshall? That particular Phase 2 tested for commonly used and also historical chemicals once u
the Kilmer Landfill, which was looking for heavy metals and VOC's primarily.

Phase I ESA is required in the submittal, which will dictate the requirement of a Phase II ESA. The City will ensure this is reviewed and commented on appropriately with the submittal of a Ph

Will the city ensure that the proper permit from WQCD will be obtained by the applicant before releasing any stormwater from the detention pond into Ralston Creek?

WQCD construction permit (COR400000) and City Site Disturbance Permit will be required prior to mobilization and construction and will remain effective until final stabilization is achieved fo
permits.

Please let me know if you have any additional questions.

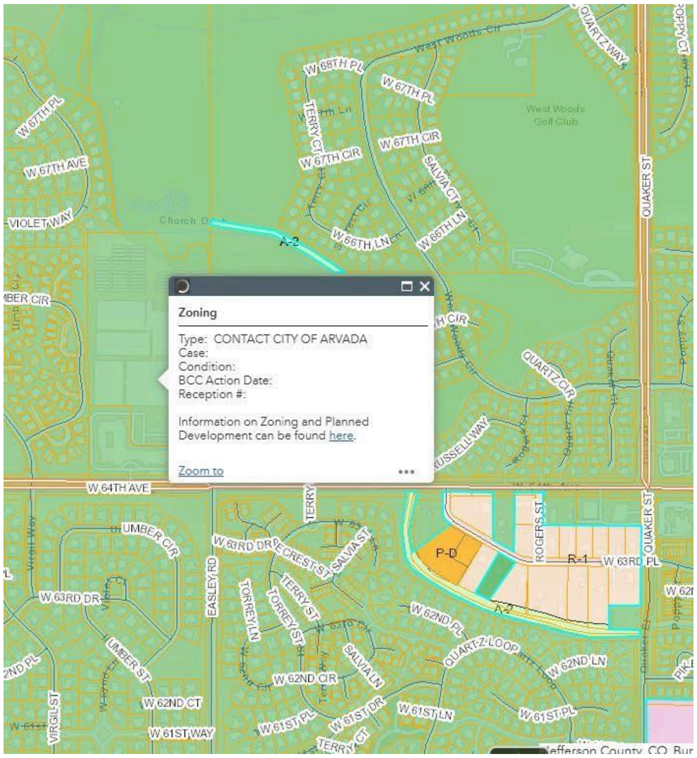
Sincerely,
Rozalynne

On Tue, Jun 10, 2025 at 7:42 AM mike rawluk [redacted]> wrote:

> Hi Rozalynne, how are you?
> I see that the pre application is in for Welby Gardens from Avalon Bay.
>
> One concern I have is the detention pond plans on pages 330-331. It would appear that the applicant wants to release detention pond water through city
> 303(d) impaired water on the Colorado list of impaired waters. It is also a Waters of the United States, and as such may be subject to provisions in the Cl
>
> It would appear that they are trying to justify this use via the assumption of historic drainage patterns.
> Unfortunately this does not take into account the change in impervious surfaces that will come about if Welby Gardens is built. This would mean that mor
> find its way off the property and past the assumed historic drainage limits at the house labeled as 6760.
>
> So I have a few basic questions.
>
> Does Avalon Bay have the right to convey detention pond water across OS zoned land that is publicly owned?
>
> Does Avalon Bay have the right to extend the drainage system beyond the assumptions of historical drainage? (PR storm main label on page 331) Doe
> work on OS land?
>
> Would this land disturbance equal 1/2 acre in total, and as such require a grading permit?
>
> Does Avalon Bay have the right to increase the drainage volume onto OS zoned land that is publicly owned, as the impervious surfaces will change on th
>
> Will the city contact not only MHFD, but also WQCD and the EPA regarding the plans to discharge into a 303d impaired Water of the United States?
>
> Will USACE have to approve a 404 permit for any alterations to Ralston Creek that may constitute dredge or fill?
>
> Will FEMA need to be contacted about the additional (PR Storm Main on page 331) work in a Zone AE floodplain (see attached) and the additional wate

> Has there been ESA Phase 2 testing similar to what we saw at the greenhouses at 51st and Marshall? That particular Phase 2 tested for commonly use
> potentially different test parameter set than what we saw at the Kilmer Landfill, which was looking for heavy metals and VOC's primarily.
>
> Will the city ensure that the proper permit from WQCD will be obtained by the applicant before releasing any stormwater from the detention pond into Ral
>
> https://cdphe.colorado.gov/wq-per-forms
>
> I attached the 51st and Marshall ESA phase 2 as a basis of comparison. It tested for a wide range of pesticides. Some of these chemicals require notifica
>
> Also, if there is a ESA phase two available, can you please send it?
> Thank you,
> Mike Rawluk
> Ralston Valley Coalition
>
> On Wednesday, February 5, 2025 at 09:34:27 AM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:
>
> Hi Mike,
>
> The pre-application did not include details on the detention pond. However, the City will receive additional details regarding the detention pond in the formal submittal. Staff review of the fo
>
> You may speak to Council about this pre-app; however, given that the project is in the preliminary stages, the project may change from pre-application to formal submittal.
>
> Sincerely,
> Rozalynne
>
> On Wed, Feb 5, 2025 at 8:41 AM mike rawluk [redacted] > wrote:
>
>> Hi Rozalynne, thank you for the quick reply!
>> My first question pertains to the detention pond.
>> Does the pond design have a pathway for release into the Croke Canal?
>> If so, I suggest you reach out to Scott Edgar at FRICO. From what I have learned over the past five years, the canal companies don't usually allow rele
>> well as irrigation canal, and it feeds Standley Lake. As such, my guess is that the applicant may want that feedback pretty early in the process.
>> Also, do you have any of the permeability figures for this development yet?
>> Jake Moyer may know more. Has he looked at this proposal?
>>
>> Also, as it is still in pre app, does this still allow us to speak with City Council still?
>>
>> Thank you,
>> Mike Rawluk
>> Ralston Valley Coalition
>>
>> On Wednesday, February 5, 2025 at 08:09:30 AM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:
>>
>> Hello Mike,
>>
>> My name is Rozalynne Thompson and Jeremiah Bebo forwarded your message to me. I am the planner who will be assigned to this Welby Gardens project should a formal application b
>>
>> The property owners recently submitted a pre-application for the property, which means they are at the beginning of the process and are seeking feedback on their concept. Given that th
>> Once a formal application is submitted for the project, the application will require a Conditional Use Permit, which will involve a public hearing and a decision by the City Council in order t
>>
>> As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the he
>>
>> Sincerely,
>> Rozalynne
>>
>>> ---------- Forwarded
>>> From: **mike rawluk** [redacted]
>>> Date: Tue, Feb 4, 20
>>> Subject: Re: Hi Jeremiah, how are you? Can you help with a MX-S question?
>>> To: Jeremiah Bebo <jbebo@arvada.org>
>>>
>>> Hi again, I hear there has a been a pre app for this project now? Does this mean that we can not discuss with council members? Also, do you have th
>>>
>>> Thank you,
>>> Mike Rawluk
>>>
>>> On Wednesday, January 22, 2025 at 09:15:20 AM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
>>>
>>> You got it!
>>>
>>> **Best,**
>>>
>>> **Jeremiah Bebo, AICP**
>>> ***He/Him/His***
>>> **Senior Planner**
>>> **Community & Economic Development**
>>> **(720)898-7438**
>>> jbebo@arvada.org

On Tue, Jan 21, 2025 at 2:58 PM mike rawluk [redacted]> wrote:

> Oh ok that makes sense then. So it’s [redacted] but it’s zoned as mx-s under the city.
>
> On Tuesday, January 21, 2025 at 02:54:52 PM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
>
> JeffCo zoning map shows it as "CONTACT CITY OF ARVADA." What you're looking at as it refers to as "agricultural" is how the County assesses property taxes on the property. Sinc
> anything zoning related.
>
> 
>
> Zoning
>
> Type: CONTACT CITY OF ARVADA
> Case:
> Condition:
> BCC Action Date:
> Reception #:
>
> Information on Zoning and Planned Development can be found here.
>
> Zoom to
>
>

W 68TH PL
> West Woods Cir
> QUARTZ WAY
> W 67TH PL
> W 67TH AVE
> VIOLET WAY
> Church D
> A-2
> TERRY CT
> W 67TH CIR
> SALVIA CT
> W 66TH LN
> West Woods Golf Club
> QUAKER ST
> QUARTZ CIR
> RUSSELL WAY
> W 64TH AVE
> UMBER CIR
> W 63RD DR
> EASLEY RD
> TORREY LN
> TORREY ST
> CREST ST
> SALVIA ST
> P-D
> ROGERS ST
> R-1
> W 63RD PL
> W 62ND PL
> QUARTZ LOOP
> W 62ND LN
> W 62ND CIR
> W 62ND CT
> UMBER ST
> VIRGIL ST
> W 61ST WAY
> W 61ST PL
> W 61ST DR
> W 61ST LN
> Jefferson County, CO, Bur
>
> **Best,**
>
> **Jeremiah Bebo, AICP**
> ***He/Him/His***
> **Senior Planner**
> **Community & Economic Development**
> **(720)898-7438**
> jbebo@arvada.org
>
> On Tue, Jan 21, 2025 at 2:50 PM Jeremiah Bebo <jbebo@arvada.org> wrote:
>
>> I would rather you didn't since I'm not assigned to a project there (and likely won't be if this comes in).
>>
>> For now, the Planner of the Day (POD) can be emailed with questions and that is how we are able to better manage workflow for unassigned tasks.That email is POD@arvada.org
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>> **Best,**
>>
>> **Jeremiah Bebo, AICP**
>> ***He/Him/His***
>> **Senior Planner**
>> **Community & Economic Development**

> > > > **(720)898-7438**
> > > > jbebo@arvada.org
> > > >
> > > > On Tue, Jan 21, 2025 at 2:32 PM mike rawluk < [redacted]wrote:
> > > >
> > > > > Thank you for this. May we share you y other information as we are hearing rumors right now? There was also some form of application. Rumors don't do any of us any good, and we respect the city council, staff, and the process for land use.
> > > > >
> > > > > Thank you!
> > > > > Mike Rawluk
> > > > > Ralston Valley Coalition
> > > > >
> > > > > On Tuesday, January 21, 2025 at 10:41:42 AM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
> > > > >
> > > > > Hi Mike,
> > > > >
> > > > > I am unaware of any project for that site and it doesn't look like we have a formal application for it.
> > > > >
> > > > > MX-S allows for up to 100% residential subject to a Conditional Use approval. That process requires a neighborhood meeting and Planning Commission and City Council hearin
> > > > >
> > > > > Mixed Use zoning has no maximum density, but they are required to meet all other zoning rules such as a 45 foot height limitation, minimum parking, minimum open space, etc.
> > > > >
> > > > > The Comprehensive Plan says that the site should be Mixed Use so no comp plan amendment is required.
> > > > >
> > > > > **Best,**
> > > > >
> > > > > **Jeremiah Bebo, AICP**
> > > > > ***He/Him/His***
> > > > > **Senior Planner**
> > > > > **Community & Economic Development**
> > > > > **(720)898-7438**
> > > > > jbebo@arvada.org
> > > > >
> > > > > On Tue, Jan 21, 2025 at 10:31 AM mike rawluk [redacted]wrote:
> > > > >
> > > > > > Hi, Jeremiah me how are you? Is the th and Easley all ready zoned for residential? On the Jeffco parcel map it still says /
> > > > > > Also, what is the max density of MX-S? Does MX-S require uses other than residential only?
> > > > > >
> > > > > > Do you know if there would then be a need for a Comp Plan amendment for the Welby parcel if it is planned to be 100% residential?
> > > > > >
> > > > > > Thank you,
> > > > > > Mike Rawluk
> > > > > > Ralston Valley Coalition

> > --
> > **Rozalynne D. Thompson, AICP, J.D.**
> > Principal Planner
> > 8001 Ralston Rd.
> > Arvada, CO 80002
> > Phone: 720-898-7436

> --
> **Rozalynne D. Thompson, AICP, J.D.**
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--
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Email: rthompson@arvada.org
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---

2 attachments

IMG_5147.png
528K

IMG_5148.png
580K

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Hi Rozalynne, how are you? Can you help with a Welay Gardens question?

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:38 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded
From: **mike rawluk** [redacted] >
Date: Tue, Jun 10, [redacted]
Subject: Hi Rozalynne, how are you? Can you help with a Welay Gardens question?
To: Rozalynne Th [redacted] rvada.org>
[redacted] [redacted] LING
[redacted] [redacted] [redacted] [redacted] Gina Hallisey
[redacted] >, Pam [redacted] >, [redacted]
[redacted]

Hi Rozalynne, how are you?
I see that the pre application is in for Welby Gardens from Avalon Bay.

One concern I have is the detention pond plans on pages 330-331. It would appear that the applicant wants to release detention pond water through city owned OS zoned land (the golf course) and then into Ralston Creek, which is a 303(d) impaired water on the Colorado list of impaired waters. It is also a Waters of the United States, and as such may be subject to provisions in the Clean Water Act.

It would appear that they are trying to justify this use via the assumption of historic drainage patterns.
Unfortunately this does not take into account the change in impervious surfaces that will come about if Welby Gardens is built. This would mean that more water is not infiltrating into the Welby Gardens property, and would therefore find its way off the property and past the assumed historic drainage limits at the house labeled as 6760.

So I have a few basic questions.

Does Avalon Bay have the right to convey detention pond water across OS zoned land that is publicly owned?

Does Avalon Bay have the right to extend the drainage system beyond the assumptions of historical drainage? (PR storm main label on page 331) Does this require a separate land use application and notification as it would require work on OS land?

Would this land disturbance equal 1/2 acre in total, and as such require a grading permit?

Does Avalon Bay have the right to increase the drainage volume onto OS zoned land that is publicly owned, as the impervious surfaces will change on the Welby Gardens land?

Will the city contact not only MHFD, but also WQCD and the EPA regarding the plans to discharge into a 303d impaired Water of the United States?

Will USACE have to approve a 404 permit for any alterations to Ralston Creek that may constitute dredge or fill?

Will FEMA need to be contacted about the additional (PR Storm Main on page 331) work in a Zone AE floodplain (see attached) and the additional water to be added?

Has there been ESA Phase 2 testing similar to what we saw at the greenhouses at 51st and Marshall? That particular Phase 2 tested for commonly used and also historical chemicals once used but now banned. This would be a potentially different test parameter set than what we saw at the Kilmer Landfill, which was looking for heavy metals and VOC's primarily.

Will the city ensure that the proper permit from WQCD will be obtained by the applicant before releasing any stormwater from the detention pond into Ralston Creek?

https://cdphe.colorado.gov/wq-per-forms

I attached the 51st and Marshall ESA phase 2 as a basis of comparison. It tested for a wide range of pesticides. Some of these chemicals require notification of the federal agency. (see attached)

Also, if there is a ESA phase two available, can you please send it?
Thank you,
Mike Rawluk
Ralston Valley Coalition

On Wednesday, February 5, 2025 at 09:34:27 AM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:

Hi Mike,

The pre-application did not include details on the detention pond. However, the City will receive additional details regarding the detention pond in the formal submittal. Staff review of the formal submittal will include Jake Moyer.

You may speak to Council about this pre-app; however, given that the project is in the preliminary stages, the project may change from pre-application to formal submittal.

Sincerely,
Rozalynne

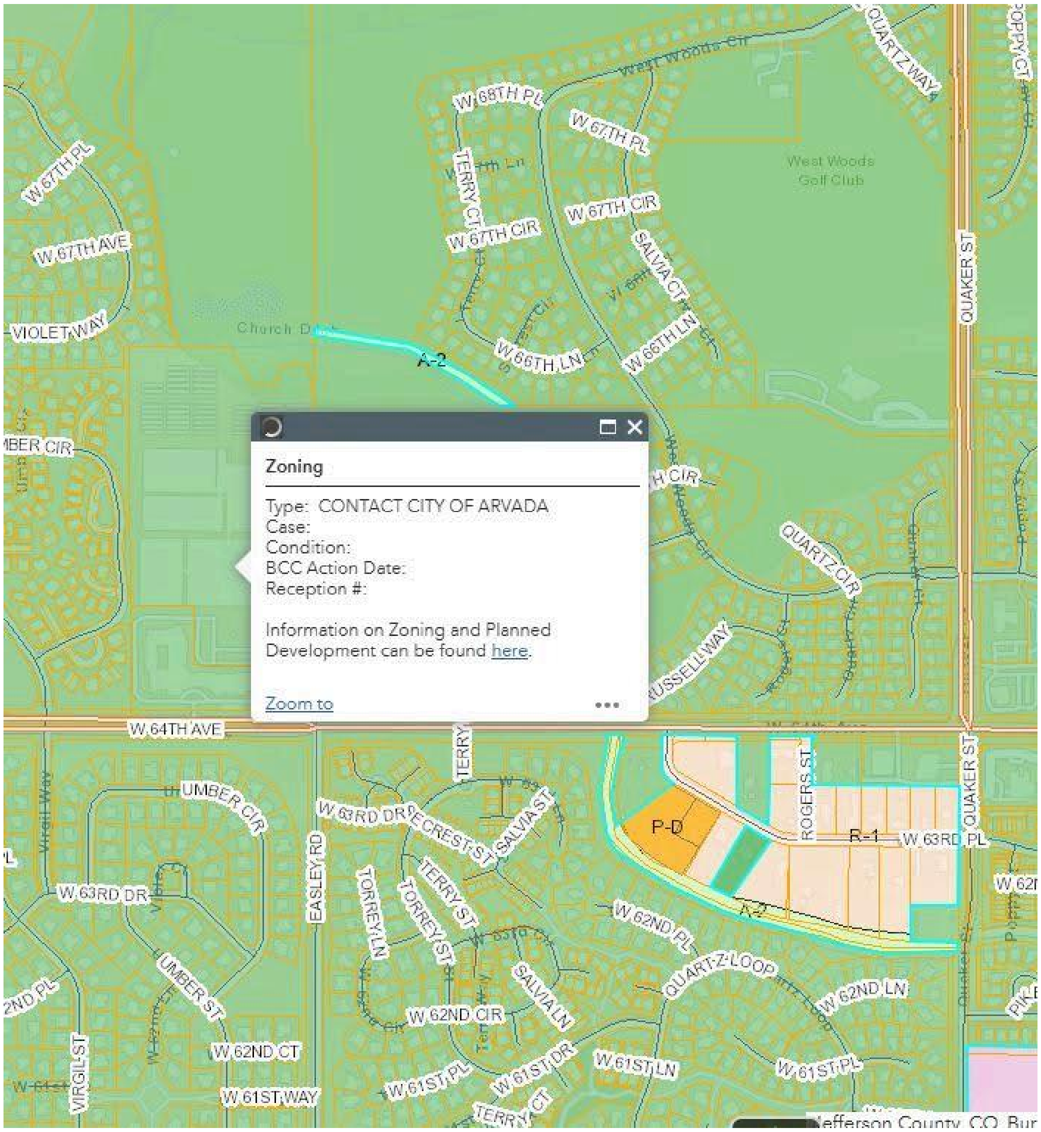
On Wed, Feb 5, 2025 at 8:41 AM mike rawluk <rawlukm@yahoo.com> wrote:

> Hi Rozalynne, thank you for the quick reply!
> My first question pertains to the detention pond.
> Does the pond design have a pathway for release into the Croke Canal?
> If so, I suggest you reach out to Scott Edgar at FRICO. From what I have learned over the past five years, the canal companies don't usually allow release from detention ponds into their canals. Croke Canal is a drinking water as well as irrigation canal, and it feeds Standley Lake. As such, my guess is that the applicant may want that feedback pretty early in the process.
> Also, do you have any of the permeability figures for this development yet?
> Jake Moyer may know more. Has he looked at this proposal?
>
> Also, as it is still in pre app, does this still allow us to speak with City Council still?

> Thank you,
> Mike Rawluk
> Ralston Valley Coalition
>
> On Wednesday, February 5, 2025 at 08:09:30 AM MST, Rozalynne Thompson <rthompson@arvada.org> wrote:
>
> Hello Mike,
>
> My name is Rozalynne Thompson and Jeremiah Bebo forwarded your message to me. I am the planner who will be assigned to this Welby Gardens project should a formal application be submitted.
>
> The property owners recently submitted a pre-application for the property, which means they are at the beginning of the process and are seeking feedback on their concept. Given that they are in the preliminary stages of their project, the City has not received a formal application. Once a formal application is submitted for the project, the application will require a Conditional Use Permit, which will involve a public hearing and a decision by the City Council in order to move forward.
>
> As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.
>
> Sincerely,
> Rozalynne
>
> > ---------- Forwarded message ---------
> > From: **mike rawluk** <rawlukm@yahoo.com>
> > Date: Tue, Feb 4, 2025 at 5:36 PM
> > Subject: Re: Hi Jeremiah, how are you? Can you help with a MX-S question?
> > To: Jeremiah Bebo <jbebo@arvada.org>
> >
> > Hi again, I hear there has a been a pre app for this project now? Does this mean that we can not discuss with council members? Also, do you have the contact information for the specific planner?
> >
> > Thank you,
> > Mike Rawluk
> >
> > On Wednesday, January 22, 2025 at 09:15:20 AM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
> >
> > You got it!
> >
> > **Best,**
> >
> > **Jeremiah Bebo, AICP**
> > ***He/Him/His***
> > **Senior Planner**
> > **Community & Economic Development**
> > **(720)898-7438**
> > jbebo@arvada.org

CITY OF ARVADA

On Tue, Jan 21, 2025 at 2:58 PM mike rawluk <rawlukm@yahoo.com> wrote:

> Oh ok that makes sense then. So it's still taxed as ag, but it's zoned as mx-s under the city.
>
> On Tuesday, January 21, 2025 at 02:54:52 PM MST, Jeremiah Bebo <jbebo@arvada.org> wrote:
>
> JeffCo zoning map shows it as "CONTACT CITY OF ARVADA." What you're looking at as it refers to as "agricultural" is how the County assesses property taxes on the property. Since it is a greenhouse now, they are taxes on an agricultural basis. That doesn't have an impact on anything zoning related.
>
> 
>
> Zoning
>
> Type: CONTACT CITY OF ARVADA
> Case:
> Condition:
> BCC Action Date:
> Reception #:
>
> Information on Zoning and Planned Development can be found here.
>
> Zoom to
>
>

West Woods Cir
> QUARTZ WAY
> W 68TH PL
> W 67TH PL
> West Woods Golf Club
> W 67TH PL
> TERRY CT
> W 67TH CIR
> W 67TH CIR
> W 67TH AVE
> SALVIA CT
> QUAKER ST
> VIOLET WAY
> Church Ditch
> A-2
> W 66TH LN
> W 66TH LN
> QUARTZ CIR
> RUSSELL WAY
> W 64TH AVE
> TERRY
> UMBER CIR
> W 63RD DR
> CREST ST
> SALVIA ST
> ROGERS ST
> QUAKER ST
> P-D
> R-1
> W 63RD PL
> EASLEY RD
> W 63RD DR
> TORREY LN
> TORREY ST
> TERRY ST
> W 62ND PL
> A-2
> QUARTZ LOOP
> W 62ND LN
> UMBER ST
> W 62ND CIR
> SALVIA LN
> 2ND PL
> VIRGIL ST
> W 62ND CT
> W 61ST WAY
> W 61ST PL
> W 61ST DR
> W 61ST LN
> W 61ST PL
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> Jefferson County, CO, Bur
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>> Thank you for this. May we share your information, or any other information as we are hearing rumors right now? There was also some form of community meeting held last week, but not a City organized meeting based on an application. Rumors don't do any of us any good, and we respect the city council, staff, and the process for land use.
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>> Thank you!
>> Mike Rawluk
>> Ralston Valley Coalition
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Mixed Use zoning has no maximum density, but they are required to meet all other zoning rules such as a 45 foot height limitation, minimum parking, minimum open space, etc. which limits the number of units that can be built.

The Comprehensive Plan says that the site should be Mixed Use so no comp plan amendment is required.

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Jeremiah Bebo, AICP
He/Him/His
Senior Planner
Community & Economic Development
(720)898-7438
jbebo@arvada.org

On Tue, Jan 21, 2025 at 10:31 AM mike rawluk <rawlukm@yahoo.com> wrote:

> Hi, Jeremiah me how are you? Is the Welby property at 64th and Easley all ready zoned for residential? On the Jeffco parcel map it still says Agricultural.
> Also, what is the max density of MX-S? Does MX-S require uses other than residential only?
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> Do you know if there would then be a need for a Comp Plan amendment for the Welby parcel if it is planned to be 100% residential?
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> Mike Rawluk
> Ralston Valley Coalition

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
8001 Ralston Rd.
Arvada, CO 80002
Phone: 720-898-7436

--
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Phone: 720-898-7436
Email: rthompson@arvada.org
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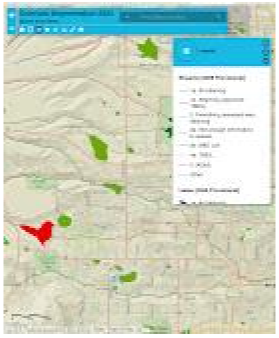
---

7 attachments



IMG_2283.jpeg
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812K

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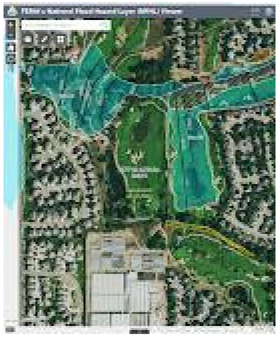

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2896K

ESA Phase 2.pdf
2151K

Oct. 3, 2025

Ms Jessica Garner
Mr. Rob Smetana

Regarding the Avalon Bay proposal for Welby Gardens, we agree with Arvada Comprehensive Plan evaluating development proposals: Compatible infill with the scale and character of existing neighborhoods, integrate development proposals/projects that enrich the character of the district, and lower densities in the western parts of Arvada.

The Avalon Bay development project hoping to replace Welby Gardens with a 435 unit apartment complex does not meet the implied goals of the Comprehensive plan.

We are concerned about our personal safety and that of the other seniors at Morning Star Arvada as we walk each day on our property. The probable 650 vehicles belonging to the proposed units will impact the narrow Easley road north of 64th Ave. I forsee no overflow parking on Easley for our guests and employees. I do forsee impatient drivers cutting through our property to avoid the needed stoplight.

This is my most pressing concern. Surely the water supply for 435 apartments and the safety of that water supply coming through the Welby property after many years of use by growers will be of great concern to you as it is to Morning Star residents.

We ask that you visit the site and make a determination that takes our concerns into your decision-making process.

Respectfully,
Miriam A. Shannon

17351 W. 64th Avenue Unit 3034
Arvada, CO. 80007

CITY OF ARVADA
NOV 14 2025
RECEIVED

CED Boards and Commission <cedboardsandcommission@arvada.org>

No High rise buildings in west Arvada.

2 messages

---

mikecstover Stover [redacted] Sun, Jan 11, 2026 at 12:51 PM
To: "Cedboard [redacted] .org" <Cedboardsandcom
C [redacted] r Tyus [redacted] nt Lindholm
[redacted] >, Phil Fry [redacted] ove [redacted] L FRANCIS
[redacted] n Twehous <D [redacted] e Talley [redacted]
[redacted] k Dietz [redacted] Sisk [redacted] cott
[redacted] >, Sean [redacted] >,
[redacted] Stoecke [redacted] >, Marty Smyth
[redacted] teve Storch [redacted] >, "Mik [redacted]
[redacted] pson [redacted] >, Bob Kennedy [redacted] >, Tom
Campbe [redacted] >

FYI

Arvada commissioner we will to go a voice our concerns over 385 new units in our back yard that will most certainly make 64th avenue a very busy street and add at least 700 more vehicles to merge into our streets, plus lower the price of our homes to a point where living in the western Arvada a metropolis with people
Issues and higher crime in our once quiet neighborhood!!!!!!

Say NO MORE MULTIPLE HOUSEING IN WEST ARVADA!!!!!! FYI we might want to go a voice our opinion on 385 new units in our back yard that will most certainly make 64th avenue a very busy street and add at least 700 more vehicles to merge into our streets, plus lower the price of our homes to a point where living in the western Arvada a metropolis with people
Issues and higher crime in our once quiet neighborhood!!!!!!

Say NO MORE MULTIPLE HOUSEING IN WEST ARVADA!!!!!!
Sent from my iPhone

Carey [redacted] Sun, Jan 11, 2026 at 1:38 PM
To: mikecstover Stover [redacted] >
[redacted] ission@arvada.o [redacted] Tyus
[redacted] >, Kent Lindholm [redacted] , Phil Fry [redacted] er
[redacted] NIEL FRANCIS [redacted] Twehous [redacted]
Talley [redacted] n Phillips [redacted]
[redacted] >, [redacted]
[redacted] t>, Sean [redacted] >,
S [redacted] Stoecke [redacted] >, Marty Smyth
[redacted] >, Steve Storch [redacted] >, "Mike [redacted]
[redacted] on [redacted] >, Bob Kennedy [redacted] >, Tom
Campbell [redacted]

Here is the link describing the project located @ 64th & Easley.
https://www.arvadaco.gov/1465/Avalon-Arvada-Welby-Center

Carey Dietz
'58 Packard Hawk #42!
[Quoted text hidden]

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: WELBY GARDEN VENUE

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:33 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: <nandrp@aol.com>
Date: Mon, Dec 8, 2025 at 2:48 PM
Subject: Re: WELBY GARDEN VENUE
To: <rthompson@arvada.org>

Rozalynne,

Thank you so much for your prompt response. I appreciate your making my comments known as I will be out of town to see my grandchildren in Europe until December 31st. Happy Holidays!

With kind regards,

Nan

In a message dated 12/8/2025 8:31:46 AM Mountain Standard Time, rthompson@arvada.org writes:

> Hello Nan,
>
> As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.
>
> Sincerely,
> Rozalynne
>
> On Sat, Dec 6, 2025 at 4:33 PM <nandrp@aol.com> wrote:
>
>> **RE: The proposed multifamily project on the current Welby Gardens property.**
>>
>> I am distressed that the City Council would even consider another high-rise multifamily project on this site. It is nested within the borders of West Wood Estates. There is no infrastructure to support such a large development. The plot should be developed into single family homes or at the very least senior duplexes similar to Ironstone or Trail Village. When the City Council allowed West Town to be built it threw the traffic intersection at 64th and McIntyre into a high traffic zone similar to 52nd and Wadsworth. It is a nightmare. If this project goes forward it would devastate current environment on 64th and Quaker west to Virgil, again with no infrastructure to support it. The landscape created by developers building one area of little gray boxes after another will be appalling in West Arvada which before this current building fashion was a pristine community and embraced the open space in our region. I urge you to drive around the area and see the effect of what you are considering. I pray that you will stop this project from going forward and find a developer who is willing to support a project that matches the current architecture and structure of West Woods Estates.
>>
>> With kind regards,

> > Nan Waller Burnett
> >
> > Nan Waller Burnett, MA
> > Advanced Practitioner -ACR / High Conflict Specialist
> > Dispute Resolution Professionals, LLC
> > 6437 Umber Circle
> > Arvada, CO 80007
> > 303-881-8003 direct
> > nanmbb@gmail.com
> >
> > ***CONFIDENTIAL***
> > ***This communication may contain CONFIDENTIAL INFORMATION, which may include, but not be limited to, Protected Health Information and be Legally Privileged and is intended only for the use by the Addressee named above. If the reader of this e-mail is not the intended recipient or his or her authorized agent, the reader is hereby notified that any dissemination, distribution, or copying of this e-mail.***
>
> --
> **Rozalynne D. Thompson, AICP, J.D.**
> Principal Planner
> Phone: 720-898-7436
> Email: rthompson@arvada.org
> **Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm**
>
> CITY OF ARVADA

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CITY OF ARVADA

Fwd: WELBY GARDEN VENUE

Josie Suk <jsuk@arvada.org> Tue, Dec 9, 2025 at 10:07 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Dec 9, 2025 at 10:05 AM
Subject: Fwd: WELBY GARDEN VENUE
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Lauren Simpson** <lsimpson@arvada.org>
Date: Tue, Dec 9, 2025 at 9:41 AM
Subject: Fwd: WELBY GARDEN VENUE
To: Kristen Rush <kristen@arvada.org>

For the record for Welby Gardens. Thanks!

Lauren Simpson,
Mayor
City of Arvada
Ph: 720-961-3779
E: LSimpson@arvada.org

---------- Forwarded message ---------
From: <[redacted]>
Date: Sat, Dec 6, 2025 at 4:33 PM
Subject: WELBY GARDEN VENUE
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>, <rsmetana@arvada.org>, <jegarner@arvada.org>, <sdavis@arvada.org>
Cc: <GREG@highlandfab.com>

RE: The proposed multifamily project on the current Welby Gardens property.

I am distressed that the City Council would even consider another high-rise multifamily project on this site. It is nested within the borders of West Wood Estates. There is no infrastructure to support such a large development. The plot should be developed into single family homes or at the very least senior duplexes similar to Ironstone or Trail Village. When the City Council allowed West Town to be built it threw the traffic intersection at 64th and McIntyre into a high traffic zone similar to 52nd and Wadsworth. It is a nightmare. If this project goes forward it would devastate current environment on 64th and Quaker west to Virgil, again with no infrastructure to support it. The landscape created by developers building one area of little gray boxes after another will be appalling in West Arvada which before this current building fashion was a pristine community and embraced the open space in our region. I urge you to drive around the area and see the effect of what you are considering. I pray that you will stop this project from going forward and find a developer who is willing to support a project that matches the current architecture and structure of West Woods Estates.

With kind regards,

Nan Waller Burnett

Nan Waller Burnett, MA
[redacted]
6437 Umber Circle
Arvada, CO 80007
[redacted]

CONFIDENTIAL
This communication may contain CONFIDENTIAL INFORMATION, which may include, but not be limited to, Protected Health Information and be Legally Privileged and is intended only for the use by the Addressee named above. If the reader of this e-mail is not the intended recipient or his or her authorized agent, the reader is hereby notified that any dissemination, distribution, or copying of this e-mail.

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Development Systems and Administrative Manager
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

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Welby Gardens.docx
15K

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:30 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded m
From: **Nicole Kunde** [redacted]
Date: Mon, Jan 5, 20
Subject: Re: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site
To: Rozalynne Thompson <rthompson@arvada.org>

Thank you for the update.

On Mon, Jan 5, 2026, 4:29 PM Rozalynne Thompson <rthompson@arvada.org> wrote:

> Hello Nicole,
>
> We have received the email from John L. Browdy and it is now in the public record. If you have additional comments, you may either send them to me via email at rthompson@arvada.org or give public comment at the January 21st Planning Commission meeting.
>
> Sincerely,
> Rozalynne
>
> ---------- Forwarded m
> From: **Nicole Kunde** [redacted] >
> Date: Sun, Dec 28, 20
> Subject: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site
> To: jegarner@arvada.org <jegarner@arvada.org>
>
> John L. Browdy
> 6576 Torrey Court
> Arvada, CO 80007
> Phone [redacted]
>
> Westwood Links Filing #3
>
> December 28, 2025
>
> Jennifer Garner
> Arvada Planning Development
> 8101 Ralston Rd
> Arvada, CO 80001
> Phone: (720) 898-7500
> Email: JEGarner@Arvada.org
>
> Re: Project #DA2025-0035 – Opposition to Avalon Development on Welby Garden Site

To Jennifer Garner,

I am writing to formally express my opposition to the proposed Avalon Development on the Welby Garden site (Project #DA2025-0035).

This proposed development is incompatible with the existing surrounding neighborhoods. Our community consists primarily of one- and two-story single-family homes adjacent to the City golf course. The proposed plan includes twelve three- and four-story buildings along with 53 townhomes. These 45-foot-high structures will overshadow existing homes, block sunsets, and significantly diminish the scenic mountain views that were a major factor in my decision to purchase my property.

The location of this development is also inappropriate. There are no retail services within walking distance, which will increase reliance on vehicles. The development will introduce significant light pollution from multi-story buildings and increased traffic, negatively affecting the character and livability of the neighborhood.

Noise impacts are another serious concern. Prolonged construction noise, combined with ongoing noise from increased traffic and proposed amenities such as a pool, will disrupt the quiet residential environment that currently exists.

Traffic impacts are particularly troubling. The site lacks convenient access to light rail or alternative transportation options. The proposed complex is estimated to generate approximately 2,800 new vehicle trips per day. This increased traffic will spill into surrounding neighborhoods, decreasing safety for residents, school bus stops, pedestrians, and those who choose to ride bicycles for transportation or recreation.

Emergency Access and Egress present a significant and unacceptable safety concern. The proposed development would have only one access and egress point via a single, unlined stub road. This configuration is inadequate for safe and rapid evacuation during an emergency. I offer this concern not as speculation, but based on professional experience. I served 36 years with the Denver Fire Department as a firefighter first-grade and relief engineer. From this perspective, it is clear that a single access point for a development of this size poses a serious risk. In the event of a wildfire or other emergency, approximately 1,000 residents would be attempting to evacuate through one stub road, potentially routing through the parking lot of a senior living facility at the same time emergency personnel would be attempting to evacuate the vulnerable residents of that facility. This design creates an unnecessary and dangerous conflict for evacuation and emergency response operations.

There are also environmental concerns, including negative impacts on air quality and increased stormwater runoff, which will affect both the immediate area and surrounding properties.

I urge you and other city officials to fully educate yourselves on the deficiencies and negative impacts of this poorly designed project. I respectfully ask that you take decisive steps to prevent approval of this development in its current form and protect the safety, character, and quality of life of our community.

Thank you for your time and consideration.

Sincerely,

John L. Browdy
Westwood Links Filing #3

--

Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:36 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Tue, Sep 9, 2025 at 8:12 AM
Subject: Re: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers
To: Don Wick <dwick@arvada.org>
Cc: Rozalynne Thompson <rthompson@arvada.org>

Thanks for sharing this, Don. Rozalynne can use this information when she gets more emails like this one!
Jessica

On Mon, Sep 8, 2025 at 8:10 PM Don Wick <dwick@arvada.org> wrote:

> FYI as follow up to the Welby Garden question. Thank you both for your help. Sounds like the state has this covered.
>
> ---------- Forwarded message ---------
> From: **White - CDPHE, Tracie** <tracie.white@state.co.us>
> Date: Mon, Sep 8, 2025 at 12:17 PM
> Subject: Re: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containe
> To: Pam Durkee : [redacted]>
> Cc: <jennifer.talbert olopoulos@state.co.us>, <lindsey.daugherty.senate@coleg.gov>, <lisa.feret.house@coleg.gov>, <tvolkman@co.jefferson.co.us>, <rlaws@co.jefferson.co.us>, <mpitts@co.jefferson.co.us>, <council@arvada.org>, <dwick@arvada.org>
>
> Hello Ms. Durkee -
>
> Thank you for your email. The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with this property owner. An environmental investigation and cleanup at this property will take place under our Voluntary Cleanup and Redevelopment Program (VCUP). As part of the investigation, we have asked for extensive soil and groundwater sampling to determine the nature and extent of contamination at this site. We do know there is some level of soil contamination, which the owner intends to excavate and clean up to residential standards. At this time, we are awaiting a VCUP application so we can review and provide comments on the property owner's proposed cleanup plans. Fonda Apostolopoulos (fonda.apostolopoulos@state.co.us) will be overseeing this project for CDPHE. Please feel free to contact him with any further questions. Thank you again for alerting us to your concerns.
>
> Thanks,
>
> Tracie White
>
> **Tracie M. White, P.E.**
> **Division Director, Hazardous Materials & Waste Management Division**
> **Colorado Department of Public Health & Environment**

COLORADO
Hazardous Materials
& Waste Management Division
Department of Public Health & Environment

P 720.483.3926
4300 Cherry Creek Drive South, Denver, CO 80246-1530
tracie.white@state.co.us | www.colorado.gov/cdphe/hm

Executive Assistant: Dana Campbell, dana.campbell@state.co.us

On Mon, Sep 8, 2025 at 10:14 AM Pam Durkee : [redacted]> wrote:

> Hello City, County, and State folks,
>
> I live in Trail Village Villas which is directly next to the Welby Garden Wholesale property. Welby Gardens Nursery has sold their property and is currently tearing down greenhouses and doing some level of demolition not the property. It is my understanding the Nursery has been on the property going back to the early 1970's. There is a high probability they utilized chemicals back then that have since been banned. In addition, they continued to used pesticides/chemicals related to their nursery operation up until the point they chose to sell their property.
>
> It is GRAVELY concerning to see Industrial Chemical Barrels and ongoing demolition of their property NOT KNOWING if an in-depth EPA study/testing has been done. Is there something you can do to ensure our safety and have EPA inspections/testing done?
>
> I have attached photos I took this week of the ongoing work happening and the Industrial Barrels.
>
> I would greatly appreciate it if someone could get back to me. There are many other neighbors very concerned about this.
>
> I appreciate your time and hope pray you give attention to our concerns.
>
> Thank you,
>
> Pam Durkee [redacted]

--

Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm
CITY OF ARVADA

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:36 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Jessica Garner** <jegarner@arvada.org>
Date: Mon, Sep 8, 2025 at 3:57 PM
Subject: Re: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers
To: Rozalynne Thompson <rthompson@arvada.org>
Cc: Rob Smetana <rsmetana@arvada.org>

Thank you!
Jessica

On Mon, Sep 8, 2025 at 3:52 PM Rozalynne Thompson <rthompson@arvada.org> wrote:

> Hi Jessica,
>
> Yes, that is correct. If there is suspected violation of environmental laws, a resident can lodge a complaint with the EPA (federal) and/or the Colorado Department of Public Health and Environment (state). Each agency has a website dedicated to filing complaints regarding potential violations by a facility.
>
> As for the project, we have still not received a Phase II ESA from the applicant. The applicant has been told that the project will not be able to move forward to a public hearing until the City receives a Phase II ESA.
>
> Sincerely,
> Rozalynne
>
> On Mon, Sep 8, 2025 at 3:36 PM Jessica Garner <jegarner@arvada.org> wrote:
>
>> Hi, anything to clarify with this project? I'm not sure how regulators would know to come out and inspect the site, but couldn't a resident file a complaint with someone there?
>> Thanks,
>> Jessica
>>
>> ---------- Forwarded message ---------
>> From: **Don Wick** <dwick@arvada.org>
>> Date: Mon, Sep 8, 2025 at 10:47 AM
>> Subject: Fwd: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers
>> To: Jessica Garner <jegarner@arvada.org>
>>
>> Hi Jessica,
>> FYI, and if you have any insight. Thank you.
>>
>> ---------- Forwarded me
>> From: **Pam Durkee :** [redacted]
>> Date: Mon, Sep 8, 202
>> Subject: EPA Concerns from Arvada Resident,- Welby Gardens in West Arvada, Greenhouse Tear Down and Industrial Containers
>> To: <tracie.white@state.co.us>, <jennifer.talbert@state.co.us>, <fonda.apostolopoulos@state.co.us>,

<lindsey.daugherty.senate@coleg.gov>, <lisa.feret.house@coleg.gov>, <tvolkman@co.jefferson.co.us>, <rlaws@co.jefferson.co.us>, <mpitts@co.jefferson.co.us>, <council@arvada.org>, <dwick@arvada.org>

Hello City, County, and State folks,

I live in Trail Village Villas which is directly next to the Welby Garden Wholesale property. Welby Gardens Nursery has sold their property and is currently tearing down greenhouses and doing some level of demolition not the property. It is my understanding the Nursery has been on the property going back to the early 1970's. There is a high probability they utilized chemicals back then that have since been banned. In addition, they continued to used pesticides/chemicals related to their nursery operation up until the point they chose to sell their property.

It is GRAVELY concerning to see Industrial Chemical Barrels and ongoing demolition of their property NOT KNOWING if an in-depth EPA study/testing has been done. Is there something you can do to ensure our safety and have EPA inspections/testing done?

I have attached photos I took this week of the ongoing work happening and the Industrial Barrels.

I would greatly appreciate it if someone could get back to me. There are many other neighbors very concerned about this.

I appreciate your time and hope pray you give attention to our concerns.

Thank you,

Pam Durkee [redacted]

--
Jessica Garner, AICP
Community and Economic Development Director
Desk: 720-898-7016
Mobile: 720-454-4117
E-Mail: jegarner@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

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Customer Submission #25-4487 Open

Print

Created on September 16, 2025 by Ben Perko

Assigned to	Collaborator/s	Due By	Submission Age
Isaac Romero	Dixielee Rodriguez	09/19/2025	2 Days

Attachments	Customer Messages	Internal Comments	Tasks
3	0	0	0

Source	Category	Department	Customer Name	Customer Email
Internal by Ben Perko	Planning and Development	Community and Economic Development	Pam Durkee	[redacted]

Cell Phone
[redacted]

Description

Submitted on behalf of Councilmember Ambrose and Pam Durkee: Hello City Council, City employees, I had previously emailed on 9/8/25 and expressed EPA related concerns about the Welby Garden Wholesale Nursery. Adjacent residents/neighborhoods met and feel it is imperative that the Voluntary Cleanup Program (VCUP) be approved before ANY " Conditional Use" vote occurs. How can a vote occur on residential use if they don't know if any Environmental Use Restrictions (EUR's) will be placed on this land? And if these restrictions would restrict residential? Welby Gardens needs to be approved into the Voluntary Clean-up Program. In order to do this, they would need to fully characterize (soil sampling/groundwater sampling) the site for pesticides, herbicides, metals, and volatile organic compounds. Based on those results, Welby Gardens will need to have an approved cleanup plan, which will need to be performed under the supervision of an environmental professional. As a minimum, they will need to excavate soils, removing any contaminants, until they achieve residential standards. They will also need to have upgradient and downgradient groundwater monitoring wells to determine if groundwater has been affected. If groundwater is found to be affected, due to their operations on site, they will also need to clean that up to drinking water standards. We are aware of at least three large industrial drum containers on the Welby Garden site. These drums were probably used to place soil cuttings. These soil cuttings also need to be sampled and disposed of at an appropriate landfill. We strongly feel that the Voluntary Clean-up Program (VCUP) must occur before any conditional use vote takes place. The VCUP process is in the best interests of EVERYONE. We can't imagine that city and state personnel would allow a conditional use without the VCUP. I appreciate your time, Pam Durkee *Please see full attached email, abbreviated for size

Location

17201 W
64TH AVE,
Arvada, CO
80007

Street Address 17201 W 64TH AVE **#-**	**City** Arvada	**State** CO
Zip 80007	**APN** 30-023-01-083	**Council District** District 4
Business Name -		
Owner Name WELBY GARDENS CO LLC	**Owner's Mailing Address** 17201 W 64TH AVE, ARVADA, CO 80007	**Flagged?** No

Section 1: Assessor's Addresses

Assessor's Address
17201 W 64TH AVE,
ARVADA, CO 80007

Section 2: CDBG Information

CDBG Eligible?	CDBG Approved?	Census Tract	Block Group	LowModPct
No	No	009838	080590098382	4

Customer Messages (2)

ArvadaCO@customerportal.help 09/16/2025 02:44pm Email Text

Issue # 25-4487: We have received your submission!

Hello Pam Durkee,

Thank you for submitting the following request:

Request Number: 25-4487

Your request is being routed to a subject matter expert who will review and determine the next steps in resolving the issue.

You can monitor the request status through the Ask Arvada system by checking back at this link in your email, or by going to http://askarvada.comcate.com and choosing "view my submissions" on the top right hand side of the web portal.

Thank you,

The Customer Experience Team

This email is in reference to issue 25-4487 (CRM-YDWtgG2qw). In case of any queries, you can respond to this email and we will get back to you as soon as we can.
Arvada, CO
8101 Ralston Rd., Arvada, CO 80002

Josie Suk 09/18/2025 11:28am Email Text

Issue # 25-4487: We have received your submission!

Good Morning,

We understand that you have high concerns over this property. In response to your concern about the Conditional Use permit being approved prior to a VCUP approval, our process requires that the Conditional Use be reviewed first prior to any engineering or site development can commence. However, for this project, we have made a condition for this applicant to have this process initiated before any public hearing takes place. The applicant has agreed and is working with the State. If the Council decides to approve the Conditional Use then an application for a Site Plan is required for review. The Site Plan application will have to include the VCUP among many other documents for a technical review.

Your comment will be retained as part of the record for public comment for this request. If you have further questions, we are happy to address them and please reach out as you see necessary.

This email is in reference to issue 25-4487 (CRM-YDWtgG2qw). In case of any queries, you can respond to this email and we will get back to you as soon as we can.
Arvada, CO
8101 Ralston Rd., Arvada, CO 80002

Planning and Development

Public Information

Email Address

[redacted]

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Garden Proposed Development

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:34 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Rozalynne Thompson** <rthompson@arvada.org>
Date: Fri, Oct 17, 2025 at 2:05 PM
Subject: Re: We Development
To: Pam Knepp [redacted]

Hello Pam,

Thank you for your email. City staff is evaluating Avalon Arvada's application to ensure that all the required information has been submitted. Ultimately, the Conditional Use Permit involves a public hearing and a decision by the City Council in order to move forward.

As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.

Sincerely,
Rozalynne

On Thu, Oct 16, 2025 at 12:53 PM Pam Knepp [redacted]> wrote:

> Hello. My name is Pam Knepp. We live at 6641 Violet Way in Trail Village II, 80007. I am writing today to ask that you give "grave" consideration to the apartment proposal at Welby Gardens location. Clearly, we have enjoyed and benefited from having Welby as a neighbor and wish them the very best as they move into retirement.
>
> That said, we are extremely concerned with the apartment proposal for those 20 acres. The plans for the entire project are not compatible with the Arvada's Comprehensive Code. The density proposed is larger than if we moved the people of Sunrise Ridge, Fieldstone, West Wood Links III, and the three areas of Trail Village onto that acreage.
>
> Another concern is that they will leave part of the area undeveloped for an unknown group to build an unknown design of townhomes.
>
> Such density would have a huge impact on already stressed traffic patterns. Avalon is estimating 2,800 traffic trips per day; a more educated guestimate would be closer to 4,500 trips. The entrance to Welby (64th and Easley) cannot be enlarged. Consequently, the corner of Easley and 64th will become a major traffic hazard, both in and out, particularly at rush hour. And leaving Morningstar is hazardous 24 hours a day! Trying to make a U-turn at Virgil Way, with oncoming traffic speeding down 64th from Highway 93 is another accident waiting to happen. Currently, exiting our neighborhood (Virgil Way onto 64th) is dangerous! And rush hour is maddeningly impossible.
>
> Another concern, with far greater consequences, would be the event of another Marshall Fire. Living on this beautiful urban wild corridor has new cautions; once you know of the danger firsthand you cannot

> un-know that danger! Also, with the proposed density, an emergency vehicle maneuvering in the tight spaces between buildings would cause a hazard just on their own.
>
> The list goes on and on. Land pollution because of pesticides and fertilizers. Water run-off into church ditch is a real thing. Noise and light pollution coming from a high rise immediate neighbor. We can hear the trains along 88th when our windows are open at night. What would it be like right next door?
>
> Lastly, and as kindly as I can, I'd like to say you are an elected official representing the voting residents of the City of Arvada. When we built this house 22 years ago, we paid an additional fee for THIS lot because of the views to the west. I was impressed with a City Council that was interested in developing and maintaining the beauty and peacefulness of western Arvada, as per the Master Plan and City Code. You have done a terrific job with parks and trails - it's what makes Arvada such a desirable community. Please do not ruin that. It would never, ever be the same.
>
> Thank you for giving this your utmost attention. Please vote no on high rise, high density in western Arvada.
>
> Kind Regards. Pam and Bill Knepp

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

--
Rozalynne D. Thompson, AICP, J.D.
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Oct 3, 2025

Dear Mr. Bob Fifer,

I am writing to you inorder to express my opposition to the proposed plan for the Welby Gardens property on 64th Ave. ; Easley Rd.

My concerns are several - increased traffic - limited access ; egress causing traffic problems - so many cars pose danger to the elderly residents living at MorningStar Senior Living and complicate driving to and from our residence. If access is granted through the west end of MorningStar property, traffic there will pose significant danger to residents who frequently walk there.

Change to configuration of Easley Rd. will eliminate any parking there and will impose a hardship on tradespeople, visitors, ; residents of MorningStar.

Sincerely yours,

Phyllis [illegible]

Suite 3014 MorningStar
(95 yrs.) Senior Living

Oct 3, 2025

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I am writing to you inorder to express my opposition to the proposed plan for the Welby Gardens property on 64th Ave. ; Easley Rd.

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Phyllis [illegible]

Suite 3014 MorningStar
(95 yrs.) Senior Living

Oct 3, 2025

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I am writing to you inorder to express my opposition to the proposed plan for the Welby Gardens property on 64th Ave. & Easley Rd.

My concerns are several - increased traffic - limited access & egress causing traffic problems - so many cars pose danger to the elderly residents living at MorningStar Senior Living and complicate driving to and from our residence. If access is granted through the west end of MorningStar property, traffic there will pose significant danger to residents who frequently walk there.

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Sincerely yours,

Phyllis [illegible]

Suite 3014 MorningStar
(95 yrs.) Senior Living

Patricia Wingert
Morning Star of Arvada
Ste 2012
September 10, 2025

Arvada City Council
8101 Ralston Road
Arvada CO 80002

As a ~~M~~ senior citizen & taxpayer of Arvada, I'm writing this letter to express my concerns about the proposed development of Welby Gardens.

My main interests are for the safety and health of our aging Morning Star resident, ~~of which~~ where I am living. We will be directly impacted by the proposed plan to develop this land. No consideration has been given to the safety of our residents & traffic problems will be devastating for us. With only one access for an estimated population of 700 residents, this will lead to overuse of Morning Star drives & parking areas, as well as perilous conditions for our residents, many using walkers & wheelchairs who enjoy walks in our beautiful Colorado weather. We love living in Arvada & pay a premium dollars for our home.

The health of senior citizens would be adversely affected by possible soil contamination, pollution & construction. Large population in these dwellings in a very compact space will generate impossible refuse management for large trucks with a single street for the area which, would also be major problems for fire & police vehicles

with resulting traffic on Morning Star property, which is private.

Last but no least is the extremely dangerous situation at 64th avenue & Easley. Vehicles, large & small, drive at ~~dangerously~~ alarmingly high speeds on 64th avenue & present serious problems for our residents who must use Easley to access 64th. With no signal light & heavy, speeding traffic on 64th, it is a critical situation, which will be multiplied many times if the proposed area is built.

Please ~~can~~ carefully consider these problems before making your decision

Patricia Wingert
Morning Star resident

Patricia Wingert
Morning Star of Arvada
Ste 2012
September 10, 2025

Arvada City Council,
8101 Ralston Road
Arvada CO 80002

As a ~~M~~ senior citizen & taxpayer of Arvada, I'm writing this letter to express my concerns about the proposed development of Welby Gardens.

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with resulting traffic on Morning Star property, which is private.

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Please ~~con~~ carefully consider these problems before making your decision

Patricia Wingert
Morning Star resident

Patricia Wingert
Morning Star of Arvada
Ste 2012
September 10, 2025

Arvada City Council,
8101 Ralston Road
Arvada CO 80002

As a senior citizen & taxpayer of Arvada, I'm writing this letter to express my concerns about the proposed development of Welby Gardens.

My main interests are for the safety and health of our aging Morning Star resident, ~~of which~~ where I am living. We will be directly impacted by the proposed plan to develop this land. No consideration has been given to the safety of our residents & traffic problems will be devastating for us. With only one access for an estimated population of 700 residents, this will lead to overuse of Morning star drives & parking areas, as well as perilous conditions for our residents, many using walkers & wheelchairs who enjoy walks in our beautiful Colorado weather. We love living in Arvada & pay a premium dollars for our home.

The health of senior citizens would be adversely affected by possible soil contamination, pollution & construction. Large population in these dwellings in a very compact space will generate impossible refuse management for large trucks with a single street for the area which, would also be major problems for fire & police vehicles

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Morning Star resident

Reid Bicknell
17351 W 64th Ave Suite 3016
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

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I have several concerns about this development and its impact on the surrounding neighborhoods. In an effort to be succinct about expressing my concerns I will list here just three items that I think should be seriously considered by the City of Arvada before this project is ever approved or built. Specifically:

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To conclude this, I would strongly urge you to visit the site to see for yourself problem(s) that will be created by this development, especially traffic on Easley Road itself and its intersection with W. 64th Ave. I would be happy to meet you, any time, on site to further this discussion. Feel free to contact me.

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Reid Bicknell

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303-847-5061
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CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Rupert (Council Member at Large)

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CITY OF ARVADA **CED Boards and Commission <cedboardsandcommission@arvada.org>**

New development on 64th

1 message

Ryan Bret [redacted] Sun, Jan 11, 2026 at 5:58 AM
To: "Cedboardsandcommission@arvada.org" <Cedboardsandcommission@arvada.org>

Hello

I'm writing to urge you to vote against the new planned development on 64th and Easley.

The multi family project of that size does not fit within the area. It will have a negative effect on property values and the added congestion isn't something that the already strained infrastructure can handle

I've lived in the area over 20 years and me and my neighbors agree this is not the place for such a development.

Thanks

[redacted]

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens / Avalon Bay Development Concerns (risk of effects on young children)

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:33 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Richard Lindgren** <richard.lindgren.33@gmail.com>
Date: Sun, Oct 19, 2025 at 8:05 AM
Subject: Welby Gardens / Avalon Bay Development Concerns (risk of effects on young children)
To: <LSimpson@arvada.org>, <RThompson@arvada.org>, <SDavis@arvada.org>, <BRupert@arvada.org>, <RMoorman@arvada.org>, <SAmbrose@arvada.org>, <JMarriott@arvada.org>, <BFifer@arvada.org>

Dear Arvada Leaders.
My name is Richard Lindgren, and I live in the Westwoods / Trail Village area with my wife, Ashley, and two children (ages 5 and 8).

I am writing to express my concerns about the proposed 4-story development on Welby Gardens in West Arvada.

While there are many concerns (sheer density, access/traffic) the one that **scares** me the most is the fact that this is large-scale-development on a **50+ year old commercial nursery.**

As a father of an 8 year old son, who has already battled cancer/leukemia for 3 years, the **fear of pesticides/non-clean substances** hits us incredibly close. While pesticides have become very front-of-mind for nurseries/home-owners of the past decade or so, I cannot imagine the types of toxic substances that were used from 1950 - 2000 in this space -- and have since seeped into the ground.

I assume the development of this project is going to involve incredible amounts of deep-digging and piping. The chances of toxic-substances being airborne (as well as other avenues) as a result of mass-development seems **extremely high**. Honestly, being just 2 blocks away from this development is extremely scary, considering my **8-year-old-in-remission and a younger 5-year old still in their physically-formative years**. They would be breathing this "who knows what is in this air" in for months-on-end (potentially years?). Not to mention, the general vicinity houses a **public K-5 school (less than a mile away!)** -- as well as 40% (an educated guess) population of young families with 3-10 year olds.

While I understand the need for more housing in Arvada in general, and I support the growth -- in this case -- the pure physical location is an incredibly high-risk endeavour and causes extreme concern for my family

Thank you for your consideration and time.

-Rich and Ashley Lindgren
17454 West 67th Place
Arvada, CO 80007

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF
ARVADA

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Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens / Avalon Bay Development Concerns (risk of effects on young children)

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:33 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Rozalynne Thompson** <rthompson@arvada.org>
Date: Mon, Oct 20, 2025 at 8:17 AM
Subject: Re: Welby G[redacted]nt Concerns (risk of effects on young children)
To: Richard Lindgren [redacted]>

Hello Richard,

Thank you for your email. City staff is evaluating Avalon Arvada's application to ensure that all the required information has been submitted.

As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.

Sincerely,
Rozalynne

On Sun, Oct 19, 2025 at 8:05 AM Richard Lindgren [redacted]> wrote:

> Dear Arvada Leaders.
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Fwd: (Case # DA2025-0035) URGENT SAFETY CONCERNS - Traffic Analysis Gaps

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:31 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded mes
From: **Ryan McCarrol** [redacted]>
Date: Tue, Dec 30, 202
Subject: (Case # DA2025-0035) URGENT SAFETY CONCERNS - Traffic Analysis Gaps
To: <rthompson@arvada.org>, <fmartone@arvada.org>
Cc: lsimpson@arvada.org <lsimpson@arvada.org>, <BFifer@arvada.org>

Hello,

I am writing to formally submit my opposition to the proposed "Avalon Arvada" development at 17201 W 64th Ave. (Case # DA2025-0035). As a resident of the immediately adjacent neighborhood, I have reviewed the applicant's Traffic Impact Study (TIS) dated June 26, 2025, and have identified critical deficiencies that fail to account for the real-world safety impacts this project will have on W 64th Circle, W 64th Drive, and Terry Street.

While the study analyzes major arterial intersections, it completely ignores the internal neighborhood network that will suffer the brunt of the "spillover" traffic. My specific concerns and technical objections to the TIS are as follows:

1. Critical Omission of Affected Neighborhood Streets The TIS defines the "Study Area" specifically as 64th Ave, Virgil Way, Easley Rd, Terry St, and Quaker St . **It completely fails to list, count, or analyze traffic on W 64th Circle or W 64th Drive.** Residents know that when congestion builds on Easley Road—which the study admits will happen—drivers will seek the path of least resistance. W 64th Drive and W 64th Circle act as de facto cut-through routes to Terry St. By omitting these streets from the scope, the study essentially pretends this cut-through traffic does not exist, rendering the safety analysis incomplete.

2. Ignored Safety Hazard: Blind Corner on W 64th Drive Because W 64th Drive was excluded from the study, the consultants failed to identify a severe existing safety hazard: the tight, blind corner on W 64th Drive. This geometric constraint already makes the road dangerous for two-way traffic. Adding hundreds of new daily trips from frustrated commuters cutting through our neighborhood to avoid arterial delays is a recipe for disaster. The study provides no sight-distance analysis or safety mitigation for this specific hazard.

3. Projected Failure of Key Intersections Will Force Cut-Through Traffic The study's own data proves that the main access points will fail, forcing traffic into our neighborhood:

- **Easley Rd & 64th Ave:** The report states that without a signal, this intersection will deteriorate to a **Level of Service (LOS) F** (failing) during peak hours. Even with a signal, the study predicts queueing issues where cars spill back into through lanes.
- **Terry St & 64th Ave:** The study admits that by 2047, the southbound approach on Terry St will degrade to **LOS E or F** (failing).
- When drivers face failing intersections and long queues on Easley and Terry, they *will* use W 64th Circle and W 64th Drive to bypass the congestion. The study ignores this human behavior entirely.

4. Unacceptable "Monitor and See" Approach Despite acknowledging that the intersection of Terry St. and 64th Ave. is projected to fail (LOS E/F) in the future, the study recommends **"no geometric or operational modifications"**. Instead, it suggests the intersection simply be "monitored". This is unacceptable to existing residents. We should not be treated as test subjects for traffic failures. Approving a development that is *known* to cause failing road conditions without requiring upfront mitigation is negligent planning.

5. Threat to Neighborhood Safety The introduction of cut-through traffic on these quiet residential streets poses an immediate threat to families and children playing in the area. The study focuses solely on vehicle capacity and delay, failing to assess the "Quality of Life" impact or pedestrian safety on the residential streets specifically mentioned above.

Conclusion The provided Traffic Impact Study is insufficient because it creates a "bubble" around the main roads while ignoring the internal neighborhood veins that will actually carry the traffic load. I respectfully request that the Planning Commission **deny this application** or, at a minimum, require a revised Traffic Study that explicitly analyzes cut-through volumes on W 64th Circle and W 64th Drive, including a safety audit of the blind corner.

We urge you to prioritize the safety of existing neighborhoods over the density goals of the developer.

Thank you,

Ryan McCarroll

Resident of Westwoods Links III

--

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CITY OF ARVADA

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Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:40 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded messa
From: **Rajesh Yalavarthy** [redacted]>
Date: Sat, May 3, 2025 at
Subject: Welby Gardens
To: LSimpson@arvada.org <LSimpson@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

Hello Mayor Simpson, Councilman Fifer, and Principal Planner Thompson,

My wife and I own a home in District 4 in Arvada. We heard the proposal about building apartments and townhouses (total about 453 units) in the current Welby Gardens location. We live close to this location, and we are concerned about this development for several reasons.
1. This area does not have public transportation. I believe high density residential buildings need to be close to public transportation (transportation oriented districts in most cities). This current model will add >1000 cars to the area with some single lane roads making it a nightmare to go to school or work. Already, Indiana is clogged in AM hours.
2. This is a high fire risk zone. I am concerned that the developer will put in a mediocre fire prevention plan and we have to deal with it in long-term. There is only one road in and out of this area.
3. School congestion: West Woods Elementary has been using temporary structures for 5th grade for years. This will make it even worse.
4. Quality of life impact with congested parking lots, trails, and sports areas (tennis courts, Apex Center etc).

I believe developers need to cut back on the density for this particular area. We are not opposed to lower density apartments or townhomes or single family homes. Please tour this area before considering this project. I think this area needs to be re-zoned to residential.

Thank you for you time,

Raj Yalavarthy

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Conditional Use Permit DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:28 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded me
From: **Susan Boswel** [redacted]
Date: Tue, Jan 13, 202
Subject: Re: Avalon Arvada Conditional Use Permit DA2025-0035
To: Rozalynne Thompson <rthompson@arvada.org>

Ok but please remove my name and contact info. I don’t agree to it and don’t need the solicitors.

Best regards,

[redacted]

Sent from my iPhone

On Jan 13, 2026, at 11:00 AM, Rozalynne Thompson <rthompson@arvada.org> wrote:

Hello Susan,

No, the project is market rate.

As the planner that is assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.

Sincerely,
Rozalynne

On Tue, Jan 13, 2026 at 10:48 AM Susan Boswel [redacted]> wrote:

> Good morning,
>
> I was wondering for the proposed apartments for this location, is any of them going to include section 8 housing?
>
> Best regards,
>
> [redacted]
>
> Sent from my iPhone

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner

Phone: 720-898-7436
Email: rthompson@arvada.org
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Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby-Avalon Bay Development Concerns

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:42 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded me
From: **Sue Gallaghe** [redacted]
Date: Thu, May 1, 202
Subject: Welby-Avalon Bay Development Concerns
To: RThompson@arvada.org <RThompson@arvada.org>

Ms Thompson,

I am writing to you to express the concerns of myself and our family, in regards to the proposed development of the Welby Gardens property at 65th and Easley in Arvada.

We have followed the proposals for the design of this site, and have concerns about the current plans. It appears that Avalon Bay has proposed 400 units of apartments, and 58 units of townhomes on the site, with some of the apartment buildings being 4 stories tall. The resulting density of such a development is totally incongruent with the existing neighborhood. We also feel that the design proposal significantly underestimates the amount of parking necessary for the volume of residents that the site invites. The area surrounding the proposed site is basically single family residences with attached garages, not including the senior living facility. A development of single family homes, townhomes, and/or duplexes with garages would make much more sense, and be much more in line with the current residential density. We understand progress is inevitable, but we ask that it be done thoughtfully. Also, for the safety of all Arvada residents, we ask that the grounds of the nursery be thoroughly assessed and studied, related to the potential residual chemicals that may be present, related to commercial horticulture.

We appreciate your efforts and vigilance towards these concerns with Arvada's future.

With Gratitude,

Sue Gallagher
17461 W 67th Ave
Arvada, CO 80007

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

17351 W 64th Ave Suite
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Councilman Fifer,

I am a resident of MorningStar Arvada Senior Living facility at 64th Street and Easley Road and I respectfully request that you reject approval of the Welby Gardens Development Project. As currently proposed, this mega apartment project (435 living units with over 650 automobiles) would add only one new exit to Easley Road in addition to the existing outlet we share with Welby Gardens resulting in overwhelming the intersection of 64th Street and Easley Road.

Our senior residents (approximately 160 with a average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially through our private parking lot.

I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully,

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

P.S. My main concerns include the planned emergency access through the west end of the Morning Star property. This would result in a dangerous traffic issue for our elderly residents and others in our building.

17351 W 64th Ave Suite
Arvada CO 80007

October 3, 2025

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Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: ; Welby Gardens-Avalon Development Project Number #DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 10:11 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Hi Dixie,

I just received the comment below.

Rozalynne

---------- Forwarded mess
From: **Stephen Leibold** [redacted]>
Date: Wed, Jan 14, 2026
Subject: ; Welby Gardens-Avalon Development Project Number #DA2025-0035
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <mgriffith@arvada.org>, <sdavis@arvada.org>, <rthompson@arvada.org>, <rsmetana@arvada.org>, <jegarner@arvada.org>

I am a resident of Trail Village Villas(TVV) immediately to the west of the proposed development described above. My wife and I moved here nine years ago attracted by the low to moderate housing density in TVV and the mostly older resident mix. Our assumption at the time was that there would not be other buildings in our vicinity that would be more than one or two stories tall. All other buildings in the area at that time were no more than 2 stories tall.

When Morningside was built next to our community I was surprised that it was approved at 3+ stories tall. Due to the nature of their business our fears of high traffic and noise were largely overblown. In the nine years we've been here we have seen a steady increase in traffic on 64th Avenue just to the south of our community. We have seen increased road damage both on 64th Avenue and Easley Road from the gradually increasing traffic over the years.

After attending the presentation by Avalon regarding the density of their proposed development at the Welby Gardens location we are very concerned about the size of the development for the following reasons.

- Resident density will be several times what is in the established communities surrounding Welby Gardens.
- Increased density development will increase traffic, noise, and crime.
- Already overcrowded schools and businesses will see even more congestion.
- The planned four-story buildings will tower over all other residences in the immediate area and would block sunrise, sunsets, and mountain views for a substantial number of nearby residents.
- It seems that an emergency such as a fire could be catastrophic with only one entry/exit to the community to allow emergency response crews in or residents to move out of the development areas in an expedient manner.
- We already see light pollution from the athletic fields to our west; we will certainly see a lot of light pollution from the high density planned development by Avalon.
- The roads in our area are deteriorating without adequate maintenance from current traffic loads. Despite my vote in support of almost all infrastructure bonds, most of them fail to pass. It's not likely this will change in the future. More traffic means more road degradation and traffic congestion. The Easely/64th Ave intersection will require a signal
- With the higher density community by Avalon, will public transit service be extended along 64th Ave? This will add to the congestion and undoubtedly lower residential home values nearest to the development of which we would be included.

These are the most obvious reasons to us why a much lower density of the old Welby Gardens site would make sense to us. Please VOTE NO on proceeding with this planned development. Thanks for considering our request.

Steve and Noreen Leibold
6481 Umber Circle
007
[redacted]

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CED Boards and Commission <cedboardsandcommission@arvada.org>

Re: Opposition to the Welby Gardens Development (17201 W 64th Ave)

1 message

Tim Bar [redacted] Tue, Jan 13, 2026 at 10:09 AM
To: "Cedboardsandcommission@arvada.org" <Cedboardsandcommission@arvada.org>

Dear Mayor and Members of the City Council,

I am writing as a resident of the Arvada community who lives approximately **one mile from the proposed Welby Gardens development** and recreates daily on the open space trails near this site. I respectfully oppose this development as currently proposed, and I urge the Council to carefully consider the **infrastructure, land-use compatibility, and quality-of-life impacts** before approving high-density housing in this area.

1. Existing Infrastructure is Not Adequate for High-Density Development

Residents in this part of Arvada already experience significant challenges with the current transportation network. The intersection of **Easley Road and W. 64th Avenue** is already problematic for turning movements in traffic and pose safety and delay concerns—conditions that will only worsen with a substantial increase in residential units.

While the City is engaged in planning future transportation improvements through its **Transportation System Plan**, public feedback clearly indicates that many residents feel that **development is outpacing infrastructure improvements** and that road quality and congestion remain major concerns.

2. Community Feedback Opposes High-Density Land Use

As part of the ongoing **W. 64th Avenue Sub-Area planning process**, community comments collected in late 2024 show a strong preference for preserving the character of the area, protecting open space, and limiting high-density development. Many respondents specifically expressed **opposition to apartments or multi-family townhomes** and support for **single-family homes or conservation** of natural space.

This localized feedback reflects that the character of this corridor is currently **low to moderate density**, and a large, high-density residential project would be inconsistent with what residents have voiced for the future of this corridor.

3. Smart Land Use Principles Prioritize Compatibility

Smart growth and land-use planning principles generally advocate for:

- **Higher-density housing near transit corridors, major activity centers, and retail services** to reduce car dependency and maximize infrastructure efficiencies.
- **Balanced development** that protects established neighborhoods from inappropriate density changes.

The proposed Welby Gardens site is **not adjacent to a significant transit hub, major commerce center, or downtown core**. It lies within a neighborhood of primarily low-density residential and open space uses, where traffic and infrastructure are already stretched. Placing high density here stands in contrast to planning best practices that emphasize aligning density with infrastructure capacity and walkable, mixed-use environments.

4. Preservation of Open Space and Recreational Quality

The area around Welby Gardens contains valued open spaces and trail systems that many Arvada residents enjoy every day. Introducing high-density residential use here risks degrading the very natural and recreational qualities that make this part of Arvada special.

Conclusion

Given current community feedback, the limitations of existing transportation infrastructure, and smart land-use planning principles, I urge the City Council to:

- **Deny or substantially revise the Welby Gardens proposal** as currently presented.
- Ensure that any increases in residential density are paired with adequate **infrastructure improvements, transit access, and compatible land-use transitions**.
- Prioritize directing high-density housing **closer to downtown, commercial corridors, or established transit nodes**, where infrastructure and services are better positioned to support increased use.

Thank you for your time and careful consideration of this important community issue.

Sincerely,
~~Tim Barr

16129 W. 70th Place

Arvada, CO 80007

Tim Barr, LEED Green Associate, DBIA
-
Principal | Office Practice Leader
CannonDesign

[redacted]

Sept. 25, 2025

Councilman Bob Fifer
Arvada City Council
8101 Ralston Road
Arvada, CO 80002

Dear Mr. Fifer

I am a current resident of MorningStar, the senior living facility adjacent to the tract of new housing slated to be built in the near future. While I sorely regret the obstruction of the view of the front range that will result from the placement of apartments and townhomes next door to my residence, I appreciate Arvada's need to increase housing in the city. More significant than the spoiling of the view would be the severe traffic problems generated by the development as it currently stands and a host of other issues due to the density of the proposed new community. It seems to me that a compromise in the size of the development should be considered. The current plan allows for a population density almost double what seems reasonable. Please considered a reduction in the proposed population density.

Thank you for your consideration of this issue.

Thomas Bunn

Thomas Bunn
Resident, MorningStar Senior Living
17351 W. 64tn Ave.
Arvada, CO 80007

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October 3, 2025

Dear Councilman Fifer,

My name is Tom Thomas, and I am a resident of MorningStar Senior Living. I am writing to express concerns about the proposed high-density, high-rise development adjacent to our community.

The project's single access point, combined with the anticipated volume of residents, raises serious concerns about traffic congestion and safety—particularly at the intersection of Easley Rd and 64th Avenue. As one of many active drivers in my community, I worry that increased traffic could significantly heighten the risk of accidents for MorningStar residents.

I respectfully urge you to consider traffic flow improvements and safety measures as part of the planning process for this development.

Thank you for your attention to this matter.

Tom Thomas

Sincerely,
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The project's single access point, combined with the anticipated volume of residents, raises serious concerns about traffic congestion and safety—particularly at the intersection of Easley Rd and 64th Avenue. As one of many active drivers in my community, I worry that increased traffic could significantly heighten the risk of accidents for MorningStar residents.

I respectfully urge you to consider traffic flow improvements and safety measures as part of the planning process for this development.

Thank you for your attention to this matter.

Tom Thomas

Sincerely,
Tom Thomas

October 3, 2025

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Vivian L. Haseman
17351 West 64th Ave.
Apt. 1010
Arvada, CO. 80007

Oct. 24, 2025

Dear Mr. Fifer:

As a resident of MorningStar Arvada, I respectfully request that you not approve the Welby Gardens Development Project by AvalonBay. As currently proposed this large proposed apartment project (435 living units with over 650 automobiles) likely represents one of the highest density housing developments projects in Arvada and is far more dense than the surrounding suburban neighborhoods. Although Arvada and other Colorado citie encourage affordable housing, locating such housing must be consistent with existing reasonable policy and other cogent parameters. In this vein, the proposed project stands in sharp contrast and conflicts with the Arvada Comprehensive Plan, which policy is intended for use in "evaluating development proposals" and states in part:

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Density aside, this proposed project has several safet and health problems:

1. Traffic: Our older residents will be exposed to muc higher traffic as they cross Easley and 64th Ave. or otherwise walk in the neighborhood. It is a given that a traffic light at Easley Road will be needed in advance of construction, if any, but a traffic light alone will not abate the increased traffic and the hazards that i represents on Easley to the surrounding neighborhoods as Avalon drivers use one or more neighborhood street to avoid the inevitable traffic tie-ups at the Easley/ 64th Ave. intersection.

2. Fire Dept Access: The City has already noted this problem. Fire trucks using the Morningstar parking lot off 64th Ave. to access the Avalon project is both unnecessary and a safety concern. The Arvada Fire Dept. ha gone on record opposing the project without an easement through the west side of Morningstar Senior Living.

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There can be no parking on Easley, thus, user access (to include children) from surrounding neighborhoods, will need to cross Easley or 64th Ave. Likewise, even with a fence on Easley, an errant tossed ball or frizbee into the street will be chased, raising safety concerns. A better alternative is to place the Park perpendicular to Easley along the existing south Welby entry. This street could be widened to add a parking lane for safer access and also represent a safer fire entry lane.

Please take these obvious shortcomings into consideration and not approve this development.

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Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Proposed Welby Gardens (Avalon) development project.

1 message

POD CD <pod@arvada.org> Fri, Jan 24, 2025 at 1:32 PM
To: Rozalynne Thompson <rthompson@arvada.org>
Cc: Rob Smetana <rsmetana@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hello, Rozalynne.

Please see the forwarded email opposing the Welby Gardesn (Avalon) project.

Regards,

---------- Forwarded mes
From: **Wendee Vezzet** [redacted]
Date: Fri, Jan 24, 2025 at
Subject: Proposed Welby Gardens (Avalon) development project.
To: <jegarner@arvada.org>, <POD@arvada.org>

Hello Community Development and Zoning,

I'm writing this letter as a deeply concerned resident of West Woods Links III to express my opposition to the proposed Welby Gardens (Avalon) development project. After mulling over the potential impacts, I can't help but feel this development could pose significant safety risks and challenges for our neighborhood and beyond.

Here's a quick rundown of my primary concerns (spoiler alert, they're big ones):

Traffic Congestion

We're already dealing with traffic nightmares on local roads, and this project is only going to double down on the chaos. Our infrastructure is stretched thin as it is, and adding more cars to the mix? That's a big nope from me.

But here's the kicker—**we've got kids here.** Kids who walk the sidewalks and cross the streets every single day. The crosswalks at Easley Road and W. 64th Avenue are already a safety hazard. And adding more vehicles, including dangerous commercial traffic, doesn't just inconvenience us—it puts our kids' safety at risk.

Speaking from personal experience, I *know* how unsafe this area can be. I've been hit by two vehicles at the Easley and W. 64th intersection. Thankfully, no pedestrians—or children—were around at the time. But what if? It's just not a gamble I'm willing to make.

Also, the corner of Easley Road and W. 64th Circle? Complete chaos. Visibility is terrible, and the traffic flow is more of a "guess and hope for the best" situation. Adding more congestion is a recipe for disaster.

Environmental Concerns

Our neighborhood has such a beautiful natural character, with golf course spaces, wildlife habitats, and stormwater systems that we all cherish. This project could jeopardize all of that. We've got something special here, and I'd hate to see it compromised for the sake of development.

Community Compatibility

This one's a biggie. The density, design, and scale of this project feel completely out of sync with the character of our neighborhood and surrounding area. West Woods Links III—and the nearby communities—have a unique charm that doesn't align with what's being proposed. I worry this project could negatively affect property values and detract from the appeal of our area.

I'm asking that the City of Arvada seriously reconsider or modify the plans for this project. At the very least, I encourage you to work closely with our community to address these concerns and figure out a way forward that aligns better with our shared values.

West Woods Links III may just be a small part of Arvada, but it's where I call home. I care deeply about preserving the safety, integrity, and quality of life of this community—not just for me, but for everyone here, including the youngest and most vulnerable among us.

Thank you for taking the time to hear my concerns. I trust you'll consider the long-term impact of this project on the people who **already live here** and work towards a solution that prioritizes safety and sustainability.

Sincerely,

Wendee Vezzetti | 17001 W. 64th Drive | Arvada, CO 80007 [redacted]

Wendee Walter Vezzetti [redacted]

--

To find the zoning of a property, including what uses are allowed, please use the **Address and Property Search** tool.

For information about active development projects, please use the **Development Projects Interactive Map** tool.

Thank you,

Planning Staff
Front Desk: (720) 898-7435
pod@arvada.org

Facebook Icon |
Twitter Icon |
LinkedIn Icon |
YouTube Icon |
E-Mail Icon

Reid Bicknell
17351 W 64th Ave Suite 3016
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

Dear Councilman Fifer,

I am a resident of the Arvada Morningstar Senior Living Facility and am writing to express my concerns regarding the proposed AvalonBay Communities, Inc., high density development at the current Welby Gardens site. Specifically, this development, as currently structured, will consist of 384 apartment units and 51 townhouse units for a total of 435 housing units.

I have several concerns about this development and its impact on the surrounding neighborhoods. In an effort to be succinct about expressing my concerns I will list here just three items that I think should be seriously considered by the City of Arvada before this project is ever approved or built. Specifically:

1. **Compatibility**: While I understand that this property is zoned for Mixed-Use Suburban (MX-S) the proposed development does not fit well into the existing single-family neighborhoods. The Arvada Comprehensive Plan states that MX-S types of sites should "be strategically located, high intensity, pedestrian oriented activity centers" and should "be located in urban centers or designated corridors". One needs only to look at the current land use to realize this project does not meet those objectives.

2. **Traffic:** The only way into and out of the development, for traffic, will be Easley Road and one can foresee many traffic problems and hazards. Examples include, 1) long lines caused by a very large volume of rush hour traffic, 2) no place for overflow parking from Morningstar and adjacent neighborhoods which currently happens on Easley, 3) circumscribed ingress and egress routes for emergency vehicles, 4) large volumes of bypass traffic going through Morningstar roads, and 5) bypass traffic going through adjacent neighborhoods to get to 64th. All of these will occur.

3. **Possible Chemical Pollution:** The current site has been a greenhouse grow site for nearly fifty years and has likely been treated with a multitude of pesticides and fertilizers that may possibly have contained many highly toxic and carcinogenic chemicals. The developer has stated that the site will need environmental cleanup. There are many potential problems that can come with cleaning up of toxic materials if the process is not closely monitored. In this case, among many others, there is the possibility of drainage of potentially contaminated water into Ralston Creek. Obviously, this process will need to be monitored very closely by the City Engineer.

To conclude this, I would strongly urge you to visit the site to see for yourself problem(s) that will be created by this development, especially traffic on Easley Road itself and its intersection with W. 64th Ave. I would be happy to meet you, any time, on site to further this discussion. Feel free to contact me.

Respectfully,

Reid Bicknell

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303-847-5061
reidbicknell@msn.com

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Rupert (Council Member at Large)

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3. **Possible Chemical Pollution:** The current site has been a greenhouse grow site for nearly fifty years and has likely been treated with a multitude of pesticides and fertilizers that may possibly have contained many highly toxic and carcinogenic chemicals. The developer has stated that the site will need environmental cleanup. There are many potential problems that can come with cleaning up of toxic materials if the process is not closely monitored. In this case, among many others, there is the possibility of drainage of potentially contaminated water into Ralston Creek. Obviously, this process will need to be monitored very closely by the City Engineer.

To conclude this, I would strongly urge you to visit the site to see for yourself problem(s) that will be created by this development, especially traffic on Easley Road itself and its intersection with W. 64th Ave. I would be happy to meet you, any time, on site to further this discussion. Feel free to contact me.

Respectfully,

Reid Bicknell

Reid Bicknell
303-847-5061
reidbicknell@msn.com

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Rupert (Council Member at Large)

8101 Ralston Road
Arvada, CO 80002

Outlook

Public Comment Submission on Avalon Arvada Proposed Development - MorningsStar Residents

---

From Reid Bicknell [redacted]

Date Fri 1/16/2026 12:26 PM

To cedboardsandcommission@arvada.org <cedboardsandcommission@arvada.org>

Cc Cc: <rsmetana@arvada.org>; Rozalynne Thompson <rthompson@arvada.org>; jegarner@arvada.org <jegarner@arvada.org>; dwick@arvada.org <dwick@arvada.org>; krush@arvada.org <krush@arvada.org>; steve.parker@arvadafireco.gov <steve.parker@arvadafireco.gov>; lsimpson@arvada.org <lsimpson@arvada.org>; sambrose@arvada.org <sambrose@arvada.org>; rlovisone@arvada.org <rlovisone@arvada.org>; rmoorman@arvada.org <rmoorman@arvada.org>; mgriffith@arvada.org <mgriffith@arvada.org>; sdavis@arvada.org <sdavis@arvada.org>; bfifer@arvada.org <bfifer@arvada.org>; lindsey.daugherty.senate@coleg.gov <lindsey.daugherty.senate@coleg.gov>; Rep. Lisa Feret <lisa.feret.house@coleg.gov>

1 attachment (7 MB)

MorningStar Support for PWWN (DA2025-0035).pdf;

Attached you will find a copy of the MorningStar Senior Living Resident petition signed by many of the residents at MorningStar of Arvada in opposition to the proposed development by Avalon Arvada.

The concerns of the individuals from MorningStar Arvada that are included in the attachment have also been included in the Protect West Woods Neighbors letter previously submitted, but we wanted to be sure this was not overlooked.

Several of the MorningStar residents are planning to attend the Planning Commission meeting on January 21.

If you have any questions, feel free to contact me.

Sincerely,

Reid Bicknell
MorningStar Arvada Resident
[redacted]

January 15, 2026

Arvada Planning Commission
Arvada City Hall
8101 Ralston Road
Arvada, CO

Dear Commissioners,

We, the undersigned residents of **MorningStar Senior Living**, respectfully submit this letter in support of the enclosed petition regarding the proposed **Avalon Apartments and Townhomes development** on the former Welby Gardens property.

As longtime community members, many of us have spent the past year closely following the ongoing and frequently changing conversations between Avalon and the City's Planning staff. While we understand that the Welby property will eventually be sold and redeveloped, we are deeply concerned that the current Avalon proposal contains **significant deficiencies** that meaningfully jeopardize the safety, well-being, and quality of life of seniors living immediately adjacent to the site.

We also want to express our support for the efforts of our neighbors in the **Protect West Woods Neighbors** group and the issues raised in their submitted letter and Appendix A. Their concerns reflect many of our own, and their analysis provides important context that we hope the Commission will carefully consider.

However, we write today to share **our unique, senior-specific concerns**, which we believe deserve special attention:

---

1. The Proposed Secondary Access Road Through Our Facility

The idea of routing a secondary emergency or service exit through or alongside the MorningStar property poses very real risks to elderly residents. Many of us have mobility limitations, rely on walkers or wheelchairs, and frequently use the outdoor paths surrounding our building for fresh air and exercise. Increased vehicle movements—especially those connected to a large apartment complex—introduce unsafe and unpredictable conditions for seniors who cannot react quickly to traffic.

---

2. Undefined Nature and Closeness of the Proposed Townhomes

Avalon has **not provided any plans, elevations, drawings, or meaningful detail** about the townhomes they intend to build immediately next to our living facility. Approving a development without these essential materials would be unprecedented and, in our view, irresponsible. Without clear plans, neither residents nor the City can evaluate building heights, setbacks, window placements, or impacts on privacy, noise, and light.

The proximity of these undefined structures to MorningStar is particularly troubling. Seniors deserve the stability and dignity of knowing what is planned outside their windows—not a vague promise of future design work.

3. Height and Massing of the Proposed Apartments

The high-rise apartment buildings in Avalon's concept appear out of scale with the surrounding neighborhood and with our community. Large multi-story structures so close to a senior facility create shadowing, loss of privacy, and a fundamental change in the character of our immediate environment.

4. Traffic and Pedestrian Safety for Seniors

Many MorningStar residents walk daily around our building and nearby sidewalks. The traffic projections offered by Avalon's consultants do not align with what we know from lived experience in this area. The proposed increases in vehicle trips—combined with uncertain circulation patterns—present genuine dangers for residents who walk slowly, use mobility aids, or have impaired hearing or vision.

A development plan that does not fully protect its most vulnerable neighbors requires reevaluation.

5. Emergency Access Concerns

While we appreciate that the fire department has provided preliminary input, we do not believe that their technical compliance review fully addresses the real-world challenges of emergency access for both the proposed Avalon development **and** the MorningStar community. Our facility must maintain dependable access for ambulances, fire trucks, and medical responders multiple times each week.

Given the narrowness of proposed routes and the complexity of the site, we remain unconvinced that emergency access needs have been sufficiently resolved.

6. Need for an On-Site Visit by Planners and Commissioners

We strongly encourage the Planning staff and City Commissioners to conduct a full **on-site visit.** Only by walking the property, seeing the connections, and experiencing the limited mobility environment firsthand can decision-makers grasp the shortcomings of the current design. Seniors navigate the world differently, and that reality must be understood at ground level.

Conclusion and Request

Given the above concerns—and the lack of essential information about major components of the project—we believe it is both reasonable and necessary for the City to **table this proposal** until a complete, responsible plan is submitted.

We respectfully ask the Arvada Planning Commission to delay approval until Avalon provides:

- Full, detailed, publicly reviewable plans for the townhomes
- Revised traffic and circulation designs that prioritize pedestrian and senior safety
- A coherent site plan that demonstrates safe emergency access for all nearby residents
- A development vision that fits harmoniously with the existing community

Thank you for your time, your service, and your willingness to consider the voices of seniors who will be most directly impacted by this proposal. We appreciate your thoughtful attention to our concerns.

Sincerely,
The Undersigned Residents of MorningStar Senior Living
[petition attached]

LETTER TO OPPOSE THE CURRENT PROPOSED DEVELOPMENT AT EASLEY STREET AND WEST 64TH AVENUE, ARVADA

WE, THE UNDERSIGNED RESIDENTS OF MORNING STAR SENIOR RESIDENCE, WHO LIVE AT 17351 WEST 64TH AVENUE, ARVADA, CO 80007, OPPOSE THE CURRENT PROPOSAL FOR THE USE OF WELBY PROPERTY.

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Barbara Bomba	Apt 3008
Pat Reinhardt	" 3032
Sharon Guthrey	apt 3031
Harriet Bender	3002
Henry D James	
[illegible]	-2133
Judy Wolvington	- 2120
[illegible]	1014
Betty Jean Cole	
Elaine Sullivan	
S Hill [illegible]	
Sandy Quickenden	1018
Diane M. Thompson	2130
Reid Bicknell	3016

Ann Marron 1009

Sharon L. Beery

Patricia A. Weigert

Patricia J. Breinhardt

Jeanne Wright 2017

2016

Robert Abercrombie

Loretta Chessmore

Thomas G. Okonski

Jan J. Okonski

Neva Appelhans

Mary Pflum 3020

Eugene W Pflum 3020

2015

Phyllis Swanson

Carol Weiser 1005

Ginny Wanberg

Eggie Riley

Joel T. Christman 2013

Melvin C Archer

Miriam A. Shannon 3034

Lawrence D. Ackermann

Thomas W. Cann

Mary J Applegate

Apartment 3001

Jean E. LaCrosse

Apt. 3029

Robert Abercrombie

APT 3011

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Public Comment Submission on Avalon Arvada Proposed Development - MorningsStar Residents

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Jan 16, 2026 at 12:28 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Hello Dixie,

Here is another one for the record.

Rozalynne

---------- Forwarded m
From: **Reid Bicknel** [redacted]
Date: Fri, Jan 16, 202
Subject: Public Comment Submission on Avalon Arvada Proposed Development - MorningsStar Residents
To: cedboardsandcommission@arvada.org <cedboardsandcommission@arvada.org>
Cc: Cc: <rsmetana@arvada.org>, Rozalynne Thompson <rthompson@arvada.org>, jegarner@arvada.org <jegarner@arvada.org>, dwick@arvada.org <dwick@arvada.org>, krush@arvada.org <krush@arvada.org>, steve.parker@arvadafireco.gov <steve.parker@arvadafireco.gov>, lsimpson@arvada.org <lsimpson@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, lindsey.daugherty.senate@coleg.gov <lindsey.daugherty.senate@coleg.gov>, Rep. Lisa Feret <lisa.feret.house@coleg.gov>

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If you have any questions, feel free to contact me.

Sincerely,

Reid Bicknell
[redacted]rvada Resident

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

MorningStar Support for PWWN (DA2025-0035).pdf
7247K

January 15, 2026

Arvada Planning Commission
Arvada City Hall
8101 Ralston Road
Arvada, CO

Dear Commissioners,

We, the undersigned residents of **MorningStar Senior Living**, respectfully submit this letter in support of the enclosed petition regarding the proposed **Avalon Apartments and Townhomes development** on the former Welby Gardens property.

As longtime community members, many of us have spent the past year closely following the ongoing and frequently changing conversations between Avalon and the City's Planning staff. While we understand that the Welby property will eventually be sold and redeveloped, we are deeply concerned that the current Avalon proposal contains **significant deficiencies** that meaningfully jeopardize the safety, well-being, and quality of life of seniors living immediately adjacent to the site.

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Thank you for your time, your service, and your willingness to consider the voices of seniors who will be most directly impacted by this proposal. We appreciate your thoughtful attention to our concerns.

Sincerely,
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[petition attached]

LETTER TO OPPOSE THE CURRENT PROPOSED DEVELOPMENT AT EASLEY STREET AND WEST 64TH AVENUE, ARVADA

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Lawrence D. Ackerman

Thomas W. Cann

Mary J Applegate

Apartment 3001

Jean E. LaCrosse

Apt. 3029

Robert Abercrombie

APT 3011

Reid Bicknell
17351 W 64th Ave Suite 3016
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

Dear Councilman Fifer,

I am a resident of the Arvada Morningstar Senior Living Facility and am writing to express my concerns regarding the proposed AvalonBay Communities, Inc., high density development at the current Welby Gardens site. Specifically, this development, as currently structured, will consist of 384 apartment units and 51 townhouse units for a total of 435 housing units.

I have several concerns about this development and its impact on the surrounding neighborhoods. In an effort to be succinct about expressing my concerns I will list here just three items that I think should be seriously considered by the City of Arvada before this project is ever approved or built. Specifically:

1. **Compatibility:** While I understand that this property is zoned for Mixed-Use Suburban (MX-S) the proposed development does not fit well into the existing single-family neighborhoods. The Arvada Comprehensive Plan states that MX-S types of sites should "be strategically located, high intensity, pedestrian oriented activity centers" and should "be located in urban centers or designated corridors". One needs only to look at the current land use to realize this project does not meet those objectives.

2. **Traffic:** The only way into and out of the development, for traffic, will be Easley Road and one can foresee many traffic problems and hazards. Examples include, 1) long lines caused by a very large volume of rush hour traffic, 2) no place for overflow parking from Morningstar and adjacent neighborhoods which currently happens on Easley, 3) circumscribed ingress and egress routes for emergency vehicles, 4) large volumes of bypass traffic going through Morningstar roads, and 5) bypass traffic going through adjacent neighborhoods to get to 64th. All of these will occur.

3. **Possible Chemical Pollution:** The current site has been a greenhouse grow site for nearly fifty years and has likely been treated with a multitude of pesticides and fertilizers that may possibly have contained many highly toxic and carcinogenic chemicals. The developer has stated that the site will need environmental cleanup. There are many potential problems that can come with cleaning up of toxic materials if the process is not closely monitored. In this case, among many others, there is the possibility of drainage of potentially contaminated water into Ralston Creek. Obviously, this process will need to be monitored very closely by the City Engineer.

To conclude this, I would strongly urge you to visit the site to see for yourself problem(s) that will be created by this development, especially traffic on Easley Road itself and its intersection with W. 64th Ave. I would be happy to meet you, any time, on site to further this discussion. Feel free to contact me.

Respectfully,

Reid Bicknell

Reid Bicknell
303-847-5061
reidbicknell@msn.com

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission
Ms. Sharon Davis (Council Member at Large)
Mr. Brad Rupert (Council Member at Large)

8101 Ralston Road
Arvada, CO 80002

CED Boards and Commission <cedboardsandcommission@arvada.org>

New development on 64th

1 message

Ryan Bret [redacted] Sun, Jan 11, 2026 at 5:58 AM
To: "Cedboardsandcommission@arvada.org" <Cedboardsandcommission@arvada.org>

Hello

I'm writing to urge you to vote against the new planned development on 64th and Easley.

The multi family project of that size does not fit within the area. It will have a negative effect on property values and the added congestion isn't something that the already strained infrastructure can handle

I've lived in the area over 20 years and me and my neighbors agree this is not the place for such a development.

Thanks

[redacted]

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens / Avalon Bay Development Concerns (risk of effects on young children)

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:33 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Richard Lindgren** <richard.lindgren.33@gmail.com>
Date: Sun, Oct 19, 2025 at 8:05 AM
Subject: Welby Gardens / Avalon Bay Development Concerns (risk of effects on young children)
To: <LSimpson@arvada.org>, <RThompson@arvada.org>, <SDavis@arvada.org>, <BRupert@arvada.org>, <RMoorman@arvada.org>, <SAmbrose@arvada.org>, <JMarriott@arvada.org>, <BFifer@arvada.org>

Dear Arvada Leaders.
My name is Richard Lindgren, and I live in the Westwoods / Trail Village area with my wife, Ashley, and two children (ages 5 and 8).

I am writing to express my concerns about the proposed 4-story development on Welby Gardens in West Arvada.

While there are many concerns (sheer density, access/traffic) the one that **scares** me the most is the fact that this is large-scale-development on a **50+ year old commercial nursery.**

As a father of an 8 year old son, who has already battled cancer/leukemia for 3 years, the **fear of pesticides/non-clean substances** hits us incredibly close. While pesticides have become very front-of-mind for nurseries/home-owners of the past decade or so, I cannot imagine the types of toxic substances that were used from 1950 - 2000 in this space -- and have since seeped into the ground.

I assume the development of this project is going to involve incredible amounts of deep-digging and piping. The chances of toxic-substances being airborne (as well as other avenues) as a result of mass-development seems **extremely high**. Honestly, being just 2 blocks away from this development is extremely scary, considering my **8-year-old-in-remission and a younger 5-year old still in their physically-formative years**. They would be breathing this "who knows what is in this air" in for months-on-end (potentially years?). Not to mention, the general vicinity houses a **public K-5 school (less than a mile away!)** -- as well as 40% (an educated guess) population of young families with 3-10 year olds.

While I understand the need for more housing in Arvada in general, and I support the growth -- in this case -- the pure physical location is an incredibly high-risk endeavour and causes extreme concern for my family

Thank you for your consideration and time.

-Rich and Ashley Lindgren
17454 West 67th Place
Arvada, CO 80007

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

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1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:33 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Rozalynne Thompson** <rthompson@arvada.org>
Date: Mon, Oct 20, 2025 at 8:17 AM
Subject: Re: Welby G[redacted]nt Concerns (risk of effects on young children)
To: Richard Lindgren [redacted]>

Hello Richard,

Thank you for your email. City staff is evaluating Avalon Arvada's application to ensure that all the required information has been submitted.

As the planner that will be assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.

Sincerely,
Rozalynne

On Sun, Oct 19, 2025 at 8:05 AM Richard Lindgren [redacted]> wrote:

> Dear Arvada Leaders.
> My name is Richard Lindgren, and I live in the Westwoods / Trail Village area with my wife, Ashley, and two children (ages 5 and 8).
>
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>
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> 17454 West 67th Place

> Arvada, CO 80007

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CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: (Case # DA2025-0035) URGENT SAFETY CONCERNS - Traffic Analysis Gaps

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:31 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded mes
From: **Ryan McCarrol** [redacted]>
Date: Tue, Dec 30, 202
Subject: (Case # DA2025-0035) URGENT SAFETY CONCERNS - Traffic Analysis Gaps
To: <rthompson@arvada.org>, <fmartone@arvada.org>
Cc: lsimpson@arvada.org <lsimpson@arvada.org>, <BFifer@arvada.org>

Hello,

I am writing to formally submit my opposition to the proposed "Avalon Arvada" development at 17201 W 64th Ave. (Case # DA2025-0035). As a resident of the immediately adjacent neighborhood, I have reviewed the applicant's Traffic Impact Study (TIS) dated June 26, 2025, and have identified critical deficiencies that fail to account for the real-world safety impacts this project will have on W 64th Circle, W 64th Drive, and Terry Street.

While the study analyzes major arterial intersections, it completely ignores the internal neighborhood network that will suffer the brunt of the "spillover" traffic. My specific concerns and technical objections to the TIS are as follows:

1. Critical Omission of Affected Neighborhood Streets The TIS defines the "Study Area" specifically as 64th Ave, Virgil Way, Easley Rd, Terry St, and Quaker St . **It completely fails to list, count, or analyze traffic on W 64th Circle or W 64th Drive.** Residents know that when congestion builds on Easley Road—which the study admits will happen—drivers will seek the path of least resistance. W 64th Drive and W 64th Circle act as de facto cut-through routes to Terry St. By omitting these streets from the scope, the study essentially pretends this cut-through traffic does not exist, rendering the safety analysis incomplete.

2. Ignored Safety Hazard: Blind Corner on W 64th Drive Because W 64th Drive was excluded from the study, the consultants failed to identify a severe existing safety hazard: the tight, blind corner on W 64th Drive. This geometric constraint already makes the road dangerous for two-way traffic. Adding hundreds of new daily trips from frustrated commuters cutting through our neighborhood to avoid arterial delays is a recipe for disaster. The study provides no sight-distance analysis or safety mitigation for this specific hazard.

3. Projected Failure of Key Intersections Will Force Cut-Through Traffic The study's own data proves that the main access points will fail, forcing traffic into our neighborhood:

- **Easley Rd & 64th Ave:** The report states that without a signal, this intersection will deteriorate to a **Level of Service (LOS) F** (failing) during peak hours. Even with a signal, the study predicts queueing issues where cars spill back into through lanes.
- **Terry St & 64th Ave:** The study admits that by 2047, the southbound approach on Terry St will degrade to **LOS E or F** (failing).
- When drivers face failing intersections and long queues on Easley and Terry, they *will* use W 64th Circle and W 64th Drive to bypass the congestion. The study ignores this human behavior entirely.

4. Unacceptable "Monitor and See" Approach Despite acknowledging that the intersection of Terry St. and 64th Ave. is projected to fail (LOS E/F) in the future, the study recommends **"no geometric or operational modifications"**. Instead, it suggests the intersection simply be "monitored". This is unacceptable to existing residents. We should not be treated as test subjects for traffic failures. Approving a development that is *known* to cause failing road conditions without requiring upfront mitigation is negligent planning.

5. Threat to Neighborhood Safety The introduction of cut-through traffic on these quiet residential streets poses an immediate threat to families and children playing in the area. The study focuses solely on vehicle capacity and delay, failing to assess the "Quality of Life" impact or pedestrian safety on the residential streets specifically mentioned above.

Conclusion The provided Traffic Impact Study is insufficient because it creates a "bubble" around the main roads while ignoring the internal neighborhood veins that will actually carry the traffic load. I respectfully request that the Planning Commission **deny this application** or, at a minimum, require a revised Traffic Study that explicitly analyzes cut-through volumes on W 64th Circle and W 64th Drive, including a safety audit of the blind corner.

We urge you to prioritize the safety of existing neighborhoods over the density goals of the developer.

Thank you,

Ryan McCarroll

Resident of Westwoods Links III

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF
ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:40 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded messa
From: **Rajesh Yalavarthy** [redacted]>
Date: Sat, May 3, 2025 at
Subject: Welby Gardens
To: LSimpson@arvada.org <LSimpson@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

Hello Mayor Simpson, Councilman Fifer, and Principal Planner Thompson,

My wife and I own a home in District 4 in Arvada. We heard the proposal about building apartments and townhouses (total about 453 units) in the current Welby Gardens location. We live close to this location, and we are concerned about this development for several reasons.
1. This area does not have public transportation. I believe high density residential buildings need to be close to public transportation (transportation oriented districts in most cities). This current model will add >1000 cars to the area with some single lane roads making it a nightmare to go to school or work. Already, Indiana is clogged in AM hours.
2. This is a high fire risk zone. I am concerned that the developer will put in a mediocre fire prevention plan and we have to deal with it in long-term. There is only one road in and out of this area.
3. School congestion: West Woods Elementary has been using temporary structures for 5th grade for years. This will make it even worse.
4. Quality of life impact with congested parking lots, trails, and sports areas (tennis courts, Apex Center etc).

I believe developers need to cut back on the density for this particular area. We are not opposed to lower density apartments or townhomes or single family homes. Please tour this area before considering this project. I think this area needs to be re-zoned to residential.

Thank you for you time,

Raj Yalavarthy

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

RE: Avalon Arvada DA2025-0035 - pls add to public record

1 message

Ralston Valley Coalition <ralstonvalleycoalition@gmail.com> Tue, Jan 20, 2026 at 4:31 PM
To: CED Boards and Commission <cedboardsandcommission@arvada.org>, Kristen Rush <kristen@arvada.org>
Cc: Lauren Simpson <lsimpson@arvada.org>, "Bob Fifer, Arvada City Councilmember" <bfifer@arvada.org>, Randy Moorman <rmoorman@arvada.org>, sdavis@arvada.org, sambrose@arvada.org, "rlovisone@arvada.org" <rlovisone@arvada.org>, "mgriffith@arvada.org" <mgriffith@arvada.org>

Good afternoon,
Please add the attached document to the Arvada Planning Commission Packet tomorrow for the Jan 21, 2026 public hearing. Thank you

RE: Avalon Arvada DA2025-0035, RVC Rebuttal Comments to Staff Report
Sent Jan 20th 4:31pm

RVC
Ralston Valley
Coalition

www.ralstonvalleycoalition.org
ralstonvalleycoalition@gmail.com

RVC REBUTTAL to Staff Report - Planning Commission - 17201 W. 64th Avenue - DA2025-0035 - FINAL.pdf
763K

CITY OF ARVADA **CED Boards and Commission <cedboardsandcommission@arvada.org>**

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City of Arvada
Community and Economic Development Department

PUBLIC HEARING STAFF REPORT

Avalon Arvada/Welby Gardens
17201 West 64th Avenue
Conditional Use
DA2025-0035

ON BEHALF OF THE RALSTON VALLEY COMMUNITY IN ARVADA AND JEFFCO, THE RALSTON VALLEY COALITION WOULD LIKE TO SHARE WITH THE PLANNING COMMISSION THE CONCERNS OUR COMMUNITY HAS WITH THE STAFF REPORT AND NOTE THAT WE RESPECTFULLY DISAGREE WITH MANY OF THE STAFF COMMENTS.

WE HAVE HIGHLIGHTED AREAS OF CONCERN DIRECTLY ON THIS STAFF DOCUMENT FOR EASE OF UNDERSTANDING OUR OPPOSITION TO THE AVALON CUP APPLICATION DA2025-0035 AND WHY WE ARE REQUESTING DENIAL OF THE CONDITIONAL USE PERMIT.

WE HOPE YOU WILL USE THIS VERSION DURING THE HEARING TO SEE BOTH SIDES OF THIS ISSUE SO YOU CAN MAKE AN INFORMED DECISION.

THE COMMUNITY REBUTTAL TO STAFF COMMENTS IS SHOWN IN GREEN BOLDED CAPS THROUGHOUT THIS DOCUMENT SPECIFIC TO EACH AREA OF CONCERN AND CLEARLY SHOW THE ADDED COMMUNITY REBUTTAL COMMENTS. NO STAFF COMMENTS HAVE BEEN ALTERED OR DELETED - WE ARE ONLY ADDING IN OUR REBUTTAL TO THE DOCUMENT SO YOU CAN SEE THE SIDE BY SIDE REBUTTAL.

THANK YOU FOR THE OPPORTUNITY TO ENGAGE IN THIS VERY IMPORTANT PUBLIC PROCESS AND THANK YOU FOR CONSIDERING OUR REBUTTAL POINTS TO THE STAFF COMMENTS.

NATURE OF REQUEST

The applicant, Leanne Vielehr of Norris Design, requests approval of a Conditional Use application to allow 384 multifamily and 51 townhome units on a site in the MX-S (Mixed- Use, Suburban) zoning district.

According to the conceptual Site Plan, the project proposes to construct eight townhome buildings ranging from four to eight units per building, housing 51 units. The townhomes are anticipated to be a mix of two- and three-bedroom units. The Site Plan also includes 12 breezeway and corridor multifamily buildings, providing 384 apartment units. The multifamily units will be a mix of studio, one-, two-, and three-bedroom apartments. Of the 12 buildings, 10 buildings are proposed to be three stories, and two buildings are proposed to be four stories. The approximately 20.1-acre parcel will also be developed with associated access drives, parking lots, and landscaped areas, including a two-acre small urban park.

LOCATION AND HISTORY

The project site is approximately 20.1 acres, irregularly-shaped, and developed with five to six greenhouses, an office building, hoop houses, warehouses, utility structures, including above ground storage tanks, minor structures, a parking lot, and an access drive to support a wholesale plant nursery operation at the site. The site is comprised of Lots 1 and 2 of the Veldkamp Subdivision. Vehicles access the site from a drive west of Easley Road, which leads to a parking area at the southeast of the site. Records indicate that development on the property began in 1971, with construction of a greenhouse and office building to the southeast of the site. Over time, a series of greenhouses were constructed on the site between 1971 and 2004 along with storage, warehouse, and other support structures. There are several areas that collect stormwater runoff as well as discharges from the greenhouses and hoop houses with water retention ponds generally located between the large greenhouse structures.

NEIGHBORHOOD MEETING

Division 8-2-2 of the Land Development Code (LDC) requires that at least one neighborhood meeting be held for projects that require public hearings before the Planning Commission and City Council.

The required neighborhood meeting for this project took place on April 10, 2025. The applicant, staff, and approximately 180 neighbors were in attendance. The applicant had held an additional three neighborhood meetings prior to the required meeting.

The applicant began the meeting by introducing the project team. During their presentation, the applicant described the existing site conditions, provided a timeline of the entitlement process for the project, and presented a revised project to address the neighbors' concerns regarding the initial design.

At the conclusion of the applicant's presentation, the applicant then held a Q&A session with the neighbors in attendance. Issues identified during the Q&A session include, but were not limited to, the following: increased traffic along Easley Road, the proximity of the townhome access drive to the MorningStar property, the location of guest parking, contamination on the site and associated mitigation, drainage of detention ponds into Ralston Creek, increased criminal activity in the area of the project, the density of the proposed project, and the possibility of rezoning the property.

The applicant prepared a summary of the meeting, which is attached.

PUBLIC NOTIFICATION

Division 8-2-4 of the Land Development Code requires public notification for all public hearings as follows:

Written Notice: At least 15 days prior to all public hearings, written notice must be mailed to all property owners within 1,500 feet of the subject property and to all homeowners associations and neighborhood associations with a known interest in the subject property. The applicant has provided an affidavit of mailing prior to the public hearing verifying this requirement has been met.

Posted Notice: At least 15 days prior to all public hearings, signs notifying the public of the hearing must be posted on the subject property. The applicant has provided a posting log prior to the public hearing verifying that this requirement has been met.

Published Notice: At least 15 days prior to all public hearings, notice of the hearing must be published in a newspaper of general circulation in the City. The required notice has been published.

SEVERED MINERAL RIGHTS

At least 30 days prior to the public hearing, written notice of the application must be mailed to any owner of mineral rights associated with the subject property. The applicant has provided notarized certification that the Jefferson County Clerk and Recorder records do not identify any owners of mineral rights.

DEVELOPMENT REVIEW TIMELINE

Given that the proposed project requires Conditional Use approval, it is subject to a public hearing decision track (Track 5) in accordance with Table 8-2-2-2A “Decision Making” in the Staff Report
Page 3.

LDC. The project underwent four reviews to address staff comments. The first submittal was received on May 23, 2025 and the fourth submittal was received on December 16, 2025. Staff met the timeline in all four of the reviews.

ALIGNMENT WITH CITY COUNCIL STRATEGIC PLAN

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system. By complying with the applicable requirements, it is ensured that the project would construct safe buildings, protecting and maintaining the health, safety, and welfare of the public. Further, the project proposes to construct 51 townhome and 384 multifamily units, which would add to Arvada’s housing stock and improve access to quality housing that is affordable to a broad range of income levels.

REBUTTAL TO ALIGNMENT WITH CITY COUNCIL STRATEGIC PLAN: THE APPLICANT

HAS MENTIONED THAT THIS IS A HIGHER END COMPLEX WITH MARKET RATES SO IT IS NOT AFFORDABLE HOUSING AND ACTUALLY DOES NOT ALIGN WITH THE CITY COUNCIL STRATEGIC PLAN.

ZONING AND LAND USE

The subject property is currently zoned MX-S (Mixed-Use, Suburban) and is approximately 20.1 acres in size.

Surrounding properties are zoned and utilized as follows:

Direction	Zoning	Actual Use
North	Open Space (OS)	West Woods Golf Course
South	MX-S (Mixed Use Suburban)	MorningStar Senior Living of Arvada
East	PUD (Planned Unit Development)	Single-Unit Residential
West	PUD (Planned Unit Development)	Single-Unit Residential

REBUTTAL TO ZONING LAND USE: THREE OF THE SURROUNDING USES ARE MUCH LESS IN DENSITY AND WE WOULD ARGUE THE SENIOR CENTER ALTHOUGH MORE IN DENSITY AND IN THE MX-S ZONING IS A BENIGN USE DUE TO THE FACT THAT MANY OF THE SENIORS DO NOT DRIVE OR LEAVE THE PROPERTY VERY OFTEN LIKE APARTMENT DWELLERS WOULD. THE HIGH DENSITY USE IS NOT COMPARABLE TO THE MAJORITY OF SURROUNDING USES.

PROJECT ANALYSIS

Compliance with the Comprehensive Plan

The Comprehensive Plan designates the site as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zoning districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. At a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre.

REBUTTAL TO MIXED USE DESIGNATION: EVEN IF YOU AGREE WITH HIGHER DENSITY, THERE IS ZERO ACTUAL MIXED USE. THIS IS 100% HIGH DENSITY RESIDENTIAL SO IT TECHNICALLY SHOULD BE SUBMITTED AS A COMP PLAN CHANGE AND A REZONING.

The Conditional Use request is consistent with the following goals and policies of the Comprehensive Plan:

GOAL L-2

Plan for a balanced mix of commercial and residential land uses in Arvada.

REBUTTAL: ZERO COMMERCIAL IN THIS PROJECT SO DOES NOT MEET GOAL L-2.

POLICY L-2.1 Complete Community
The City will provide for a balanced mix of land uses by promoting redevelopment and continuing to reserve lands for future commercial and industrial development as well as a variety of housing choices.

REBUTTAL: EVERY INCH IS DESIGNATED AS HOUSING - NO RESERVE LANDS FOR FUTURE COMMERCIAL OR INDUSTRIAL SO DOES NOT MEET POLICY L-2.1

Staff Report
Page 4.

GOAL L-3-1
Encourage development of transit-supportive, higher-density, mixed-use, pedestrian-oriented areas.

REBUTTAL: THERE IS NO TRANSIT ANYWHERE CLOSE TO THIS SITE NOR WILL THERE BE ANYTIME IN THE NEAR FUTURE BASED ON THE TRANSIT PLANS PUBLICLY AVAILABLE. THE PEDESTRIAN AREAS ARE ALL INTERNAL TO THE SITE AND DON'T CONNECT TO ANY TRAIL SYSTEM TO SUPPORT PEDESTRIAN USES. FAILS TO MEET GOAL L-3-1 BECAUSE IT IS NOT IN A TRANSIT CORRIDOR.

POLICY L-3.1 Designated Mixed-Use Areas
The plan designates mixed-use areas in Arvada to provide a mix of land uses, services, retail and commercial development, employment, and in some cases, a diversity of higher density housing in close proximity to transit, bike, and pedestrian connections.

REBUTTAL: FAILS TO HAVE THE COMMERCIAL, EMPLOYMENT, ETC MIXED USES AND ALSO FAILS TO MEET THE CLOSE PROXIMITY TO TRANSIT POLICY AND PEDESTRIAN CONNECTIONS SO POLICY L-3.1 CANNOT BE MET.

POLICY L-3.2 Criteria for New and Redeveloping Mixed-Use Areas
Mixed-use areas are envisioned as strategically located, high intensity, pedestrian oriented activity areas providing a range of retail, business, civic, cultural, and residential opportunities for the surrounding trade area. Mixed-use areas should be located in urban centers or designated corridors and should create or demonstrate the following characteristics:

- Transit-supportive residential densities with a mix of housing types and affordability;
- Transit-supportive mix of retail and employment opportunities;
- Streets or other physical features that help define the center;
- Public plazas, gathering spaces or amenities designed as a focal point;
- Transit service
- Pedestrian-oriented site design; and
- Interconnected network of multi-modal streets linking to surrounding areas.

REBUTTAL: THIS IS NOT AN URBAN AREA AND IS THE WESTERN EDGE OF ARVADA WHICH IS SPECIFIED IN THE COMP PLAN TO BE LESSER DENSITY

BASED ON THE RURAL NATURE OF WEST ARVADA AND THE PROXIMITY TO THE FOOTHILLS. NOT EVEN ONE OF THE BULLET POINTS SHOWN ABOVE THAT IS REQUIRED IS MET IN THIS PROJECT SO IT DOES NOT MEET POLICY L-3.2.

GOAL L-5
Designate and promote redevelopment and infill to generate economic revitalization, improve physical conditions, and provide an appropriate mix of quality housing choices.

REBUTTAL: ECONOMIC REVITALIZATION HAS NOT BEEN SHOWN, COVERING EVERY SQUARE INCH WITH HIGH DENSITY HOUSING AND PARKING LOTS DOES NOT IMPROVE THE PHYSICAL CONDITIONS OF THE SITE. THE GREEN SPACE IS MINIMAL AND HAS NO REAL CIVIC CONNECTION TO SERVE OR INCLUDE THE SURROUNDING NEIGHBORHOODS. THIS IS ALSO NOT A MIX OF HOUSING BASED ON THE PROPOSAL. IT IS 100% APARTMENTS AND THE TOWNHOMES ARE A "TO BE DETERMINED" SO THEY MAY NEVER BE BUILT AS DESIGNATED WITHOUT THE DETAILS INCLUDED NOW. THIS PROPOSAL DOES NOT MEET GOAL L-5.

GOAL CC-1
Plan Arvada as a City of different development character districts.

POLICY CC-1.1 Variety of Development Types
The City will include a variety of development types including rural areas, suburban residential neighborhoods, historic districts, redevelopment areas, and mixed-use communities that contain services, employment, and higher density housing.

REBUTTAL: THIS PROPOSAL IS NOT A TRUE MIXED USE COMMUNITY DUE TO NO SERVICES OR EMPLOYMENT SO FAILS TO MEET POLICY CC-1.1.

POLICY CC-1.2 Promote Integration Within Districts Through Design
The City will promote integration and a sense of place within districts of the City through the context-sensitive design of new development.

REBUTTAL: THE DESIGN OF THE APARTMENT BUILDINGS DO NOT INTEGRATE WITH THE ADJACENT SINGLE FAMILY NEIGHBORHOODS OR EVEN MORNINGSTAR. EVEN IF PITCHED ROOFS ARE ADDED THIS PROJECT HAS MORE OF AN URBAN DESIGN BASED ON THIS CONCEPTUAL DRAWING AND WILL LOOK AND FEEL OUT OF PLACE IN THIS LOCATION. MORE DESIGN DETAILS SHOULD BE INCLUDED - THE TOWNHOMES ARE ONLY SHOWN AS A BOX. THE LACK OF DETAIL FAILS TO MEET POLICY CC-1.2.

POLICY CC-1.3 Compatible Infill
The City will encourage new infill development to consider and be sensitive to the character of existing neighborhoods. Considerations shall include building scale, placement, size, height transitions, landscape, streetscape, and other design measures.

REBUTTAL: THIS PROPOSAL DOES NOT CONSIDERING THE CHARACTER OF THE EXISTING NEIGHBORHOOD.

- **THE BUILDING SCALE IS LARGE, URBAN FEELING AND UNCOMMON**

FOR A RURAL AREA SUCH AS WEST WOODS.

- **THE PLACEMENT IS VERY CLUSTERED TO ACHIEVE THE EXTREME DENSITY - NOT COMPATIBLE WITH A SUBURBAN SETTING.**
- **THE SIZE OF 3 AND 4 STORY BUILDINGS IS NOT COMPATIBLE WITH THE USES ON 3 SIDES OF THIS SITE AND EVEN IF COMPARING TO MORNINGSTAR'S SIZE, THIS IS NOT COMPATIBLE BASED ON THE DESIGN. MORNINGSTAR IS MORE COMPATIBLE IN DESIGN.**
- **THE PROJECT'S HEIGHT TRANSITIONS ARE NOT A TRUE STEP TRANSITION WHICH WOULD BE SOMETHING LIKE SINGLE FAMILY ON PERIMETER, THEN TOWNHOMES THEN APARTMENTS IN THE MIDDLE. THIS IS JUST ALL APARTMENTS AND NOTHING ELSE IS PROPOSED SINCE THE TOWNHOMES ARE UNKNOWN AT THIS TIME.**
- **THE MINIMAL LANDSCAPING AND GREEN SPACE IS NOT ADEQUATE FOR SUCH A LARGE DEVELOPMENT AND OFFERS NO STREET APPEAL WHATSOEVER TO ADJOINING PROPERTIES.**
- **THE FLAT ROOFS ON SOME OF THE BUILDINGS MAKE THIS PROJECT LOOK VERY URBAN AND MISPLACED FOR WEST ARVADA.**

POLICY CC-1.4 Work With Stakeholders
The City will work with stakeholders, developers, and the community to consider a project's potential effects and strive for integration in a manner that helps enrich the district's character.

REBUTTAL: THE COMMUNITY ASKED FOR LESS DENSITY, MORE OPEN SPACE AND PARK CONNECTIONS, BETTER TRANSITIONS FROM THE SINGLE FAMILY TO THE HIGH DENSITY AND AN ACCURATE TRAFFIC STUDY THAT TAKES INTO ACCOUNT WHAT THE ACTUAL TRAFFIC WILL BE. IT SHOULD INCLUDE MAJOR INTERSECTIONS ON 64TH, MCINTYRE, INDIANA AND HWY 93 AND SHOULD CONSIDER ALL THE OTHER DEVELOPMENTS ON LINE FOR THE AREA SUCH AS 60TH & MCINTYRE AND 67TH AND INDIANA. THOSE INTERSECTIONS AND COMING DEVELOPMENTS SHOULD BE CONSIDERED IN A TRUE ANALYSIS OF TRAFFIC FOR THIS PROPOSAL.THE DEVELOPER HAS NOT ADDRESSED ANY IF MINIMAL CONCERNS OF THE COMMUNITY SO THIS PROPOSAL WILL NOT ENRICH THE DISTRICT'S CHARACTER AND FAILS POLICY CC-1.4.

Staff Report
Page 5.

GOAL CC-2
Establish and maintain Arvada's distinct qualities and small-town identity.
REBUTTAL: HIGH DENSITY IN A RURAL AREA DOES NOT FIT THE IDENTITY, THEREFORE, GOAL CC-2 CANNOT BE MET WITH SUCH AN URBAN PROJECT.

POLICY CC-2.2 High Quality Private Development
The City will promote high quality architecture, site planning, landscaping, signage, and lighting for new residential and commercial developments.

REBUTTAL: THE SDP FOR THIS PROPOSAL IS INCOMPLETE WITHOUT THE TOWNHOME INFO AND WHILE THE DEVELOPER MAY DO NICE PROJECTS ELSEWHERE, IT STILL DOES NOT FIT IN THIS LOCATION.

GOAL N-1
Plan for a range of neighborhoods and accessible housing of different tenure types to accommodate diverse incomes and all ages and abilities.
REBUTTAL: THIS DEVELOPMENT AS PRESENTED ONLY ACCOMMODATES LUXURY APARTMENT LIVING AND DOES NOT HAVE ANY AFFORDABLE HOUSING COMPONENT BASED ON THE MARKET PRICING BEING PROPOSED. IT IS ALSO ONLY ONE TYPE OF HOUSING - APARTMENTS. WITHOUT THE DETAILS ON THE TOWNHOMES, THAT PIECE CANNOT BE CONSIDERED AS PART OF THIS PROPOSAL BECAUSE NO ONE CAN PREDICT THE FUTURE OF WHO WILL PURCHASE THAT TRACT FROM AVALON AND WHAT THEY WILL BUILD WITHOUT THE SPECIFICS BEING IN THIS PROPOSAL, SO SHOULD THIS CUP GET APPROVED THE COMMUNITY WILL HAVE NO INPUT ON THE FUTURE TOWNHOMES WHICH IS NOT THE CORRECT WAY TO DO THIS AND ALSO VIOLATES THE LDC. THIS PROPOSAL IS CURRENTLY A 100% RESIDENTIAL USE OF APARTMENTS ONLY WITH ZERO MIXED USE. IT DOES NOT SERVE THE COMMUNITY AS A WHOLE AND FAILS GOAL N-1.

GOAL T-3
Identify and implement traffic solutions to reduce and manage traffic congestion on arterial streets.

POLICY T-3.2: Traffic Solutions to Reduce Congestion
The City will consider arterial street widenings and construction of missing segments, traffic signal timing and progression projects, intersection improvements, grade separations, and other measures to help reduce traffic congestion.

REBUTTAL: NO MATTER HOW YOU LOOK AT THIS, HAVING ONLY ONE ENTRANCE FROM A STREET THAT IS NOT A MAIN ROAD IS PROBLEMATIC AND REALLY UNSOLVABLE FOR THIS SITE WITH SUCH A HIGH DENSITY USE, EVEN IF YOU ADD A TRAFFIC LIGHT AT 64TH AND EASLEY. THIS SITE SHOULD BE MUCH LESS DENSITY AND HAVE SOME MIXED USES SO RESIDENTS DON'T HAVE TO BE CAR DEPENDENT FOR EVERYTHING, WHICH AS PROPOSED WOULD BE THE CASE FOR THIS DEVELOPMENT AT THIS SITE. POLICY T-3.2 CANNOT BE MET WITH THE CURRENT INFRASTRUCTURE.

GOAL T-4
Develop the transportation system in a manner that maintains the quality of life for residents and visitors.

REBUTTAL: THERE IS NO REAL SOLUTION FOR THE TRANSPORTATION SYSTEM THAT EXISTS FOR THIS SITE AND ADDING THE HIGH DENSITY AS PROPOSED WILL NOT MAINTAIN THE QUALITY OF LIFE FOR THE AVALON RESIDENTS OR THE ADJOINING NEIGHBORHOODS THAT ALSO USE EASLEY FOR ACCESS. THIS AND MANY NEARBY INTERSECTIONS WILL BE AT RISK OF BECOMING A LEVEL F FOR SERVICE AS MANY ARE ALREADY AT LEVEL D. THE WHOLE AREA WILL SUFFER, NOT JUST THE

RESIDENTS OF AVALON AND THE WEST WOODS NEIGHBORHOODS. GOAL T-4 IS IMPOSSIBLE TO MEET WITH ARVADA'S CURRENT ROAD SYSTEM FEEDING THIS SITE.

Compliance with Other Applicable Plans

There are no other applicable plans.

Setbacks

The minimum setbacks for the project are required and conceptually proposed as follows:

	Required	**Conceptually Proposed**
Frontage Zone (Min./Max.)	15 feet/35 feet (Suburban Townhomes) 20 feet/35 feet (General Multifamily)	15 feet/35 feet (Suburban Townhomes) N/A (General Multifamily)
Non-Street Frontage Perimeter Setback (Townhomes Only)	15 feet	15 feet
Minimum Street Side Setback	15 feet (Suburban Townhomes) 10 feet (General Multifamily)	N/A (Suburban Townhomes) N/A (General Multifamily)
Minimum Interior Side Setback (Multifamily Only)	6 feet (General Multifamily)	6 feet (General Multifamily)
Building Separation, Townhomes	10 feet (Side to Side) 30 feet (All Others)	10 feet (Side to Side)
Rear Setback (General Multifamily Only)	10 feet	10 feet
Minimum Parking Setback (Front)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)

Building Height

Pursuant to Table 2-1-4-2A of the LDC, the maximum height for residential buildings in the MX S zoning district is 45 feet. According to the project narrative and the “Site Data Table” in the conceptual project set of plans, the maximum height of the buildings is proposed to be 45 feet. While the conceptual height of the building complies with the LDC, compliance with LDC will be reevaluated if a Site Plan application is submitted.
REBUTTAL: THE DEVELOPER SHOULD PROVIDE A MORE DETAILED CONCEPTUAL PLAN PRIOR TO APPROVAL SO THE COMMUNITY CAN BE ASSURED THE ACTUAL SDP DOES NOT STRAY TOO FAR FROM A CONCEPTUAL PLAN.

Open Space
Pursuant to Table 2-1-4-2A of the LDC, a small urban park is required. For lots more than one acre, the small urban park area must be a minimum of 10 percent of the net parcel area. Given that the net lot area of the site is 20.1 acres, the required small urban park area is 2.0 acres or 87,120 square feet. According to the “Site Data Table”, the proposed conceptual small urban will be 87,555 square feet, which complies with Table 2-1-4-2A of the LDC. However, while the conceptual size of the small urban park complies with the LDC, compliance with LDC will be reevaluated during review of a Site Plan application, if submitted.
REBUTTAL: THIS IS THE BARE MINIMUM FOR A PARK AND TAKES AWAY FROM THE RURAL INTENT OF THE MOST WESTERN LOCATIONS IN THE CITY.

Landscaping, Buffering and Fencing
The project must comply with the applicable landscaping, buffering, and fencing requirements in Article 4-6 “Landscaping and Buffering” of the LDC and any other applicable standards and regulations. According to the “Site Data Table”, the conceptual proposed landscape area is 61,511 square feet for the townhomes and 176,863 square feet for the multifamily development. The Site Plan application, if submitted, must include a landscape plan pursuant to Subsection 4-6-3-2(A) of the LDC. The landscape plan’s compliance with Article 4-6 “Landscaping and Buffering” of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.
REBUTTAL: ALLOWING THE LANDSCAPING TO BE DONE AFTER A CUP APPROVAL TAKES AWAY THE ABILITY FOR THE PLANNING COMMISSION OR CITY COUNCIL TO BE INVOLVED IN THIS VERY IMPORTANT PIECE AND MAKE SUGGESTIONS THAT WOULD ENCOURAGE MORE COMPATIBILITY. DECISIONS WILL BE MADE BY STAFF ONLY AT THIS POINT (DURING A SITE DEVELOPMENT PLAN) WITHOUT ANY COMMUNITY, PLANNING COMMISSION OR CITY COUNCIL INPUT.

Parks
As the project is a residential development**,** Park Land Dedication or a Fee-In-Lieu will be required pursuant to Subsection 8-4-3-6(B) of the LDC if a Site Plan application is submitted and approved. The Park Land Dedication or payment of Fee-In-Lieu must be satisfied prior to, or as part of, the approval of the Site Plan, if submitted, pursuant to Subsection 8-4-3-6(I)(1) of the LDC. If park land will be dedicated, the owner/developer of land is required to convey to the City in fee simple not less than 10 acres per 1000 population projected for the development of such land pursuant to Subsection 8-4-3-6(C)(3) of the LDC. If payment of a Fee-In-Lieu is elected, the owner/developer must pay the City the cash equivalent of the fair market value of the land otherwise required to be dedicated pursuant to Subsection 8-4-3-6.
REBUTTAL: IT WOULD BE BETTER FOR THE COMMUNITY IF THE PARK AND OPEN SPACE AREAS WERE INCREASED ON THE SITE INSTEAD OF PAYING A FEE-IN-LIEU. THE SITE IS LACKING GREEN SPACE AND ADDING MORE WOULD INCREASE THE

COMPATIBILITY WITH SURROUNDING SUBURBAN USES.

Additionally, Subsection 8-4-3-7(A) of the LDC requires a separate Park Development Fee. The owner/developer must pay the Park Development Fee at the time of approval of the Site Plan, if submitted.

Building Design

Division 5-1-2 "Building and Structure Design Standards" of the LDC establishes design parameters for the architectural design of the project. As the design of the buildings will be

finalized in the Site Plan, if submitted, evaluation of the project's consistency with the design standards will occur at that time.

REBUTAL: AGAIN, IF THE CUP IS APPROVED AND ALL THE DESIGN DECISIONS TAKE PLACE LATER WHEN THIS IS A USE BY RIGHT WILL TAKE OUT THE OVERSIGHT OF THE PC AND CC WHO SERVE ON BEHALF OF THE COMMUNITY. A HANDFUL OF STAFF WILL MAKE DECISIONS AT THAT POINT, WHICH IS NOT IDEAL.

Circulation and Connectivity

Two access drives located at the southeast corner of the site will provide vehicular access to Easley Road. Both access drives will be constructed to the west of Easley Road and will replace the existing Welby Gardens parking lot access and delivery site access. The drives will provide direct access to the site from Easley Road. The drives are connected to the internal private drives that provide internal circulation within the site. An emergency vehicle only access is proposed at the southwest corner of the project site through an existing emergency access easement on the MorningStar Senior Living site.

Harris Kocher Smith (HKS) prepared a Traffic Impact Study (TIS) on May 14, 2025. The TIS was revised on June 26, 2025 and November 24, 2025. The TIS evaluated the transportation impacts that could result from the proposed project, including the impact of vehicular trips projected to be generated by the project on the study area intersections and roadway system. The study includes 2025 (existing), 2027 (year of anticipated project build-out), and 2047 (long term) analysis horizons. The scope of the analysis included the following roadways:

- West 64th Avenue
- Virgil Way
- Easley Road
- Terry Street
- Quaker Street

The scope of the analysis included the following intersections:

- West 64th Avenue/Virgil Way
- West 64th Avenue/Easley Road
- West 64th Avenue/Terry Street
- West 64th Avenue/Quaker Street

Using the publication *Trip Generation*, *11th Edition* by the Institute of Traffic Engineers (ITE), the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour.

The level of impact of the vehicular trips generated by the project is measured by levels of service (LOS). LOS is a qualitative ranking of the traffic operational conditions experienced by users under specified roadway, traffic, and traffic control conditions. There are six levels of service ranging from “A” to “F”, with LOS “A” representing the best operating conditions and LOS “F” the worst.

To evaluate the project’s impact on levels of service (LOS), the TIS performed peak hour intersection capacity analyses for the total traffic conditions for the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic scenarios on the intersections listed above. The TIS projected significant changes to the LOS for the West 64th Avenue/Easley Road intersection. Specifically, the TIS projected that with the addition of the vehicular trips generated by the project, the intersection overall will deteriorate from a LOS “D” to a LOS “F” in the p.m. peak hour by the 2027 (build-out) analysis horizon. By the 2047 (long-term) analysis horizon, it is projected that the northbound shared through/right turn lane will deteriorate from a LOS “C” to a LOS “E” in the p.m. peak hour, and the southbound shared left/through/right turn lane will deteriorate from a LOS “D” to a LOS “F” in the a.m. peak hour. Based on a warrant analysis, the TIS recommends that a traffic signal be installed at the West 64th Avenue/Easley Road intersection to mitigate deterioration in LOS. The City team recommends a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection. The signal shall be funded by the developer and maintained by the City of Arvada.

As for the queuing analysis, the TIS projected that the southbound shared left/through/right turn lane queue is projected to exceed its lane group capacity and spill back into the upstream intersection by the 2027 (build-out) analysis horizon. The TIS also projected that this scenario is expected to continue in both the a.m. and p.m. peak hour by the 2047 (long-term) analysis horizon. It is recommended that a signal be installed at the intersection to mitigate the queuing issue at the southbound shared left/through/right turn lane queue. However, even with a signal installed, the TIS concluded that that the northbound left turn lane queue would exceed its capacity and spill back into the northbound through lane in the p.m. peak hour by the 2047 (long-term) analysis horizon. To mitigate this queuing issue, the TIS recommends extending the northbound left turn lane queue by 50 feet. In addition to the installation of a signal at the West 64th Avenue/Easley Road intersection, the City team recommends a condition of approval requiring that the northbound left turn lane queue be extended by 50 feet to provide adequate storage.

As for the remaining intersections, the TIS does not recommend geometric or operational modifications as a result of the proposed project and determined that there are no queuing related issues. However, it is projected that the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will continue to experience a poor to failing LOS (LOS “E” or “F”) during the p.m. peak hour in both the background and total traffic scenarios. The TIS recommends monitoring each intersection to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

The TIS also analyzed the project's impacts on the roadways listed above and concluded that there are no geometric or operational modifications being recommended for the listed roadways.

REBUTTAL: THE TRAFFIC STUDY IS LACKING AND NEEDS TO INCLUDE OTHER BUSY INTERSECTIONS IN THE AREA SUCH AS 64TH AND MCINTYRE, 64TH AND INDIANA AND 64TH AND HWY 93. TO HAVE A TRUE UNDERSTANDING OF THE AREA'S TRAFFIC THE NEW DEVELOPMENTS PROPOSED FOR 60TH AND MCINTYRE AND 67TH AND INDIANA AMONG OTHERS SHOULD ALSO BE CONSIDERED.CIRCULATION AND CONNECTIVITY CANNOT BE ASSESSED ACCURATELY WITHOUT AT MINIMUM INCLUDING THESE MAJOR NEARBY INTERSECTIONS.

Grading and Drainage

A detailed grading and drainage plan will be required to be submitted with a Site Plan application.

REBUTTAL: COMMUNITY HAS CONCERNS ABOUT WHAT WILL FLOW INTO THE RALSTON CREEK. CONTAMINATION HAS BEEN FOUND ON THE DEVELOPMENT SITE SO LAND DISTURBANCE IS A MAJOR CONCERN FOR ADJACENT RESIDENTS AND SENIOR CITIZENS. THE SITE WILL DISCHARGE STORMWATER INTO CHURCH DITCH AND THE RALSTON CREEK WHICH IS CONCERNING GIVEN THE CONTAMINATION OF THE SITE.

Parking and Loading

According to the "Site Data Table" in the conceptual plan set, 117 parking spaces are proposed for the townhome development with 102 covered and 15 uncovered. For the multifamily development, 796 parking spaces are proposed, with 440 uncovered and 356 covered. Additionally, the project proposed 96 bike parking spaces to serve the multifamily development. The project must comply with the applicable parking requirements in Article 4-5 "Parking and Loading" of the LDC and any other applicable standards and regulations. The project's compliance with Article 4-5 "Parking and Loading" of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.

REBUTTAL: THE AMOUNT OF ASPHALT IS A CONCERN. FOR PUBLIC HEALTH AND SAFETY, STORMWATER DRAINAGE FROM THE SITE INTO THE CHURCH DITCH (WHICH FEEDS DRINKING WATER DOWNSTREAM) OR INTO THE RALSTON CREEK SHOULD BE FILTERED IN A DETENTION POND PRIOR TO DISCHARGE INTO THESE WATERWAYS.

Staff Report
Page 9.

Environmental

Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. The purpose of the Phase I ESA is to identify any recognized environmental conditions (RECs) and the purpose of the Phase II ESA is to further investigate the RECs identified in the Phase I ESA. The Phase II ESA investigates the RECs by collecting soil and groundwater samples and analyzing these samples for compounds associated with the current plant nursery operations at the site.

Phase I ESA

The Phase I ESA identified the following eight RECs associated with the plant nursery operations:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline above ground storage tanks (ASTs).
- The use of waste oil and grease containers and ASTs.
- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST. • Surface drainages from the fertilizer, herbicide, and pesticide mixing areas.
- Areas of historical use of septic systems

Phase II ESA and Recommendations

Soil borings were drilled in outdoor and indoor locations. There were 22 soil borings completed from those locations with a total of 28 samples collected. Nine soil samples collected from the outdoor soil boring locations were analyzed for pesticides and chlorinated acid herbicides by United States Environmental Protection Agency (EPA) Methods 8081 and 8151A, respectively; Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Methods 6010D/7471B; nitrate as N and sulfate by EPA Method 9056A; and pH by EPA Method 9045D. Nine hand augered soil samples for laboratory analysis collected from inside the buildings were analyzed for pesticides, chlorinated acid herbicides, RCRA metals, and nitrate as N and sulfate. The remaining 10 soil samples collected using the post-hole power auger were analyzed only for pesticides and chlorinated acid herbicides by EPA Methods 8081 and 8151A, respectively. Additionally, five groundwater monitoring wells were installed to collect groundwater samples.

The soil samples were compared to EPA Regional Screening Levels (RSLs) for residential and industrial land uses. An insecticide, Dieldrin, and Total Petroleum Hydrocarbons (TPH) were found to exceed EPA Residential RSLs. Dieldrin, an insecticide used in the 1950s to 1970s, was detected in 17 out of the 28 soil samples. The concentration of Dieldrin exceeded the Residential RSL in several locations. TPH compounds were found in all four samples taken. TPH concentrations were even found to exceed Industrial RSLs at two locations.

As for groundwater samples, all detections of RCRA 8 metals as well as pesticides, herbicides, VOCs, and 1,4-dioxanewere below the Colorado Groundwater Standards (CGS). However, both of the concentrations of nitrate and sulfate exceeded the CGSs of 10 mg/L and 250 mg/L, respectively.

The Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease.

The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process.

Once the nature and extent of the contamination is determined, then the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that the applicant/developer submit a VCUP application prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

REBUTTAL: FOR THE HEALTH AND SAFETY OF THE COMMUNITY, THIS SITE SHOULD UNDERGO A MORE THOROUGH ESA AND BE FULLY MITIGATED PRIOR TO ANY DEVELOPMENT OCCURS. A VCUP DOES NOT GUARANTEE THE CLEANUP HAPPENS AS PROPOSED. THE CITY SHOULD REQUIRE AN OUTSIDE AGENCY TO MANAGE AND OBSERVE THE CLEANUP THEY ARE REQUIRING TO ENSURE IT IS COMPLETED PROPERLY. TO OUR KNOWLEDGE NO VCUP HAS BEEN SUBMITTED SO THE APPLICATION IS INCOMPLETE WITHOUT THE VCUP.

Utility Services

Water and sanitary sewer service is provided by the City of Arvada and capacity is adequate to service the site.

Dry utility providers (i.e. gas, electric, phone and cable services) will design and provide service to the area including telephone, cable television, and internet services.

Police and Fire Protection

The property will be serviced by the Arvada Police Department (APD) and the Arvada Fire and Protection District (AFPD). The project's compliance with (IFC) section D106.3 will be evaluated during review of the Site Plan application, if submitted.

REBUTTAL: THE FIRE ACCESS IS LIMITED TO EASLEY ROAD AND USING MORNINGSTAR'S PARKING LOT AS A SECONDARY ACCESS. A FIRE EVACUATION FROM THE AVALON SITE PUTS THE EVACUATION EFFORTS OF MORNINGSTAR'S SENIOR CITIZENS AT RISK AND SHOULD NOT BE ALLOWED. BEING ON THE WESTERN EDGE OF ARVADA NEAR OPEN SPACE TO THE WEST ALSO ADDS MORE WILDFIRE RISK TO THIS SITE. ONLY ONE LOCAL STREET ACCESS IS NOT IDEAL AND PUTS THE WHOLE COMMUNITY AT RISK SHOULD THIS SITE NEED TO BE EVACUATED IN AN EMERGENCY.

LAND DEVELOPMENT CODE APPROVAL CRITERIA

It is the responsibility of the applicant to justify the requested land use application. The Planning Commission should make a recommendation to the City Council based on its findings regarding the approval criteria shown in the table(s) below and upon testimony heard during the public hearing as it applied to the criteria.

Staff performed an analysis of the proposal, based on the approval criteria listed in Chapter 8 of the Land Development Code, and presents the following findings:

1. The application complies with the applicable standards of this LDC, other adopted City ordinances, resolutions and regulations including but not limited to any use-specific standards for the proposed conditional use in Division 3-1-3, any approved Master Development Plan that includes the property, and any conditions specifically applied to development of the property by the Planning Commission or City Council in a prior decision affecting the property;	Complies	Although the project is conceptual at this stage, as discussed above, the project conceptually complies with the applicable standards and regulations of the LDC. Once the design of the project is finalized and a Site Plan application is submitted, the City team will reevaluate the project's compliance with the applicable standards and Regulations. **NOT IDEAL TO TAKE THE PC AND CC OUT OF THE DECISION MAKING PROCESS ON THE SDP SO THIS APP IS INCOMPLETE AT THIS STAGE.**

2. The application is consistent with the Arvada Comprehensive Plan;	Complies	The site is designated as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zone districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. As a residential development at a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre. Further, the project achieves several goals and policies in the Comprehensive Plan as listed above such as providing for accessible housing of different tenure types (rentals) to accommodate diverse incomes and all ages and abilities. **REBUTTAL: THIS IS CLEARLY A RESIDENTIAL ONLY USE AND SHOULD NOT BE CONSIDERED FOR MIXED USE. THIS SHOULD BE RESUBMITTED AS A COMP PLAN CHANGE WITH A REZONING TO RESIDENTIAL.**
3. The use is consistent with the purpose and intent of the zoning district in which it is located;	Complies	The site is zoned Mixed-Use Suburban (MX-S). The intent of the MX-S zoning district is to provide for a variety of residential and nonresidential uses, in vertically mixed-use, horizontally mixed-use, or single-use configurations. The project proposes 384 multifamily units and 51 townhome units, which is a residential single-use

		configuration.

4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned uses in the surrounding area and the zoning district regulations;	Complies	Conceptually, the maximum height of the proposed multifamily buildings will be 45 feet or four stories. The proposed four-story multifamily buildings would be larger than other buildings in the surrounding area, which are predominantly one and two-stories in height; however, the conceptual scale and mass of the buildings would be substantially consistent with applicable development standards of the MX-S zoning district in the LDC, which allow for larger buildings, and the goal of higher density in the Comprehensive Plan. Moreover, to account for the larger scale of buildings allowed on MX-S zoned sites that abut lower-density residential districts, the LDC imposes a height transition zone on MX-S zoned properties pursuant to Subsection 2-1-10-3(B)(2) of the LDC. As discussed above, to mitigate traffic impacts, the City team recommends imposing a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage. As residential uses, the hours of operation of the proposed

		multifamily and townhomes units of the proposed use residential uses in the surrounding neighborhood. **REBUTTAL: THIS PROPOSAL HAS ZERO MIXED USE, IS NOT COMPARABLE IN ANY WAY TO THE SURROUNDING RESIDENTIAL NEIGHBORHOODS AND AN APARTMENT COMPLEX WITH LIKELY YOUNGER TENANTS WILL HAVE MUCH DIFFERENT HOURS THAN A SENIOR CITIZEN COMPLEX. A TRAFFIC LIGHT WILL NOT SOLVE THE INCREASED VOLUME ON EASLEY AS ONE ACCESS CAN IN NO WAY SERVE THIS SIZE OF DEVELOPMENT ALONG WITH ALL THE OTHERS THAT CURRENTLY USE EASLEY FOR ACCESS. THIS USE IS INCOMPATIBLE AT THIS SITE.**
5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development, be available to serve the subject property while maintaining adequate levels of service for existing development; and	Complies	As discussed above, facilities and services including sewer, water, storm water, gas, electricity, and police and fire protection will be available to serve the property while maintaining adequate levels for the existing development. As discussed above, a condition of approval requiring the installation of

		a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored monitoring to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions. **REBUTTAL: THERE ARE ISSUES WITH FIRE SERVICE, ACCESS ROADS AND CURRENT TRANSPORTATION INFRASTRUCTURE THAT CANNOT BE RESOLVED WITH THIS SIZE OF DEVELOPMENT AT THIS LOCATION. THIS IS AN OBVIOUS FACT THAT CANNOT BE IGNORED.**

6. The application mitigates any adverse impacts on the surrounding area to the degree practicable.	Complies	As identified in the TIS and Phase I and Phase II Environmental Assessments, the project will have adverse traffic and environmental impacts. The measures to mitigate traffic and environmental impacts are discussed below. Traffic As discussed above, the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour. A condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions. **REBUTTAL: NOTHING CAN FIX THE FACT THAT THERE IS ONLY ONE ACCESS FOR FIRE AND TO FEED THIS AND OTHER ADJOINING NEIGHBORHOODS WHO USE EASLEY ROAD.** **THIS HIGH DENSITY USE IS NOT COMPATIBLE WITH THE SITE THEREFORE CANNOT MITIGATE THE ADVERSE IMPACTS TO THE**

		SURROUNDING NEIGHBORHOODS TO THE DEGREE PRACTICABLE.

		Environmental Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. As discussed above, the Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease. The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process. Once the nature and extent of the contamination is determined, then

		the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that the applicant/developer submit a VCUP application prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits. **REBUTTAL: FOR THE HEALTH AND SAFETY OF THE COMMUNITY INCLUDING NEARBY SENIOR CITIZENS AND FAMILIES, PLEASE CONSIDER REQUIRING FUTURE ESA TESTING GIVEN WHAT HAS ALREADY BEEN FOUND. WE ENCOURAGE YOU TO ENLIST OUTSIDE OVERSIGHT AND MONITORING OF THE CLEANUP TO ENSURE ALL PRECAUTIONS ARE TAKEN TO PROTECT THE ENVIRONMENT AND THOSE LIVING IN PROXIMITY TO THE CONTAMINATION ON THIS SITE.** **A VCUP ALONE DOES NOT ASSURE THE CLEANUP WILL GO AS PROMISED WITHOUT 3RD PARTY INDEPENDENT OVERSIGHT TO EASE COMMUNITY CONCERNS.**

STAFF RECOMMENDATION

Based upon project analysis and review of the Land Development Code approval criteria, staff recommends approval of the project.

REBUTTAL: THE COMMUNITY FEELS THE APPLICATION AS PRESENTED IS INCOMPLETE AND THE CUP SHOULD BE DENIED.

If the Planning Commission finds that a recommendation to approve the Conditional Use application is supported by the approval criteria, then staff recommends that the following conditions be made part of the approval:

1. A traffic signal shall be installed at the West 64th Avenue/Easley Road intersection. The signal shall be funded by the developer and maintained by the City of Arvada.

2. The northbound left turn lane queue at the West 64th Avenue/Easley Road intersection shall be extended by 50 feet to provide adequate storage.

3. The southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

4. The applicant/developer shall submit a Voluntary Cleanup and Redevelopment Program (VCUP) application to the Colorado Department of Public Health & Environment (CDPHE) prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

5. Language or plat notes related to the dedication of dry utility easements to the City of Arvada benefitting applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities shall be placed on preliminary and final plats.

6. All utility easements be depicted graphically on the preliminary and final plats.

The Planning Commission may recommend denial of the request(s) if it cannot make affirmative findings of the approval criteria stated above.

NOTE TO PLANNING COMMISSION:

Thank you for reading the community's concerns as presented in our rebuttal comments to the staff comments.

The Ralston Valley Coalition and its thousands of community members in Arvada and Jeffco strive to protect our natural resources and neighborhoods from incompatible development by engaging with the county, city and developers offering thoughtful input, findings of fact and solutions to find compatibility with infill sites seeking development in the Ralston Valley area of West Arvada and unincorporated Jeffco.

Sometimes the community and developers can find common ground and achieve compatibility and sometimes as with the Avalon Arvada proposal, it just isn't feasible based on the hard facts.

We encourage the Planning Commission to DENY the Conditional Use Application based on the facts. This application is INCOMPLETE and therefore CANNOT BE APPROVED without a complete application to assure the Comp Plan and LDC goals and policies have been met.

ARVADA LDC 8-3-5-1 - Conditional use

Must be satisfied before a CUP can be approved

CRITERIA 1

CONDITIONAL USE SUBMITTAL REQUIREMENTS TO DEMONSTRATE COMPLIANCE WITH THE LDC ARE NOT MET…

- Does not comply with the applicable standards of the LDC.
- Conceptual Plan does not meet the requirements and fails to provide actionable details.
- Other site details needed to demonstrate compliance with the use specific standards identified in the LDC are not included

The Conceptual Plan MUST include all the details to demonstrate compliance with the LDC. In this case, the SDP is not included at this time nor is the VCUP yet are referenced many times as a part of this application, yet there is no detail provided for these items. The CUP application is lacking pertinent site details as required, therefore, this is an INCOMPLETE APPLICATION that should be DENIED.

Thank you for your service to the community and we hope this information provided by the RVC community members will help you in your decision process at the public hearing. We know you will hear from other community members personally at the hearing who wish to share their comments and we all appreciate having this public forum to have our concerns heard. Arvada is a wonderful community with lots of residents who care about our city. Hearing from them is important for the civic process to be effective, transparent and trustworthy. Thanks to all the volunteers who will engage in this process because they care about Arvada!

Respectfully submitted,

RVC Board of Directors

ralstonvalleycoalition@gmail.com

Sent to the following on Jan 20, 2026:

Planning Commission, cedboardsandcommission@arvada.org,

Kristen Rush, krush@arvada.org, plus all members of Arvada City Council

City of Arvada
Community and Economic Development Department

PUBLIC HEARING STAFF REPORT

Avalon Arvada/Welby Gardens
17201 West 64th Avenue
Conditional Use
DA2025-0035

ON BEHALF OF THE RALSTON VALLEY COMMUNITY IN ARVADA AND JEFFCO, THE RALSTON VALLEY COALITION WOULD LIKE TO SHARE WITH THE PLANNING COMMISSION THE CONCERNS OUR COMMUNITY HAS WITH THE STAFF REPORT AND NOTE THAT WE RESPECTFULLY DISAGREE WITH MANY OF THE STAFF COMMENTS.

WE HAVE HIGHLIGHTED AREAS OF CONCERN DIRECTLY ON THIS STAFF DOCUMENT FOR EASE OF UNDERSTANDING OUR OPPOSITION TO THE AVALON CUP APPLICATION DA2025-0035 AND WHY WE ARE REQUESTING DENIAL OF THE CONDITIONAL USE PERMIT.

WE HOPE YOU WILL USE THIS VERSION DURING THE HEARING TO SEE BOTH SIDES OF THIS ISSUE SO YOU CAN MAKE AN INFORMED DECISION.

THE COMMUNITY REBUTTAL TO STAFF COMMENTS IS SHOWN IN GREEN BOLDED CAPS THROUGHOUT THIS DOCUMENT SPECIFIC TO EACH AREA OF CONCERN AND CLEARLY SHOW THE ADDED COMMUNITY REBUTTAL COMMENTS. NO STAFF COMMENTS HAVE BEEN ALTERED OR DELETED - WE ARE ONLY ADDING IN OUR REBUTTAL TO THE DOCUMENT SO YOU CAN SEE THE SIDE BY SIDE REBUTTAL.

THANK YOU FOR THE OPPORTUNITY TO ENGAGE IN THIS VERY IMPORTANT PUBLIC PROCESS AND THANK YOU FOR CONSIDERING OUR REBUTTAL POINTS TO THE STAFF COMMENTS.

NATURE OF REQUEST

The applicant, Leanne Vielehr of Norris Design, requests approval of a Conditional Use application to allow 384 multifamily and 51 townhome units on a site in the MX-S (Mixed- Use, Suburban) zoning district.

According to the conceptual Site Plan, the project proposes to construct eight townhome buildings ranging from four to eight units per building, housing 51 units. The townhomes are anticipated to be a mix of two- and three-bedroom units. The Site Plan also includes 12 breezeway and corridor multifamily buildings, providing 384 apartment units. The multifamily units will be a mix of studio, one-, two-, and three-bedroom apartments. Of the 12 buildings, 10 buildings are proposed to be three stories, and two buildings are proposed to be four stories. The approximately 20.1-acre parcel will also be developed with associated access drives, parking lots, and landscaped areas, including a two-acre small urban park.

LOCATION AND HISTORY

The project site is approximately 20.1 acres, irregularly-shaped, and developed with five to six greenhouses, an office building, hoop houses, warehouses, utility structures, including above ground storage tanks, minor structures, a parking lot, and an access drive to support a wholesale plant nursery operation at the site. The site is comprised of Lots 1 and 2 of the Veldkamp Subdivision. Vehicles access the site from a drive west of Easley Road, which leads to a parking area at the southeast of the site. Records indicate that development on the property began in 1971, with construction of a greenhouse and office building to the southeast of the site. Over time, a series of greenhouses were constructed on the site between 1971 and 2004 along with storage, warehouse, and other support structures. There are several areas that collect stormwater runoff as well as discharges from the greenhouses and hoop houses with water retention ponds generally located between the large greenhouse structures.

NEIGHBORHOOD MEETING

Division 8-2-2 of the Land Development Code (LDC) requires that at least one neighborhood meeting be held for projects that require public hearings before the Planning Commission and City Council.

The required neighborhood meeting for this project took place on April 10, 2025. The applicant, staff, and approximately 180 neighbors were in attendance. The applicant had held an additional three neighborhood meetings prior to the required meeting.

The applicant began the meeting by introducing the project team. During their presentation, the applicant described the existing site conditions, provided a timeline of the entitlement process for the project, and presented a revised project to address the neighbors' concerns regarding the initial design.

At the conclusion of the applicant's presentation, the applicant then held a Q&A session with the neighbors in attendance. Issues identified during the Q&A session include, but were not limited to, the following: increased traffic along Easley Road, the proximity of the townhome access drive to the MorningStar property, the location of guest parking, contamination on the site and associated mitigation, drainage of detention ponds into Ralston Creek, increased criminal activity in the area of the project, the density of the proposed project, and the possibility of rezoning the property.

The applicant prepared a summary of the meeting, which is attached.

PUBLIC NOTIFICATION

Division 8-2-4 of the Land Development Code requires public notification for all public hearings as follows:

Written Notice: At least 15 days prior to all public hearings, written notice must be mailed to all property owners within 1,500 feet of the subject property and to all homeowners associations and neighborhood associations with a known interest in the subject property. The applicant has provided an affidavit of mailing prior to the public hearing verifying this requirement has been met.

Posted Notice: At least 15 days prior to all public hearings, signs notifying the public of the hearing must be posted on the subject property. The applicant has provided a posting log prior to the public hearing verifying that this requirement has been met.

Published Notice: At least 15 days prior to all public hearings, notice of the hearing must be published in a newspaper of general circulation in the City. The required notice has been published.

SEVERED MINERAL RIGHTS

At least 30 days prior to the public hearing, written notice of the application must be mailed to any owner of mineral rights associated with the subject property. The applicant has provided notarized certification that the Jefferson County Clerk and Recorder records do not identify any owners of mineral rights.

DEVELOPMENT REVIEW TIMELINE

Given that the proposed project requires Conditional Use approval, it is subject to a public hearing decision track (Track 5) in accordance with Table 8-2-2-2A “Decision Making” in the Staff Report
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LDC. The project underwent four reviews to address staff comments. The first submittal was received on May 23, 2025 and the fourth submittal was received on December 16, 2025. Staff met the timeline in all four of the reviews.

ALIGNMENT WITH CITY COUNCIL STRATEGIC PLAN

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system. By complying with the applicable requirements, it is ensured that the project would construct safe buildings, protecting and maintaining the health, safety, and welfare of the public. Further, the project proposes to construct 51 townhome and 384 multifamily units, which would add to Arvada’s housing stock and improve access to quality housing that is affordable to a broad range of income levels.

REBUTTAL TO ALIGNMENT WITH CITY COUNCIL STRATEGIC PLAN: THE APPLICANT

HAS MENTIONED THAT THIS IS A HIGHER END COMPLEX WITH MARKET RATES SO IT IS NOT AFFORDABLE HOUSING AND ACTUALLY DOES NOT ALIGN WITH THE CITY COUNCIL STRATEGIC PLAN.

ZONING AND LAND USE

The subject property is currently zoned MX-S (Mixed-Use, Suburban) and is approximately 20.1 acres in size.

Surrounding properties are zoned and utilized as follows:

Direction	**Zoning**	**Actual Use**
North	Open Space (OS)	West Woods Golf Course
South	MX-S (Mixed Use Suburban)	MorningStar Senior Living of Arvada
East	PUD (Planned Unit Development)	Single-Unit Residential
West	PUD (Planned Unit Development)	Single-Unit Residential

REBUTTAL TO ZONING LAND USE: THREE OF THE SURROUNDING USES ARE MUCH LESS IN DENSITY AND WE WOULD ARGUE THE SENIOR CENTER ALTHOUGH MORE IN DENSITY AND IN THE MX-S ZONING IS A BENIGN USE DUE TO THE FACT THAT MANY OF THE SENIORS DO NOT DRIVE OR LEAVE THE PROPERTY VERY OFTEN LIKE APARTMENT DWELLERS WOULD. THE HIGH DENSITY USE IS NOT COMPARABLE TO THE MAJORITY OF SURROUNDING USES.

PROJECT ANALYSIS

Compliance with the Comprehensive Plan

The Comprehensive Plan designates the site as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zoning districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. At a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre.

REBUTTAL TO MIXED USE DESIGNATION: EVEN IF YOU AGREE WITH HIGHER DENSITY, THERE IS ZERO ACTUAL MIXED USE. THIS IS 100% HIGH DENSITY RESIDENTIAL SO IT TECHNICALLY SHOULD BE SUBMITTED AS A COMP PLAN CHANGE AND A REZONING.

The Conditional Use request is consistent with the following goals and policies of the Comprehensive Plan:

GOAL L-2

Plan for a balanced mix of commercial and residential land uses in Arvada.

REBUTTAL: ZERO COMMERCIAL IN THIS PROJECT SO DOES NOT MEET GOAL L-2.

POLICY L-2.1 Complete Community
The City will provide for a balanced mix of land uses by promoting redevelopment and continuing to reserve lands for future commercial and industrial development as well as a variety of housing choices.

REBUTTAL: EVERY INCH IS DESIGNATED AS HOUSING - NO RESERVE LANDS FOR FUTURE COMMERCIAL OR INDUSTRIAL SO DOES NOT MEET POLICY L-2.1

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GOAL L-3-1
Encourage development of transit-supportive, higher-density, mixed-use, pedestrian-oriented areas.

REBUTTAL: THERE IS NO TRANSIT ANYWHERE CLOSE TO THIS SITE NOR WILL THERE BE ANYTIME IN THE NEAR FUTURE BASED ON THE TRANSIT PLANS PUBLICLY AVAILABLE. THE PEDESTRIAN AREAS ARE ALL INTERNAL TO THE SITE AND DON'T CONNECT TO ANY TRAIL SYSTEM TO SUPPORT PEDESTRIAN USES. FAILS TO MEET GOAL L-3-1 BECAUSE IT IS NOT IN A TRANSIT CORRIDOR.

POLICY L-3.1 Designated Mixed-Use Areas
The plan designates mixed-use areas in Arvada to provide a mix of land uses, services, retail and commercial development, employment, and in some cases, a diversity of higher density housing in close proximity to transit, bike, and pedestrian connections.

REBUTTAL: FAILS TO HAVE THE COMMERCIAL, EMPLOYMENT, ETC MIXED USES AND ALSO FAILS TO MEET THE CLOSE PROXIMITY TO TRANSIT POLICY AND PEDESTRIAN CONNECTIONS SO POLICY L-3.1 CANNOT BE MET.

POLICY L-3.2 Criteria for New and Redeveloping Mixed-Use Areas
Mixed-use areas are envisioned as strategically located, high intensity, pedestrian oriented activity areas providing a range of retail, business, civic, cultural, and residential opportunities for the surrounding trade area. Mixed-use areas should be located in urban centers or designated corridors and should create or demonstrate the following characteristics:

- Transit-supportive residential densities with a mix of housing types and affordability;
- Transit-supportive mix of retail and employment opportunities;
- Streets or other physical features that help define the center;
- Public plazas, gathering spaces or amenities designed as a focal point;
- Transit service
- Pedestrian-oriented site design; and
- Interconnected network of multi-modal streets linking to surrounding areas.

REBUTTAL: THIS IS NOT AN URBAN AREA AND IS THE WESTERN EDGE OF ARVADA WHICH IS SPECIFIED IN THE COMP PLAN TO BE LESSER DENSITY

BASED ON THE RURAL NATURE OF WEST ARVADA AND THE PROXIMITY TO THE FOOTHILLS. NOT EVEN ONE OF THE BULLET POINTS SHOWN ABOVE THAT IS REQUIRED IS MET IN THIS PROJECT SO IT DOES NOT MEET POLICY L-3.2.

GOAL L-5
Designate and promote redevelopment and infill to generate economic revitalization, improve physical conditions, and provide an appropriate mix of quality housing choices.

REBUTTAL: ECONOMIC REVITALIZATION HAS NOT BEEN SHOWN, COVERING EVERY SQUARE INCH WITH HIGH DENSITY HOUSING AND PARKING LOTS DOES NOT IMPROVE THE PHYSICAL CONDITIONS OF THE SITE. THE GREEN SPACE IS MINIMAL AND HAS NO REAL CIVIC CONNECTION TO SERVE OR INCLUDE THE SURROUNDING NEIGHBORHOODS. THIS IS ALSO NOT A MIX OF HOUSING BASED ON THE PROPOSAL. IT IS 100% APARTMENTS AND THE TOWNHOMES ARE A "TO BE DETERMINED" SO THEY MAY NEVER BE BUILT AS DESIGNATED WITHOUT THE DETAILS INCLUDED NOW. THIS PROPOSAL DOES NOT MEET GOAL L-5.

GOAL CC-1
Plan Arvada as a City of different development character districts.

POLICY CC-1.1 Variety of Development Types
The City will include a variety of development types including rural areas, suburban residential neighborhoods, historic districts, redevelopment areas, and mixed-use communities that contain services, employment, and higher density housing.

REBUTTAL: THIS PROPOSAL IS NOT A TRUE MIXED USE COMMUNITY DUE TO NO SERVICES OR EMPLOYMENT SO FAILS TO MEET POLICY CC-1.1.

POLICY CC-1.2 Promote Integration Within Districts Through Design
The City will promote integration and a sense of place within districts of the City through the context-sensitive design of new development.

REBUTTAL: THE DESIGN OF THE APARTMENT BUILDINGS DO NOT INTEGRATE WITH THE ADJACENT SINGLE FAMILY NEIGHBORHOODS OR EVEN MORNINGSTAR. EVEN IF PITCHED ROOFS ARE ADDED THIS PROJECT HAS MORE OF AN URBAN DESIGN BASED ON THIS CONCEPTUAL DRAWING AND WILL LOOK AND FEEL OUT OF PLACE IN THIS LOCATION. MORE DESIGN DETAILS SHOULD BE INCLUDED - THE TOWNHOMES ARE ONLY SHOWN AS A BOX. THE LACK OF DETAIL FAILS TO MEET POLICY CC-1.2.

POLICY CC-1.3 Compatible Infill
The City will encourage new infill development to consider and be sensitive to the character of existing neighborhoods. Considerations shall include building scale, placement, size, height transitions, landscape, streetscape, and other design measures.

REBUTTAL: THIS PROPOSAL DOES NOT CONSIDERING THE CHARACTER OF THE EXISTING NEIGHBORHOOD.

- **THE BUILDING SCALE IS LARGE, URBAN FEELING AND UNCOMMON**

FOR A RURAL AREA SUCH AS WEST WOODS.

- **THE PLACEMENT IS VERY CLUSTERED TO ACHIEVE THE EXTREME DENSITY - NOT COMPATIBLE WITH A SUBURBAN SETTING.**
- **THE SIZE OF 3 AND 4 STORY BUILDINGS IS NOT COMPATIBLE WITH THE USES ON 3 SIDES OF THIS SITE AND EVEN IF COMPARING TO MORNINGSTAR'S SIZE, THIS IS NOT COMPATIBLE BASED ON THE DESIGN. MORNINGSTAR IS MORE COMPATIBLE IN DESIGN.**
- **THE PROJECT'S HEIGHT TRANSITIONS ARE NOT A TRUE STEP TRANSITION WHICH WOULD BE SOMETHING LIKE SINGLE FAMILY ON PERIMETER, THEN TOWNHOMES THEN APARTMENTS IN THE MIDDLE. THIS IS JUST ALL APARTMENTS AND NOTHING ELSE IS PROPOSED SINCE THE TOWNHOMES ARE UNKNOWN AT THIS TIME.**
- **THE MINIMAL LANDSCAPING AND GREEN SPACE IS NOT ADEQUATE FOR SUCH A LARGE DEVELOPMENT AND OFFERS NO STREET APPEAL WHATSOEVER TO ADJOINING PROPERTIES.**
- **THE FLAT ROOFS ON SOME OF THE BUILDINGS MAKE THIS PROJECT LOOK VERY URBAN AND MISPLACED FOR WEST ARVADA.**

POLICY CC-1.4 Work With Stakeholders
The City will work with stakeholders, developers, and the community to consider a project's potential effects and strive for integration in a manner that helps enrich the district's character.

REBUTTAL: THE COMMUNITY ASKED FOR LESS DENSITY, MORE OPEN SPACE AND PARK CONNECTIONS, BETTER TRANSITIONS FROM THE SINGLE FAMILY TO THE HIGH DENSITY AND AN ACCURATE TRAFFIC STUDY THAT TAKES INTO ACCOUNT WHAT THE ACTUAL TRAFFIC WILL BE. IT SHOULD INCLUDE MAJOR INTERSECTIONS ON 64TH, MCINTYRE, INDIANA AND HWY 93 AND SHOULD CONSIDER ALL THE OTHER DEVELOPMENTS ON LINE FOR THE AREA SUCH AS 60TH & MCINTYRE AND 67TH AND INDIANA. THOSE INTERSECTIONS AND COMING DEVELOPMENTS SHOULD BE CONSIDERED IN A TRUE ANALYSIS OF TRAFFIC FOR THIS PROPOSAL.THE DEVELOPER HAS NOT ADDRESSED ANY IF MINIMAL CONCERNS OF THE COMMUNITY SO THIS PROPOSAL WILL NOT ENRICH THE DISTRICT'S CHARACTER AND FAILS POLICY CC-1.4.

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GOAL CC-2
Establish and maintain Arvada's distinct qualities and small-town identity.
REBUTTAL: HIGH DENSITY IN A RURAL AREA DOES NOT FIT THE IDENTITY, THEREFORE, GOAL CC-2 CANNOT BE MET WITH SUCH AN URBAN PROJECT.

POLICY CC-2.2 High Quality Private Development
The City will promote high quality architecture, site planning, landscaping, signage, and lighting for new residential and commercial developments.

REBUTTAL: THE SDP FOR THIS PROPOSAL IS INCOMPLETE WITHOUT THE TOWNHOME INFO AND WHILE THE DEVELOPER MAY DO NICE PROJECTS ELSEWHERE, IT STILL DOES NOT FIT IN THIS LOCATION.

GOAL N-1
Plan for a range of neighborhoods and accessible housing of different tenure types to accommodate diverse incomes and all ages and abilities.
REBUTTAL: THIS DEVELOPMENT AS PRESENTED ONLY ACCOMMODATES LUXURY APARTMENT LIVING AND DOES NOT HAVE ANY AFFORDABLE HOUSING COMPONENT BASED ON THE MARKET PRICING BEING PROPOSED. IT IS ALSO ONLY ONE TYPE OF HOUSING - APARTMENTS. WITHOUT THE DETAILS ON THE TOWNHOMES, THAT PIECE CANNOT BE CONSIDERED AS PART OF THIS PROPOSAL BECAUSE NO ONE CAN PREDICT THE FUTURE OF WHO WILL PURCHASE THAT TRACT FROM AVALON AND WHAT THEY WILL BUILD WITHOUT THE SPECIFICS BEING IN THIS PROPOSAL, SO SHOULD THIS CUP GET APPROVED THE COMMUNITY WILL HAVE NO INPUT ON THE FUTURE TOWNHOMES WHICH IS NOT THE CORRECT WAY TO DO THIS AND ALSO VIOLATES THE LDC. THIS PROPOSAL IS CURRENTLY A 100% RESIDENTIAL USE OF APARTMENTS ONLY WITH ZERO MIXED USE. IT DOES NOT SERVE THE COMMUNITY AS A WHOLE AND FAILS GOAL N-1.

GOAL T-3
Identify and implement traffic solutions to reduce and manage traffic congestion on arterial streets.

POLICY T-3.2: Traffic Solutions to Reduce Congestion
The City will consider arterial street widenings and construction of missing segments, traffic signal timing and progression projects, intersection improvements, grade separations, and other measures to help reduce traffic congestion.

REBUTTAL: NO MATTER HOW YOU LOOK AT THIS, HAVING ONLY ONE ENTRANCE FROM A STREET THAT IS NOT A MAIN ROAD IS PROBLEMATIC AND REALLY UNSOLVABLE FOR THIS SITE WITH SUCH A HIGH DENSITY USE, EVEN IF YOU ADD A TRAFFIC LIGHT AT 64TH AND EASLEY. THIS SITE SHOULD BE MUCH LESS DENSITY AND HAVE SOME MIXED USES SO RESIDENTS DON'T HAVE TO BE CAR DEPENDENT FOR EVERYTHING, WHICH AS PROPOSED WOULD BE THE CASE FOR THIS DEVELOPMENT AT THIS SITE. POLICY T-3.2 CANNOT BE MET WITH THE CURRENT INFRASTRUCTURE.

GOAL T-4
Develop the transportation system in a manner that maintains the quality of life for residents and visitors.

REBUTTAL: THERE IS NO REAL SOLUTION FOR THE TRANSPORTATION SYSTEM THAT EXISTS FOR THIS SITE AND ADDING THE HIGH DENSITY AS PROPOSED WILL NOT MAINTAIN THE QUALITY OF LIFE FOR THE AVALON RESIDENTS OR THE ADJOINING NEIGHBORHOODS THAT ALSO USE EASLEY FOR ACCESS. THIS AND MANY NEARBY INTERSECTIONS WILL BE AT RISK OF BECOMING A LEVEL F FOR SERVICE AS MANY ARE ALREADY AT LEVEL D. THE WHOLE AREA WILL SUFFER, NOT JUST THE

RESIDENTS OF AVALON AND THE WEST WOODS NEIGHBORHOODS. GOAL T-4 IS IMPOSSIBLE TO MEET WITH ARVADA'S CURRENT ROAD SYSTEM FEEDING THIS SITE.

Compliance with Other Applicable Plans
There are no other applicable plans.

Setbacks
The minimum setbacks for the project are required and conceptually proposed as follows:

	Required	**Conceptually Proposed**
Frontage Zone (Min./Max.)	15 feet/35 feet (Suburban Townhomes) 20 feet/35 feet (General Multifamily)	15 feet/35 feet (Suburban Townhomes) N/A (General Multifamily)
Non-Street Frontage Perimeter Setback (Townhomes Only)	15 feet	15 feet
Minimum Street Side Setback	15 feet (Suburban Townhomes) 10 feet (General Multifamily)	N/A (Suburban Townhomes) N/A (General Multifamily)
Minimum Interior Side Setback (Multifamily Only)	6 feet (General Multifamily)	6 feet (General Multifamily)
Building Separation, Townhomes	10 feet (Side to Side) 30 feet (All Others)	10 feet (Side to Side)
Rear Setback (General Multifamily Only)	10 feet	10 feet
Minimum Parking Setback (Front)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)

Building Height

Pursuant to Table 2-1-4-2A of the LDC, the maximum height for residential buildings in the MX S zoning district is 45 feet. According to the project narrative and the “Site Data Table” in the conceptual project set of plans, the maximum height of the buildings is proposed to be 45 feet. While the conceptual height of the building complies with the LDC, compliance with LDC will be reevaluated if a Site Plan application is submitted.
REBUTTAL: THE DEVELOPER SHOULD PROVIDE A MORE DETAILED CONCEPTUAL PLAN PRIOR TO APPROVAL SO THE COMMUNITY CAN BE ASSURED THE ACTUAL SDP DOES NOT STRAY TOO FAR FROM A CONCEPTUAL PLAN.

Open Space
Pursuant to Table 2-1-4-2A of the LDC, a small urban park is required. For lots more than one acre, the small urban park area must be a minimum of 10 percent of the net parcel area. Given that the net lot area of the site is 20.1 acres, the required small urban park area is 2.0 acres or 87,120 square feet. According to the “Site Data Table”, the proposed conceptual small urban will be 87,555 square feet, which complies with Table 2-1-4-2A of the LDC. However, while the conceptual size of the small urban park complies with the LDC, compliance with LDC will be reevaluated during review of a Site Plan application, if submitted.
REBUTTAL: THIS IS THE BARE MINIMUM FOR A PARK AND TAKES AWAY FROM THE RURAL INTENT OF THE MOST WESTERN LOCATIONS IN THE CITY.

Landscaping, Buffering and Fencing
The project must comply with the applicable landscaping, buffering, and fencing requirements in Article 4-6 “Landscaping and Buffering” of the LDC and any other applicable standards and regulations. According to the “Site Data Table”, the conceptual proposed landscape area is 61,511 square feet for the townhomes and 176,863 square feet for the multifamily development. The Site Plan application, if submitted, must include a landscape plan pursuant to Subsection 4-6-3-2(A) of the LDC. The landscape plan’s compliance with Article 4-6 “Landscaping and Buffering” of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.
REBUTTAL: ALLOWING THE LANDSCAPING TO BE DONE AFTER A CUP APPROVAL TAKES AWAY THE ABILITY FOR THE PLANNING COMMISSION OR CITY COUNCIL TO BE INVOLVED IN THIS VERY IMPORTANT PIECE AND MAKE SUGGESTIONS THAT WOULD ENCOURAGE MORE COMPATIBILITY. DECISIONS WILL BE MADE BY STAFF ONLY AT THIS POINT (DURING A SITE DEVELOPMENT PLAN) WITHOUT ANY COMMUNITY, PLANNING COMMISSION OR CITY COUNCIL INPUT.

Parks
As the project is a residential development**,** Park Land Dedication or a Fee-In-Lieu will be required pursuant to Subsection 8-4-3-6(B) of the LDC if a Site Plan application is submitted and approved. The Park Land Dedication or payment of Fee-In-Lieu must be satisfied prior to, or as part of, the approval of the Site Plan, if submitted, pursuant to Subsection 8-4-3-6(I)(1) of the LDC. If park land will be dedicated, the owner/developer of land is required to convey to the City in fee simple not less than 10 acres per 1000 population projected for the development of such land pursuant to Subsection 8-4-3-6(C)(3) of the LDC. If payment of a Fee-In-Lieu is elected, the owner/developer must pay the City the cash equivalent of the fair market value of the land otherwise required to be dedicated pursuant to Subsection 8-4-3-6.
REBUTTAL: IT WOULD BE BETTER FOR THE COMMUNITY IF THE PARK AND OPEN SPACE AREAS WERE INCREASED ON THE SITE INSTEAD OF PAYING A FEE-IN-LIEU. THE SITE IS LACKING GREEN SPACE AND ADDING MORE WOULD INCREASE THE

COMPATIBILITY WITH SURROUNDING SUBURBAN USES.

Additionally, Subsection 8-4-3-7(A) of the LDC requires a separate Park Development Fee. The owner/developer must pay the Park Development Fee at the time of approval of the Site Plan, if submitted.

Building Design

Division 5-1-2 “Building and Structure Design Standards” of the LDC establishes design parameters for the architectural design of the project. As the design of the buildings will be finalized in the Site Plan, if submitted, evaluation of the project’s consistency with the design standards will occur at that time.

REBUTAL: AGAIN, IF THE CUP IS APPROVED AND ALL THE DESIGN DECISIONS TAKE PLACE LATER WHEN THIS IS A USE BY RIGHT WILL TAKE OUT THE OVERSIGHT OF THE PC AND CC WHO SERVE ON BEHALF OF THE COMMUNITY. A HANDFUL OF STAFF WILL MAKE DECISIONS AT THAT POINT, WHICH IS NOT IDEAL.

Circulation and Connectivity

Two access drives located at the southeast corner of the site will provide vehicular access to Easley Road. Both access drives will be constructed to the west of Easley Road and will replace the existing Welby Gardens parking lot access and delivery site access. The drives will provide direct access to the site from Easley Road. The drives are connected to the internal private drives that provide internal circulation within the site. An emergency vehicle only access is proposed at the southwest corner of the project site through an existing emergency access easement on the MorningStar Senior Living site.

Harris Kocher Smith (HKS) prepared a Traffic Impact Study (TIS) on May 14, 2025. The TIS was revised on June 26, 2025 and November 24, 2025. The TIS evaluated the transportation impacts that could result from the proposed project, including the impact of vehicular trips projected to be generated by the project on the study area intersections and roadway system. The study includes 2025 (existing), 2027 (year of anticipated project build-out), and 2047 (long term) analysis horizons. The scope of the analysis included the following roadways:

- West 64th Avenue
- Virgil Way
- Easley Road
- Terry Street
- Quaker Street

The scope of the analysis included the following intersections:

- West 64th Avenue/Virgil Way
- West 64th Avenue/Easley Road
- West 64th Avenue/Terry Street
- West 64th Avenue/Quaker Street

Using the publication *Trip Generation*, *11th Edition* by the Institute of Traffic Engineers (ITE), the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour.

The level of impact of the vehicular trips generated by the project is measured by levels of service (LOS). LOS is a qualitative ranking of the traffic operational conditions experienced by users under specified roadway, traffic, and traffic control conditions. There are six levels of service ranging from “A” to “F”, with LOS “A” representing the best operating conditions and LOS “F” the worst.

To evaluate the project’s impact on levels of service (LOS), the TIS performed peak hour intersection capacity analyses for the total traffic conditions for the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic scenarios on the intersections listed above. The TIS projected significant changes to the LOS for the West 64th Avenue/Easley Road intersection. Specifically, the TIS projected that with the addition of the vehicular trips generated by the project, the intersection overall will deteriorate from a LOS “D” to a LOS “F” in the p.m. peak hour by the 2027 (build-out) analysis horizon. By the 2047 (long-term) analysis horizon, it is projected that the northbound shared through/right turn lane will deteriorate from a LOS “C” to a LOS “E” in the p.m. peak hour, and the southbound shared left/through/right turn lane will deteriorate from a LOS “D” to a LOS “F” in the a.m. peak hour. Based on a warrant analysis, the TIS recommends that a traffic signal be installed at the West 64th Avenue/Easley Road intersection to mitigate deterioration in LOS. The City team recommends a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection. The signal shall be funded by the developer and maintained by the City of Arvada.

As for the queuing analysis, the TIS projected that the southbound shared left/through/right turn lane queue is projected to exceed its lane group capacity and spill back into the upstream intersection by the 2027 (build-out) analysis horizon. The TIS also projected that this scenario is expected to continue in both the a.m. and p.m. peak hour by the 2047 (long-term) analysis horizon. It is recommended that a signal be installed at the intersection to mitigate the queuing issue at the southbound shared left/through/right turn lane queue. However, even with a signal installed, the TIS concluded that that the northbound left turn lane queue would exceed its capacity and spill back into the northbound through lane in the p.m. peak hour by the 2047 (long-term) analysis horizon. To mitigate this queuing issue, the TIS recommends extending the northbound left turn lane queue by 50 feet. In addition to the installation of a signal at the West 64th Avenue/Easley Road intersection, the City team recommends a condition of approval requiring that the northbound left turn lane queue be extended by 50 feet to provide adequate storage.

As for the remaining intersections, the TIS does not recommend geometric or operational modifications as a result of the proposed project and determined that there are no queuing related issues. However, it is projected that the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will continue to experience a poor to failing LOS (LOS “E” or “F”) during the p.m. peak hour in both the background and total traffic scenarios. The TIS recommends monitoring each intersection to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

The TIS also analyzed the project's impacts on the roadways listed above and concluded that there are no geometric or operational modifications being recommended for the listed roadways.

REBUTTAL: THE TRAFFIC STUDY IS LACKING AND NEEDS TO INCLUDE OTHER BUSY INTERSECTIONS IN THE AREA SUCH AS 64TH AND MCINTYRE, 64TH AND INDIANA AND 64TH AND HWY 93. TO HAVE A TRUE UNDERSTANDING OF THE AREA'S TRAFFIC THE NEW DEVELOPMENTS PROPOSED FOR 60TH AND MCINTYRE AND 67TH AND INDIANA AMONG OTHERS SHOULD ALSO BE CONSIDERED.CIRCULATION AND CONNECTIVITY CANNOT BE ASSESSED ACCURATELY WITHOUT AT MINIMUM INCLUDING THESE MAJOR NEARBY INTERSECTIONS.

Grading and Drainage

A detailed grading and drainage plan will be required to be submitted with a Site Plan application.

REBUTTAL: COMMUNITY HAS CONCERNS ABOUT WHAT WILL FLOW INTO THE RALSTON CREEK. CONTAMINATION HAS BEEN FOUND ON THE DEVELOPMENT SITE SO LAND DISTURBANCE IS A MAJOR CONCERN FOR ADJACENT RESIDENTS AND SENIOR CITIZENS. THE SITE WILL DISCHARGE STORMWATER INTO CHURCH DITCH AND THE RALSTON CREEK WHICH IS CONCERNING GIVEN THE CONTAMINATION OF THE SITE.

Parking and Loading

According to the "Site Data Table" in the conceptual plan set, 117 parking spaces are proposed for the townhome development with 102 covered and 15 uncovered. For the multifamily development, 796 parking spaces are proposed, with 440 uncovered and 356 covered. Additionally, the project proposed 96 bike parking spaces to serve the multifamily development. The project must comply with the applicable parking requirements in Article 4-5 "Parking and Loading" of the LDC and any other applicable standards and regulations. The project's compliance with Article 4-5 "Parking and Loading" of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.

REBUTTAL: THE AMOUNT OF ASPHALT IS A CONCERN. FOR PUBLIC HEALTH AND SAFETY, STORMWATER DRAINAGE FROM THE SITE INTO THE CHURCH DITCH (WHICH FEEDS DRINKING WATER DOWNSTREAM) OR INTO THE RALSTON CREEK SHOULD BE FILTERED IN A DETENTION POND PRIOR TO DISCHARGE INTO THESE WATERWAYS.

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Environmental

Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. The purpose of the Phase I ESA is to identify any recognized environmental conditions (RECs) and the purpose of the Phase II ESA is to further investigate the RECs identified in the Phase I ESA. The Phase II ESA investigates the RECs by collecting soil and groundwater samples and analyzing these samples for compounds associated with the current plant nursery operations at the site.

Phase I ESA

The Phase I ESA identified the following eight RECs associated with the plant nursery operations:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline above ground storage tanks (ASTs).
- The use of waste oil and grease containers and ASTs.
- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST.
- Surface drainages from the fertilizer, herbicide, and pesticide mixing areas.
- Areas of historical use of septic systems

Phase II ESA and Recommendations

Soil borings were drilled in outdoor and indoor locations. There were 22 soil borings completed from those locations with a total of 28 samples collected. Nine soil samples collected from the outdoor soil boring locations were analyzed for pesticides and chlorinated acid herbicides by United States Environmental Protection Agency (EPA) Methods 8081 and 8151A, respectively; Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Methods 6010D/7471B; nitrate as N and sulfate by EPA Method 9056A; and pH by EPA Method 9045D. Nine hand augered soil samples for laboratory analysis collected from inside the buildings were analyzed for pesticides, chlorinated acid herbicides, RCRA metals, and nitrate as N and sulfate. The remaining 10 soil samples collected using the post-hole power auger were analyzed only for pesticides and chlorinated acid herbicides by EPA Methods 8081 and 8151A, respectively. Additionally, five groundwater monitoring wells were installed to collect groundwater samples.

The soil samples were compared to EPA Regional Screening Levels (RSLs) for residential and industrial land uses. An insecticide, Dieldrin, and Total Petroleum Hydrocarbons (TPH) were found to exceed EPA Residential RSLs. Dieldrin, an insecticide used in the 1950s to 1970s, was detected in 17 out of the 28 soil samples. The concentration of Dieldrin exceeded the Residential RSL in several locations. TPH compounds were found in all four samples taken. TPH concentrations were even found to exceed Industrial RSLs at two locations.

As for groundwater samples, all detections of RCRA 8 metals as well as pesticides, herbicides, VOCs, and 1,4-dioxanewere below the Colorado Groundwater Standards (CGS). However, both of the concentrations of nitrate and sulfate exceeded the CGSs of 10 mg/L and 250 mg/L, respectively.

The Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease.

The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process.

Once the nature and extent of the contamination is determined, then the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that the applicant/developer submit a VCUP application prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

REBUTTAL: FOR THE HEALTH AND SAFETY OF THE COMMUNITY, THIS SITE SHOULD UNDERGO A MORE THOROUGH ESA AND BE FULLY MITIGATED PRIOR TO ANY DEVELOPMENT OCCURS. A VCUP DOES NOT GUARANTEE THE CLEANUP HAPPENS AS PROPOSED. THE CITY SHOULD REQUIRE AN OUTSIDE AGENCY TO MANAGE AND OBSERVE THE CLEANUP THEY ARE REQUIRING TO ENSURE IT IS COMPLETED PROPERLY. TO OUR KNOWLEDGE NO VCUP HAS BEEN SUBMITTED SO THE APPLICATION IS INCOMPLETE WITHOUT THE VCUP.

Utility Services

Water and sanitary sewer service is provided by the City of Arvada and capacity is adequate to service the site.

Dry utility providers (i.e. gas, electric, phone and cable services) will design and provide service to the area including telephone, cable television, and internet services.

Police and Fire Protection

The property will be serviced by the Arvada Police Department (APD) and the Arvada Fire and Protection District (AFPD). The project's compliance with (IFC) section D106.3 will be evaluated during review of the Site Plan application, if submitted.

REBUTTAL: THE FIRE ACCESS IS LIMITED TO EASLEY ROAD AND USING MORNINGSTAR'S PARKING LOT AS A SECONDARY ACCESS. A FIRE EVACUATION FROM THE AVALON SITE PUTS THE EVACUATION EFFORTS OF MORNINGSTAR'S SENIOR CITIZENS AT RISK AND SHOULD NOT BE ALLOWED. BEING ON THE WESTERN EDGE OF ARVADA NEAR OPEN SPACE TO THE WEST ALSO ADDS MORE WILDFIRE RISK TO THIS SITE. ONLY ONE LOCAL STREET ACCESS IS NOT IDEAL AND PUTS THE WHOLE COMMUNITY AT RISK SHOULD THIS SITE NEED TO BE EVACUATED IN AN EMERGENCY.

LAND DEVELOPMENT CODE APPROVAL CRITERIA

It is the responsibility of the applicant to justify the requested land use application. The Planning Commission should make a recommendation to the City Council based on its findings regarding the approval criteria shown in the table(s) below and upon testimony heard during the public hearing as it applied to the criteria.

Staff performed an analysis of the proposal, based on the approval criteria listed in Chapter 8 of the Land Development Code, and presents the following findings:

1. The application complies with the applicable standards of this LDC, other adopted City ordinances, resolutions and regulations including but not limited to any use-specific standards for the proposed conditional use in Division 3-1-3, any approved Master Development Plan that includes the property, and any conditions specifically applied to development of the property by the Planning Commission or City Council in a prior decision affecting the property;	Complies	Although the project is conceptual at this stage, as discussed above, the project conceptually complies with the applicable standards and regulations of the LDC. Once the design of the project is finalized and a Site Plan application is submitted, the City team will reevaluate the project's compliance with the applicable standards and Regulations. **NOT IDEAL TO TAKE THE PC AND CC OUT OF THE DECISION MAKING PROCESS ON THE SDP SO THIS APP IS INCOMPLETE AT THIS STAGE.**

2. The application is consistent with the Arvada Comprehensive Plan;	Complies	The site is designated as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zone districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. As a residential development at a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre. Further, the project achieves several goals and policies in the Comprehensive Plan as listed above such as providing for accessible housing of different tenure types (rentals) to accommodate diverse incomes and all ages and abilities. **REBUTTAL: THIS IS CLEARLY A RESIDENTIAL ONLY USE AND SHOULD NOT BE CONSIDERED FOR MIXED USE. THIS SHOULD BE RESUBMITTED AS A COMP PLAN CHANGE WITH A REZONING TO RESIDENTIAL.**
3. The use is consistent with the purpose and intent of the zoning district in which it is located;	Complies	The site is zoned Mixed-Use Suburban (MX-S). The intent of the MX-S zoning district is to provide for a variety of residential and nonresidential uses, in vertically mixed-use, horizontally mixed-use, or single-use configurations. The project proposes 384 multifamily units and 51 townhome units, which is a residential single-use

		configuration.

4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned uses in the surrounding area and the zoning district regulations;	Complies	Conceptually, the maximum height of the proposed multifamily buildings will be 45 feet or four stories. The proposed four-story multifamily buildings would be larger than other buildings in the surrounding area, which are predominantly one and two-stories in height; however, the conceptual scale and mass of the buildings would be substantially consistent with applicable development standards of the MX-S zoning district in the LDC, which allow for larger buildings, and the goal of higher density in the Comprehensive Plan. Moreover, to account for the larger scale of buildings allowed on MX-S zoned sites that abut lower-density residential districts, the LDC imposes a height transition zone on MX-S zoned properties pursuant to Subsection 2-1-10-3(B)(2) of the LDC. As discussed above, to mitigate traffic impacts, the City team recommends imposing a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage. As residential uses, the hours of operation of the proposed

		multifamily and townhomes units of the proposed use residential uses in the surrounding neighborhood. **REBUTTAL: THIS PROPOSAL HAS ZERO MIXED USE, IS NOT COMPARABLE IN ANY WAY TO THE SURROUNDING RESIDENTIAL NEIGHBORHOODS AND AN APARTMENT COMPLEX WITH LIKELY YOUNGER TENANTS WILL HAVE MUCH DIFFERENT HOURS THAN A SENIOR CITIZEN COMPLEX. A TRAFFIC LIGHT WILL NOT SOLVE THE INCREASED VOLUME ON EASLEY AS ONE ACCESS CAN IN NO WAY SERVE THIS SIZE OF DEVELOPMENT ALONG WITH ALL THE OTHERS THAT CURRENTLY USE EASLEY FOR ACCESS. THIS USE IS INCOMPATIBLE AT THIS SITE.**
5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development, be available to serve the subject property while maintaining adequate levels of service for existing development; and	Complies	As discussed above, facilities and services including sewer, water, storm water, gas, electricity, and police and fire protection will be available to serve the property while maintaining adequate levels for the existing development. As discussed above, a condition of approval requiring the installation of

		a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored monitoring to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions. **REBUTTAL: THERE ARE ISSUES WITH FIRE SERVICE, ACCESS ROADS AND CURRENT TRANSPORTATION INFRASTRUCTURE THAT CANNOT BE RESOLVED WITH THIS SIZE OF DEVELOPMENT AT THIS LOCATION. THIS IS AN OBVIOUS FACT THAT CANNOT BE IGNORED.**

6. The application mitigates any adverse impacts on the surrounding area to the degree practicable.	Complies	As identified in the TIS and Phase I and Phase II Environmental Assessments, the project will have adverse traffic and environmental impacts. The measures to mitigate traffic and environmental impacts are discussed below. Traffic As discussed above, the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour. A condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions. **REBUTTAL: NOTHING CAN FIX THE FACT THAT THERE IS ONLY ONE ACCESS FOR FIRE AND TO FEED THIS AND OTHER ADJOINING NEIGHBORHOODS WHO USE EASLEY ROAD.** **THIS HIGH DENSITY USE IS NOT COMPATIBLE WITH THE SITE THEREFORE CANNOT MITIGATE THE ADVERSE IMPACTS TO THE**

		SURROUNDING NEIGHBORHOODS TO THE DEGREE PRACTICABLE.

		Environmental Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. As discussed above, the Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease. The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process. Once the nature and extent of the contamination is determined, then

		the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that the

		applicant/developer submit a VCUP application prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits. **REBUTTAL: FOR THE HEALTH AND SAFETY OF THE COMMUNITY INCLUDING NEARBY SENIOR CITIZENS AND FAMILIES, PLEASE CONSIDER REQUIRING FUTURE ESA TESTING GIVEN WHAT HAS ALREADY BEEN FOUND. WE ENCOURAGE YOU TO ENLIST OUTSIDE OVERSIGHT AND MONITORING OF THE CLEANUP TO ENSURE ALL PRECAUTIONS ARE TAKEN TO PROTECT THE ENVIRONMENT AND THOSE LIVING IN PROXIMITY TO THE CONTAMINATION ON THIS SITE.** **A VCUP ALONE DOES NOT ASSURE THE CLEANUP WILL GO AS PROMISED WITHOUT 3RD PARTY INDEPENDENT OVERSIGHT TO EASE COMMUNITY CONCERNS.**

STAFF RECOMMENDATION

Based upon project analysis and review of the Land Development Code approval criteria, staff recommends approval of the project.

REBUTTAL: THE COMMUNITY FEELS THE APPLICATION AS PRESENTED IS INCOMPLETE AND THE CUP SHOULD BE DENIED.

If the Planning Commission finds that a recommendation to approve the Conditional Use application is supported by the approval criteria, then staff recommends that the following conditions be made part of the approval:

1. A traffic signal shall be installed at the West 64th Avenue/Easley Road intersection. The signal shall be funded by the developer and maintained by the City of Arvada.

2. The northbound left turn lane queue at the West 64th Avenue/Easley Road intersection shall be extended by 50 feet to provide adequate storage.

3. The southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

4. The applicant/developer shall submit a Voluntary Cleanup and Redevelopment Program (VCUP) application to the Colorado Department of Public Health & Environment (CDPHE) prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

5. Language or plat notes related to the dedication of dry utility easements to the City of Arvada benefitting applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities shall be placed on preliminary and final plats.

6. All utility easements be depicted graphically on the preliminary and final plats.

The Planning Commission may recommend denial of the request(s) if it cannot make affirmative findings of the approval criteria stated above.

NOTE TO PLANNING COMMISSION:

Thank you for reading the community's concerns as presented in our rebuttal comments to the staff comments.

The Ralston Valley Coalition and its thousands of community members in Arvada and Jeffco strive to protect our natural resources and neighborhoods from incompatible development by engaging with the county, city and developers offering thoughtful input, findings of fact and solutions to find compatibility with infill sites seeking development in the Ralston Valley area of West Arvada and unincorporated Jeffco.

Sometimes the community and developers can find common ground and achieve compatibility and sometimes as with the Avalon Arvada proposal, it just isn't feasible based on the hard facts.

We encourage the Planning Commission to DENY the Conditional Use Application based on the facts. This application is INCOMPLETE and therefore CANNOT BE APPROVED without a complete application to assure the Comp Plan and LDC goals and policies have been met.

ARVADA LDC 8-3-5-1 - Conditional use

Must be satisfied before a CUP can be approved

CRITERIA 1

CONDITIONAL USE SUBMITTAL REQUIREMENTS TO DEMONSTRATE COMPLIANCE WITH THE LDC ARE NOT MET…

- Does not comply with the applicable standards of the LDC.
- Conceptual Plan does not meet the requirements and fails to provide actionable details.
- Other site details needed to demonstrate compliance with the use specific standards identified in the LDC are not included

The Conceptual Plan MUST include all the details to demonstrate compliance with the LDC. In this case, the SDP is not included at this time nor is the VCUP yet are referenced many times as a part of this application, yet there is no detail provided for these items. The CUP application is lacking pertinent site details as required, therefore, this is an INCOMPLETE APPLICATION that should be DENIED.

Thank you for your service to the community and we hope this information provided by the RVC community members will help you in your decision process at the public hearing. We know you will hear from other community members personally at the hearing who wish to share their comments and we all appreciate having this public forum to have our concerns heard. Arvada is a wonderful community with lots of residents who care about our city. Hearing from them is important for the civic process to be effective, transparent and trustworthy. Thanks to all the volunteers who will engage in this process because they care about Arvada!

Respectfully submitted,

RVC Board of Directors

ralstonvalleycoalition@gmail.com

Sent to the following on Jan 20, 2026:

Planning Commission, cedboardsandcommission@arvada.org,

Kristen Rush, krush@arvada.org, plus all members of Arvada City Council

CITY OF ARVADA **CED Boards and Commission <cedboardsandcommission@arvada.org>**

Comments for Record - Avalon Arvada Conditional Use Permit #DA2025-0035

1 message

Susan Boswe [redacted] Tue, Jan 20, 2026 at 3:04 PM
To: "cedboardsa rdsandcommission@arvada.org>, "rthompson@arvada.org" <rthompson@arvada.org>, "newsroom@denverpost.com" <newsroom@denverpost.com>, "dpo@denverpost.com" <dpo@denverpost.com>, "dlotts@timeslocalmedia.com" <dlotts@timeslocalmedia.com>

Good afternoon Arvada Planning Commission,

Thanks for allowing us to provide input regarding DA2025-0035 / 17201 W. 64th Ave., Arvada. Since we are working, it would be appreciated if you could read this message at the hearing.

To begin, we're sure that the development has been under consideration with the purchase of property, design, dev, etc., but only providing the neighbors two weeks notice isn't appreciated as most of us work and raise kiddos.

With regard to my family and input from friends/neighbors, this development is a disaster to our neighborhood. Here are a few issues that come to mind:

- With a 45' tall high-rise apartment complex, it will block our view of the mountains and reduce our property / resale value. Instead, we're asking that the tallest building be kept to two-stories maximum to align with the neighborhood.
- Our neighborhood is mostly low density - single family homes with a few townhomes with expanded lots. This project is too dense and out of character. We're requesting that the amount of apartments be reduced overall. Why aren't single family homes being considered?
- Our road traffic and capacity will increase with such a massive addition. What additional police officers will be allocated for our neighborhood on a 24/7 basis? What additional road work will be added (e.g., traffic lights, turn lanes, etc.) and who will pay for it? The developer should have to pay for the added police and addition to the road structure - not the tax payers.
- The safety of our neighborhood will change dramatically - it's currently a quiet and peaceful area. There will be additional risks to pedestrians, cyclists and kids going to/from school.
- The water, sewer and stormwater infrastructure will be effected since we're already looking at current supply constraints. Sunrise Ridge is having to reduce its water usage so why bother if the city is going to allow such a massive addition to the neighborhood? There's no reason for Sunrise Ridge or surrounding neighborhoods to continue with the xeriscaping efforts at our cost if the city is going to implement such a massive development in this small space.
- This proposed development is next to senior housing. This massive addition will impact their quality of life with the increase in traffic and population.

We respectfully ask that the city decline this planning proposal and instead develop something that aligns with the current neighborhood, and provide at least a month's notice so the residents can attend future planning sessions.

Regards,

EBS @ Sunrise Ridge Neighborhood

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Conditional Use Permit DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:28 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded me
From: **Susan Boswel** [redacted]
Date: Tue, Jan 13, 202
Subject: Re: Avalon Arvada Conditional Use Permit DA2025-0035
To: Rozalynne Thompson <rthompson@arvada.org>

Ok but please remove my name and contact info. I don’t agree to it and don’t need the solicitors.

Best regards,

[redacted]

Sent from my iPhone

> On Jan 13, 2026, at 11:00 AM, Rozalynne Thompson <rthompson@arvada.org> wrote:
>
> Hello Susan,
>
> No, the project is market rate.
>
> As the planner that is assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.
>
> Sincerely,
> Rozalynne
>
> On Tue, Jan 13, 2026 at 10:48 AM Susan Boswel [redacted]> wrote:
>
> > Good morning,
> >
> > I was wondering for the proposed apartments for this location, is any of them going to include section 8 housing?
> >
> > Best regards,
> >
> > [redacted]
> >
> > Sent from my iPhone
>
> --
> **Rozalynne D. Thompson, AICP, J.D.**
> Principal Planner

Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby-Avalon Bay Development Concerns

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 1:42 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded me
From: **Sue Gallaghe** [redacted]
Date: Thu, May 1, 202
Subject: Welby-Avalon Bay Development Concerns
To: RThompson@arvada.org <RThompson@arvada.org>

Ms Thompson,

I am writing to you to express the concerns of myself and our family, in regards to the proposed development of the Welby Gardens property at 65th and Easley in Arvada.

We have followed the proposals for the design of this site, and have concerns about the current plans. It appears that Avalon Bay has proposed 400 units of apartments, and 58 units of townhomes on the site, with some of the apartment buildings being 4 stories tall. The resulting density of such a development is totally incongruent with the existing neighborhood. We also feel that the design proposal significantly underestimates the amount of parking necessary for the volume of residents that the site invites. The area surrounding the proposed site is basically single family residences with attached garages, not including the senior living facility. A development of single family homes, townhomes, and/or duplexes with garages would make much more sense, and be much more in line with the current residential density. We understand progress is inevitable, but we ask that it be done thoughtfully. Also, for the safety of all Arvada residents, we ask that the grounds of the nursery be thoroughly assessed and studied, related to the potential residual chemicals that may be present, related to commercial horticulture.

We appreciate your efforts and vigilance towards these concerns with Arvada's future.

With Gratitude,

Sue Gallagher
17461 W 67th Ave
Arvada, CO 80007

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

17351 W 64th Ave Suite
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Councilman Fifer,

I am a resident of MorningStar Arvada Senior Living facility at 64th Street and Easley Road and I respectfully request that you reject approval of the Welby Gardens Development Project. As currently proposed, this mega apartment project (435 living units with over 650 automobiles) would add only one new exit to Easley Road in addition to the existing outlet we share with Welby Gardens resulting in overwhelming the intersection of 64th Street and Easley Road.

Our senior residents (approximately 160 with a average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially through our private parking lot.

I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully,

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

P.S. My main concerns include the planned emergency access through the west end of the Morning Star property. This would result in a dangerous traffic issue for our elderly residents and others in our building.

17351 W 64th Ave Suite
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CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

P.S. My main concerns include the planned emergency access through the west end of the Morning Star property. This would result in a dangerous traffic issue for our elderly residents and others in our building.

17351 W 64th Ave Suite
Arvada CO 80007

October 3, 2025

Mr. Bob Fifer Arvada City Council
8101 Ralston Road
Arvada, CO 80002.

RE: Avalon Bay Project on W. 64th Ave.

Dear Councilman Fifer,

I am a resident of MorningStar Arvada Senior Living facility at 64th Street and Easley Road and I respectfully request that you reject approval of the Welby Gardens Development Project. As currently proposed, this mega apartment project (435 living units with over 650 automobiles) would add only one new exit to Easley Road in addition to the existing outlet we share with Welby Gardens resulting in overwhelming the intersection of 64th Street and Easley Road.

Our senior residents (approximately 160 with a average age of 85) many with mobility, hearing, or vision disabilities, will be at grave risk due to the large increase in traffic on Easley Road and potentially through our private parking lot.

I urge you to vote no on this irresponsible development proposal which seriously threatens the health and safety of my fellow residents.

Respectfully,

CC:
Rozalynne Thompson, Project Manager for Welby Project
Michael Griffith Planning Commission

P.S. My main concerns include the planned emergency access through the west end of the Morning Star property. This would result in a dangerous traffic issue for our elderly residents and others in our building.

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: ; Welby Gardens-Avalon Development Project Number #DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 14, 2026 at 10:11 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

Hi Dixie,

I just received the comment below.

Rozalynne

---------- Forwarded mess
From: **Stephen Leibold** [redacted]>
Date: Wed, Jan 14, 2026
Subject: ; Welby Gardens-Avalon Development Project Number #DA2025-0035
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <mgriffith@arvada.org>, <sdavis@arvada.org>, <rthompson@arvada.org>, <rsmetana@arvada.org>, <jegarner@arvada.org>

I am a resident of Trail Village Villas(TVV) immediately to the west of the proposed development described above. My wife and I moved here nine years ago attracted by the low to moderate housing density in TVV and the mostly older resident mix. Our assumption at the time was that there would not be other buildings in our vicinity that would be more than one or two stories tall. All other buildings in the area at that time were no more than 2 stories tall.

When Morningside was built next to our community I was surprised that it was approved at 3+ stories tall. Due to the nature of their business our fears of high traffic and noise were largely overblown. In the nine years we've been here we have seen a steady increase in traffic on 64th Avenue just to the south of our community. We have seen increased road damage both on 64th Avenue and Easley Road from the gradually increasing traffic over the years.

After attending the presentation by Avalon regarding the density of their proposed development at the Welby Gardens location we are very concerned about the size of the development for the following reasons.

- Resident density will be several times what is in the established communities surrounding Welby Gardens.
- Increased density development will increase traffic, noise, and crime.
- Already overcrowded schools and businesses will see even more congestion.
- The planned four-story buildings will tower over all other residences in the immediate area and would block sunrise, sunsets, and mountain views for a substantial number of nearby residents.
- It seems that an emergency such as a fire could be catastrophic with only one entry/exit to the community to allow emergency response crews in or residents to move out of the development areas in an expedient manner.
- We already see light pollution from the athletic fields to our west; we will certainly see a lot of light pollution from the high density planned development by Avalon.
- The roads in our area are deteriorating without adequate maintenance from current traffic loads. Despite my vote in support of almost all infrastructure bonds, most of them fail to pass. It's not likely this will change in the future. More traffic means more road degradation and traffic congestion. The Easely/64th Ave intersection will require a signal
- With the higher density community by Avalon, will public transit service be extended along 64th Ave? This will add to the congestion and undoubtedly lower residential home values nearest to the development of which we would be included.

These are the most obvious reasons to us why a much lower density of the old Welby Gardens site would make sense to us. Please VOTE NO on proceeding with this planned development. Thanks for considering our request.

Steve and Noreen Leibold
6481 Umber Circle
[redacted] 007

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF
ARVADA

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CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens/Avalon Bay, Pachner Co

1 message

Sophia M <[redacted] Mon, Jan 20, 2025 at 3:26 PM
To: cedboardsandcommission@arvada.org

Hello,

I am aware that Avalon Bay. Pachner Co is in the process of trying to build an apartment/townhouse complex at W 64th and Easley. I reviewed the schematic site plan and am deeply concerned. I am a resident of this area of Arvada and strongly oppose any plan to build a residential community.

The city's current infrastructure cannot support this and will strain the community and resources. For example, the roadways cannot handle several thousand more occupants, considering Candelas and Leyden's continued development, police presence, fire support, and emergency personnel are not going to increase, therefore increasing the load on these systems.

Finally, in a region where drought will become more of an issue as time goes on, this proposed project will limit water resources to the present population, and create unnecessary increased risk to fire hazards to an area already susceptible to wildfires.

Regards,
Sophia Murphy

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens Development

1 message

Stephanie Smit [redacted] Fri, Jan 16, 2026 at 12:23 PM
To: Cedboardsandcommission@arvada.org

Hello Arvada City Council Chamber Members,
I am writing you today with concerns about the Welby Gardens development. My concerns are around safety. I have lived in the Trails development for over 30 years. As our winters become drier, the danger of fire increases annually. We have large power lines that run through our neighborhoods. The high winds we experience, combined with the warm temperatures and the lack of moisture, set our community up for a disastrous and deadly fire. The roads around our community are already very congested; trying to evacuate in an emergency would be extremely difficult. These dangers would only multiply if this development moves forward, significantly increasing the number of evacuees. I would like to request that this development be delayed until the large power lines in our community can be buried, thus eliminating the risk of them going down and sparking a fire. Many community members have similar concerns and the city of Arvada will be held responsible for the loss of lives if this development is approved. Please consider the safety of our community and deny this development.

--
Respectfully,

Steph Smith, M.Ed
SpEd/ACE Teacher

[redacted]/her/hers What does this mean?
[redacted]

Mental Health Crisis Services
Colorado Crisis Sup [redacted]
Colorado Crisis Tex [redacted]
Colorado Crisis Chat [redacted]

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING

Notice: The information transmitted in this email message and any attachments are solely for the intended recipient and may contain confidential or privileged information. If you are not the intended recipient, any review, transmission, dissemination or other use of this information is prohibited. If you have received this communication in error, please notify the sender immediately and delete the material from any computer, including any copies.

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Arvada Welby Gardens Residential Development Project #DA2025-0035, 17201 W 64th Ave. 80007

1 message

Suzanne Sulliva [redacted] Tue, Jan 20, 2026 at 4:32 PM
To: cedboardsand

Dear Arvada Planning Commission,

I am writing in support of the Arvada Welby Gardens Development. I have seen a tremendous amount of multifamily development on the east side of town over the last five years. There are many new housing options in the downtown area and from Olde Town to I-70. To accommodate the need for multi-family and missing middle options, there will need to be more diverse options on the west side of town. We want Arvada to be a place where individuals of all ages and families can find affordable options.

Forty years ago, many of my friends moved here, bought affordable “starter homes” and raised their families here. Many are still living in the same homes and looking for a way to downsize. Welby Gardens provides attractive options. For those new to Arvada and for those who have been the backbone of our community, it would be a tremendous benefit to have more housing options on the west side of town.

Kind regards,

Suzanne Sullivan

8452 Everett Way, Unit E, Arvada 80005

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Re: Opposition to the Welby Gardens Development (17201 W 64th Ave)

1 message

Tim Bar [redacted] Tue, Jan 13, 2026 at 10:09 AM
To: "Cedb a.org" <Cedboardsandcommission@arvada.org>

Dear Mayor and Members of the City Council,

I am writing as a resident of the Arvada community who lives approximately **one mile from the proposed Welby Gardens development** and recreates daily on the open space trails near this site. I respectfully oppose this development as currently proposed, and I urge the Council to carefully consider the **infrastructure, land-use compatibility, and quality-of-life impacts** before approving high-density housing in this area.

1. Existing Infrastructure is Not Adequate for High-Density Development

Residents in this part of Arvada already experience significant challenges with the current transportation network. The intersection of **Easley Road and W. 64th Avenue** is already problematic for turning movements in traffic and pose safety and delay concerns—conditions that will only worsen with a substantial increase in residential units.

While the City is engaged in planning future transportation improvements through its **Transportation System Plan**, public feedback clearly indicates that many residents feel that **development is outpacing infrastructure improvements** and that road quality and congestion remain major concerns.

2. Community Feedback Opposes High-Density Land Use

As part of the ongoing **W. 64th Avenue Sub-Area planning process**, community comments collected in late 2024 show a strong preference for preserving the character of the area, protecting open space, and limiting high-density development. Many respondents specifically expressed **opposition to apartments or multi-family townhomes** and support for **single-family homes or conservation** of natural space.

This localized feedback reflects that the character of this corridor is currently **low to moderate density**, and a large, high-density residential project would be inconsistent with what residents have voiced for the future of this corridor.

3. Smart Land Use Principles Prioritize Compatibility

Smart growth and land-use planning principles generally advocate for:

- **Higher-density housing near transit corridors, major activity centers, and retail services** to reduce car dependency and maximize infrastructure efficiencies.
- **Balanced development** that protects established neighborhoods from inappropriate density changes.

The proposed Welby Gardens site is **not adjacent to a significant transit hub, major commerce center, or downtown core**. It lies within a neighborhood of primarily low-density residential and open space uses, where traffic and infrastructure are already stretched. Placing high density here stands in contrast to planning best practices that emphasize aligning density with infrastructure capacity and walkable, mixed-use environments.

4. Preservation of Open Space and Recreational Quality

The area around Welby Gardens contains valued open spaces and trail systems that many Arvada residents enjoy every day. Introducing high-density residential use here risks degrading the very natural and recreational qualities that make this part of Arvada special.

Conclusion

Given current community feedback, the limitations of existing transportation infrastructure, and smart land-use planning principles, I urge the City Council to:

- **Deny or substantially revise the Welby Gardens proposal** as currently presented.
- Ensure that any increases in residential density are paired with adequate **infrastructure improvements, transit access, and compatible land-use transitions**.
- Prioritize directing high-density housing **closer to downtown, commercial corridors, or established transit nodes**, where infrastructure and services are better positioned to support increased use.

Thank you for your time and careful consideration of this important community issue.

Sincerely,
~~Tim Barr

16129 W. 70th Place

Arvada, CO 80007

Tim Barr, LEED Green Associate, DBIA
-
Principal | Office Practice Leader
CannonDesign

[redacted]

Sept. 25, 2025

Councilman Bob Fifer
Arvada City Council
8101 Ralston Road
Arvada, CO 80002

Dear Mr. Fifer

I am a current resident of MorningStar, the senior living facility adjacent to the tract of new housing slated to be built in the near future. While I sorely regret the obstruction of the view of the front range that will result from the placement of apartments and townhomes next door to my residence, I appreciate Arvada's need to increase housing in the city. More significant than the spoiling of the view would be the severe traffic problems generated by the development as it currently stands and a host of other issues due to the density of the proposed new community. It seems to me that a compromise in the size of the development should be considered. The current plan allows for a population density almost double what seems reasonable. Please considered a reduction in the proposed population density.

Thank you for your consideration of this issue.

Thomas Bunn

Thomas Bunn
Resident, MorningStar Senior Living
17351 W. 64tn Ave.
Arvada, CO 80007

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CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Avalon Arvada Conditional Use Permit DA2025-0035

1 message

Timothy Fry [redacted] Mon, Jan 19, 2026 at 5:00 PM
To: "cedboardsandcommission@arvada.org" <cedboardsandcommission@arvada.org>

Hello Arvada Planning Commission,

I am writing this email regarding the Avalon Arvada Conditional Use Permit (DA2025-0035).

As a local resident and professional engineer, I have a few questions and concerns regarding the proposed Avalon development. I thank the city staff for their efforts in reviewing the proposed plan and conditional use permit to this point.

1. In reviewing the proposed site plan, I am assuming that the proposed detention is set at the low points for each drainage area. If not, this will need to be reviewed. Based on the proposed development, each facility will be 3-4 ft deep minimum to meet Full Spectrum Detention Volume requirements.

   Comment: This seem like a standard max unit design, where detention and WQ are shoved to a corner and forced to fit. Can it work, yes, but is this what we want for Arvada? I understand that the developer will claim that the green space shown will also provide WQ enhancement, but the truth is that these areas seldom do unless specifically designed as such and not simply rock/tree landscaping or traditional lawns.

2. Does the density fit with the surrounding land use?

   Comment: While I understand that under a condition use permit, there are no density requirements**;** I think we need to consider the existing/surrounding land uses. Yes, there is a Senior community to the south and patio homes to the west, to place 3-4 story apartments seems inconsistent with this area. Wouldn't townhomes or patio homes seem more reasonable and appropriate for this area?

3. Does the Traffic Impact Study adequately represent the impacts to the local roadways? What are the regional and long-term risks and impacts to the communities?

   Comments: Traffic is a significant impact to the surrounding roadways and communities. The TIS shows that the intersection of Easley and 64th is already failing and will only get worse with this development. The proposed number of trips from this development with only one way in and out is over 2,000 trips daily. That is a significant increase in the number of cars on this one intersection. Yes, a light will help and is currently already needed. I understand that this development would be responsible for the implementation of this light, which is a positive for this area, but I think the TIS study limits and does not fully account for the traffic impacts that would occur on the surrounding streets. While this maybe outside of what is 'required' I believe it is our responsibility to recognize and plan for more than the simple bubble around the site. In fact, good engineering and stewardship requires it. The TIS only accounted for the intersections along 64th. These intersections will be less impacted as this is a major arterial roadway with multiple traffic lights. Basically, it should be able to handle the additional traffic loads. But what about the surrounding local roadways that are more abundantly used than is recognized. Part of the reason that the intersection of Easley and 64th is currently failing is because there is a large number of vehicles that use Easley to 60th or even Easley to 54th. The large number of vehicles that will be increased on Easley is understated! The intersection at 60th is already a high hazard intersection and 54th Avenue was never intended to route as many vehicles as it does. Multiple pedestrians cross Easley in multiple spots and the hazard that this number of vehicles will present only puts residents at risk. While this may not be a priority for Arvada with this project, it should be. These impacts cannot simply be played off as they are not our problem with this project, they are directly linked. Honestly, this places risk on both the developer and Arvada and should be considered with any future development within the region that has impacts upon these roadways.

4. Concerns of Soils and Environmental Impacts.

   Comment: I appreciate all the efforts that have been done to evaluate and recommendations to mitigate the contaminated soils onsite. I would just like to comment that there are always hazards and risks both immediate and long term with these types of conditions and that extra care will need to be considered should any type of development go forward.

5. Is that really a Park or a buffer zone?
   Comment: Again, this seems like a standard max density project that tries to use after thought amenities for space and areas that cannot be used for anything else. The use of the term urban park is not appropriate here. It really should be stated as buffer zone, which is what it really is. It is a bit disappointing that the City will consider this as a park. I have seen multiple great parks and have helped design some around Arvada and this honestly is an embarrassment. Is this really beneficial to the City of Arvada and the community to meet the required public-land dedication requirements?

Based on the lack of traffic impact information and analysis regionally as well as the large number of vehicles anticipated to be developed due to the number of units, I would not recommend this project and density.

I believe that the number of units per acre should be reduced to be consistent with the surrounding land uses. It appears to me that there are some serious challenges with this site and that the development is clearly trying to maximize the number of units it can have versus developing a great project that is a benefit to the community.

Thank you for taking the time to read and consider my experience and expertise in these matters.

Timothy J. Fry, PhD, P.E., BC.WRE

October 3, 2025

Dear Councilman Fifer,

My name is Tom Thomas, and I am a resident of MorningStar Senior Living. I am writing to express concerns about the proposed high-density, high-rise development adjacent to our community.

The project's single access point, combined with the anticipated volume of residents, raises serious concerns about traffic congestion and safety—particularly at the intersection of Easley Rd and 64th Avenue. As one of many active drivers in my community, I worry that increased traffic could significantly heighten the risk of accidents for MorningStar residents.

I respectfully urge you to consider traffic flow improvements and safety measures as part of the planning process for this development.

Thank you for your attention to this matter.

Tom Thomas

Sincerely,
Tom Thomas

October 3, 2025

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Tom Thomas

Sincerely,
Tom Thomas

Vivian L. Haseman
17351 West 64th Ave.
Apt. 1010
Arvada, CO. 80007

Oct. 24, 2025

Dear Mr. Fifer:

As a resident of MorningStar Arvada, I respectfully request that you not approve the Welby Gardens Development Project by AvalonBay. As currently proposed this large proposed apartment project (435 living units with over 650 automobiles) likely represents one of the highest density housing developments projects in Arvada and is far more dense than the surrounding suburban neighborhoods. Although Arvada and other Colorado cities encourage affordable housing, locating such housing must be consistent with existing reasonable policy and other cogent parameters. In this vein, the proposed project stands in sharp contrast and conflicts with the Arvada Comprehensive Plan, which policy is intended for use in "evaluating development proposals" and states in part:

CED Compatible Infill:

- CC-1.3. Encourage infill that is compatible with ~~and~~ scale and character of existing neighborhoods.
- CC-1.4 Work with stakeholders, developers and the community to integrate development projects that enrich the district's character.
- CC-3.5 Ongoing status corridors to preserve local character: Lower Densities toward the Mountains. Ensure decrease in overall density in western parts of the City while allowing for higher densities in the Jefferson Center and other areas identified on the Land Use Plan...

The project diverges 100% from Arvada's stated polic It is seven times more dense than the surrounding neigh hoods. Also, Avalon's use of Morningstar's single building density as their sole comparison for density is inappropri purposefully misleading and borders on unscrupulou – the comparison should be made to the several existing WestWoods surrounding neighborhoods.

Density aside, this proposed project has several safet and health problems:

1. Traffic: Our older residents will be exposed to muc higher traffic as they cross Easley and 64th Ave. or otherwise walk in the neighborhood. It is a given that a traffic light at Easley Road will be needed in advance of construction, if any, but a traffic light alone will not abate the increased traffic and the hazards that i represents on Easley to the surrounding neighborhoods as Avalon drivers use one or more neighborhood street to avoid the inevitable traffic tie-ups at the Easley, 64th Ave. intersection.

2. Fire Dept. Access: The City has already noted this problem. Fire trucks using the Morningstar parking lot off 64th Ave. to access the Avalon project is both unnecessary and a safety concern. The Arvada Fire Dept. ha gone on record opposing the project without an easement through the west side of Morningstar Senior Living.

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Please take these obvious shortcomings into consideration and not approve this development.

Sincerely,

Vivian L. Haseman
Resident of Morningstar
Senior Living of Arvada

Vivian L. Haseman
17351 West 64th Ave.
Apt. 1010
Arvada, CO. 80007

Oct. 24, 2025

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CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Proposed Welby Gardens (Avalon) development project.

1 message

POD CD <pod@arvada.org> Fri, Jan 24, 2025 at 1:32 PM
To: Rozalynne Thompson <rthompson@arvada.org>
Cc: Rob Smetana <rsmetana@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hello, Rozalynne.

Please see the forwarded email opposing the Welby Gardesn (Avalon) project.

Regards,

---------- Forwarded mes
From: **Wendee Vezzet** [redacted]
Date: Fri, Jan 24, 2025 a
Subject: Proposed Welby Gardens (Avalon) development project.
To: <jegarner@arvada.org>, <POD@arvada.org>

Hello Community Development and Zoning,

I'm writing this letter as a deeply concerned resident of West Woods Links III to express my opposition to the proposed Welby Gardens (Avalon) development project. After mulling over the potential impacts, I can't help but feel this development could pose significant safety risks and challenges for our neighborhood and beyond.

Here's a quick rundown of my primary concerns (spoiler alert, they're big ones):

Traffic Congestion

We're already dealing with traffic nightmares on local roads, and this project is only going to double down on the chaos. Our infrastructure is stretched thin as it is, and adding more cars to the mix? That's a big nope from me.

But here's the kicker—**we've got kids here.** Kids who walk the sidewalks and cross the streets every single day. The crosswalks at Easley Road and W. 64th Avenue are already a safety hazard. And adding more vehicles, including dangerous commercial traffic, doesn't just inconvenience us—it puts our kids' safety at risk.

Speaking from personal experience, I *know* how unsafe this area can be. I've been hit by two vehicles at the Easley and W. 64th intersection. Thankfully, no pedestrians—or children—were around at the time. But what if? It's just not a gamble I'm willing to make.

Also, the corner of Easley Road and W. 64th Circle? Complete chaos. Visibility is terrible, and the traffic flow is more of a "guess and hope for the best" situation. Adding more congestion is a recipe for disaster.

Environmental Concerns

Our neighborhood has such a beautiful natural character, with golf course spaces, wildlife habitats, and stormwater systems that we all cherish. This project could jeopardize all of that. We've got something special here, and I'd hate to see it compromised for the sake of development.

Community Compatibility

This one's a biggie. The density, design, and scale of this project feel completely out of sync with the character of our neighborhood and surrounding area. West Woods Links III—and the nearby communities—have a unique charm that doesn't align with what's being proposed. I worry this project could negatively affect property values and detract from the appeal of our area.

I'm asking that the City of Arvada seriously reconsider or modify the plans for this project. At the very least, I encourage you to work closely with our community to address these concerns and figure out a way forward that aligns better with our shared values.

West Woods Links III may just be a small part of Arvada, but it's where I call home. I care deeply about preserving the safety, integrity, and quality of life of this community—not just for me, but for everyone here, including the youngest and most vulnerable among us.

Thank you for taking the time to hear my concerns. I trust you'll consider the long-term impact of this project on the people who **already live here** and work towards a solution that prioritizes safety and sustainability.

Sincerely,

Wendee Vezzetti | 17001 W. 64th Drive | Arvada, CO 80007 [redacted]

Wendee Walter Vezzetti [redacted]

--

To find the zoning of a property, including what uses are allowed, please use the **Address and Property Search** tool.

For information about active development projects, please use the **Development Projects Interactive Map** tool.

Thank you,

Planning Staff
Front Desk: (720) 898-7435
pod@arvada.org

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Twitter Icon |
LinkedIn Icon |
YouTube Icon |
E-Mail Icon