



Planning & Community Dev.
315 Kennel Avenue
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AGENDA
Molalla Planning Commission
6:30 PM, April 6, 2022

Meeting Location: Molalla Civic Center
315 Kennel Avenue.
Molalla, OR 97038

The Planning Commission Meeting will begin at 6:30pm. The Planning Commission has adopted Public Participation Rules. Copies of these rules and public comment cards are available at the entry desk. Public comment cards must be turned in prior to the start of the Commission meeting. The City will endeavor to provide a qualified bilingual interpreter, at no cost, if requested at least 48 hours prior to the meeting. To obtain services call the City Recorder at (503) 829-6855.

I. CALL TO ORDER

II. FLAG SALUTE AND ROLL CALL

III. PUBLIC COMMENT – Limited to 3 minutes per person

IV. MINUTES:

- February 2, 2022, Planning Commission Meeting
- March 2, 2022, Planning Commission Meeting

V. QUASI-JUDICIAL HEARING:

- SDR05-2021 – 12763 S Hwy 213
(Colima Apartments Phase II)

VI. REPORTS AND ANNOUNCEMENTS

- Planning Report

VII. ADJOURNMENT



**Molalla Planning Commission
MINUTES
Molalla Adult Center
315 Kennel Ave., Molalla, OR
97038
February 2, 2022**

The February 2, 2022, meeting of the Molalla Planning Commission was called to order by Chair Rae Botsford at 6:32pm.

COMMISSIONER ATTENDANCE:

Chair Rae Lynn Botsford – Present
Commissioner Rick Deaton – Present
Commissioner Doug Eaglebear – Absent
Commissioner Jennifer Satter – Present
Commissioner Jacob Giberson – Present
Commissioner Connie Sharp – Present

STAFF IN ATTENDANCE:

Mac Corthell, Director of Community Development – Present
Dan Zinder, Senior Planner – Present
Julie Larson, Planning Specialist – Present

AGENDA:

I. CALL TO ORDER

II. FLAG SALUTE AND ROLL CALL

III. PUBLIC COMMENT – Limited to 3 minutes per person
No Public Comment

IV. MINUTES:

- December 1, 2021, Planning Commission Meeting
- January 5, 2022, Planning Commission Meeting

Planning Commission Approves Minutes 6-0

V. QUASI-JUDICIAL HEARING:

- SDR08-2021, MP01-2021 & CUP02-2021 – 31330 S HWY 213
(Starbucks Retail Drive Thru)

Begins at 0:01:57 of meeting video (link posted below)

Senior Planner, Dan Zinder, presented the staff report and materials for planning file SDR08-2021, MP01-2021 & CUP02-2021 which seeks site design and conditional permit use approval of a new coffee shop building/drive-through, and a partition of the property located at 31330 S HWY 213.

After discussion, Commissioner Giberson made a motion to approve SDR08-2021, MP01-2021 & CUP02-2021 with modifications to conditions requested by the applicant. Commissioner Farrens made a second motion. Motion passes 6-0

VI. REPORTS AND ANNOUNCEMENTS

- Planners Report
- Directors Report

Begins at 0:53:01 of meeting video (link posted below)

VII. ADJOURNMENT

Meeting adjourned at 7:38pm

PLANNING COMMISSION MEETING CAN BE VIEWED IN IT'S ENTIRIETY HERE:

[February 2, 2022 Planning Commission Meeting Video](#)

Chair, Rae Lynn Botsford

Date

ATTEST: _____
Mac Corthell, Planning Director



**Molalla Planning Commission
MINUTES
Molalla Adult Center
315 Kennel Ave., Molalla, OR
97038
March 2, 2022**

The March 2, 2022, meeting of the Molalla Planning Commission was called to order by Vice Chair Doug Eaglebear at 6:38pm.

COMMISSIONER ATTENDANCE:

Chair Rae Lynn Botsford – Absent
Commissioner Rick Deaton – Absent
Commissioner Doug Eaglebear – Present
Commissioner Jennifer Satter – Present
Commissioner Jacob Giberson – Absent
Commissioner Connie Sharp – Absent
Commissioner Clint Ancell – Present

STAFF IN ATTENDANCE:

Mac Corthell, Director of Community Development – Present
Dan Zinder, Senior Planner – Present
Julie Larson, Planning Specialist – Present
Sam Miller, Sr. Engineer – Present

AGENDA:

- I. CALL TO ORDER**
- II. FLAG SALUTE AND ROLL CALL**
- III. PUBLIC COMMENT** – Limited to 3 minutes per person

No Public Comment

IV. MINUTES:

- February 2, 2022, Planning Commission Meeting

Planning Commission could not approve minutes due to no quorum. Minutes will be presented at the April 6, 2022 Planning Commission meeting

V. QUASI-JUDICIAL HEARING:

- SDR07-2021– 1000 W Main (60 Unit Apartment Complex)

Due to no quorum the hearing was postponed by Vice Chair Doug Eaglebear.

VI. REPORTS AND ANNOUNCEMENTS

- Planners Report

Not presented due to meeting being adjourned due to no quorum.

VII. ADJOURNMENT

Meeting adjourned at 6:45pm

PLANNING COMMISSION MEETING CAN BE VIEWED IN IT'S ENTIRIETY HERE:

[March 2, 2022 Planning Commission Meeting Video](#)

Chair, Rae Lynn Botsford

Date

ATTEST: _____
Mac Corthell, Planning Director



Planning & Community Dev.
117 N Molalla Avenue
PO Box 248
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communityplanner@cityofmolalla.com

CITY OF MOLALLA STAFF REPORT

SDR05-2021; Colima Apartments Phase II

Date: March 30, 2022 for the April 6, 2022 Planning Commission Meeting

File No.: SDR05-2021

Proposal: Site design review for a new 12-unit apartment complex. Phase II of Colima Apartments.

Addresses: 12763 S Cromptons LN

Tax Lots: Lot 02401 of Taxmap 52E07D

Applicant: Angel Jimenez Alejandrez
PO Box 180
Canby, OR 97013

Property Owners: Angel Jimenez Alejandrez (Tax Lot 2401)
PO Box 180
Canby, OR 97013

Colima Property Holdings, LLC (Tax Lot 2404)
309 NE 19th Avenue
Canby, OR 97013

Applicable Standards: Molalla Municipal Code, Title 17, Development Code

Division II, Zoning Regulations

Section 17-2.2.030 Allowed Uses

Section 17-2.2.040 Lot and Development Standards

Section 17-2.3.080 Multifamily Development

Division III, Community Design Standards

Section 17-3.2.030 Residential Buildings

Chapter 17-3.3 Access and Circulation

Chapter 17-3.4 Landscaping, Fences and Walls, Outdoor Lighting

Chapter 17-3.5 Parking and Loading

Chapter 17-3.6 Public Facilities

Division IV, Application Review Procedures and Approval Criteria

*Chapter 17-4.1.040 Type III Procedure (Quasi-Judicial Review –
Public Hearing)*

Chapter 17-4.2.050 Approval Criteria (Site Design Review)

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EXHIBIT B: APPLICATION PACKAGE FOR SDR05-2021

EXHIBIT C: MOLALLA PUBLIC WORKS COMMENTS

EXHIBIT D: MOLALLA FIRE DEPARTMENT COMMENTS

EXHIBIT E: ODOT COMMENTS

I. EXECUTIVE SUMMARY

Proposal:

The Applicants seek approval for a site design review for a new 12-unit apartment complex on two parcels totaling 0.68 acres in Molalla. The project is a second phase to an already approved 36-unit complex spanning two parcels to the west and currently under construction. The applicant proposes a single access to the parcel from along a private drive, S Cromptons LN, that extends from the arterial OR-213. Phase 1 of the project already takes access from this drive and frontage and roadway improvements are already underway for the construction of Phase 1. Current zoning of the subject parcel is General Commercial (C-2) and no change to the zoning designation is proposed.

Site Description:

The 0.68 acre properties are currently vacant, except for a few gravel and asphalt piles on the southern portion of the properties. The properties slope slightly from southwest to northeast. The properties' access is approximately 440 ft south of the intersection of OR-213 and OR-211.

Surrounding Zoning and Land Uses:

The properties are surrounded by C-2 General Commercial zoned land to the west and north. The western properties contain the under construction first phase of the project and the properties to the north are vacant. The property directly to the north has a current application for a commercial drive-through use. The properties to the south and west are zoned, M-2 Heavy Industrial. A single family home is on the property to the northwest and the remainder of the surrounding industrial land is currently vacant.

Public Agency Responses:

Staff circulated notice of the project to the City's Public Works Department, Fire Marshal, and ODOT on March 8, 2022. The City has included responses from ODOT, Molalla Fire District, and Molalla Public Works as Exhibits C, D, and E respectively, and integrated their comments into the findings and conditions of this staff report.

Public Notice and Comments:

Per MMC 17-4.1.040, notice of the public hearing was sent to all property owners within 300 feet of the subject properties and to a group of interested parties on March 8, 2022. Notice was published in the Molalla Pioneer on March 16, 2022. Signage containing public notice information was posted on the property on March 21, 2022. As of March 30, 2022 Staff had received no public comment on the application.

I. Recommendation

Based on the application materials and findings demonstrating present or conditioned compliance with the applicable criteria, staff recommends **APPROVAL** of Site Design Review SDR05-2021, subject to the conditions of approval to follow. This approval is based on the Applicant's written narrative, site plans, preliminary partition plat, and supplemental application materials. Any modifications to the approved plans other than those required by the conditions of this decision will require a new land use application and approval.

II. Conditions of Approval

All conditions contained herein shall be completed and abided by as applicable prior to occupancy regardless of how classified...

1. Building Permits, Engineering Plan Approvals, and Certificate of Occupancy Required:

- a. Per Molalla Municipal Code (hereinafter MMC) 17-4.2.070 and the State of Oregon Structural Specialty Code, upon approval of this Site Design Review, the applicant must submit for building permit authorization from Molalla Planning Staff and Engineering Plan Review from Molalla Public Works for proposed buildings and demolition of existing structures. Per MMC 17-4.2.070, this site design review has an approval period of 1-year from the date of approval. As a condition of approval, the Applicant/owner shall submit for both Building Permit Authorization for all proposed improvements through the City of Molalla Planning Department and Civil Plan Review through the City of Molalla Public Works Department within the 1-year approval period. Extension requests for the 1-year period are subject to the Code provisions of MMC 17-4.2.070, B.
- b. Per MMC 17-4.9.020 and the State of Oregon Structural Specialty Code, upon approval of this Site Design Review (change of use), the applicant must obtain a Certificate of Occupancy from the Clackamas County Building Official. As a condition of approval, the Applicant/owner shall obtain a Certificate of Occupancy through the Clackamas County Building Official for all onsite occupants prior to operation of the new, proposed use/occupancy.

Note: City approval is required for all Certificates of Occupancy.

2. The City of Molalla shall not grant building permit approval until the following Conditions are fulfilled.

- a. The Applicant will confirm that the submitted turning radius turning template is applicable to Molalla Fire apparatus during civil review and make any required adjustments to meet Oregon Fire Code.
- b. The Applicant shall design the portion of the ADA pedestrian approach and sidewalk adjacent to OR-213 and south of the proposed access to the edge of the southern property line and submit it with revised site plans. Work within the ODOT ROW will require ODOT permitting.
- c. The Applicant shall design the walkway abutting the southern portion of the property to extend to the pedestrian sidewalk along OR-213.
- d. The Applicant shall submit a lighting plan that modifies wall mounted light arrangements to limit spillover onto properties to the north and east.
- e. The Applicant shall submit a lighting plan showing walkway lighting along the southern border of the access road meeting the standards of MMC 17-3.050 C, 6.
- f. Separate engineering drawings reflecting the installation of public utilities will be required. For residential development projects, all public improvements shall be completed and accepted by the Public Works Department, or otherwise bonded in accordance with MMC 17-3.6.010 and the City of Molalla Public Works Design Standards prior to issuance of building permits. No connections to City services shall be allowed until improvements to the public system to which connection is sought are completed and accepted by City of Molalla Public Works.
 - i. No construction of, or connection to, any existing or proposed public utility/improvements will be permitted until all plans are approved by Staff, all fees have been paid, all necessary permits, bonding, right-of-way, and easements have been obtained and approved by staff, and Staff is notified a minimum of 24 hours in advance.
 - ii. Staff reserves the right to require revisions/modifications to the public improvement construction plans and completed street improvements if additional modifications or expansion of the sight distance onto adjacent streets is required.
 - iii. All public utility/improvement plans submitted for review shall be based upon a

22"x 34" format and shall be prepared in accordance with the City of Molalla Public Work's Standards.

- iv. All survey monuments on the subject site or that may be subject to disturbance within the construction area, or the construction of any off-site improvements shall be adequately referenced and protected prior to commencement of any construction activity. If the survey monuments are disturbed, moved, relocated, or destroyed as a result of any construction, the project shall, at its cost, retain the services of a registered professional land surveyor in the State of Oregon to restore the monument to its original condition and file the necessary surveys as required by Oregon State law. A copy of any recorded survey shall be submitted to Staff.
- v. Plans submitted for review shall meet the requirements described in Section 1 of the Molalla Standard Specifications for Public Works Construction.
- vi. The applicant shall contact the Oregon Water Resources Department and inform them of any existing wells located on the subject site. Any existing well shall be limited to irrigation purposes only. Proper separation, in conformance with applicable State standards, shall be maintained between irrigation systems, public water systems, and public sanitary systems. Should the project abandon any existing wells, they shall be properly abandoned in conformance with State standards and supply the City with a copy of the final document.
- vii. The project shall utilize existing water, sewer, and storm water 'stub-outs' wherever possible. Water for domestic and fire protection shall be looped through the proposed site. Any 'stub-outs' determined to be not needed for the proposed development or any future development of the subject property shall be abandoned in accordance with the Molalla Standard Specifications for Public Works Construction.
- viii. All public improvement designs shall meet the requirements of the Molalla Standard Specifications for Public Works Construction as amended by the Public Works Director.
- ix. General Easements – A 10-foot-wide public utility easement shall be dedicated to the City adjacent to all public right-of-way and no structures are allowed to encroach into the easement. Applicant shall be required to submit a legal description and exhibit map for review and sign City easements. Once completed, applicant will be required to record easements with the County Recorder's Office and return the original document to the City prior to final occupancy.

- x. General Erosion Control – The applicant shall install, operate, and maintain adequate erosion control measures in conformance with the standards adopted by the City of Molalla and DEQ during the construction of any public/private utility and building improvements until such time as approved permanent vegetative materials have been installed. Applicant or Applicant’s Contractor shall be responsible for all erosion control requirements under the 1200-C permit and shall coordinate directly with DEQ for questions related to 1200-C permit compliance.
- g. System Development Charges shall be paid prior to release of Building Permit Authorization from the City of Molalla.

3. The City of Molalla shall not grant occupancy until the following Conditions are fulfilled:

- a. All improvements required by this site design review shall be installed and approved by the Planning Official prior to occupancy.
- b. The Applicant shall construct the portion of the ADA pedestrian approach and sidewalk adjacent to OR-213 and south of the proposed access to the edge of the southern property line.
- c. The Applicant shall construct the walkway abutting the southern portion of the property to extend to the pedestrian sidewalk along OR-213.
- d. The Applicant shall record a deed agreement ensuring joint access to parking between the first and second phases of Colima Apartments.
- e. All walkways and sidewalks shall be constructed in consistency with ADA requirements.
- f. Extension of sewer main will require a Certificate of Capacity analysis performed by an engineer licensed in the state of Oregon. The analysis must be submitted to the City of Molalla. Sufficiency of the analysis will be determined by approval of the City of Molalla and Oregon Department of Environmental Quality. Approval shall be determined sufficient prior to issuance of plumbing or Public Works permit for sewer work.
- g. Applicant’s engineer shall coordinate with Public Works for the extension of a public sewer line, and dedication of easements. Applicant shall comply to all Molalla Public

Works Design Standards and code provisions in accordance with MMC 13.8 Sanitary Sewer.

- h. Waterline shall meet Public Works size requirements and all fire hydrant locations shall be approved by the Fire Marshall. Applicant's engineer shall coordinate with Public Works for the extension of a public water line, and dedication of easements in accordance with MMC 13.4 Water.
- i. Design engineer will be required to provide storage capacity on existing storm system for Phase II connection. Onsite private storm system shall comply with plumbing code requirements. The onsite storm conveyance system shall be reviewed and inspected by Clackamas County Building under a plumbing permit.
- j. Per Molalla Public Works Standards, all utilities to the project shall be served underground services. No overhead crossings of public right of way shall be approved by the city. Any work within the ODOT ROW will require ODOT permitting.

4. Ongoing Conditions:

- a. No visual obstructions shall be placed in vision clearance areas (MMC 17-3.3.030 G).
- b. No proposed fencing shall be made of prohibited materials, as detailed in MMC 17-3.4
- c. All landscaping shall be maintained in good condition, or otherwise replaced by the property owner (MMC 17-3.4.030 G).
- d. Fences and walls shall be maintained in good condition, or otherwise replaced by the property owner (MMC 17-3.4.040 F).
- e. Connections to City utilities for each parcel shall be in conformance with applicable Molalla Public Works Design Standards at the time of site design review.
- f. As an ongoing condition of approval, all outdoor lighting shall be maintained in good condition, or otherwise replaced by the property owner (MMC 17-3.4.050 C).
- g. As a condition of approval, parking shall be provided consistent with ADA requirements (MMC17-3.5.030 H).

- h. All proposed parking spaces shall be reserved for tenants, employees, or guests of the proposed multi-family use, except for shared parking pursuant to Section 17-3.5.030.D
- i. Any maintenance of vegetation within the Bear Creek Corridor shall be done in accordance with MMC 17-2.4.040 G 4.

Exhibit A:

City Staff's Findings of Fact for SDR05-2021

A. The application is complete, in accordance with Section 17-4.2.040;

Findings: The City received the Applicant's proposal on August 10, 2021 and deemed it incomplete on August 24, 2021. The Applicant resubmitted on February 6, 2022 and the application was deemed complete in accordance with Section 17-4.2.040 on February 7, 2022.

B. The application complies with all of the applicable provisions of the underlying Zoning District (Division II), including, but not limited to, building and yard setbacks, lot area and dimensions, density and floor area, lot coverage, building height, building orientation, architecture, and other applicable standards;

17-2.2.030 Allowed Uses

Findings: The Applicant's submitted application is for a 12-unit apartment complex. Per MMC Table 17-2.2.030 Multifamily Dwellings are a permitted use in the C-2 zone per special use standards of 17-2.3.080 Multifamily Development. This standard is met.

17-2.2.040 Lot and Development Standards

Findings: The property resides in an C-2 General Commercial density residential zone and is therefore subject to *Table 17-2.2.040.E Lot and Development Standards for Non-Residential Zones*. The proposal complies with these standards as follows:

Minimum Lot Area – There is no minimum lot size in commercial zones. This standard is met.

Minimum Lot Width and Depth – There is no minimum lot width or depth in commercial zones. This standard is met.

Building and Structure Height – Maximum building height in the C-2 zone is 55ft. The height of the proposed structure is 35 ft. This standard is met.

Maximum Lot Coverage - Maximum foundation plane coverage in the C-2 zone is 100%. The Applicant proposes covering 4,551 SF of the total 29,621 SF site, or 15% of the site. This standard is met.

Minimum Setbacks -

Front Setback Requirement: 0ft – This standard is met.

Garage Setback Requirement: 20ft – No garages are proposed. This standard does not apply.

Alley: 3ft - This property does not abut an alley. This standard does not apply.

Adjacent to R Districts: 10ft – The subject site is not adjacent to any residential districts. This standard does not apply.

Build to Line: 0ft – The Applicant’s proposal is not adjacent to a public street. This standard does not apply.

17-2.3.080 Multifamily Development

- A. **Purpose.** The following standards are intended to ensure that multifamily developments are planned with adequate open space and are designed to prevent conflicts between residential uses, on-site recreation, and vehicle circulation and parking areas. The standards supplement the design standards of Division III.
- B. **Applicability.** This section applies to new multifamily developments.

Findings: This application involves Site Design Review for multifamily dwellings. Therefore, these standards are applicable.

- C. **Standards.**
 - 1. **Common Open Space and Landscaping.** A minimum of 15 percent of the site area in a multifamily development shall be designated and permanently reserved as common area or open space, in accordance with all of the following criteria:
 - a. “Site area” for the purposes of this section is defined as the subject lot or lots after subtracting any required dedication of street right-of-way.

Findings: The Applicant’s submitted landscaping plan shows 4,962 SF of the total 29,621 SF of the site are designated as common/open space. This exceeds the 15% minimum required for this site. This standard is met.

- b. The common area or open space shall contain one or more of the following: outdoor recreation area, tree grove (e.g., existing mature trees), turf play fields or playgrounds, sports courts, swim pool, walking fitness course, natural area with picnic benches, or similar open space amenities as appropriate for the intended residents.

Findings: The Applicant's submitted landscaping plan shows pedestrian amenities, outdoor seating areas, and a playground. This standard is met.

- c. In order to be counted as eligible toward the minimum open space area, such areas shall have dimensions of not less than 20 feet.

Findings: The Applicant has only included areas with dimensions of 20x20 feet or greater in their common open space calculations. This standard is met.

- d. Open space and common areas not containing recreational facilities shall be landscaped.

Findings: The Applicant's submitted landscaping plan shows that all open space areas not containing recreational facilities are landscaped. This standard is met.

- e. Buildings located in the C-1 zone are exempt from this section.

Findings: The property is not located within the C-1 zone. Therefore, this exemption is not applicable.

- 2. **Private Open Space.** Private open space areas shall be required for dwelling units based on the following criteria:
 - A. A minimum of 40 percent of all ground-floor dwelling units shall have front or rear patios or decks containing at least 48 square feet of usable area. Ground floor housing means the housing unit entrance (front or rear) is within five feet of the finished ground elevation (i.e., after grading and landscaping). This section does not apply to buildings within the C-1 zone.

Findings: The Applicant's submitted architectural plans show concrete patios greater than 48 square feet provided to each ground-floor dwelling. This standard is met.

- B. A minimum of 40 percent of all upper-floor housing units shall have balconies or porches containing at least 48 square feet of usable area. Upper-floor housing means housing units with a first floor elevation that is more than five feet above the finished grade.

Findings: The Applicant's submitted architectural plans show that balconies greater than 48 square feet are provided to each upper-floor housing unit. This standard is met.

3. **Building Orientation and Design, Access and Circulation, Landscaping and Screening, Parking and Loading, and Public Facilities.** The standards of Chapters 17-3.2 through 17-3.6 shall be met.

Findings: Staff discusses the Applicant's degree of compliance with Chapter 17, Division III standards under item D.

4. **Trash Storage.** Trash receptacles, recycling, and storage facilities shall be oriented away from building entrances, set back at least 10 feet from any public right-of-way and adjacent residences, and shall be screened with an evergreen hedge or solid fence or wall of not less than six feet in height. Receptacles must be accessible to trash pick-up trucks. (Ord. 2017-08 §1)

Findings: The Applicant's submitted site plans show a trash enclosure that is well more than 10 ft from OR-213, enclosed with a 6 ft high screening fence, screened by landscaping, and across the parking lot from the buildings and play space. This standard is met.

Note on Section 17-2.3.090 Dwellings in Commercial and Industrial Zones:

- C. *Standards. Residential uses in the C-1, C-2 and M-1, M-2 zones shall conform to all of the following standards:*
 1. *New residential uses shall not be located in a ground building floor space in the C-1 and C-2 zones.*

Findings: The Applicant submitted their application on August 10, 2021, prior to the date of adoption of this ordinance. This standard does not apply.

- C. **The proposal includes required upgrades, if any, to existing development that does not comply with the applicable zoning district standards, pursuant to Chapter 17-1.4 Nonconforming Situations;**

Findings: The Applicant's proposes build from vacant ground and in compliance with applicable development standards. This standard does not apply.

- D. **The proposal complies with all the Development and Design Standards of Division III, as applicable:**

Findings: Applicable Criteria under Division III. Community Design Standards for this project include:

Section 17-3.2.030 – Residential Buildings

Chapter 17-3.3 Access and Circulation

Chapter 17-3.4 Landscaping, Fences and Walls, Outdoor Lighting

Chapter 17-3.5 Parking and Loading

Chapter 17-3.6 Public Facilities

17-3.2.030 Residential Buildings

- B. **Purpose.** The following requirements are intended to create and maintain a built environment that is conducive to walking; reduces dependency on the automobile for short trips; provides natural surveillance of public spaces; addresses the orientation and design of garages; and creates a human-scale design, e.g., with buildings placed close to public ways and large building walls divided into smaller planes with detailing.
- C. **Building Orientation.** Residential buildings that are subject to the provisions of this chapter, pursuant to Section 17-3.2.020, shall conform to all of the following standards in subsections B.1 through 3, below, as generally illustrated in Figure 17-3.2-1. Figure 17-3.2-2 provides examples of non-compliance.
 - 1. **Building Orientation to Street.** Except as provided below, dwelling units shall orient toward a street, have a primary entrance opening toward the street, and be connected to the right-of-way with an approved walkway or residential front yard.
 - a. A dwelling may have its primary entrance oriented to a yard other than the front or street yard where the only permitted access to the property is from a shared driveway or flag lot drive and orienting the dwelling entrance to the street is not practical due to the layout of the lot and driveway.
 - b. Where there is no adjacent street to which a dwelling may be oriented, or it is not practical to orient a dwelling to an adjacent street due to lot layout, topographic, or other characteristics of the site, the dwelling may orient to a walkway, courtyard, open space, common area, lobby, or breezeway (i.e., for multifamily buildings).
 - c. Where a flag lot is permitted, building orientation shall conform to the provisions for flag lots under Chapter 17-4.3.

Findings: The Applicant's submitted site plan shows a **subject site that does not have frontage on a street**. Build-to-line standards for OR-213 were addressed in Phase 1, which abuts the roadway. Per item b. the subject site is served by a shared driveway and the proposed building is served by a walkway that connects through the Phase 1 to OR-213. These standards are met.

2. **Limitation on Parking Between Primary Entrance and Street.** Off-street parking is not allowed between a primary building entrance and the street to which it is oriented, except that assisted living facilities, group care facilities, and similar institutional-residential uses serving clients with disabilities may have one driveway located between the primary building entrance and an adjacent street as required to serve as a drop-off or loading zone, provided the primary building entrance shall connect to an adjacent street by a pedestrian walkway that conforms to the standards of Section 17-3.3.040. The intent of this exception is to provide for one drop-off or loading zone while maintaining a direct, convenient, and safe pedestrian access to a primary building entrance.

Findings: The Applicant's submitted site plan shows a subject site that does not have frontage on a street. The Applicant's submitted site plans show no off-street parking proposed between primary entrances of buildings adjacent to OR-213. This standard is met.

3. **Build-To Line.** Where a new building is proposed in a zone that requires a build-to line per Section 17-2.2.040, the building shall comply with the build-to line standard and the development shall meet the standards for pedestrian access under Section 17-3.3.040.

Findings: The Applicant's submitted site plan shows a subject site that does not have frontage on a street so build to line standards do not apply. Pedestrian access standards are addressed in greater detail in response to section 17-3.3.040.

- D. **Garages.** The following standards apply to all types of vehicle storage, including, but not limited to, buildings, carports, canopies, and other permanent and temporary structures. The standards are intended to balance residents' desire for a convenient, safe, and private vehicle access to their homes with the public interest in maintaining safe and aesthetically pleasing streetscapes. The standards therefore promote pedestrian safety and visibility of public ways, while addressing aesthetic concerns associated with street-facing garages.
 1. **Alleys and Shared Drives.** Where a dwelling abuts a rear or side alley, or a shared driveway, including flag lot drives, the garage or carport opening(s) for that dwelling shall orient to the alley or shared drive, as applicable, and not a street.
 2. **Setback for Garage Opening Facing Street.** No garage or carport opening shall be placed closer than 16 feet to a street right-of-way. On corner lots, garages facing a side street (i.e., not the same street as the front entrance) may be located closer than 16 feet to a street right-of-way.
 3. **Width of Garage Openings Facing Street.** Where one or more garage openings face a street, the total width of all garage openings on that building elevation shall not exceed 50 percent of the width of that elevation; except this standard does not apply where the garage opening is recessed behind the front elevation of the dwelling by

not less than four feet for its entire width, or where all garage openings are placed behind the primary entrance to the dwelling. An arbor, portico, or similar architectural feature extending the entire width of the garage may be used as the basis of measuring the garage recess. A garage opening is considered to be facing a street where the opening is parallel to, or within 45 degrees of, the street right-of-way line.

4. **Three-Car and Wider Garages.** Where three or more contiguous garage parking bays are proposed facing the same street, the garage opening closest to a side property line shall be recessed at least two feet behind the adjacent opening(s) to break up the street-facing elevation and diminish the appearance of the garage from the street. Side-loaded garages, on interior lots, i.e., where the garage openings are turned away from the street, are exempt from this requirement.
5. **Garages for Duplex Dwellings.** Duplex design shall conform to Section 17-2.3.060.

Findings: The applicant's submitted application does not include garages or other vehicle storage structures. These standards do not apply.

E. **Architecture.** The following standards require variation in architectural plans to avoid monotony in new developments. The standards support the creation of architecturally varied neighborhoods, whether a neighborhood develops all at once or one lot at a time, avoiding homogeneous street frontages that detract from the community's appearance. The standards are applied through the Site Design Review process for new townhome dwellings and new multifamily dwellings, and through the Zoning Checklist (Type I) review process prior to issuance of building permits for new single-family dwellings and new duplex dwellings. In addition to the following requirements, duplexes, townhomes, and multifamily projects shall conform to the special use standards of Chapter 17-2.3.

1. **Detailed Design.** Dwelling designs shall incorporate not fewer than four architectural features per dwelling unit from subdivisions a through k, as generally illustrated in this chapter. Applicants are encouraged to use those elements that best suit the proposed building style and design.
 - a. Covered front porch: not less than six feet in depth and not less than 30 percent of the width of dwelling, excluding the landing for dwelling entrance.
 - b. Dormers: minimum of two required for each single-family dwelling and two each for other dwellings; must be a functional part of the structure, for example, providing light into a living space.
 - c. Recessed entrance: not less than four feet deep.
 - d. Windows: not less than 30 percent of surface area of all street-facing elevation(s).
 - e. Window trim: minimum four-inch width (all elevations).
 - f. Eaves: overhang of not less than 12 inches.
 - g. Offset: offset in façade and/or roof (see subsection 2, "Articulation"); counts twice if both façade and roof offsets are provided.
 - h. Bay window: projects from front elevation by 12 inches.
 - i. Balcony: one per dwelling unit facing street.

- j. Decorative top: e.g., cornice or pediment with flat roof or brackets with pitched roof.
- k. Other: feature not listed but providing visual relief or contextually appropriate design similar to subdivisions a through j, as approved by the Planning Official through a Type I procedure.

Findings: The Applicant’s submitted Preliminary Architectural Plans (Exhibit B) show that the planned building includes façade offsets, balconies, window trim, and eaves that meet the requirements above. These standards are met.

- 2. **Articulation.** Plans for residential buildings shall incorporate design features such as varying rooflines, offsets, balconies, projections (e.g., overhangs, porches, or similar features), recessed or covered entrances, window reveals, or similar elements that break up otherwise long, uninterrupted elevations. Such elements shall occur at a minimum interval of 40 feet, and each floor shall contain at least two elements from the following options, as generally illustrated in this Section 17-3.2.030.
 - a. Recess (e.g., porch, courtyard, entrance balcony, or similar feature) that has a minimum depth of four feet;
 - b. Extension (e.g., floor area, porch, entrance, balcony, overhang, or similar feature) that projects a minimum of two feet and runs horizontally for a minimum length of four feet; or
 - c. Offsets or breaks in roof elevation of two feet or greater in height.

Findings: The Applicant’s submitted architectural plans show balconies, roof overhangs, offset rooflines, a covered entry, and varied rooflines intervals of less than 40 feet. These standards are met.

3. House Plan Variety.

Findings: These standards apply to developments with five or more buildings. Including Phase 1, Colima Apartments contains a total of four buildings. These standards do not apply.

17-3.3.030 Vehicular Access and Circulation

- A. **Purpose and Intent.** Section 17-3.3.030 implements the street access policies of the City of Molalla Transportation System Plan. It is intended to promote safe vehicle access and egress to properties, while maintaining traffic operations in conformance with adopted standards. “Safety,” for the purposes of this chapter, extends to all modes of transportation.

- B. **Permit Required.** Vehicular access to a public street (e.g., a new or modified driveway connection to a street or highway) requires an approach permit approved by the applicable roadway authority.

Findings: No new approaches are proposed with this application.

- C. **Traffic Study Requirements.** The City, in reviewing a development proposal or other action requiring an approach permit, may require a traffic impact analysis, pursuant to Section 17-3.6.020, to determine compliance with this Code.

Findings: Criteria for requiring a full traffic impact analysis were met. The Applicant submitted a Traffic Impact Study prepared by a Registered Engineer as part of their submitted application package. This standard is met.

- D. **Approach and Driveway Development Standards.** Approaches and driveways shall conform to all of the following development standards:

- 1. The number of approaches on higher classification streets (e.g., collector and arterial streets) shall be minimized; where practicable, access shall be taken first from a lower classification street.

Findings: The Applicant's submitted application proposes access from a private street "S Cromptons LN" extending eastward from OR-213 and already serving Phase 1 of Colima Apartments. The subject site is not adjacent to any other public streets. This standard is met.

- 2. Approaches shall conform to the spacing standards of subsections E and F, below, and shall conform to minimum sight distance and channelization standards of the roadway authority.

Findings: Per the Molalla Transportation Systems Plan (TSP), OR-213 is classified as an arterial road. The road is under the jurisdiction of ODOT and the parcel has an existing, permitted access easement via the private drive "S Cromptons LN." Per the TSP, access spacing for private drives on arterial roads is 150 ft. The ingress/egress point to OR-213 for the driveway to the south of S Cromptons LN (Taxlot 2600) does not meet local spacing standards and alternative access for that parcel should be considered if and when those parcels to the south redevelop. Local standards are met.

The Applicant's submitted Transportation Impact Analysis showed that sight distance standards are met.

- 3. Driveways shall be paved and meet applicable construction standards. Where permeable paving surfaces are allowed or required, such surfaces shall conform to applicable Public Works Design Standards.

Findings: The Applicant's submitted site plan shows that all driveway surfaces are to be paved. This standard is met.

4. The City Engineer may limit the number or location of connections to a street, or limit directional travel at an approach to one-way, right-turn only, or other restrictions, where the roadway authority requires mitigation to alleviate safety or traffic operations concerns.

Findings: The Applicant proposes a single access from OR-213 via the private drive "S Cromptons LN." Staff finds that the proposed number, locations, and directional travels of proposed access points are appropriate for the proposed site. This standard is met.

5. Where the spacing standards of the roadway authority limit the number or location of connections to a street or highway, the City Engineer may require a driveway extend to one or more edges of a parcel and be designed to allow for future extension and inter-parcel circulation as adjacent properties develop. The City Engineer may also require the owner(s) of the subject site to record an access easement for future joint use of the approach and driveway as the adjacent property(ies) develop(s).

Findings: The Applicant's submitted application includes an easement for the benefit of taxlot 2400 to the south. Submitted site plans show that the accessway has been extended to provide access to the parcel to the south (taxlot 2400) and potential access to the parcel to the west. Appropriate access for these parcels shall be determined at the time of development. This standard is met.

6. Where applicable codes require emergency vehicle access, approaches and driveways shall be designed and constructed to accommodate emergency vehicle apparatus and shall conform to applicable fire protection requirements. The City Engineer may restrict parking, require signage, or require other public safety improvements pursuant to the recommendations of an emergency service provider.

Findings: This standard is met subject to conditions of approval. The Applicant has submitted a emergency vehicle apparatus turning template with their application that shows a fire apparatus turnaround. Molalla Fire provided the Applicant with measurements of Molalla Fire apparatus. As a condition of approval, the Applicant will confirm that the submitted turning radius turning template is applicable to Molalla Fire apparatus during civil review and make any required adjustments to meet Oregon Fire Code.

7. As applicable, approaches and driveways shall be designed and constructed to accommodate truck/trailer-turning movements.

Findings: The Applicant's submitted site plan includes a modified hammerhead turnaround that is designed to accommodate fire apparatus, waste collection vehicles, and delivery trucks. This standard is met.

8. Except where the City Engineer and roadway authority, as applicable, permit an open access with perpendicular or angled parking, driveways shall accommodate all projected vehicular traffic on-site without vehicles stacking or backing up onto a street.

Findings: All proposed vehicular parking and circulation areas are internal to the site. No vehicle stacking is anticipated for a multi-family development. This standard is met.

9. Driveways shall be designed so that vehicle areas, including, but not limited to, drive-up and drive-through facilities and vehicle storage and service areas, do not obstruct any public right-of-way.

Findings: The Applicant's submitted site plan shows that the proposed driveways do not cause any obstructions to the public right of way. Queueing areas are not anticipated with multi-family development. This standard is met.

10. Approaches and driveways shall not be wider than necessary to safely accommodate projected peak hour trips and turning movements, and shall be designed to minimize crossing distances for pedestrians.

Findings: The Applicant's submitted site plan shows a 23' access drive as previous approved by ODOT for Phase 1. This standard is met.

11. As it deems necessary for pedestrian safety, the City Engineer, in consultation with the roadway authority, as applicable, may require that traffic-calming features, textured driveway surfaces (e.g., pavers or similar devices), curb extensions, signage or traffic control devices, or other features, be installed on or in the vicinity of a site as a condition of development approval.

Findings: Staff will not be requiring additional traffic calming features. This standard is met.

12. Construction of approaches along acceleration or deceleration lanes, and along tapered (reduced width) portions of a roadway, shall be avoided; except where no reasonable alternative exists and the approach does not create safety or traffic operations concern.

Findings: This application does not include new approaches along acceleration or deceleration lanes or reduced width portions of roadway. This standard does not apply.

13. Approaches and driveways shall be located and designed to allow for safe maneuvering in and around loading areas, while avoiding conflicts with pedestrians, parking, landscaping, and buildings.

Findings: This application does not include loading areas. This standard does not apply.

14. Where sidewalks or walkways occur adjacent to a roadway, driveway aprons constructed of concrete shall be installed between the driveway and roadway edge. The roadway authority may require the driveway apron be installed outside the required sidewalk or walkway surface, consistent with Americans with Disabilities Act (ADA) requirements, and to manage surface water runoff and protect the roadway surface.

15. Where an accessible route is required pursuant to ADA, approaches and driveways shall meet accessibility requirements where they coincide with an accessible route.

Findings: These standards are met subject to a condition of approval. Phase 1 of the development included an ADA compliant approach on the north side of the property access. Pedestrian access on the south side of the property was postponed until re-development of the subject property due to easements located within the prospective pedestrian accessway associated with the subject property. As a condition of approval, the Applicant shall design and construct the portion of the ADA pedestrian approach and sidewalk adjacent to OR-213 and south of the proposed access to the edge of the southern property line. Work within the ODOT ROW will require ODOT permitting.

16. The City Engineer may require changes to the proposed configuration and design of an approach, including the number of drive aisles or lanes, surfacing, traffic-calming features, allowable turning movements, and other changes or mitigation, to ensure traffic safety and operations.

Findings: Staff does not have additional configuration and design requirements for the approach.

17. Where a new approach onto a state highway or a change of use adjacent to a state highway requires ODOT approval, the applicant is responsible for obtaining ODOT approval. The City Engineer may approve a development conditionally, requiring the applicant first obtain required ODOT permit(s) before commencing development, in which case the City will work cooperatively with the applicant and ODOT to avoid unnecessary delays.

Findings: An approach to the development was designed and constructed as a part of Colima Apartments Phase 1. ODOT has no further comments regarding approach development for this phase. This standard is met.

18. Where an approach or driveway crosses a drainage ditch, canal, railroad, or other feature that is under the jurisdiction of another agency, the applicant is responsible for obtaining all required approvals and permits from that agency prior to commencing development.

Findings: The approach of the proposed development does not cross any feature that is under the jurisdiction of another agency. This standard does not apply.

19. Where a proposed driveway crosses a culvert or drainage ditch, the City Engineer may require the developer to install a culvert extending under and beyond the edges of the driveway on both sides of it, pursuant to applicable Public Works Design Standards.

Findings: The approach of the proposed development does not cross any culvert or drainage ditch. This standard does not apply.

20. Except as otherwise required by the applicable roadway authority or waived by the City Engineer temporary driveways providing access to a construction site or staging area shall be paved or graveled to prevent tracking of mud onto adjacent paved streets.

Findings: The Applicant's submitted application states that this standard will be met during construction through the provision of an interior gravel entrance.

21. Development that increases impervious surface area shall conform to the storm drainage and surface water management requirements of Section 17-3.6.050.

Findings: The Applicant has submitted a preliminary stormwater report with their application along with planned improvements for surface water management. This standard is met for the purposes of this review and will be evaluated further during engineering plan review.

E. **Approach Separation from Street Intersections.** Except as provided by subsection H, minimum distances shall be maintained between approaches and street intersections consistent with the current version of the Public Works Design Standards and Transportation System Plan.

F. **Approach Spacing.** Except as provided by subsection H or as required to maintain street operations and safety, the following minimum distances shall be maintained between approaches consistent with the current version of the Public Works Design Standards and Transportation System Plan.

Findings: Per the Molalla Transportation Systems Plan (TSP), OR-213 is classified as an arterial road. The road is under the jurisdiction of ODOT and the parcel has an existing, permitted access. Per the Molalla Transportation Systems Plan, access spacing for private drives on arterial roads is 150 ft. The ingress/egress point to OR-213 for the driveway to the south of S Cromptons LN (Taxlot 2600) does not meet local spacing standards and alternative access for that parcel should be considered if and when those parcels to the south redevelop. The applicant's proposal meets local standards and ODOT has no further comments for this phase.

G. **Vision Clearance.** No visual obstruction (e.g., sign, structure, solid fence, or shrub vegetation) greater than 2.5 feet in height shall be placed in "vision clearance areas" at street intersections.. The minimum vision clearance area may be modified by the Planning Official through a Type I procedure, upon finding that more or less sight distance is required (i.e.,

due to traffic speeds, roadway alignment, etc.). Placement of light poles, utility poles, and tree trunks should be avoided within vision clearance areas.

Findings: The Applicant's submitted site plan shows no visual obstructions in the vision clearance area. This standard is met subject to a condition of approval. As an ongoing condition of approval, no visual obstructions shall be placed in vision clearance areas.

H. **Exceptions and Adjustments.** The City Engineer may approve adjustments to the spacing standards of subsections E and F, above, where an existing connection to a City street does not meet the standards of the roadway authority and the proposed development moves in the direction of code compliance. The Planning Official through a Type II procedure may also approve a deviation to the spacing standards on City streets where it finds that mitigation measures, such as consolidated access (removal of one access), joint use driveways (more than one property uses same access), directional limitations (e.g., one-way), turning restrictions (e.g., right-in/ right-out only), or other mitigation alleviate all traffic operations and safety concerns.

Findings: The Applicant has not applied for an exception or adjustment to access or approach spacing. This standard does not apply.

I. **Joint Use Access Easement and Maintenance Agreement.** Where the City approves a joint use driveway, the property owners shall record an easement with the deed allowing joint use of and cross access between adjacent properties. The owners of the properties agreeing to joint use of the driveway shall record a joint maintenance agreement with the deed, defining maintenance responsibilities of property owners. The applicant shall provide a fully executed copy of the agreement to the City for its records, but the City is not responsible for maintaining the driveway or resolving any dispute between property owners.

Findings: This standard is met subject to a condition of approval. Access for this site is planned to be taken from an existing shared private driveway "S Cromptons LN," which connects to OR-213. The Applicant's submitted site analysis (Existing Conditions) plan shows an existing access easement in part for the benefit of the subject parcels. Joint use access and maintenance is already covered through that agreement. The Applicant's narrative states that parking facilities for both phases of Colima Apartments are planned to be shared. As a condition of approval the Applicant shall record a deed agreement ensuring joint access to parking between the first and second phases of Colima Apartments prior to occupancy.

17-3.3.040 Pedestrian Access and Circulation

B. **Standards.** Developments shall conform to all of the following standards for pedestrian access and circulation as generally illustrated in Figure 17-3.3-3:

1. **Continuous Walkway System.** A pedestrian walkway system shall extend throughout the development site and connect to adjacent sidewalks, if any, and to all future phases of the development, as applicable.

Findings: This standard is met subject to a condition of approval. The Applicant's submitted site plan shows a continuous sidewalk that connects all buildings with adjacent public sidewalks and with other buildings in both phases of the development with the exception that the approach on the southern side of the existing access has yet to be built. As a condition of approval, the Applicant shall design and construct the portion of the ADA pedestrian approach and sidewalk adjacent to OR-213 and south of the proposed access to the edge of the southern property line.

2. **Safe, Direct, and Convenient.** Walkways within developments shall provide safe, reasonably direct, and convenient connections between primary building entrances and all adjacent parking areas, recreational areas, playgrounds, and public rights-of-way conforming to the following standards:
 - a. The walkway is reasonably direct when it follows a route that does not deviate unnecessarily from a straight line or it does not involve a significant amount of out-of-direction travel.
 - b. The walkway is designed primarily for pedestrian safety and convenience, meaning it is reasonably free from hazards and provides a reasonably smooth and consistent surface and direct route of travel between destinations. The Planning Official may require landscape buffering between walkways and adjacent parking lots or driveways to mitigate safety concerns.
 - c. The walkway network connects to all primary building entrances, consistent with the building design standards of Chapter 17-3.2 and, where required, Americans with Disabilities Act (ADA) requirements.

Findings: These standards are met subject to conditions of approval. The Applicant's submitted site plans show a proposed walkway along the southern border of the property and adjacent to the property's vehicular access. This walkway provides a direct pedestrian connection between buildings 2 and 3 from Phase 1 and the proposed Phase 2 building with points south of the proposed development. The proposed walkway does not extend all the way to the OR-213 walkway. As a condition of approval the Applicant shall design and construct the walkway abutting the southern portion of the property to extend to the pedestrian sidewalk along OR-213.

All other pedestrian routes within both phases of the development meet these standards.

As a condition of approval, all walkways and sidewalks shall be constructed in consistency with ADA requirements.

3. **Vehicle/Walkway Separation.** Except as required for crosswalks, per subsection 4, below, where a walkway abuts a driveway or street it shall be raised six inches and curbed along the edge of the driveway or street. Alternatively, the Planning Official may approve a walkway abutting a driveway at the same grade as the driveway if the walkway is physically separated from all vehicle-maneuvering areas. An example of such separation is a row of bollards (designed for use in parking areas) with adequate minimum spacing between them to prevent vehicles from entering the walkway.

Findings: The Applicant's submitted site plans show curbing planned for walkways where they abut driveways or streets. This standard is met.

4. **Crosswalks.** Where a walkway crosses a parking area or driveway ("crosswalk"), it shall be clearly marked with contrasting paving materials (e.g., pavers, light-color concrete inlay between asphalt, or similar contrasting material). The crosswalk may be part of a speed table to improve driver-visibility of pedestrians. Painted or thermo-plastic striping and similar types of non-permanent applications are discouraged, but may be approved for lesser used crosswalks not exceeding 24 feet in length.

Findings: The Applicant's submitted site plans show two instances where the pedestrian walkway/sidewalk crosses drive aisles. The Applicant's submitted application states that shown crossings shall be marked as required by this code. This standard is met.

5. **Walkway Width and Surface.** Walkways, including access ways required for subdivisions pursuant to Chapter 17-4.3, shall be constructed of concrete, asphalt, brick or masonry pavers, or other durable surface, as approved by the City Engineer, and not less than six feet wide. Multi-use paths (i.e., designed for shared use by bicyclists and pedestrians) shall be concrete or asphalt and shall conform to the current version of the Public Works Design Standards and Transportation System Plan.

6. **Walkway Construction (Private).** Walkway surfaces may be concrete, asphalt, brick or masonry pavers, or other City-approved durable surface meeting ADA requirements. Walkways shall be not less than six feet in width in commercial and mixed use developments and where access ways are required for subdivisions under Division IV.

Findings: The Applicant's submitted site plan shows walkways throughout the site are constructed of concrete and are at least 5 ft in width, which matches the minimum requirement shown in Figure 17-3.3-3 for residential uses. These standards are met.

7. **Multi-Use Pathways.** Multi-use pathways, where approved, shall be a minimum width and constructed of materials consistent with the current version of the Public Works Design Standards and Transportation System Plan.

Findings: This application does not include multiuse pathways. This standard does not apply.

Chapter 17-3.4 Landscaping, Fences and Walls, Outdoor Lighting

17-3.4.030 Landscaping and Screening

- A. **General Landscape Standard.** All portions of a lot not otherwise developed with buildings, accessory structures, vehicle maneuvering areas, or parking shall be landscaped.

- B. **Minimum Landscape Area.** All lots shall conform to the minimum landscape area standards of the applicable zoning district, as contained in Tables 17-2.2.040.D and 17-2.2.040.E. The Planning Official, consistent with the purposes in Section 17-3.4.010, may allow credit toward the minimum landscape area for existing vegetation that is retained in the development.

Findings: The Applicant's submitted site plans show that 13,864 SF of proposed onsite landscaping, or 47% of the total site. Requirements for total landscaping and common open space are 5% and 15% respectively. These standards are met.

- C. **Plant Selection.** A combination of deciduous and evergreen trees, shrubs, and ground covers shall be used for all planted areas, the selection of which shall be based on local climate, exposure, water availability, and drainage conditions, among other factors. When new vegetation is planted, soils shall be amended and irrigation shall be provided, as necessary, to allow for healthy plant growth. The selection of plants shall be based on all of the following standards and guidelines:
 - 1. Use plants that are appropriate to the local climate, exposure, and water availability. The presence of utilities and drainage conditions shall also be considered.
 - 2. Plant species that do not require irrigation once established (naturalized) are preferred over species that require irrigation.
 - 3. Trees shall be not less than two-inch caliper for street trees and one and one-half-inch caliper for other trees at the time of planting. Trees to be planted under or near power lines shall be selected so as to not conflict with power lines at maturity.
 - 4. Shrubs shall be planted from five-gallon containers, minimum, where they are for required screens or buffers, and two-gallon containers minimum elsewhere.
 - 5. Shrubs shall be spaced in order to provide the intended screen or canopy cover within two years of planting.

6. All landscape areas, whether required or not, that are not planted with trees and shrubs or covered with allowable non-plant material, shall have ground cover plants that are sized and spaced to achieve plant coverage of not less than 75 percent at maturity.
7. Bark dust, chips, aggregate, or other non-plant ground covers may be used, but shall cover not more than 35 percent of any landscape area. Non-plant ground covers cannot be a substitute for required ground cover plants.
8. Where stormwater retention or detention, or water quality treatment facilities are proposed, they shall meet the requirements of the current version of the Public Works Design Standards.
9. Existing mature trees that can thrive in a developed area and that do not conflict with other provisions of this Code shall be retained where specimens are in good health, have desirable aesthetic characteristics, and do not present a hazard.
10. Landscape plans shall avoid conflicts between plants and buildings, streets, walkways, utilities, and other features of the built environment.
11. Evergreen plants shall be used where a sight-obscuring landscape screen is required.
12. Deciduous trees should be used where summer shade and winter sunlight is desirable.
13. Landscape plans should provide focal points within a development, for example, by preserving large or unique trees or groves or by using flowering plants or trees with fall color.
14. Landscape plans should use a combination of plants for seasonal variation in color and yearlong interest.
15. Where plants are used to screen outdoor storage or mechanical equipment, the selected plants shall have growth characteristics that are compatible with such features.
16. Landscape plans shall provide for both temporary and permanent erosion control measures, which shall include plantings where cuts or fills, including berms, swales, stormwater detention facilities, and similar grading, is proposed.
17. When new vegetation is planted, soils shall be amended and irrigation provided, as necessary, until the plants are naturalized and able to grow on their own.

Findings: The Applicant's submitted landscaping plans and narrative demonstrate that proposed plantings, coverage, tree retention, species composition, screening, visual impact, and soil amendments meet the above guidelines. Above ground stormwater detention facilities are not proposed. These standards are met.

D. Central Commercial C-1 District Streetscape Standard. Developers of projects within the Central Commercial C-1 zoning district can meet the landscape area requirement of subsection B, in part, by installing street trees in front of their projects. The Planning Official shall grant credit toward the landscape area requirement using a ratio of 1:1, where one square foot of planted area (e.g., tree well or planter surface area) receives

one square foot of credit. The Planning Official may grant additional landscape area credit by the same ratio where the developer widens the sidewalk or creates a plaza or other civic space pursuant to Section 17-3.2.050.

Findings: The subject properties are located in the C-2 zone. This standard does not apply.

E. **Parking Lot Landscaping.** All of the following standards shall be met for parking lots. If a development contains multiple parking lots, then the standards shall be evaluated separately for each parking lot.

1. A minimum of 10 percent of the total surface area of all parking areas, as measured around the perimeter of all parking spaces and maneuvering areas, shall be landscaped. Such landscaping shall consist of shade trees distributed throughout the parking area. A combination of deciduous and evergreen trees, shrubs, and ground cover plants is required. The trees shall be planned so that they provide a partial canopy cover over the parking lot within five years. At a minimum, one tree per 12 parking spaces on average shall be planted over and around the parking area.

Findings: The Applicant's submitted landscaping plan shows that the proposed landscaped surfaces within the parking lot total 1,096 SF, or 11% of the 9,392 SF parking lot area. The submitted landscaping plan shows 2 trees to be planted in the parking area for 20 proposed spaces. This provides one (1) tree for every 10 spaces. This standard is met.

2. All parking areas with more than 20 spaces shall provide landscape islands with trees that break up the parking area into rows of not more than 10 contiguous parking spaces. Landscape islands and planters shall have dimensions of not less than 48 square feet of area and no dimension of less than six feet, to ensure adequate soil, water, and space for healthy plant growth.

Findings: The Applicants submitted site plans shows 20 total parking spaces. This standard does not apply and it is also met as no proposed parking areas have more than 10 contiguous spaces.

3. All required parking lot landscape areas not otherwise planted with trees must contain a combination of shrubs and groundcover plants so that, within two years of planting, not less than 50 percent of that area is covered with living plants.

Findings: The Applicants submitted site plans show all proposed parking lot landscaping islands include trees in addition to other plants. This standard is met.

4. Wheel stops, curbs, bollards, or other physical barriers are required along the edges of all vehicle-maneuvering areas to protect landscaping from being damaged by vehicles. Trees shall be planted not less than two feet from any such barrier.

Findings: The Applicant's submitted application states that all vehicle maneuvering areas landscaped areas will include six (6) inch curbing around their edges. This standard is met.

5. Trees planted in tree wells within sidewalks or other paved areas shall be installed with root barriers, consistent with applicable nursery standards.

Findings: The Applicant's submitted application does not include tree wells within sidewalks or other paved areas. This standard does not apply.

F. **Screening Requirements.** Screening is required for outdoor storage areas, unenclosed uses, and parking lots, and may be required in other situations as determined by the Planning Official. Landscaping shall be provided pursuant to the standards of subsections F.1 through 3. (See also Figure 17-3.4-4.)

1. **Outdoor Storage and Unenclosed Uses.** All areas of a site containing or proposed to contain outdoor storage of goods, materials, equipment, and vehicles (other than required parking lots and service and delivery areas, per Site Design Review), and areas containing junk, salvage materials, or similar contents, shall be screened from view from adjacent rights-of-way and residential uses by a sight-obscuring fence, wall, landscape screen, or combination of screening methods. See also Section 17-3.4.040 for related fence and wall standards.

Findings: The Applicant's submitted site plans that the proposed trash receptacle is screened by a 6ft chain link fence. Additional landscape screening is provided. This standard is met.

2. **Parking Lots.** The edges of parking lots shall be screened to minimize vehicle headlights shining into adjacent rights-of-way and residential yards. Parking lots abutting a sidewalk or walkway shall be screened using a low-growing hedge or low garden wall to a height of between three feet and four feet.

Findings: The Applicant's submitted site plans show that all parking spaces are screened by appropriate vegetation. This standard is met.

3. **Other Uses Requiring Screening.** The Planning Official may require screening in other situations as authorized by this Code, including, but not limited to, outdoor

storage areas, blank walls, Special Uses pursuant to Chapter 17-2.3, flag lots, and as mitigation where an applicant has requested an adjustment pursuant to Chapter 17-4.7.

Findings: Staff has not identified additional required screening uses. This standard is met.

G. Maintenance. All landscaping shall be maintained in good condition, or otherwise replaced by the property owner.

Findings: This criterion can be met with a condition of approval. As an ongoing condition of approval all landscaping shall be maintained in good condition, or otherwise replaced by the property owner.

17-3.4.040 Fences and Walls

A. **Purpose.** This section provides general development standards for fences, and walls that are not part of a building, such as screening walls and retaining walls.

B. **Applicability.** Section 17-3.4.040 applies to all fences, and to walls that are not part of a building, including modifications to existing fences and walls.

C. **Height.**

1. **Residential Zones.**

Findings: The Applicant's proposal is in a non-residential zone. These standards do not apply.

2. **Non-Residential Zones.** Fences and freestanding walls (i.e., exclusive of building walls) for non-residential uses shall not exceed the following height above grade, where grade is measured from the base of the subject fence or wall.

a. **Within Front or Street-Facing Side Yard Setback.** Four feet, except the following additional height is allowed for properties located within an industrial, public, or institutional zone:

(1) Where approved by the City Planning Official, a fence constructed of open chain link or other "see-through" composition that allows 90 percent light transmission may reach a height of up to eight feet.

b. **Within an Interior Side or Rear Yard Setback.** Eight feet; except the fence or wall height, as applicable, shall not exceed the distance from the fence or wall line to the nearest primary structure on an adjacent property.

Findings: The Applicant's submitted application does not include any street facing or front fencing. The Applicant proposes to retain an existing 6ft wooden fence along the northern and eastern property lines. These standards are met.

3. **All Zones.** Fences and walls shall comply with the vision clearance standards of Section 17-3.3.030.G. Other provisions of this Code, or the requirements of the roadway authority, may limit allowable height of a fence or wall below the height limits of this section.

Findings: No fences and walls are proposed in vision clearance areas as a part of this application. This standard is met.

- D. **Materials.** Prohibited fence and wall materials include straw bales, tarps, barbed or razor wire (except in the M-2 Heavy Industrial zone); scrap lumber, untreated wood (except cedar or redwood), corrugated metal, sheet metal, scrap materials; dead, diseased, or dying plants; and materials similar to those listed herein.

Findings: This standard is met subject to a condition of approval. As an ongoing condition of approval, all fencing shall be comprised of approved materials subject to MMC section 17-3.4.040 D.

- E. **Permitting.** A Type I approval is required to install a fence of six feet or less in height, or a wall that is four feet or less in height. All other walls and fences require review and approval by the Planning Official through a Type II procedure. The Planning Official may require installation of walls or fences as a condition of approval for development, as provided by other Code sections. A building permit may be required for some fences and walls, pursuant to applicable building codes. Walls greater than four feet in height shall be designed by a Professional Engineer licensed in the State of Oregon.

Findings: The Applicant does not propose new fencing with this application.

- F. **Maintenance.** Fences and walls shall be maintained in good condition, or otherwise replaced by the property owner. (Ord. 2017-08 §1)

Findings: This standard is met subject to a condition of approval. As an ongoing condition of approval, fences and walls shall be maintained in good condition, or otherwise replaced by the property owner.

17-3.4.050 Outdoor Lighting

C. Standards.

1. Light poles, except as required by a roadway authority or public safety agency, shall not exceed a height of 20 feet; pedestal- or bollard-style lighting shall be used to illuminate walkways. Flag poles, utility poles, and streetlights are exempt from this requirement.

Findings: The Applicant's submitted lighting plan shows outdoor lighting poles that will not exceed 20 ft in height and otherwise meet standards. This standard is met.

2. Where a light standard is placed over a sidewalk or walkway, a minimum vertical clearance of eight feet shall be maintained.

Findings: The Applicant's submitted lighting plan does not include overhead lighting that leaves less than 8ft of clearance. This standard is met.

3. Outdoor lighting levels shall be subject to review and approval through Site Design Review. As a guideline, lighting levels shall be no greater than necessary to provide for pedestrian safety, property or business identification, and crime prevention.

Findings: The Applicant's submitted lighting plan shows that planned lighting levels are not greater than necessary to provide safety. Lighting is focused on building entrance, walkway, and parking areas. This standard is met.

4. Except as provided for up-lighting of flags and permitted building-mounted signs, all outdoor light fixtures shall be directed downward, and have full cutoff and full shielding to preserve views of the night sky and to minimize excessive light spillover onto adjacent properties.

Findings: This standard is met subject to a condition of approval. The Applicant's submitted lighting plan shows planned outdoor light fixtures that are downward-facing lights. Substantial spillover to properties to the north and east is shown from the wall mounted lights. As a condition of approval, the Applicant shall submit a lighting plan that modifies wall mounted light arrangements to limit spillover onto properties to the north and east.

5. Lighting shall be installed where it will not obstruct public ways, driveways, or walkways.

Findings: The Applicant's submitted lighting plan shows no lighting obstructing public ways, driveways, or walkways. This standard is met.

6. Walkway lighting in private areas shall have a minimum average illumination of not less than 0.2 foot-candles. Lighting along public walkways shall meet the current version of the Public Works Design Standards and AASHTO lighting requirements.

Findings: This condition is met subject to a condition of approval. In areas where lighting is provided, the Applicant's submitted lighting plan shows that lighting over walkways averages over 0.2 foot candles. Lighting is not provided for the new walkway along the southern border of the access road. As a condition of approval, the Applicant shall submit a lighting plan showing walkway lighting along the southern border of the access road meeting the standards of MMC 17-3.050 C, 6.

7. Active building entrances shall have a minimum average illumination of not less than two foot-candles.

Findings: The Applicant's submitted lighting plan shows that lighting above all active entrances exceeds two foot candles. This standard is met.

8. Surfaces of signs shall have an illumination level of not more than two foot candles.

Findings: The Applicant's submitted application does not include signs. This standard is met.

9. Parking lots and outdoor services areas, including quick vehicle service areas, shall have a minimum illumination of not less than 0.2 foot-candles, average illumination of approximately 0.8 foot-candles, and a uniformity ratio (maximum-to-minimum ratio) of not more than 20:1.

Findings: The Applicant's submitted lighting plan shows that the planned lighting in the parking area has a minimum illumination of 0.2 foot-candles, average illumination of 1.8 foot-candles, and a uniformity ratio of 9:1. Average illumination is 0.8 foot candles. This standard is met.

10. Where illumination grid lighting plans cannot be reviewed or if fixtures do not provide photometrics and bulbs are under 2,000 lumens, use the following guidelines:
- a. Poles should be no greater in height than four times the distance to the property line.
 - b. Maximum lumen levels should be based on fixture height.
 - c. Private illumination shall not be used to light adjoining public right-of-way.

Findings: The Applicant's submitted lighting plan shows that these standards are met.

11. Where a light standard is placed within a walkway, an unobstructed pedestrian through zone not less than 48 inches wide shall be maintained.

Findings: The Applicant's submitted lighting plan shows that planned lighting located near walkways does not create unobstructed pedestrian through zones less than 48 inches wide. This standard is met.

12. Lighting subject to this section shall consist of materials approved for outdoor use and shall be installed according to the manufacturer's specifications.

Findings: The Applicant's submitted lighting plan shows that planned lighting is designed for outdoor use. This standard is met.

Chapter 17-3.5 Parking and Loading

Section 17-3.5.020: Applicability and General Regulations

A. Where the Regulations Apply. The regulations of this chapter apply to all parking areas in all zones, at all times, whether parking is required by this Code or put in for the convenience of property owners or users.

Findings: These standards apply to parking proposed within the Applicant's submitted application.

B. Occupancy. All required parking areas must be developed in accordance with the requirements of this Code prior to occupancy of any structure on the subject site. Where

landscaping, screening, or other improvements are required pursuant to this Code, all such improvements must be installed and approved by the Planning Official prior to occupancy.

Findings: This standard is met subject to a condition of approval. As a condition of approval all improvements required by this site design review shall be installed and approved by the Planning Official prior to occupancy.

C. Calculations of Amounts of Required and Allowed Parking.

1. When computing parking spaces based on floor area, parking structures and non-leasable floor spaces, such as storage closets, mechanical equipment rooms, and similar spaces, are not counted.
2. The number of parking spaces is computed based on the primary uses on the site except as stated in subsection C.3. When there are two or more separate primary uses on a site, the minimum and maximum parking for the site is the sum of the required or allowed parking for the individual primary uses. For shared parking, see Section 17-3.5.030.D.
3. When more than 50 percent of the floor area on a site is in an accessory use, the required or allowed parking is calculated separately for the accessory use. An example would be a 10,000 square foot building with a 7,000 square foot warehouse and a 3,000 square foot accessory retail area. The minimum and maximum parking would be computed separately for the retail and warehouse uses.
4. Required parking spaces periodically used for the storage of equipment or goods may be counted toward meeting minimum parking standards, provided that such storage is an allowed use under Section 17-2.2.030, and is permitted as a Temporary Use under Section 17-2.3.160.

Findings: Staff reviewed the Applicant's submitted application considering these standards. Accessory uses do not account for over 50% of the Applicant's proposal so the primary use of multifamily residential applies for all applicable floor area of the proposed development. No proposed parking spaces are reserved for the storage of equipment or goods.

D. Use of Required Parking Spaces. Except as otherwise provided by this section, required parking spaces must be available for residents, customers, or employees of the use. Fees may be charged for the use of required parking spaces. Required parking spaces may not be assigned in any way to a use on another site, except for shared parking pursuant to Section 17-3.5.030.D.

Findings: This standard is met subject to a condition of approval. As a condition of approval, all proposed parking spaces shall be reserved for tenants, employees, or guests of the proposed multi-family use, except for shared parking pursuant to Section 17-3.5.030.D.

E. Proximity of Parking to Use. Required parking spaces for residential uses must be located on the site of the use or on a parcel or tract owned in common by all the owners of the properties that will use the parking area. Required parking spaces for nonresidential uses must be located on the site of the use or in a parking area that has its closest pedestrian access point within 800 feet of the site.

Findings: The proposed use is residential. All proposed parking is located onsite. This standard is met.

F. Improvement of Parking Areas. Motorized vehicle parking is allowed only on streets with an improved shoulder of sufficient width; within garages, carports, and other approved structures; and on driveways or parking lots that have been developed in conformance with this Code. For applicable design standards, see Chapter 17-3.2 Building Orientation and Design; Chapter 17-3.3 Access and Circulation; Chapter 17-3.4 Landscaping, Fences and Walls, Outdoor Lighting and Chapter 17-3.6 Public Facilities. (Ord. 2017-08 §1)

Findings: Offstreet parking is not available for the proposed use. Proposed parking is on an onsite parking lot being developed in conformance with this code. This standard is met.

Section 17-3.5.030: Automobile Parking

- A. Minimum Number of Off-Street Automobile Parking Spaces.** Except as provided by this subsection A, or as required for Americans with Disabilities Act compliance under subsection G, off-street parking shall be provided pursuant to one of the following three standards:
1. The standards in Table 17-3.5.030.A;
 2. A standard from Table 17-3.5.030.A for a use that the Planning Official determines is similar to the proposed use; or
 3. Subsection C Exceptions, which includes a Parking Demand Analysis option.

Findings: These standards are met subject to a condition of approval. The applicant has proposed 20 parking spaces for 9 new two-bedroom apartments and 3 new three-bedroom apartments. Required parking for these uses based on Table 17-3.5.030 A is 26 spaces. Phase I of Colima Apartments exceeds the minimum parking standard of 72 spaces by six spaces, totaling 78 spaces. Total parking between the two phases meets the minimum standard, provided parking

between the two phases is ensured. As a condition of approval, the Applicant shall record a deed provision prior to occupancy that ensures joint use of parking between the two phases of Colima Apartments.

B. Carpool and Vanpool Parking Requirements.

1. Carpool and vanpool parking spaces shall be identified for the following uses:
 - a. New commercial and industrial developments with 50 or more parking spaces;
 - b. New institutional or public assembly uses; and
 - c. Transit park-and-ride facilities with 50 or more parking spaces.

Findings: The Applicant's submitted application is for multi-family development. These standards do not apply.

C. Exceptions and Reductions to Off-Street Parking.

Findings: The Applicant has not requested any adjustment to the minimum parking standards subject to subsection C,2.

D. Maximum Number of Off-Street Automobile Parking Spaces. The maximum number of off-street automobile parking spaces allowed per site equals the minimum number of required spaces for the use pursuant to Table 17-3.5.030.A, times a factor of:

1. 1.2 spaces for uses fronting a street with adjacent on-street parking spaces; or
2. 1.5 spaces, for uses fronting no street with adjacent on-street parking; or
3. A factor based on applicant's projected parking demand, subject to City approval.

Findings: The maximum parking requirement for this development is 1.5 times the minimum of 98 parking spaces, or 147 spaces. The Applicant has provided 98 parking spaces. This standard is met.

E. Shared Parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlap (e.g., uses primarily of a daytime versus nighttime nature; weekday uses versus weekend uses), and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument establishing the joint use. Shared parking requests shall be subject to review and approval through a Type I Review.

Findings: This standard is met subject to a condition of approval. As a condition of approval, the Applicant shall record a deed provision prior to occupancy that ensures joint use of parking between the two phases of Colima Apartments.

F. **Parking Stall Design and Minimum Dimensions.** Where a new off-street parking area is proposed, or an existing off-street parking area is proposed for expansion, the entire parking area shall be improved in conformance with this Code. At a minimum the parking spaces and drive aisles shall be paved with asphalt, concrete, or other City-approved materials, provided the Americans with Disabilities Act requirements are met, and shall conform to the minimum dimensions in Table 17-3.5.030.F and the figures below. All off-street parking areas shall contain wheel stops, perimeter curbing, bollards, or other edging as required to prevent vehicles from damaging buildings or encroaching into walkways, sidewalks, landscapes, or the public right-of-way. Parking areas shall also provide for surface water management, pursuant to Section 17-3.6.050.

Findings: Proposed parking stalls are all 90 degree angled parking stalls. Table 17-3.5.030 F requires that 90 degree angled spaces, as proposed, require:

18' stall depth.

8.5' stall curb width

23' drive aisle (2 way).

The Applicant's submitted application shows 18' stall lengths, 8.5' stall widths, and 23' drive aisles This standard is met.

G. **Adjustments to Parking Area Dimensions.** The dimensions in subsection E are minimum standards. The Planning Official, through a Type II procedure, may adjust the dimensions based on evidence that a particular use will require more or less maneuvering area. For example, the Planning Official may approve an adjustment where an attendant will be present to move vehicles, as with valet parking. In such cases, a form of guarantee must be filed with the City ensuring that an attendant will always be present when the lot is in operation.

Findings: The Applicant has not requested any modifications to parking area dimensions and Staff finds that no adjustments are necessary to meet compliance with this code. This standard does not apply.

H. **Americans with Disabilities Act (ADA).** Parking shall be provided consistent with ADA requirements, including, but not limited to, the minimum number of spaces for

automobiles, van-accessible spaces, location of spaces relative to building entrances, accessible routes between parking areas and building entrances, identification signs, lighting, and other design and construction requirements.

Findings: The Applicant's submitted site plan shows 1 proposed ADA space. This standard is met.

- I. **Electric Charging Stations.** Charging stations for electric vehicles are allowed as an accessory use to parking areas developed in conformance with this Code, provided the charging station complies with applicable building codes and any applicable state or federal requirements.

Findings: No electric charging stations are proposed. This standard does not apply.

17-3.5.040 Bicycle Parking

- A. **Standards.** *Bicycle parking spaces shall be provided with new development and, where a change of use occurs, at a minimum, shall follow the standards in Table 17-3.5.040.A. Where an application is subject to Conditional Use Permit approval or the applicant has requested a reduction to an automobile-parking standard, pursuant to Section 17-3.5.030.C, the Planning Official may require bicycle parking spaces in addition to those in Table 17-3.5.040.A.*

Findings: Per Table 17-3.5.040.A two bicycle parking spaces are required for every 4 dwelling units. The Applicant's submitted application is for 12 dwelling units and 6 bike parking stalls are provided. This standard is met.

- B. **Design.** *Bicycle parking shall consist of staple-design steel racks or other City-approved racks, lockers, or storage lids providing a safe and secure means of storing a bicycle, consistent with the Public Works Design Standards.*

Findings: The Applicant's submitted application shows staple racks. This standard is met.

- C. **Exemptions.** *This section does not apply to single-family and duplex housing, home occupations, and agricultural uses.*

Findings: These standards do apply to the submitted application for multi-family development.

- D. Hazards. Bicycle parking shall not impede or create a hazard to pedestrians or vehicles and shall be located to not conflict with the vision clearance standards of Section 17-3.3.030.G.*

Findings: The Applicant's submitted site plans show that proposed bicycle parking is separated from the pedestrian walkway and is not anticipated to cause a hazard. Standard is met.

17-3.5.040 Loading Areas

- A. **Purpose.** The purpose of Section 17-3.5.050 is to provide adequate loading areas for commercial and industrial uses that do not interfere with the operation of adjacent streets.
- B. **Applicability.** Section 17-3.5.050 applies to uses that are expected to have service or delivery truck visits. It applies only to uses visited by trucks with a 40-foot or longer wheelbase, at a frequency of one or more vehicles per week. The Planning Official shall determine through a Type I review the number, size, and location of required loading areas, if any.
- C. **Standard.** Where an off-street loading space is required, it shall be large enough to accommodate the largest vehicle that is expected to serve the use without obstructing vehicles or pedestrian traffic on adjacent streets and driveways. The Planning Official may restrict the use of other public rights-of-way, so applicants are advised to provide complete and accurate information about the potential need for loading spaces.
- D. **Placement, Setbacks, and Landscaping.** Loading areas shall conform to the standards of Chapter 17-3.2 Building Orientation and Design; Chapter 17-3.3 Access and Circulation; and Chapter 17-3.4 Landscaping, Fences and Walls, Outdoor Lighting. Where parking areas are prohibited between a building and the street, loading areas are also prohibited.
- E. **Exceptions and Adjustments.** The Planning Official, through a Type I Review, may approve a loading area adjacent to or within a street right-of-way where it finds that loading and unloading operations are short in duration (i.e., less than one hour), infrequent, do not obstruct traffic during peak traffic hours, do not interfere with emergency response services, and are acceptable to the applicable roadway authority. (Ord. 2017-08 §1)

Findings: Loading areas are not included with this application nor are they required for residential uses. These standards do not apply.

Chapter 17-3.6 Public Facilities

17-3.6.020 Transportation Standards

Findings: Phase 2 of the Colima Apartment Development will not require a traffic impact analysis update. Applicant has prepared and submitted a Transportation Impact Study for the proposed development and receives City approval with this site design review. The proposed development will add a total of 12 units (9 trips) and the threshold for a traffic impact analysis is 25 trips.

Access for the development is planned to be taken from an existing shared private driveway approach on S Highway 213 and does not require a new approach. Driveway access with need to comply with all planning and ODOTs requirements per DRW04-2019.

17-3.6.040 Sanitary Sewer and Water Service Improvements

Findings: Sanitary Sewer and Water Service standards are met subject to conditions of approval.

Sanitary: An 8-inch sanitary main exists on Crompton's lane. Applicant proposes to extend the 8-inch sewer main to the east end of the site and connect proposed development by lateral connection and provide sanitary sewer cleanout per Molalla Standards. Extension of sewer main will require a Certificate of Capacity analysis performed by an engineer licensed in the state of Oregon. The analysis must be submitted to the City of Molalla. Sufficiency of the analysis will be determined by approval of the City of Molalla and Oregon Department of Environmental Quality. Approval shall be determined sufficient prior to issuance of plumbing or Public Works permit for sewer work.

Applicant's engineer shall coordinate with Public Works for the extension of a public sewer line, and dedication of easements. Applicant shall comply to all Molalla Public Works Design Standards and code provisions in accordance with MMC 13.8 Sanitary Sewer.

Water: Applicant proposes to extend the water main to the east end of the project on Crompton's Lane and branch off to the north to FDC Vault. Waterline shall meet Public Works size requirements and all fire hydrant locations shall be approved by the Fire Marshall. Applicant's engineer shall coordinate with Public Works for the extension of a public water line, and dedication of easements in accordance with MMC 13.4 Water.

A domestic well exists on the south side of Crompton's Lane to be removed during construction of this second phase. Access to the well is subject to a private agreement. Onsite wells may be used for irrigation of onsite landscaping if allowed. Use of well will require the installation of reduced pressure backflow devices on all metered connections.

Should Fire Department regulations require additional fire flow that results in looping the water line through the site, then applicants engineer shall coordinate with Public Works for the extension of a public water line, and dedication of easements.

17-3.6.050 Storm Drainage and Surface Water Management Facilities

Findings: Storm drainage standards are met subject to a condition of approval. Applicant proposes to collect and detain all stormwater onsite and discharge into existing facilities, provided during first phase buildout. Applicant proposes to upsize and /or modify existing detention as necessary to accommodate second phase. Design engineer will be required to provide storage capacity on existing storm system for Phase II connection. Onsite private storm system shall comply with plumbing code requirements. The onsite storm conveyance system shall be reviewed and inspected by Clackamas County Building under a plumbing permit.

17-3.6.060 Utilities

Findings: Utilities standards are met subject to a condition of approval. Per Molalla Public Works Standards, all utilities to the project shall be served underground services. No overhead crossings of public right of way shall be approved by the city. Any work within the ODOT ROW will require ODOT permitting.

17-3.6.070 Easements

Findings: Refer to utility easement requirements addressed in responses to section and 17-3.6.040.

17-3.6.80 Construction Plan Approval

Findings: Construction Plan Approval standards are met subject to conditions of approval. From the materials submitted, it appears that the storm drain, domestic water, and sanitary sewer facilities will be obtained from main line connections and/or extensions. Separate engineering drawings reflecting the installation of public utilities will be required. For residential development projects, all public improvements shall be completed and accepted by the Public Works Department, or otherwise bonded in accordance with MMC 17-3.6.010 and the City of Molalla Public Works Design Standards prior to issuance of building permits. No connections to City services shall be allowed until improvements to the public system to which connection is sought are completed and accepted by City of Molalla Public Works. City of Molalla Construction plan approval requirements include:

- A. No construction of, or connection to, any existing or proposed public utility/improvements will be permitted until all plans are approved by Staff, all fees have been paid, all necessary permits, bonding, right-of-way, and easements have been obtained and approved by staff, and Staff is notified a minimum of 24 hours in advance.

- B. Staff reserves the right to require revisions/modifications to the public improvement construction plans and completed street improvements if additional modifications or expansion of the sight distance onto adjacent streets is required.
- C. All public utility/improvement plans submitted for review shall be based upon a 22"x 34" format and shall be prepared in accordance with the City of Molalla Public Work's Standards.
- D. All survey monuments on the subject site or that may be subject to disturbance within the construction area, or the construction of any off-site improvements shall be adequately referenced and protected prior to commencement of any construction activity. If the survey monuments are disturbed, moved, relocated, or destroyed as a result of any construction, the project shall, at its cost, retain the services of a registered professional land surveyor in the State of Oregon to restore the monument to its original condition and file the necessary surveys as required by Oregon State law. A copy of any recorded survey shall be submitted to Staff.
- E. Plans submitted for review shall meet the requirements described in Section 1 of the Molalla Standard Specifications for Public Works Construction.
- F. The applicant shall contact the Oregon Water Resources Department and inform them of any existing wells located on the subject site. Any existing well shall be limited to irrigation purposes only. Proper separation, in conformance with applicable State standards, shall be maintained between irrigation systems, public water systems, and public sanitary systems. Should the project abandon any existing wells, they shall be properly abandoned in conformance with State standards and supply the City with a copy of the final document.
- G. The project shall utilize existing water, sewer, and storm water 'stub-outs' wherever possible. Water for domestic and fire protection shall be looped through the proposed site. Any 'stub-outs' determined to be not needed for the proposed development or any future development of the subject property shall be abandoned in accordance with the Molalla Standard Specifications for Public Works Construction.
- H. All public improvement designs shall meet the requirements of the Molalla Standard Specifications for Public Works Construction as amended by the Public Works Director.
- I. General Easements – A 10-foot-wide public utility easement shall be dedicated to the City adjacent to all public right-of-way and no structures are allowed to encroach into the easement. Applicant shall be required to submit a legal description and exhibit map for review and sign City easements. Once completed, applicant will be required to record

easements with the County Recorder's Office and return the original document to the City prior to final occupancy.

J. General Erosion Control – The applicant shall install, operate, and maintain adequate erosion control measures in conformance with the standards adopted by the City of Molalla and DEQ during the construction of any public/private utility and building improvements until such time as approved permanent vegetative materials have been installed. Applicant or Applicant's Contractor shall be responsible for all erosion control requirements under the 1200-C permit and shall coordinate directly with DEQ for questions related to 1200-C permit compliance.

K. System Development Charges shall be paid prior to release of Building Permit Authorization from the City of Molalla.

E. For non-residential uses, all adverse impacts to adjacent properties, such as light, glare, noise, odor, vibration, smoke, dust, or visual impact, are avoided; or where impacts cannot be avoided, they are minimized; and

Findings: This project is for a residential use. This standard does not apply.

F. The proposal meets all existing conditions of approval for the site or use, as required by prior land use decision(s), as applicable. Note: Compliance with other City codes and requirements, though not applicable land use criteria, may be required prior to issuance of building permits. (Ord. 2017-08 §1)

Findings: The existing site is currently vacant. Unmet conditions from the prior land use decision DRW04-2019, the first phase of Colima Apartments, regarding the pedestrian pathway on the south border of the property are addressed within Staff responses to MMC 17-3 Community Design Standards. The subject proposal shall be developed in compliance with Molalla Municipal Code.

Exhibit B:

Application Package For SDR07-2021

Site Design Review Application for Colima Apartments Phase 2

Date: Initially Submitted August 10, 2021
Updated January 2022

Submitted to: City of Molalla
Planning and Community Development
PO Box 248
Molalla, OR 97038

Applicant: Angel Jimenez Alejandrez
PO Box 180
Canby, OR 97013

AKS Job Number: 7435-01



AKS
ENGINEERING & FORESTRY

12965 SW Herman Road, Suite 100
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Exhibits

- Exhibit A:** Preliminary Plans
- Exhibit B:** Preliminary Architectural Plans
- Exhibit C:** Preliminary Architectural Materials
- Exhibit D:** City Land Use Application Form
- Exhibit E:** Transportation Impact Study
- Exhibit F:** Preliminary Stormwater Report
- Exhibit G:** Clackamas County Assessor’s Map
- Exhibit H:** Property Ownership Information
- Exhibit I:** Existing Deed Restrictions

Site Design Review Application for Colima Apartments Phase 2

Submitted to:	City of Molalla Planning and Community Development PO Box 248 Molalla, OR 97038
Applicant:	Angel Jimenez Alejandrez PO Box 180 Canby, OR 97013
Property Owners:	Angel Jimenez Alejandrez (Tax Lot 2401) PO Box 180 Canby, OR 97013 Colima Property Holdings, LLC (Tax Lot 2404) 309 NE 19 th Avenue Canby, OR 97013
Applicant's Consultant:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062 Contact: Chris Goodell, AICP, LEED ^{AP} Email: chrisg@aks-eng.com Phone: (503) 563-6151
Site Location:	12763 S Cromptons Lane
Clackamas County Assessor's Map:	5 2 E 07D Tax Lots 2401 and 2404
Site Size:	±0.68 acres
Land Use District:	General Commercial (C-2)

I. Executive Summary

The applicant, Angel Jimenez Alejandrez, is submitting this Site Design Review Application to provide housing opportunities on his C-2 (General Commercial) zoned property for people seeking to live in the City of Molalla. The applicant owns Colima Construction, a local general contracting business and is currently building a new multifamily housing project located at 12745 S Cromptons Lane (adjacent to the subject site). That project is known as the Colima Apartments and was approved by the City of Molalla Planning Commission on March 6, 2020. When Mr. Jimenez Alejandrez purchased the subject property in April 2020 his intent was to create a second phase for the Colima Apartments that would include additional housing as well as amenities that could not be provided in the initial phase, principally a children’s recreational area. Subsequent to Mr. Jimenez Alejandrez’ purchase of the subject property, the Molalla Development Code was amended on August 25, 2021 (ORD 2021-10), and the current C-2 zoning district no longer permits residential uses within the ground floor of new structures. As this application was initially submitted on August 10, 2021 (prior to the change in the development code), it is subject to the standards that were in place at the time the application was submitted. Therefore, residential housing is permitted within the ground floor of structures included in this application.

The subject property is located at 12763 S Cromptons Lane (Clackamas County Assessor’s Map 5 2 E 07D, Tax Lots 2401 and 2404) The project is planned to access Oregon Route 213 (OR 213) from an existing shared private driveway, referred to as S Cromptons Lane, at the southern boundary of the site. The planned project features include:

- One building with 12 dwelling units
- Off-street parking for residents and visitors
- Interconnected pedestrian circulation system
- Enclosed recycling/garbage facility
- Common open space including landscaped open space areas, play equipment, picnic table, and benches
- Private open space (balconies and patios) for each of the dwellings

This application includes the City application forms, written materials, preliminary plans, and other documentation necessary for City staff to review and determine compliance with the applicable approval criteria. The evidence is substantial and supports the City’s approval of the application.

II. Site Description/Setting

The property included in this application comprises a total area of ±0.68 acres with generally flat topography gently sloping to the north. To the north of the site are two rural single-family homes that have C-2 zoning designations. South of the site is a property with a Heavy Industrial (M-2) zoning designation that has an existing residential home. West of the site is a property zoned C-2 which has been improved with the first phase of Colima Apartments. East of the site is a property with an industrial use that has a M-2 zoning designation.

III. Applicable Review Criteria

This application involves the development of land for housing. Oregon Revised Statute (ORS) 197.307(4) states that a local government may apply only clear and objective standards, conditions, and procedures regulating the provision of housing, and that such standards, conditions, and procedures cannot have the

effect, either in themselves or cumulatively, of discouraging housing through unreasonable cost or delay. In addition, this application involves a “limited land use decision” as that term is defined in ORS 197.015(12). The significance of this statutory provision is also discussed below.

Oregon Courts and the Land Use Board of Appeals (LUBA) have generally held that an approval standard is not clear and objective if it imposes on an applicant “subjective, value-laden analyses that are designed to balance or mitigate impacts of the development” (Rogue Valley Association of Realtors v. City of Ashland, 35 Or LUBA 139, 158 [1998] aff’d, 158 Or App 1 [1999]). ORS 197.831 places the burden on local governments to demonstrate that the standards and conditions placed on housing applications can be imposed only in a clear and objective manner. While this application addresses all standards and conditions, the Applicant reserves the right to object to the enforcement of standards or conditions that are not clear and objective and does not waive its right to assert that the housing statutes apply to this application. [The exceptions in ORS 197.307(5) do not apply to this application].

ORS 197.195(1) describes how certain standards can be applied as part of a limited land use application. The applicable land use regulations for this application are found in the City of Molalla Development Code. Pursuant to ORS 197.195(1) Comprehensive Plan provisions (as well as goals, policies, etc. from within the adopted elements of the Comprehensive Plan) may not be used as a basis for a decision or an appeal of a decision unless they are specifically incorporated into the land use regulations. While this application may respond to Comprehensive Plan and/or related documents, such a response does not imply or concede that said provisions are applicable approval criteria. Similarly, the applicant does not waive its right to object to the attempted implementation of these provisions unless they are specifically listed in the applicable land use regulations, as is required by ORS 197.195(1).

Pursuant to ORS 197.522, if this application is found to be inconsistent with the applicable land use regulations, the applicant may offer an amendment or propose conditions of approval to make the application consistent with applicable regulations. The local government is obligated to consider and impose any conditions of approval proposed by the applicant if such conditions would allow the local government to approve an application that would not otherwise meet applicable approval criteria.

CITY OF MOLALLA DEVELOPMENT CODE

Chapter 17-2.2 ZONING DISTRICT REGULATIONS

17-2.2.030 Allowed Uses

- A. Uses Allowed in Base Zones.** Allowed uses include those that are permitted, those that are permitted subject to special use standards, and those that are allowed subject to approval of a conditional use permit, as identified by Table 17-2.2.030. Allowed uses fall into four general categories: Residential, Public and Institutional, Commercial, and Other. If Table 17-2.2.030 does not list a specific use, and Division V Definitions does not identify the use or include it as an example of an allowed use, the City may find that use is allowed, or is not allowed, by following the procedures of Section 17-1.5.010 Code Interpretations. Uses not listed in Table 17-2.2.030 and not found to be similar to an allowed use are prohibited.
- B. Permitted Uses and Uses Permitted Subject to Special Use Standards.** Uses listed as “Permitted (P)” are allowed provided they conform to Section 17-2.2.040 Lot and Development Standards. Uses listed as “Permitted Subject to Special Use Standards (S)” are allowed, provided they conform to the Chapter 17-2.3 Special Use Standards and Section 17-2.2.040 Lot and Development Standards. Uses listed as “Not Allowed (N)” are prohibited. Uses not listed but similar to those allowed may be permitted pursuant to Section 17-1.5.010.

Table 17-2.2.030 – Uses Allowed by Zoning District	
Uses	Commercial and Industrial Zones
A. Residential Uses	C-2
Multifamily Dwelling	S
Key: P = Permitted Use S = Permitted with Special Use Standards CU = Conditional Use Permit Required N = Not Allowed	

Response: This application involves Site Design Review for multifamily dwellings. As shown in the table above, multifamily dwellings are permitted with special use standards for properties with a C-2 zoning designation. This criterion is met.

17-2.2.040 Lot and Development Standards

A. **Development Standards.** Section 17-2.2.040 provides the general lot and development standards for each of the City’s base zoning districts. The standards of Section 17-2.2.040 are organized into two tables: Table 17-2.2.040.D applies to Residential zones, and Table 17-2.2.040.E applies to non-residential zones.

Response: This application involves Site Design Review for multifamily dwellings on property that has a C-2 zoning designation. The lot and development standards for properties in the C-2 zone are found in Table 17-2.2.040.D and discussed in detail below. This standard is met.

B. **Design Standards.** City standards for Access, Circulation, Site and Building Design, Parking, Landscaping, Fences and Screening, and Public Improvements, among others, are located in Division III. Notwithstanding the provisions of Section 17-2.2.040 and Division III, different standards may apply in specific locations, such as at street intersections, within overlay zones, adjacent to natural features, and other areas as may be regulated by this Code or subject to state or federal requirements. For requirements applicable to the City’s overlay zones, please refer to Chapter 17-2.4.

Response: As applicable, the above referenced design standards are discussed in detail throughout this application. This standard is met.

C. **Disclaimer.** Property owners are responsible for verifying whether a proposed development meets the applicable standards of this Code. Submittal of a Zoning Checklist for review and approval by the Planning Official may be required in order to determine whether use is allowed on a given site, and whether further land use review is required.

Response: This application responds to the applicable sections of the Molalla Development Code. This standard is met.

D. **Lot and Development Standards for Residential Districts.** The development standards in Table 17-2.2.040.D apply to all new development as of November 10, 2017 in residential zones.

Table 17-2.2.040.E – Lot and Development Standards for Non-Residential zones	
Standard	C Zones
Minimum Lot Area (square feet)*Development must conform to lot width, depth, yard setback, and coverage standards.	None
Minimum Lot Width and Depth	None
Building or Structure Height. Standard Maximum Height	55 ft.
Fences and Non-Building Walls Max. Height. – Front Yard Max. Height. – Interior Side Max. Height – Rear Yard Max. Height – Street-Side; or Reverse Frontage Lot (rear) (See also Section 17-3.4.040.)	4 ft 6 ft 6 ft 4 ft or 6 ft with 5 ft landscape buffer
Lot Coverage. Maximum Lot Coverage (foundation plane area as % of site area) Multifamily or Cottage Cluster	100%
Minimum Landscape Area (% lot area), includes required parking lot landscaping and any required screening. This standard does not apply to individual, detached single-family dwellings. Landscape area may include street trees and civic space improvements in some zones, per Sections 17-3.2.050 and 17-3-4.030.	5%
Minimum Setbacks (feet). See also Sections 17-2.2.050	
Front, Street-Side, Interior Side, and Rear property lines, except garage or carport, or as required by other code provisions. Garage or Carport Entry, set back from street Alley Adjacent to R Districts	0 ft 20 ft 3 ft 10 ft
Build-To Line Maximum (feet): New Buildings Only: At least one primary building entrance shall be built no farther from the street right-of-way than the build-to line; except where a greater setback is required for a Planned Street Improvement, then the build-to line increases proportionately. The build-to line may also be increased through Site Design Review when pedestrian amenities are provided between a primary building entrance and the street right-of-way. To avoid encroachment into the right-of-way, doorways are not required to be flush with the build-to line.	0 ft; may be increased when pedestrian amenities are provided between a primary building entrance and street

Response: This project does not include garages or alleys, nor is it adjacent to properties within an R District. Therefore, pursuant to the above table, the planned building does not have minimum setbacks. Additionally, the site does not have frontage on a street, therefore, the build-to-line provisions do not apply to this project. The other applicable development standards are addressed in detail later in this application. This standard is satisfied.

17-2.2.50 Setback Yards Exceptions

A. Encroachments

1. Except as otherwise restricted by applicable building codes, building elements such as eaves, chimneys, bay windows, overhangs, heating, cooling and ventilation systems, and similar incidental structures, may extend into the required setback yards by no more than 36 inches, provided that a setback of

not less than 36 inches is maintained, all applicable building codes are met, and the vision clearance standards in Section 17-3.3.030.G are met.

2. Porches, decks, patios, steps, and similar features not exceeding 30 inches in height may encroach into setbacks, provided a minimum setback of not less than 36 inches is maintained and all applicable building codes are met.
3. Fences may be placed within setback yards, subject to the standards of Sections 17-2.2.040, 17-2.2.050, and 17-3.4.040.

Response: As previously discussed, the project does not have required setback areas. These criteria do not apply.

- B. **Reverse Frontage Lots.** Buildings on reverse-frontage lots (through lots) are required to meet the build-to line standard on only one street. Reverse frontage lots are subject to the fence height and setback requirements of Sections 17-2.2.040 and 17-2.2.050, and the design standards (e.g., materials and landscape buffer requirements) of Section 17-3.4.040.

Response: This project does not include reverse frontage lots. This criterion does not apply.

- C. **Flag Lots.** Where a flag lot is proposed, the Planning Official shall designate the front yard of a flag lot to ensure compatibility with adjacent land uses, based on existing development patterns and location of adjacent driveways, utilities, and natural features, as either:

1. Front yard parallel to the street providing automobile access; or
2. Front yard parallel to the flagpole from which driveway access is received.

Flag lots shall comply with Section 17-4.3.050. The City may impose reasonable conditions to ensure flag lot development is compatible with adjacent uses. (Ord. 2017-08 §1)

Response: Flag lots are not relevant to this application. This criterion does not apply.

17-2.2.060 Residential Density Standards

To ensure efficient use of buildable lands and to provide for a range of needed housing in conformance with the Comprehensive Plan, all new developments in the residential districts shall conform to the minimum and maximum densities prescribed in Table 17-2.2.040.D, except as provided below in subsections A through E:

(...)

Response: This application involves Site Design Review for multifamily dwellings within a commercial (C-2) zone. Therefore, these standards do not apply.

17-2.2.070 Lot Coverage

Lot Coverage Calculation. The maximum allowable lot coverage, as provided in Tables 17-2.2.040.D and 17-2.2.040.E, and is calculated as the percentage of a lot or parcel covered by buildings and structures (as defined by the foundation plan area) at 30 inches or greater above the finished grade. It does not include paved surface-level developments such as driveways, steps, parking pads, and patios that do not meet the minimum elevation of 30 inches above grade.

Response: Pursuant to Table 17-2.2.040.E, the maximum allowable lot coverage for multi-family projects is 100 percent. As shown on the Preliminary Site Plan, the total building coverage is ±15.4 percent. This standard is met.

17-2.2.080 Height Measurement, Exceptions, and Transition

-
- A. **Building Height Measurement.** Building height is measured pursuant to the State of Oregon Structural Specialty Code.

Response: As shown on the Preliminary Architectural Plans (Exhibit B), the planned average roof height is 35 feet. Pursuant to Table 17-2.2.040.E, the maximum height allowed is 55 feet. To the extent applicable, this standard is met.

- B. **Exception from Maximum Building Height Standards.** Except as required pursuant to Federal Aviation Administration regulations, chimneys, bell towers, steeples, roof equipment, flag poles, and similar features not for human occupancy are exempt from the maximum building heights, provided that all applicable fire and building codes are met.

Response: As previously discussed, the planned building height meets the applicable building height standards. Additionally, as shown on the Preliminary Architectural Plans (Exhibit B), and Preliminary Plans (Exhibit A), this project includes fire suppression systems including fire sprinklers, FDC outside the building, and a fire hydrant meeting applicable fire code requirements. To the extent applicable, this standard is met.

Chapter 17-2.3 SPECIAL USE STANDARDS

17-2.3.030 Review Process

The City uses the procedures for Site Design Review, under Chapter 17-4.2, in reviewing proposed uses for compliance with the requirements of Chapter 17-2.3.

Response: This application includes detailed responses to the applicable code sections within Chapters 17-4.2 and 17-2.3.

17-2.3.080 Multifamily Development

- A. **Purpose.** The following standards are intended to ensure that multifamily developments are planned with adequate open space and are designed to prevent conflicts between residential uses, on-site recreation, and vehicle circulation and parking areas. The standards supplement the design standards of Division III.
- B. **Applicability.** This section applies to new multifamily developments.

Response: This application involves Site Design Review for multifamily dwellings. Therefore, these standards are applicable and addressed in detail below.

- C. **Standards.**

- 1. **Common Open Space and Landscaping.** A minimum of 15 percent of the site area in a multifamily development shall be designated and permanently reserved as common area or open space, in accordance with all of the following criteria:
 - a. “Site area” for the purposes of this section is defined as the subject lot or lots after subtracting any required dedication of street right-of-way.

Response: As shown on the on the Preliminary Site Plan included in Exhibit A, the planned common open space area exceeds 15 percent of the total site area. This standard is met.

- b. The common area or open space shall contain one or more of the following: outdoor recreation area, tree grove (e.g., existing mature trees), turf play fields or playgrounds, sports courts, swim pool, walking fitness course, natural area with picnic benches, or similar open space amenities as appropriate for the intended residents.

Response: As shown on the Preliminary Landscape Plan included in Exhibit A, the common open space area includes landscape improvements and play equipment. This standard is satisfied.

- c. In order to be counted as eligible toward the minimum open space area, such areas shall have dimensions of not less than 20 feet.

Response: As shown on the Preliminary Landscape Plan, the planned open space area has a dimension of at least 20 feet. This standard is satisfied.

- d. Open space and common areas not containing recreational facilities shall be landscaped.

Response: The Preliminary Landscape Plan included with this application shows open space and common areas not containing planned amenities are landscaped. This standard is met.

- e. Buildings located in the C-1 zone are exempt from this section.

Response: The property is not located within the C-1 zone. Therefore, this standard is not applicable.

- 2. Private Open Space. Private open space areas shall be required for dwelling units based on the following criteria:

- a. A minimum of 40 percent of all ground-floor dwelling units shall have front or rear patios or decks containing at least 48 square feet of usable area. Ground floor housing means the housing unit entrance (front or rear) is within five feet of the finished ground elevation (i.e., after grading and landscaping). This section does not apply to buildings within the C-1 zone.

Response: This application involves Site Design Review for future multifamily dwellings. As shown on the Preliminary Architectural Plans (Exhibit B), each ground floor dwelling unit includes a patio meeting this requirement. This standard is met.

- b. A minimum of 40 percent of all upper-floor housing units shall have balconies or porches containing at least 48 square feet of usable area. Upper-floor housing means housing units with a first floor elevation that is more than five feet above the finished grade.

Response: This application involves Site Design Review for future multifamily dwellings. As shown on the Preliminary Architectural Plans (Exhibit B), each upper floor dwelling unit includes a deck that meets this requirement. This standard is met.

- 3. Building Orientation and Design, Access and Circulation, Landscaping and Screening, Parking and Loading, and Public Facilities. The standards of Chapters 17-3.2 through 17-3.6 shall be met.

Response: Building orientation and design, access and circulation, landscaping and screening, parking and loading, and public facilities are discussed in detail in responses to Sections 17-3.2 through 17-3.6 below.

- 4. Trash Storage. Trash receptacles, recycling, and storage facilities shall be oriented away from building entrances, set back at least 10 feet from any public right-of-way and adjacent residences, and shall be screened with an evergreen hedge or solid fence or wall of not less than six feet in height. Receptacles must be accessible to trash pick-up trucks.

Response: As shown on the Preliminary Plans (Exhibit A), the trash receptable and recycling facilities are set back at least 10 feet from the public right-of-way and adjacent residences. The trash facility is oriented away from the building entrance and is planned to be screened with a 6-foot-high chain link fence and landscaping. The receptacles are accessible for trash pick-up trucks. This standard is met.

Chapter 17-3.2 BUILDING ORIENTATION AND DESIGN

17-3.2.020 Applicability

Chapter 17-3.2 applies to all new buildings, including single-family detached homes, and exterior alterations to existing buildings. The Planning Official, through a Type II procedure, may grant adjustments to Chapter 17-3.2, pursuant to the criteria of Chapter 17-4.7 Adjustments and Variances.

17-3.2.030 Residential Buildings

B. Building Orientation. Residential buildings that are subject to the provisions of this chapter, pursuant to Section 17-3.2.020, shall conform to all of the following standards in subsections B.1 through 3, below, as generally illustrated in Figure 17-3.2-1. Figure 17-3.2-2 provides examples of non-compliance.

1. Building Orientation to Street. Except as provided below, dwelling units shall orient toward a street, have a primary entrance opening toward the street, and be connected to the right-of-way with an approved walkway or residential front yard.

a. A dwelling may have its primary entrance oriented to a yard other than the front or street yard where the only permitted access to the property is from a shared driveway or flag lot drive and orienting the dwelling entrance to the street is not practical due to the layout of the lot and driveway.

Response: As shown on the Preliminary Plans, the site does not have frontage on a street. Therefore, the above provisions are not applicable.

b. Where there is no adjacent street to which a dwelling may be oriented, or it is not practical to orient a dwelling to an adjacent street due to lot layout, topographic, or other characteristics of the site, the dwelling may orient to a walkway, courtyard, open space, common area, lobby, or breezeway (i.e., for multifamily buildings).

Response: As discussed above, the site does not have frontage on a street and is not required to orient the building toward a street. As shown on the Preliminary Plans (Exhibit A), the building is oriented to an internal walkway that connects to OR 213 by way of the existing shared driveway and extends through Colima Apartments Phase 1. This criterion is met.

c. Where a flag lot is permitted, building orientation shall conform to the provisions for flag lots under Chapter 17-4.3.

Response: This application does not involve the creation of a new flag lot or building on an existing flag lot. This criterion is not applicable.

2. Limitation on Parking Between Primary Entrance and Street. Off-street parking is not allowed between a primary building entrance and the street to which it is oriented, except that assisted living facilities, group care facilities, and similar institutional-residential uses serving clients with disabilities may have one driveway located between the primary building entrance and an adjacent street as required to serve as a drop-off or loading zone, provided the

primary building entrance shall connect to an adjacent street by a pedestrian walkway that conforms to the standards of Section 17-3.3.040. The intent of this exception is to provide for one drop-off or loading zone while maintaining a direct, convenient, and safe pedestrian access to a primary building entrance.

Response: The site does not have frontage on a street; therefore, this criterion is not applicable.

3. **Build-To Line.** Where a new building is proposed in a zone that requires a build-to line per Section 17-2.2.040, the building shall comply with the build-to line standard and the development shall meet the standards for pedestrian access under Section 17-3.3.040.

Response: As previously stated, this site does not have frontage on a street; therefore, the build-to-line requirements are not applicable. As discussed in detail in Section 17-3.3.040 later in this application, this application meets the standards for pedestrian access. This criterion is satisfied.

C. **Garages.** The following standards apply to all types of vehicle storage, including, but not limited to, buildings, carports, canopies, and other permanent and temporary structures. The standards are intended to balance residents' desire for a convenient, safe, and private vehicle access to their homes with the public interest in maintaining safe and aesthetically pleasing streetscapes. The standards therefore promote pedestrian safety and visibility of public ways, while addressing aesthetic concerns associated with street-facing garages.

- (...). **Alleys and Shared Drives.** Where a dwelling abuts a rear or side alley, or a shared driveway, including flag lot drives, the garage or carport opening(s) for that dwelling shall orient to the alley or shared drive, as applicable, and not a street.
2. **Setback for Garage Opening Facing Street.** No garage or carport opening shall be placed closer than 16 feet to a street right-of-way. On corner lots, garages facing a side street (i.e., not the same street as the front entrance) may be located closer than 16 feet to a street right-of-way.
3. **Width of Garage Openings Facing Street.** Where one or more garage openings face a street, the total width of all garage openings on that building elevation shall not exceed 50 percent of the width of that elevation; except this standard does not apply where the garage opening is recessed behind the front elevation of the dwelling by not less than four feet for its entire width, or where all garage openings are placed behind the primary entrance to the dwelling. An arbor, portico, or similar architectural feature extending the entire width of the garage may be used as the basis of measuring the garage recess. A garage opening is considered to be facing a street where the opening is parallel to, or within 45 degrees of, the street right-of-way line.
4. **Three-Car and Wider Garages.** Where three or more contiguous garage parking bays are proposed facing the same street, the garage opening closest to a side property line shall be recessed at least two feet behind the adjacent opening(s) to break up the street-facing elevation and diminish the appearance of the garage from the street. Side-loaded garages, on interior lots, i.e., where the garage openings are turned away from the street, are exempt from this requirement.
5. **Garages for Duplex Dwellings.** Duplex design shall conform to Section 17-2.3.060.

Response: This project does not include garages or other types of vehicle storage structures. Therefore, these criteria are not applicable.

-
- D. **Architecture.** The following standards require variation in architectural plans to avoid monotony in new developments. The standards support the creation of architecturally varied neighborhoods, whether a neighborhood develops all at once or one lot at a time, avoiding homogeneous street frontages that detract from the community's appearance. The standards are applied through the Site Design Review process for new townhome dwellings and new multifamily dwellings, and through the Zoning Checklist (Type I) review process prior to issuance of building permits for new single-family dwellings and new duplex dwellings. In addition to the following requirements, duplexes, townhomes, and multifamily projects shall conform to the special use standards of Chapter 17-2.3.
1. **Detailed Design.** Dwelling designs shall incorporate not fewer than four architectural features per dwelling unit from subdivisions a through k, as generally illustrated in this chapter. Applicants are encouraged to use those elements that best suit the proposed building style and design.
 - a. **Covered front porch:** not less than six feet in depth and not less than 30 percent of the width of dwelling, excluding the landing for dwelling entrance.
 - b. **Dormers:** minimum of two required for each single-family dwelling and two each for other dwellings; must be a functional part of the structure, for example, providing light into a living space.
 - c. **Recessed entrance:** not less than four feet deep.
 - d. **Windows:** not less than 30 percent of surface area of all street-facing elevation(s).
 - e. **Window trim:** minimum four-inch width (all elevations).
 - f. **Eaves:** overhang of not less than 12 inches.
 - g. **Offset:** offset in façade and/or roof (see subsection 2, "Articulation"); counts twice if both façade and roof offsets are provided.
 - h. **Bay window:** projects from front elevation by 12 inches.
 - i. **Balcony:** one per dwelling unit facing street.
 - j. **Decorative top:** e.g., cornice or pediment with flat roof or brackets with pitched roof.
 - k. **Other:** feature not listed but providing visual relief or contextually appropriate design similar to subdivisions a through j, as approved by the Planning Official through a Type I procedure.

Response: As shown on the Preliminary Architectural Plans (Exhibit B), the planned building includes façade offsets, balconies, window trim, and eaves that meet the requirements above. This criterion is satisfied.

2. **Articulation.** Plans for residential buildings shall incorporate design features such as varying rooflines, offsets, balconies, projections (e.g., overhangs, porches, or similar features), recessed or covered entrances, window reveals, or similar elements that break up otherwise long, uninterrupted elevations. Such elements shall occur at a minimum interval of 40 feet, and each floor shall contain at least two elements from the following options, as generally illustrated in this Section 17-3.2.030.
 - a. **Recess (e.g., porch, courtyard, entrance balcony, or similar feature)** that has a minimum depth of four feet;

- b. Extension (e.g., floor area, porch, entrance, balcony, overhang, or similar feature) that projects a minimum of two feet and runs horizontally for a minimum length of four feet; or
- c. Offsets or breaks in roof elevation of two feet or greater in height.

Response: The Preliminary Architectural Plans (Exhibit B) depict building elevations that contain the required articulation outlined above. This criterion is met.

- 3. House Plan Variety. This subsection applies to land divisions and new developments with five or more residential buildings. No two directly adjacent or opposite dwelling units in a single-family development, or buildings in a multifamily development, may possess the same front or street-facing elevation. This standard is met when front or street-facing elevations differ from one another by no fewer than three of the elements listed in subdivisions a through g. Where façades repeat on the same block face, they must have at least three intervening lots between them that meet the above standard. Land division approvals will be conditioned to assure compliance with this subsection.
(...)

Response: This application involves Site Design Review for one future multifamily building. Therefore, these criteria are not applicable.

Chapter 17-3.3 ACCESS AND CIRCULATION

17-3.3.030 Vehicular Access and Circulation

(...)

- B. Permit Required. Vehicular access to a public street (e.g., a new or modified driveway connection to a street or highway) requires an approach permit approved by the applicable roadway authority.

Response: This application involves Site Design Review for a multifamily community that is planned to take access from OR 213 through an existing driveway. Modifications to the existing approach are not included in this project and as such this project does not require an approach permit. This criterion does not apply.

- C. Traffic Study Requirements. The City, in reviewing a development proposal or other action requiring an approach permit, may require a traffic impact analysis, pursuant to Section 17-3.6.020, to determine compliance with this Code.

Response: A Transportation Impact Study (TIS) has been included with this application (Exhibit E). The TIS examines the effects of the planned improvements on the transportation system in the vicinity of the site and based on this detailed analysis, the surrounding transportation system can safely support the planned project. The TIS further studied the site’s planned access and found that there is adequate intersection sight distance at the site’s access to ensure safe operation of the intersection. This criterion is satisfied.

- D. Approach and Driveway Development Standards. Approaches and driveways shall conform to all of the following development standards:
 - 1. The number of approaches on higher classification streets (e.g., collector and arterial streets) shall be minimized; where practicable, access shall be taken first from a lower classification street.

Response: As shown on the Preliminary Plans (Exhibit A), the project has access to OR 213 via an existing shared private driveway. The property does not have a second vehicular access, nor does it have access to another street. To the extent applicable, this criterion is met.

2. Approaches shall conform to the spacing standards of subsections E and F, below, and shall conform to minimum sight distance and channelization standards of the roadway authority.

Response: As shown on the Preliminary Plans, access to the site is from an existing shared private driveway, which has an existing approach that meets applicable City of Molalla code.

3. Driveways shall be paved and meet applicable construction standards. Where permeable paving surfaces are allowed or required, such surfaces shall conform to applicable Public Works Design Standards.

Response: As shown on the Preliminary Plans (Exhibit A), the site's access is via an existing shared private driveway. This project includes an extension of the existing driveway that is planned to be paved to meet the applicable City of Molalla construction standards. To the extent applicable, this criterion is met.

4. The City Engineer may limit the number or location of connections to a street, or limit directional travel at an approach to one-way, right-turn only, or other restrictions, where the roadway authority requires mitigation to alleviate safety or traffic operations concerns.

Response: As shown on the Preliminary Plans (Exhibit A), the site is planned to take access from OR 213 through an existing shared private driveway. To the extent applicable, this criterion is met.

5. Where the spacing standards of the roadway authority limit the number or location of connections to a street or highway, the City Engineer may require a driveway extend to one or more edges of a parcel and be designed to allow for future extension and inter-parcel circulation as adjacent properties develop. The City Engineer may also require the owner(s) of the subject site to record an access easement for future joint use of the approach and driveway as the adjacent property(ies) develop(s).

Response: As shown on the Preliminary Plans (Exhibit A), access to the site will be from an existing shared private driveway that has an existing shared access easement to provide access to the property to the south. This criterion is satisfied.

6. Where applicable codes require emergency vehicle access, approaches and driveways shall be designed and constructed to accommodate emergency vehicle apparatus and shall conform to applicable fire protection requirements. The City Engineer may restrict parking, require signage, or require other public safety improvements pursuant to the recommendations of an emergency service provider.

Response: As shown on the Preliminary Plans (Exhibit A), emergency vehicles can access the site from the existing shared private driveway to OR 213. The Preliminary Plans further illustrate how emergency vehicles can access and make turning movements within the site. This criterion is met.

7. As applicable, approaches and driveways shall be designed and constructed to accommodate truck/trailer-turning movements.

Response: As shown on the Preliminary Plans (Exhibit A), the extension of the driveway has been designed to accommodate the typical types of vehicles that would access multifamily dwellings, including emergency vehicles and garbage trucks. This criterion is met.

8. Except where the City Engineer and roadway authority, as applicable, permit an open access with perpendicular or angled parking, driveways shall accommodate all projected vehicular traffic on-site without vehicles stacking or backing up onto a street.

Response: As shown on the Preliminary Plans, this project does not include open access with parking located where it can back up onto a public street. This criterion is not applicable.

9. Driveways shall be designed so that vehicle areas, including, but not limited to, drive-up and drive-through facilities and vehicle storage and service areas, do not obstruct any public right-of-way.

Response: As shown on the Preliminary Plans (Exhibit A) the project has been designed to not involve/require obstructions to public rights-of-way. This criterion is met.

10. Approaches and driveways shall not be wider than necessary to safely accommodate projected peak hour trips and turning movements, and shall be designed to minimize crossing distances for pedestrians.

Response: As shown on the Preliminary Plans (Exhibit A), the existing approach is designed to accommodate anticipated peak hour trips and is not wider than necessary. This criterion is met.

11. As it deems necessary for pedestrian safety, the City Engineer, in consultation with the roadway authority, as applicable, may require that traffic-calming features, textured driveway surfaces (e.g., pavers or similar devices), curb extensions, signage or traffic control devices, or other features, be installed on or in the vicinity of a site as a condition of development approval.

Response: This application includes walkways where necessary and appropriate for convenient pedestrian circulation. Street or other facilities involving extensive vehicular traffic are not included. Measures, such as traffic calming, curb extensions, and/or traffic control devices are not needed or warranted. To the extent applicable, this criterion is satisfied.

12. Construction of approaches along acceleration or deceleration lanes, and along tapered (reduced width) portions of a roadway, shall be avoided; except where no reasonable alternative exists and the approach does not create safety or traffic operations concern.

Response: This application does not include new driveway approaches along acceleration or deceleration lanes or reduced width portions of roadway. This criterion is met.

13. Approaches and driveways shall be located and designed to allow for safe maneuvering in and around loading areas, while avoiding conflicts with pedestrians, parking, landscaping, and buildings.

Response: This application does not include loading areas. Therefore, this criterion is not applicable.

14. Where sidewalks or walkways occur adjacent to a roadway, driveway aprons constructed of concrete shall be installed between the driveway and roadway edge. The roadway authority may require the driveway apron be installed outside the required sidewalk or walkway surface, consistent with Americans with Disabilities Act (ADA) requirements, and to manage surface water runoff and protect the roadway surface.

-
15. Where an accessible route is required pursuant to ADA, approaches and driveways shall meet accessibility requirements where they coincide with an accessible route.

Response: ADA access for the site to OR 213 is already provided to this property through a sidewalk provided with the site improvements with the first phase of Colima Apartments. That sidewalk connects to the planned sidewalks to be provided with site improvements for this project. Aprons are included throughout the site where pedestrian walkways cross vehicular drive aisles. Additional ADA access to OR 213 is not required. Therefore, these criteria are satisfied.

16. The City Engineer may require changes to the proposed configuration and design of an approach, including the number of drive aisles or lanes, surfacing, traffic-calming features, allowable turning movements, and other changes or mitigation, to ensure traffic safety and operations.

17. Where a new approach onto a state highway or a change of use adjacent to a state highway requires ODOT approval, the applicant is responsible for obtaining ODOT approval. The City Engineer may approve a development conditionally, requiring the applicant first obtain required ODOT permit(s) before commencing development, in which case the City will work cooperatively with the applicant and ODOT to avoid unnecessary delays.

Response: As shown on the Preliminary Plans, this project will use an existing shared private driveway approach on OR 213 and does not require a new approach; therefore, these criteria are not applicable.

18. Where an approach or driveway crosses a drainage ditch, canal, railroad, or other feature that is under the jurisdiction of another agency, the applicant is responsible for obtaining all required approvals and permits from that agency prior to commencing development.

Response: As shown on the Preliminary Plans (Exhibit A), the existing shared private driveway approach does not cross a feature that is under the jurisdiction of another agency. This criterion is not applicable.

19. Where a proposed driveway crosses a culvert or drainage ditch, the City Engineer may require the developer to install a culvert extending under and beyond the edges of the driveway on both sides of it, pursuant to applicable Public Works Design Standards.

Response: As shown on the Preliminary Plans (Exhibit A), the existing shared private driveway approach does not cross a culvert or drainage ditch. This criterion is not applicable.

20. Except as otherwise required by the applicable roadway authority or waived by the City Engineer temporary driveways providing access to a construction site or staging area shall be paved or graveled to prevent tracking of mud onto adjacent paved streets.

Response: As shown on the Preliminary Plans, an interior gravel construction entrance is planned to be installed with construction. This criterion is met.

21. Development that increases impervious surface area shall conform to the storm drainage and surface water management requirements of Section 17-3.6.050.

Response: As discussed further in this narrative and in detail in the Preliminary Stormwater Report included with this application (Exhibit F), the planned improvements for the site conform to the storm drainage and surface water management requirements of Section 17-3.6.050. This criterion is satisfied.

- E. **Approach Separation from Street Intersections.** Except as provided by subsection H, minimum distances shall be maintained between approaches and street intersections consistent with the current version of the Public Works Design Standards and Transportation System Plan.
- F. **Approach Spacing.** Except as provided by subsection H or as required to maintain street operations and safety, the following minimum distances shall be maintained between approaches consistent with the current version of the Public Works Design Standards and Transportation System Plan.

Response: As shown on the Preliminary Plans (Exhibit A), the site will use an existing shared private driveway approach on OR 213 and does not require a new approach. OR 213 is an Oregon Department of Transportation (ODOT) facility, and as such, their access spacing standards supersede the City standards. The existing access was discussed at the pre-application conference, and ODOT agreed that the existing approach on S Highway 213 was acceptable. Therefore, these criteria are met.

- G. **Vision Clearance.** No visual obstruction (e.g., sign, structure, solid fence, or shrub vegetation) greater than 2.5 feet in height shall be placed in “vision clearance areas” at street intersections. The minimum vision clearance area may be modified by the Planning Official through a Type I procedure, upon finding that more or less sight distance is required (i.e., due to traffic speeds, roadway alignment, etc.). Placement of light poles, utility poles, and tree trunks should be avoided within vision clearance areas.

Response: As shown on the Preliminary Plans (Exhibit A), the vision clearance area of the off-site intersection of OR 213 and the existing driveway is clear of obstructions. This criterion is met.

- H. **Exceptions and Adjustments.** The City Engineer may approve adjustments to the spacing standards of subsections E and F, above, where an existing connection to a City street does not meet the standards of the roadway authority and the proposed development moves in the direction of code compliance. The Planning Official through a Type II procedure may also approve a deviation to the spacing standards on City streets where it finds that mitigation measures, such as consolidated access (removal of one access), joint use driveways (more than one property uses same access), directional limitations (e.g., one-way), turning restrictions (e.g., right-in/right-out only), or other mitigation alleviate all traffic operations and safety concerns.

Response: As stated previously, the site will use an existing shared private driveway approach on S Highway 213 and does not require a new approach. This criterion is not applicable.

- I. **Joint Use Access Easement and Maintenance Agreement.** Where the City approves a joint use driveway, the property owners shall record an easement with the deed allowing joint use of and cross access between adjacent properties. The owners of the properties agreeing to joint use of the driveway shall record a joint maintenance agreement with the deed, defining maintenance responsibilities of property owners. The applicant shall provide a fully executed copy of the agreement to the City for its records, but the City is not responsible for maintaining the driveway or resolving any dispute between property owners.

Response: As shown on the Preliminary Plans, access for this site is planned to be taken from an existing shared private driveway. There is an existing access easement in place that provides property access to OR 213 through the existing shared driveway. Additionally, the parking facilities for both phases of Colima Apartments are planned to be shared, and a shared access easement (or similar instrument) can be created if necessary. This criterion is met.

17-3.3.040 Pedestrian Access and Circulation

(...)

B. Standards. Developments shall conform to all of the following standards for pedestrian access and circulation as generally illustrated in Figure 17-3.3-3:

1. Continuous Walkway System. A pedestrian walkway system shall extend throughout the development site and connect to adjacent sidewalks, if any, and to all future phases of the development, as applicable.

Response: As shown on the Preliminary Plans (Exhibit A), the planned pedestrian walkway system connects to the sidewalk along OR 213 by way of the existing shared private driveway and extends through Colima Apartments Phase 1, meeting the requirements for a continuous walkway system. In addition, this project includes a new walkway along the site's southern boundary toward OR 213 that has been designed to account for existing improvements that cannot easily be removed or relocated. This standard has been met.

2. Safe, Direct, and Convenient. Walkways within developments shall provide safe, reasonably direct, and convenient connections between primary building entrances and all adjacent parking areas, recreational areas, playgrounds, and public rights-of-way conforming to the following standards:

a. The walkway is reasonably direct when it follows a route that does not deviate unnecessarily from a straight line or it does not involve a significant amount of out-of-direction travel.

b. The walkway is designed primarily for pedestrian safety and convenience, meaning it is reasonably free from hazards and provides a reasonably smooth and consistent surface and direct route of travel between destinations. The Planning Official may require landscape buffering between walkways and adjacent parking lots or driveways to mitigate safety concerns.

c. The walkway network connects to all primary building entrances, consistent with the building design standards of Chapter 17-3.2 and, where required, Americans with Disabilities Act (ADA) requirements.

Response: As shown on the Preliminary Plans (Exhibit A), the planned pedestrian walkway system connects to the sidewalk along OR 213 by way of the existing shared private driveway and extends through Colima Apartments Phase 1 in reasonably direct routes and meets applicable ADA requirements. In addition, this project includes a new walkway along the site's southern boundary toward OR 213 that has been designed to account for existing improvements that cannot easily be removed or relocated. This standard has been met.

3. Vehicle/Walkway Separation. Except as required for crosswalks, per subsection 4, below, where a walkway abuts a driveway or street it shall be raised six inches and curbed along the edge of the driveway or street. Alternatively, the Planning Official may approve a walkway abutting a

driveway at the same grade as the driveway if the walkway is physically separated from all vehicle-maneuvering areas. An example of such separation is a row of bollards (designed for use in parking areas) with adequate minimum spacing between them to prevent vehicles from entering the walkway.

Response: As shown on the Preliminary Plans (Exhibit A), curbs are planned for walkways where they abut driveways or streets. This criterion is met.

4. **Crosswalks.** Where a walkway crosses a parking area or driveway (“crosswalk”), it shall be clearly marked with contrasting paving materials (e.g., pavers, light-color concrete inlay between asphalt, or similar contrasting material). The crosswalk may be part of a speed table to improve driver-visibility of pedestrians. Painted or thermo-plastic striping and similar types of non-permanent applications are discouraged, but may be approved for lesser used crosswalks not exceeding 24 feet in length.

Response: As shown on the Preliminary Plans (Exhibit A), drive aisles within the project are generally 23 feet wide (or less). In the instance where a crossing is necessary, this area is planned to be clearly delineated with striping, as is permitted below. This criterion is satisfied.

5. **Walkway Width and Surface.** Walkways, including access ways required for subdivisions pursuant to Chapter 17-4.3, shall be constructed of concrete, asphalt, brick or masonry pavers, or other durable surface, as approved by the City Engineer, and not less than six feet wide. Multi-use paths (i.e., designed for shared use by bicyclists and pedestrians) shall be concrete or asphalt and shall conform to the current version of the Public Works Design Standards and Transportation System Plan.

Response: This project includes a system of private walkways rather than public walkways. Standards for private walkways are provided below. This standard is not applicable.

6. **Walkway Construction (Private).** Walkway surfaces may be concrete, asphalt, brick or masonry pavers, or other City-approved durable surface meeting ADA requirements. Walkways shall be not less than six feet in width in commercial and mixed use developments and where access ways are required for subdivisions under Division IV.

Response: This application includes private walkways serving a residential use. Walkways for commercial and mixed-use development are not included. As illustrated in Figure 17-3.3-3, 4-foot-wide walkways can be provided for residential use. As shown/noted on the Preliminary Plans (Exhibit A), the private walkways included in the application are planned to be constructed of concrete and are generally 5 feet wide except where existing improvements impede that width. This standard is satisfied.

7. **Multi-Use Pathways.** Multi-use pathways, where approved, shall be a minimum width and constructed of materials consistent with the current version of the Public Works Design Standards and Transportation System Plan.

Response: This application does not include multi-use pathways. This standard does not apply.

Chapter 17-3.4 LANDSCAPING, FENCES AND WALLS, OUTDOOR LIGHTING

17-3.4.030 Landscaping and Screening

-
- A. **General Landscape Standard.** All portions of a lot not otherwise developed with buildings, accessory structures, vehicle maneuvering areas, or parking shall be landscaped.
 - B. **Minimum Landscape Area.** All lots shall conform to the minimum landscape area standards of the applicable zoning district, as contained in Tables 17-2.2.040.D and 17-2.2.040.E. The Planning Official, consistent with the purposes in Section 17-3.4.010, may allow credit toward the minimum landscape area for existing vegetation that is retained in the development.

Response: As shown on the Preliminary Site Plan included in Exhibit A, approximately 47 percent of the site is planned to be open areas that include landscaping, exceeding the minimum standard of 20 percent shown in Table 17-2.2.040.D. As further illustrated on the Preliminary Landscape Plan, landscaping is included in the areas not planned for the future building, parking areas, or vehicle maneuvering areas. These standards are satisfied.

- C. **Plant Selection.** A combination of deciduous and evergreen trees, shrubs, and ground covers shall be used for all planted areas, the selection of which shall be based on local climate, exposure, water availability, and drainage conditions, among other factors. When new vegetation is planted, soils shall be amended and irrigation shall be provided, as necessary, to allow for healthy plant growth. The selection of plants shall be based on all of the following standards and guidelines:
 - 1. Use plants that are appropriate to the local climate, exposure, and water availability. The presence of utilities and drainage conditions shall also be considered.
 - 2. Plant species that do not require irrigation once established (naturalized) are preferred over species that require irrigation.
 - 3. Trees shall be not less than two-inch caliper for street trees and one and one-half-inch caliper for other trees at the time of planting. Trees to be planted under or near power lines shall be selected so as to not conflict with power lines at maturity.
 - 4. Shrubs shall be planted from five-gallon containers, minimum, where they are for required screens or buffers, and two-gallon containers minimum elsewhere.
 - 5. Shrubs shall be spaced in order to provide the intended screen or canopy cover within two years of planting.
 - 6. All landscape areas, whether required or not, that are not planted with trees and shrubs or covered with allowable non-plant material, shall have ground cover plants that are sized and spaced to achieve plant coverage of not less than 75 percent at maturity.
 - 7. Bark dust, chips, aggregate, or other non-plant ground covers may be used, but shall cover not more than 35 percent of any landscape area. Non-plant ground covers cannot be a substitute for required ground cover plants.
 - 8. Where stormwater retention or detention, or water quality treatment facilities are proposed, they shall meet the requirements of the current version of the Public Works Design Standards.
 - 9. Existing mature trees that can thrive in a developed area and that do not conflict with other provisions of this Code shall be retained where specimens are in good health, have desirable aesthetic characteristics, and do not present a hazard.

-
10. Landscape plans shall avoid conflicts between plants and buildings, streets, walkways, utilities, and other features of the built environment.
 11. Evergreen plants shall be used where a sight-obscuring landscape screen is required.
 12. Deciduous trees should be used where summer shade and winter sunlight is desirable.
 13. Landscape plans should provide focal points within a development, for example, by preserving large or unique trees or groves or by using flowering plants or trees with fall color.
 14. Landscape plans should use a combination of plants for seasonal variation in color and yearlong interest.
 15. Where plants are used to screen outdoor storage or mechanical equipment, the selected plants shall have growth characteristics that are compatible with such features.
 16. Landscape plans shall provide for both temporary and permanent erosion control measures, which shall include plantings where cuts or fills, including berms, swales, stormwater detention facilities, and similar grading, is proposed.
 17. When new vegetation is planted, soils shall be amended and irrigation provided, as necessary, until the plants are naturalized and able to grow on their own.

Response: The Preliminary Landscape Plan included in Exhibit A shows plant materials that meet the above guidelines. These criteria are met.

(...)

E. **Parking Lot Landscaping.** All of the following standards shall be met for parking lots. If a development contains multiple parking lots, then the standards shall be evaluated separately for each parking lot.

1. A minimum of 10 percent of the total surface area of all parking areas, as measured around the perimeter of all parking spaces and maneuvering areas, shall be landscaped. Such landscaping shall consist of shade trees distributed throughout the parking area. A combination of deciduous and evergreen trees, shrubs, and ground cover plants is required. The trees shall be planned so that they provide a partial canopy cover over the parking lot within five years. At a minimum, one tree per 12 parking spaces on average shall be planted over and around the parking area.

Response: As shown on the Preliminary Landscape Plan included in Exhibit A, parking area landscaping is included that meets the requirement above. Additionally, this project includes 20 new parking spaces; therefore, two trees are required to be planted over and around the parking area. The Preliminary Landscape Plan illustrates that this project includes new trees over and around the parking area that meet this requirement. This standard is met.

2. All parking areas with more than 20 spaces shall provide landscape islands with trees that break up the parking area into rows of not more than 10 contiguous parking spaces. Landscape islands and planters shall have dimensions of not less than 48 square feet of area and no dimension of less than six feet, to ensure adequate soil, water, and space for healthy plant growth.

Response: As shown on the Preliminary Plans (Exhibit A), this project does not include more than 20 new parking spaces. This standard does not apply.

3. All required parking lot landscape areas not otherwise planted with trees must contain a combination of shrubs and groundcover plants so that, within two years of planting, not less than 50 percent of that area is covered with living plants.

Response: As shown on the Preliminary Landscape Plan, parking area landscaping includes the required materials noted above. This standard is met.

4. Wheel stops, curbs, bollards, or other physical barriers are required along the edges of all vehicle-maneuvering areas to protect landscaping from being damaged by vehicles. Trees shall be planted not less than two feet from any such barrier.

Response: As shown on the Preliminary Plans curbs are planned along the edges of vehicle maneuvering areas. This standard is met.

5. Trees planted in tree wells within sidewalks or other paved areas shall be installed with root barriers, consistent with applicable nursery standards.

Response: This application does not include tree wells within sidewalks or other paved areas. This standard is not applicable.

F. Screening Requirements. Screening is required for outdoor storage areas, unenclosed uses, and parking lots, and may be required in other situations as determined by the Planning Official. Landscaping shall be provided pursuant to the standards of subsections F.1 through 3. (See also Figure 17-3.4-4.)

1. Outdoor Storage and Unenclosed Uses. All areas of a site containing or proposed to contain outdoor storage of goods, materials, equipment, and vehicles (other than required parking lots and service and delivery areas, per Site Design Review), and areas containing junk, salvage materials, or similar contents, shall be screened from view from adjacent rights-of-way and residential uses by a sight-obscuring fence, wall, landscape screen, or combination of screening methods. See also Section 17-3.4.040 for related fence and wall standards.

Response: As shown on the Preliminary Plans (Exhibit A), this application includes a new 6-foot chain link fence with landscape screening around the trash enclosure. Other outdoor storage areas are not planned. This standard is satisfied.

2. Parking Lots. The edges of parking lots shall be screened to minimize vehicle headlights shining into adjacent rights-of-way and residential yards. Parking lots abutting a sidewalk or walkway shall be screened using a low-growing hedge or low garden wall to a height of between three feet and four feet.

Response: As shown on the Preliminary Landscape Plan, the edges of the planned parking areas are screened with the appropriate landscaping. This standard is met.

3. Other Uses Requiring Screening. The Planning Official may require screening in other situations as authorized by this Code, including, but not limited to, outdoor storage areas, blank walls, Special Uses pursuant to Chapter 17-2.3, flag lots, and as mitigation where an applicant has requested an adjustment pursuant to Chapter 17-4.7.

Response: Outdoor storage areas, blank walls, and other similar features are not included in the application. As shown on the Preliminary Landscape Plan included in Exhibit A,

landscaping is planned to accompany hard surfaced areas (e.g., parking) and around the planned building. This standard is satisfied.

17-3.4.040 Fences and Walls

- A. Purpose. This section provides general development standards for fences, and walls that are not part of a building, such as screening walls and retaining walls.
- B. Applicability. Section 17-3.4.040 applies to all fences, and to walls that are not part of a building, including modifications to existing fences and walls.
- C. Height.
 - 1. Residential Zones. Fences and freestanding walls (i.e., exclusive of building walls) for residential uses shall not exceed the following heights above grade, where grade is measured from the base of the subject fence or wall.
 - a. Within Front or Street-Facing Side Yard Setback. Four feet; except the following additional height is allowed:
 - (1) A fence may be constructed to a maximum height of six feet where it is located on a street-facing side yard.
 - (2) A fence may be constructed to a maximum height of six feet where the fence is of open chain link or other “see-through” composition that allows 90 percent light transmission.
 - (3) One incidental garden structure (e.g., arbor or gate) not exceeding eight feet in height and six feet in width is allowed within a front or street-facing yard provided it does not encroach into a required vision clearance area.
 - b. Within an Interior Side or Rear Yard Setback. Six feet; except the fence or wall height, as applicable, shall not exceed the distance from the fence or wall line to the nearest primary structure on an adjacent property.

(...)

Response: As shown on the Preliminary Plans (Exhibit A), this application includes a planned 6-foot-tall chain link fence around the trash enclosure that is located outside the site’s setback areas. This project also includes a 6-foot-tall wood fence along the site’s eastern and northern boundaries that was recently installed and will be permitted with this project. The fence along the site boundaries is more than 6 feet from the nearest primary structures on adjacent properties. To the extent applicable, these standards are satisfied.

- 3. All Zones. Fences and walls shall comply with the vision clearance standards of Section 17-3.3.030.G. Other provisions of this Code, or the requirements of the roadway authority, may limit allowable height of a fence or wall below the height limits of this section.

Response: This application does not include planned fences within vision clearance areas. This standard is not applicable.

- D. Materials. Prohibited fence and wall materials include straw bales, tarps, barbed or razor wire (except in the M-2 Heavy Industrial zone); scrap lumber, untreated wood (except cedar or redwood), corrugated metal, sheet metal, scrap materials; dead, diseased, or dying plants; and materials similar to those listed herein.

Response: As shown on the Preliminary Plans (Exhibit A), this application includes a 6-foot chain link fence around the trash enclosure and a 6-foot-tall wood fence along the site’s eastern

and northern boundaries. The wood fence along the site's boundaries was recently installed and will be permitted with this application. This standard is satisfied.

17-3.4.050 Outdoor Lighting

(...)

B. Applicability. All outdoor lighting shall comply with the standards of this section.

C. Standards.

1. Light poles, except as required by a roadway authority or public safety agency, shall not exceed a height of 20 feet; pedestal- or bollard-style lighting shall be used to illuminate walkways. Flag poles, utility poles, and streetlights are exempt from this requirement.

Response: This application includes planned outdoor lighting as shown on the Preliminary Site Lighting Plan included in Exhibit A. As further shown on the Preliminary Site Lighting Plan, the light poles for outdoor lighting are planned to meet this requirement. This standard is met.

2. Where a light standard is placed over a sidewalk or walkway, a minimum vertical clearance of eight feet shall be maintained.

Response: As shown on the Preliminary Site Lighting Plan included in Exhibit A, the planned site lighting maintains a vertical clearance of more than eight feet over sidewalks. This standard is satisfied.

3. Outdoor lighting levels shall be subject to review and approval through Site Design Review. As a guideline, lighting levels shall be no greater than necessary to provide for pedestrian safety, property or business identification, and crime prevention.

Response: This application includes planned outdoor lighting in the parking area, walkways, building entrance, and security lighting. As shown on the Preliminary Site Lighting Plan included in Exhibit A, the planned lighting levels are not greater than necessary to provide safety. This standard is satisfied.

4. Except as provided for up-lighting of flags and permitted building-mounted signs, all outdoor light fixtures shall be directed downward, and have full cutoff and full shielding to preserve views of the night sky and to minimize excessive light spillover onto adjacent properties.

Response: As shown on the Preliminary Architectural Plans (Exhibit B) and Preliminary Architectural Materials (Exhibit C), the planned outdoor light fixtures are downward facing lights with cutoffs to minimize light intrusion onto adjacent properties. This standard is met.

5. Lighting shall be installed where it will not obstruct public ways, driveways, or walkways.

Response: As shown on the Preliminary Site Plan included in Exhibit A, the locations for the planned site lighting do not obstruct public ways, driveways, or walkways. This standard is satisfied.

6. Walkway lighting in private areas shall have a minimum average illumination of not less than 0.2 foot-candles. Lighting along public walkways shall meet the current version of the Public Works Design Standards and AASHTO lighting requirements.

Response: As shown on the Preliminary Site Lighting Plan included in Exhibit A, the planned walkway lighting in private areas has an average minimum illumination 1.6 foot-candles. Lighting along public walkways is not included with this application. To the extent applicable, this standard is satisfied.

7. Active building entrances shall have a minimum average illumination of not less than two foot-candles.

Response: As shown on the Preliminary Site Lighting Plan included in Exhibit A, the planned lighting in the active building entrance has an average minimum illumination of 2.9 foot-candles. This standard is satisfied.

8. Surfaces of signs shall have an illumination level of not more than two foot-candles.

Response: This application does not include signs. This standard is not applicable.

9. Parking lots and outdoor services areas, including quick vehicle service areas, shall have a minimum illumination of not less than 0.2 foot-candles, average illumination of approximately 0.8 foot-candles, and a uniformity ratio (maximum-to-minimum ratio) of not more than 20:1.

Response: As shown on the Preliminary Site Lighting Plan included in Exhibit A, the planned lighting in the parking areas have a minimum illumination of 0.2 foot-candles, average illumination of 0.8 foot-candles, and a uniformity ratio of 9:1. This standard is satisfied.

10. Where illumination grid lighting plans cannot be reviewed or if fixtures do not provide photometrics and bulbs are under 2,000 lumens, use the following guidelines:
 - a. Poles should be no greater in height than four times the distance to the property line.
 - b. Maximum lumen levels should be based on fixture height.
 - c. Private illumination shall not be used to light adjoining public right-of-way.

Response: As shown on the Preliminary Site Lighting Plan, the planned lighting meets the above requirements. These standards are satisfied.

11. Where a light standard is placed within a walkway, an unobstructed pedestrian through zone not less than 48 inches wide shall be maintained.

Response: As shown on the Preliminary Site Plan, the planned lighting located near walkways have unobstructed pedestrian through zones not less than 48 inches wide. This standard is met.

12. Lighting subject to this section shall consist of materials approved for outdoor use and shall be installed according to the manufacturer's specifications.

Response: As shown in the Preliminary Architectural Materials (Exhibit C), the planned outdoor lighting for this project will be made of materials intended to be used outdoors. This standard is satisfied.

Chapter 17-3.5 PARKING AND LOADING

17-3.5.030 Automobile Parking

- A. **Minimum Number of Off-Street Automobile Parking Spaces.** Except as provided by this subsection A, or as required for Americans with Disabilities Act compliance under subsection G, off-street parking shall be provided pursuant to one of the following three standards:
1. The standards in Table 17-3.5.030.A;
 2. A standard from Table 17-3.5.030.A for a use that the Planning Official determines is similar to the proposed use; or
 3. Subsection B Exceptions, which includes a Parking Demand Analysis option.

Table 17-3.5.030.A Automobile Parking Spaces by Use	
Use Categories	Minimum Parking per Land Use (Fractions are rounded down to the closest whole number.)
Residential Categories	
Multifamily	1.5 spaces for a 1-bedroom unit
	2 spaces for a 2-bedroom unit
	2.5 spaces for 3 bedrooms or more

Response: This application involves Site Design Review for multifamily dwellings. As discussed with planning staff at the pre-application conference, this second phase of Colima Apartments will share parking with the first phase. Colima Apartments Phase 1 required a minimum of 72 parking spaces, and as shown on the Preliminary Architectural Plans (Exhibit B), there are a total of 9 two-bedroom units and 3 three-bedroom units planned for this phase. Based on Table 17-3.5.030.A, a minimum of 26 additional parking spaces is required for this phase. Therefore, the minimum number of vehicular spaces required for both phases is 98 parking spaces. As shown on the Preliminary Plans, this phase includes 20 additional parking spaces, and the first phase included 78 parking spaces. Therefore, both phases combined include 98 vehicular parking spaces, meeting the minimum number of required parking spaces.

- B. **Carpool and Vanpool Parking Requirements.**
1. Carpool and vanpool parking spaces shall be identified for the following uses:
 - a. New commercial and industrial developments with 50 or more parking spaces;
 - b. New institutional or public assembly uses; and
 - c. Transit park-and-ride facilities with 50 or more parking spaces.

Response: This application involves Site Design Review for future multifamily dwellings. Therefore, these requirements are not applicable.

- C. **Exceptions and Reductions to Off-Street Parking.**
(...)

Response: This application does not include an exception or reduction to off-street parking. Therefore, these standards are not applicable.

- D. **Maximum Number of Off-Street Automobile Parking Spaces.** The maximum number of off-street automobile parking spaces allowed per site equals the minimum number of required spaces for the use pursuant to Table 17-3.5.030.A, times a factor of:

1. 1.2 spaces for uses fronting a street with adjacent on-street parking spaces; or
2. 1.5 spaces, for uses fronting no street with adjacent on-street parking; or
3. A factor based on applicant’s projected parking demand, subject to City approval.

Response: This application involves Site Design Review for multifamily dwellings on a site that does not have adjacent on-street parking. As discussed in 17-3.5.030(A) above, the minimum number of required automobile parking spaces for both phases of Colima Apartments is 98 parking spaces; therefore, the maximum automobile parking spaces allowed would be 147. As discussed in Section 17-3.5.030.A, the total number of parking spaces for both phases of Colima Apartments are 98 parking spaces (78 existing and 20 new spaces). This standard is met.

E. **Shared Parking.** Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlap (e.g., uses primarily of a daytime versus nighttime nature; weekday uses versus weekend uses), and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument establishing the joint use. Shared parking requests shall be subject to review and approval through a Type I Review.

Response: This application does not include parking for more than one use. However, the parking facilities for both phases of Colima Apartments are planned to be shared, and a shared access agreement can be recorded if necessary. To the extent applicable, this standard is met.

F. **Parking Stall Design and Minimum Dimensions.** Where a new off-street parking area is proposed, or an existing off-street parking area is proposed for expansion, the entire parking area shall be improved in conformance with this Code. At a minimum the parking spaces and drive aisles shall be paved with asphalt, concrete, or other City-approved materials, provided the Americans with Disabilities Act requirements are met, and shall conform to the minimum dimensions in Table 17-3.5.030.F and the figures below. All off-street parking areas shall contain wheel stops, perimeter curbing, bollards, or other edging as required to prevent vehicles from damaging buildings or encroaching into walkways, sidewalks, landscapes, or the public right-of-way. Parking areas shall also provide for surface water management, pursuant to Section 17-3.6.050.

Table 17-3.5.030.F Parking Area Minimum Dimensions*				
PARKING ANGLE < °	CURB LENGTH	STALL DEPTH	AISLE DEPTH	STRIPE LENGTH
		SINGLE D1	TWO WAY A2	
90°	8'-6"	18'	23'	18'

Response: As shown on the Preliminary Plans (Exhibit A), the planned parking spaces are designed in conformance with the dimensional standards of this section. Therefore, this standard is met.

G. **Adjustments to Parking Area Dimensions.** The dimensions in subsection E are minimum standards. The Planning Official, through a Type II procedure, may adjust the dimensions based on evidence that a particular use will require more or less maneuvering area. For example, the Planning Official may approve an adjustment where an attendant will be present to move vehicles, as with valet parking. In such cases, a form of guarantee must be filed with the City ensuring that an attendant will always be present when the lot is in operation.

Response: As previously discussed, the parking area minimum dimensions in Table 17-3.5.030.F are met. Adjustments to these standards are not required nor warranted. This criterion is not applicable.

H. **Americans with Disabilities Act (ADA).** Parking shall be provided consistent with ADA requirements, including, but not limited to, the minimum number of spaces for automobiles, van-accessible spaces, location of spaces relative to building entrances, accessible routes between parking areas and building entrances, identification signs, lighting, and other design and construction requirements.

Response: As shown on the Preliminary Plans (Exhibit A), there is one new planned Americans with Disabilities Act (ADA) compliant parking space, which is appropriate for the project. This criterion is met.

I. **Electric Charging Stations.** Charging stations for electric vehicles are allowed as an accessory use to parking areas developed in conformance with this Code, provided the charging station complies with applicable building codes and any applicable state or federal requirements.

Response: This application does not include electric vehicle charging stations. This criterion is not applicable.

17-3.5.040 **Bicycle Parking**

A. **Standards.** Bicycle parking spaces shall be provided with new development and, where a change of use occurs, at a minimum, shall follow the standards in Table 17-3.5.040.A. Where an application is subject to Conditional Use Permit approval or the applicant has requested a reduction to an automobile-parking standard, pursuant to Section 17-3.5.030.C, the Planning Official may require bicycle parking spaces in addition to those in Table 17-3.5.040.A.

Table 17-3.5.040.A Minimum Required Bicycle Parking Spaces	
Use	Minimum Number of Spaces
Multifamily Residential (not required for parcels with fewer than 4 dwelling units)	2 bike spaces per 4 dwelling units

Response: This application involves Site Design Review for 12 future multifamily residential dwellings, which require six bicycle parking spaces. As shown on the Preliminary Site Plan, there are six bicycle parking spaces provided. This criterion is satisfied.

B. **Design.** Bicycle parking shall consist of staple-design steel racks or other City-approved racks, lockers, or storage lids providing a safe and secure means of storing a bicycle, consistent with the Public Works Design Standards.

Response: As shown on the Preliminary Plans (Exhibit A), the planned bicycle racks meet the City of Molalla Public Works Design Standards. This criterion is met.

C. **Exemptions.** This section does not apply to single-family and duplex housing, home occupations, and agricultural uses.

Response: This application involves Site Design Review for future multifamily dwellings. Therefore, this criterion is not applicable.

D. Hazards. Bicycle parking shall not impede or create a hazard to pedestrians or vehicles, and shall be located so as to not conflict with the vision clearance standards of Section 17-3.3.030.G.

Response: As shown on the Preliminary Plans (Exhibit A), the planned bicycle parking locations will not create a hazard to pedestrians or vehicles and do not conflict with the vision clearance standards. This criterion is satisfied.

Chapter 17-3.6 PUBLIC FACILITIES

17-3.6.020 Transportation Standards

A. General Requirements.

1. Except as provided by subsection A.5, existing substandard streets and planned streets within or abutting a proposed development shall be improved in accordance with the standards of Chapter 17-3.6 as a condition of development approval.

Response: This application does not include or abut existing substandard streets. Therefore, this criterion is not applicable.

2. All street improvements, including the extension or widening of existing streets and public access ways, shall conform to Section 17-3.6.020, and shall be constructed consistent with the City of Molalla Public Works Design Standards.

Response: This application does not include an extension or widening of an existing street or public access way. This standard is not applicable.

3. All new streets shall be contained within a public right-of-way. Public access ways (e.g., pedestrian ways) may be contained within a right-of-way or a public access easement, subject to review and approval of the City Engineer.

Response: This application does not include new streets. Therefore, this standard does not apply.

4. The purpose of this subsection is to coordinate the review of land use applications with roadway authorities and to implement Section 660-012-0045(2)(e) of the State Transportation Planning Rule, which requires the City to adopt a process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities. The following provisions also establish when a proposal must be reviewed for potential traffic impacts; when a Transit Analysis Letter (TAL) or Traffic Impact Analysis (TIA) must be submitted with a development application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; the required contents of a TAL/TIA; and who is qualified to prepare the analysis.

(...)

c. Transportation Impact Analysis Contents. The following information shall be included in each TIA submitted to the City. Additional information specified by the City in the scoping summary or through the pre-application meeting or other project meetings shall also be included.

(1) Completed TIA checklist signed by the professional engineer responsible for the preparation of the TIA.

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- (2) Table of Contents—Listings of all sections, figures, and tables included in the report.
 - (3) Executive Summary—A summary of key points, findings, conclusions, and recommendation including a mitigation plan.
 - (4) Introduction, including:
 - i. Proposed land use action including site location, zoning, building size, and project scope.
 - ii. Map showing the proposed site, building footprint, access driveways, and parking facilities.
 - iii. Map of the study area that shows site location and surrounding roadway facilities.
 - (5) Existing Conditions.
 - i. Existing site conditions and adjacent land uses.
 - ii. Roadway characteristics of important transportation facilities and modal opportunities located within the study area, including roadway functional classifications, street cross-section, posted speeds, bicycle and pedestrian facilities, on-street parking, and transit facilities.
 - iii. Existing lane configurations and traffic control devices at the study area intersections.
 - iv. Existing traffic volumes and operational analysis of the study area roadways and intersections.
 - v. Roadway and intersection crash history analysis.
 - vi. Intersection and stopping sight distance related to new and impacted driveways and intersections.
 - (6) Background Conditions (Without the Proposed Land Use Action).
 - i. Approved in-process developments and funded transportation improvements in the study area.
 - ii. Traffic growth assumptions.
 - iii. Addition of traffic from other planned developments.
 - iv. Background traffic volumes and operational analysis.
 - (7) Full Buildout Traffic Conditions (With the Proposed Land Use Action).
 - i. Description of the proposed development plans.
 - ii. Trip generation characteristics of proposed project (including trip reduction documentation).
 - iii. Trip distribution assumptions.
 - iv. Full buildout traffic volumes and intersection operational analysis.
 - v. Site circulation and parking.

- vi. Intersection and site-access driveway queuing analysis.
- vii. Recommended roadway and intersection mitigation measures (if necessary).
- (8) Conclusions and recommendations.
- (9) Appendix—With Dividers or Tabs.
 - i. Traffic count summary sheets.
 - ii. Crash analysis summary sheets.
 - iii. Existing, background, and full buildout traffic operational analysis worksheets with detail to review capacity calculations.
 - iv. Signal, left-turn, and right-turn lane warrant evaluation calculations.
 - v. Signal timing sheets depicting the timing and phasing used in analysis.
 - vi. Other analysis summary sheets such as queuing.
- (10) To present the information required to analyze the transportation impacts of development, the following figures shall be included in the TIS:
 - i. Vicinity Map.
 - ii. Existing Lane Configurations and Traffic Control Devices.
 - iii. Existing Traffic Volumes and Levels of Service for each required time period.
 - iv. Future Year Background Traffic Volumes and Levels of Service for each required time period.
 - v. Proposed Site Plan, including access points for abutting parcels and for those across the street from the proposed development.
 - vi. Future Year Assumed Lane Configurations and Traffic Control Devices.
 - vii. Estimated Trip Distribution/Assignment Pattern.
 - viii. Trip reductions (pass-by trips at site access(es)).
 - ix. Site-Generated Traffic Volumes for each required time period.
 - x. Full Buildout Traffic Volumes and Levels of Service for each required time period.

Response: A Transportation Impact Study (TIS) that contains the applicable information listed above is included with the submittal materials included in this application (Exhibit E). This standard is satisfied.

- 5. The City Engineer may waive or allow deferral of standard street improvements, including sidewalk, roadway, bicycle lane, undergrounding of utilities, and landscaping, as applicable, where one or more of the following conditions in

subdivisions (a) through (d) is met. Where the City Engineer agrees to defer a street improvement, it shall do so only where the property owner agrees not to remonstrate against the formation of a local improvement district in the future.

- a. The standard improvement conflicts with an adopted capital improvement plan.
- b. The standard improvement would create a safety hazard.
- c. It is unlikely due to the developed condition of adjacent property that the subject improvement would be extended in the foreseeable future, and the improvement under consideration does not by itself significantly improve transportation operations or safety.
- d. The improvement under consideration is part of an approved partition and the proposed partition does not create any new street.

Response: This application does not include a request for deferral of standard street improvements. Therefore, these standards are not applicable.

B. Street Location, Alignment, Extension, and Grades.

- 1. All new streets, to the extent practicable, shall connect to the existing street network and allow for the continuation of an interconnected street network, consistent with adopted public facility plans and pursuant to subsection D Transportation Connectivity and Future Street Plans.
- 2. Specific street locations and alignments shall be determined in relation to existing and planned streets, topographic conditions, public convenience and safety, and in appropriate relation to the proposed use of the land to be served by such streets.
- 3. Grades of streets shall conform as closely as practicable to the original (pre-development) topography to minimize grading.
- 4. New streets and street extensions exceeding a grade of 10 percent over a distance more than 200 feet, to the extent practicable, shall be avoided. Where such grades are unavoidable, the City Engineer may approve an exception to the 200-foot standard and require mitigation, such as a secondary access for the subdivision, installation of fire protection sprinkler systems in dwellings, or other mitigation to protect public health and safety.
- 5. Where the locations of planned streets are shown on a local street network plan, the development shall implement the street(s) shown on the plan.
- 6. Where required local street connections are not shown on an adopted City street plan, or the adopted street plan does not designate future streets with sufficient specificity, the development shall provide for the reasonable continuation and connection of existing streets to adjacent developable properties, conforming to the standards of this Code.
- 7. Existing street-ends that abut a proposed development site shall be extended with the development, unless prevented by environmental or topographical constraints, existing development patterns, or compliance with other standards in this Code. In such situations, the applicant must provide evidence that the environmental or topographic constraint precludes reasonable street connection.

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8. Proposed streets and any street extensions required pursuant to this section shall be located, designed, and constructed to allow continuity in street alignments and to facilitate future development of vacant or redevelopable lands.

Response: This application does not include new streets or street extensions. Therefore, the standards included in this section are not applicable.

C. Rights-of-Way and Street Section Widths.

1. Street rights-of-way and section widths shall comply with the current version of the Public Works Design Standards and Transportation System Plan. The standards are intended: to provide for streets of suitable location, width, and design to accommodate expected vehicle, pedestrian, and bicycle traffic; to afford satisfactory access to law enforcement, fire protection, sanitation, and road maintenance equipment; and to provide a convenient and accessible network of streets, avoiding undue hardships to adjoining properties.

Response: This application does not include new streets. However, it does include an extension of an existing shared private driveway that has been designed to conform to the City of Molalla Public Works Design Standards. To the extent applicable, this standard is satisfied.

(...)

D. Transportation Connectivity and Future Street Plans. The following standards apply to the creation of new streets:

(...)

Response: This application does not include new streets. These standards are not applicable.

- E. Engineering Design Standards. Street design shall conform to the standards of the applicable roadway authority; for City streets that is the current version of the Public Works Design Standards and Transportation System Plan. Where a conflict occurs between this Code and the Public Works Design Standards, the provisions of the Design Standards shall govern.

Response: This application does not include new streets. However, it does include an extension of an existing shared private driveway that has been designed to conform to the City of Molalla Public Works Design Standards. This standard is satisfied.

- F. Fire Code Standards. Where Fire Code standards conflict with City standards, the City shall consult with the Fire Marshal in determining appropriate requirements. The City shall have the final determination regarding applicable standards.

Response: This application includes emergency vehicle turnarounds within the site. As shown on the Preliminary Plans, the site circulation areas are of adequate size to accommodate fire truck turning movements. This standard is met.

- G. Substandard Existing Right-of-Way. Where an existing right-of-way adjacent to a proposed development is less than the standard width, the City Engineer may require the dedication of additional rights-of-way at the time of Subdivision, Partition, or Site Plan Review, pursuant to the standards in the Public Works Design Standards and Transportation System Plan.

Response: The site is not adjacent to an existing right-of-way with a substandard width. This standard is not applicable.

H. **Traffic Calming.** The City may require the installation of traffic calming features such as traffic circles, curb extensions, reduced street width (parking on one side), medians with pedestrian crossing refuges, speed tables, speed humps, or special paving to slow traffic in neighborhoods or commercial areas with high pedestrian traffic.

Response: This site does not have frontage on roads that may require traffic calming features. Therefore, this standard is not applicable.

I. **Sidewalks, Planter Strips, and Bicycle Lanes.** Except where the City Engineer grants a deferral of public improvements, pursuant to Chapter 17-4.2 or Chapter 17-4.3, sidewalks, planter strips, and bicycle lanes shall be installed concurrent with development or widening of new streets, pursuant to the requirements of this chapter. Maintenance of sidewalks and planter strips in the right-of-way is the continuing obligation of the adjacent property owner.

Response: This application includes an extension of an existing private driveway but does not include new streets. As shown on the Preliminary Plans, there are new internal sidewalks and a new sidewalk along the site's southern boundary toward OR 213 that has been designed to account for existing improvements that cannot easily be removed or relocated. It is understood that the sidewalk is to be installed concurrently with site improvements.

J. **Streets Adjacent to Railroad Right-of-Way.** When a transportation improvement is proposed within 300 feet of a railroad crossing, or a modification is proposed to an existing railroad crossing, the Oregon Department of Transportation and the rail service provider shall be notified and given an opportunity to comment, in conformance with the provisions of Division IV. Private crossing improvements are subject to review and licensing by the rail service provider.

Response: This application does not include streets adjacent to railroad right-of-way. This standard is not applicable.

K. **Street Names.** No new street name shall be used which will duplicate or be confused with the names of existing streets in the City of Molalla or vicinity. Street names shall be submitted to the City for review and approval in consultation with Clackamas County and emergency services.

Response: This application does not include new streets. Therefore, this standard is not applicable.

L. **Survey Monuments.** Upon completion of a street improvement and prior to acceptance by the City, it shall be the responsibility of the developer's registered professional land surveyor to provide certification to the City that all boundary and interior monuments have been reestablished and protected.

Response: As stated previously, this project does not include new streets. This standard does not apply.

M. **Street Signs.** The city, county, or state with jurisdiction shall install all signs for traffic control and street names. The cost of signs required for new development shall be the responsibility of the developer. Street name signs shall be installed at all street intersections. Stop signs and other signs may be required.

Response: This standard is understood.

N. **Streetlight Standards.** Streetlights shall be relocated or new lights installed, as applicable, with street improvement projects. Streetlights shall conform to City standards, be directed downward, and full cutoff and full shielding to preserve views of the night sky and to minimize excessive light spillover onto adjacent properties.

Response: This application does not include streetlights. Therefore, this standard is not applicable.

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- O. Mail Boxes. Mailboxes shall conform to the requirements of the United States Postal Service and the State of Oregon Structural Specialty Code.

Response: This standard is understood.

- P. Street Cross-Sections. The final lift of pavement shall be placed on all new constructed public roadways prior to final City acceptance of the roadway.

Response: This application does not include new streets. Therefore, this standard is not applicable.

17-3.6.040 Sanitary Sewer and Water Service Improvements

- A. Sewers and Water Mains Required. All new development is required to connect to City water and sanitary sewer systems. Sanitary sewer and water system improvements shall be installed to serve each new development and to connect developments to existing mains in accordance with the adopted facility master plans and applicable Public Works Design Standards. Where streets are required to be stubbed to the edge of the subdivision, sewer and water system improvements and other utilities shall also be stubbed with the streets, except as may be waived by the City Engineer where alternate alignment(s) are provided.

Response: As shown on the Preliminary Plans, sanitary sewer and water service for the future multifamily dwellings will be provided by connecting to the existing water and sanitary sewer lines located in the shared private driveway (S Cromptons Lane) that were stubbed to the property with the Colima Phase 1 site improvements, as necessary. This criterion is satisfied.

(...)

17-3.6.050 Storm Drainage and Surface Water Management Facilities

- A. General Provisions. The City shall issue a development permit only where adequate provisions for stormwater runoff have been made in conformance with the requirements of the current version of the Public Works Design Standards and Stormwater Master Plan.
- B. Accommodation of Upstream Drainage. Culverts and other drainage facilities shall be large enough to accommodate existing and potential future runoff from the entire upstream drainage area, whether inside or outside the development. Such facilities shall be subject to review and approval by the City Engineer.
- C. Effect on Downstream Drainage. Where it is anticipated by the City Engineer that the additional runoff resulting from the development will overload an existing drainage facility, the City shall withhold approval of the development until provisions have been made for improvement of the potential condition or until provisions have been made for storage of additional runoff caused by the development in accordance with City standards.

Response: As shown on the Preliminary Plans, stormwater runoff is planned to be collected and routed into the existing stormwater facilities that was installed with the site improvements for the first phase of Colima Apartments. These facilities will be upsized and modified as necessary to accommodate this project.

A Preliminary Stormwater Report (Exhibit F) has been prepared that demonstrates planned improvements conform to the Public Works Design Standards and Stormwater Master Plan. The Preliminary Stormwater Report further discusses the upstream and downstream drainage systems and shows that the planned facilities will not negatively

impact downstream capacity and are adequate to accommodate existing and future runoff from the upstream drainage area. These criteria are satisfied.

- D. **Over-Sizing.** The City may require as a condition of development approval that sewer, water, or storm drainage systems serving new development be sized to accommodate future development within the area as projected by the applicable facility master plan, provided that the City may grant the developer credit toward any required system development charge for the same pursuant to the System Development Charge.

Response: As shown on the Preliminary Plans, sewer and water for the site are planned to be provided by connecting to and extending (where necessary) existing utilities located in the existing shared driveway. Stormwater for the site is planned to be collected and routed to a stormwater line in Colima Apartments Phase 1. The stormwater facilities that will be installed with the site improvements for the first phase of Colima Apartments will be designed to be able to accommodate stormwater from this project. To the extent applicable, this criterion is met.

- E. **Existing Watercourse.** Where a proposed development is traversed by a watercourse, drainage way, channel, or stream, the City may require a stormwater easement or drainage right-of-way conforming substantially with the lines of such watercourse and such further width as will be adequate for conveyance and maintenance to protect the public health and safety.

Response: The site does not have an existing watercourse, drainage way, channel, or stream. This criterion is not applicable.

17-3.6.060 Utilities

The following standards apply to new development where extension of electric power, gas, or communication lines is required:

- A. **General Provision.** The developer of a property is responsible for coordinating the development plan with the applicable utility providers and paying for the extension and installation of utilities not otherwise available to the subject property.

Response: The Applicant is aware that coordination with utility providers will be required to extend existing utilities into the site. This criterion will be met.

- B. **Underground Utilities.**

- 1. **General Requirement.** The requirements of the utility service provider shall be met. All utility lines in new subdivisions, including, but not limited to, those required for electric, communication, and lighting, and related facilities, shall be placed underground, except where the City Engineer determines that placing utilities underground would adversely impact adjacent land uses. The Planning Official may require screening and buffering of above ground facilities to protect the public health, safety, or welfare.

Response: As shown on the Preliminary Plans, new utilities are planned to be placed underground. This criterion is met.

- 2. **Subdivisions.** In order to facilitate underground placement of utilities, the following additional standards apply to all new subdivisions:

(...)

Response: This application involves Site Design Review, not a subdivision. Therefore, these criteria are not applicable.

- C. **Exception to Undergrounding Requirement.** The City Engineer may grant exceptions to the undergrounding standard where existing physical constraints, such as geologic conditions, streams, or existing development conditions make underground placement impractical.

Response: As discussed above, new utilities are planned to be placed underground. Exceptions to this requirement are not being sought; therefore, this criterion is not applicable.

17-4.1.040 **Type III Procedure (Quasi-Judicial Review—Public Hearing)**

Type III decisions are made by the Planning Commission after a public hearing, with an opportunity for appeal to the City Council.

A. **Application Requirements.**

1. **Application Forms.** Applications requiring Quasi-Judicial Review shall be made on forms provided by the Planning Official.

Response: This application includes the required application forms (Exhibit D). This submittal requirement is satisfied.

2. **Submittal Information.** The Planning Official shall advise the applicant on application submittal requirements. At a minimum, the application shall include all of the following information:

- a. The information requested on the application form;
- b. Plans and exhibits required for the specific approval(s) being sought;
- c. A written statement or letter explaining how the application satisfies each and all of the relevant criteria and standards in sufficient detail;
- d. Information demonstrating compliance with prior decision(s) and conditions of approval for the subject site, as applicable; and
- e. The required fee.
- f. Comments, if obtained from neighborhood contact per Section 17-4.1.070.

Response: The required fee and other required application materials, as applicable, are included with this application. These submittal requirements are satisfied.

17-4.1.070 **Neighborhood Contact**

- A. **Purpose and Applicability.** Applicants for master planned development, subdivision, or site design review on projects involving parcels or lots larger than one acre and located adjacent to any residential zone, and property owner-applicants for zone changes, are recommended to contact neighboring property owners and offer to a hold meeting with them prior to submitting an application. This is to ensure that affected property owners are given an opportunity to preview a proposal and offer input to the applicant before a plan is formally submitted to the City, thereby raising any concerns about the project and the project's compatibility with surrounding uses early in the design process when changes can be made relatively inexpensively.

Response: Although this application involves Site Design Review, the subject site is less than one acre in size and is not adjacent to residentially zoned properties. Therefore, this submittal requirement is not applicable.

Chapter 17-4.2 SITE DESIGN REVIEW

17-4.2.030 Review Procedure

Site Design Review shall be conducted using the Type II procedure in Section 17-4.1.030, except that proposals exceeding any one of the thresholds below shall be reviewed using the Type III procedure in Section 17-4.1.040:

- A. The proposed use's estimated vehicle trip generation exceeds 100 average daily trips, based on the latest edition of the Institute of Transportation Engineers (ITE) Manual;
- B. The use exceeds 5,000 square feet of gross leasable floor area; or the project involves more than one acre total site area;
- C. The proposal involves a Conditional Use (new or expanded);
- D. The proposal involves a variance under Chapter 17-4.7;
- E. The proposal involves expansion of a nonconforming use; or
- F. The Planning Official determines that, due to the nature of the proposal, a public hearing is the most effective way to solicit public input in reviewing the application.

Response: This application involves Site Design Review for future multifamily dwellings that are planned to have more than 5,000 square feet of gross leasable floor area; therefore, this application is to be reviewed as a Type III procedure.

17-4.2.040 Application Submission Requirements

All of the following information is required for Site Design Review application submittal, except where the Planning Official and the City Engineer determines that some information is not pertinent and therefore is not required.

- A. General Submission Requirements.
 - 1. Information required for Type II or Type III review, as applicable (see Chapter 17-4.1).

Response: Detailed responses to the applicable code sections of Chapter 17-4.1 have been provided. This submittal requirement is met.

- 2. Public Facilities and Services Impact Study. The impact study shall quantify and assess the effect of the development on public facilities and services. The City shall advise as to the scope of the study. The study shall address, at a minimum, the transportation system, including required improvements for vehicles and pedestrians; the drainage system; the parks system; water system; and sewer system. For each system and type of impact, the study shall propose improvements necessary to meet City requirements. The City may require a Traffic Impact Analysis pursuant to Section 17-3.6.020.A(4).

Response: This application involves Site Design Review for the future construction of multifamily dwellings. The Preliminary Plans, application materials, and this narrative demonstrate that public services and facilities are available to serve the project. This standard is satisfied.

- B. Site Design Review Information. In addition to the general submission requirements, an applicant for Site Design Review shall provide the following information, as deemed applicable by the Planning Official. The Planning Official may request any information that he or she needs to review the proposal and prepare a complete staff report and recommendation to the approval body.
 - 1. Site Analysis Map. The site analysis map shall contain all the following information, as the Planning Official deems applicable:

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- a. The applicant's entire property and the surrounding property to a distance sufficient to determine the location of the development in the city, and the relationship between the proposed development site and adjacent property and development. The property boundaries, dimensions, and gross area shall be identified;
 - b. Topographic contour lines at two-foot intervals for slopes, except where the Public Works Director determines that larger intervals will be adequate for steeper slopes;
 - c. Identification of slopes greater than 15 percent, with slope categories identified in five percent increments (e.g., 0%-5%, >5%-10%, >10%-15%, >15%-20%, and so forth);
 - d. The location and width of all public and private streets, drives, sidewalks, pathways, rights-of-way, and easements on the site and adjoining the site;
 - e. Potential natural hazard areas, including, as applicable, the base flood elevation identified on FEMA Flood Insurance Rate Maps or as otherwise determined through site specific survey, areas subject to high water table, and areas designated by the City, county, or state as having a potential for geologic hazards;
 - f. Areas subject to overlay zones;
 - g. Site features, including existing structures, pavement, large rock outcroppings, areas having unique views, and drainage ways, canals, and ditches;
 - h. The location, size, and species of trees and other vegetation (outside proposed building envelope) having a caliper (diameter) of six inches or greater at four feet above grade;
 - i. North arrow, scale, and the names and addresses of all persons listed as owners of the subject property on the most recently recorded deed; and
 - j. Name and address of project designer, engineer, surveyor, and/or planner, if applicable.

Response: The Preliminary Plans (Exhibit A) included in the application materials show the information required above, as applicable. This submittal requirement is met.

2. **Proposed Site Plan.** The site plan shall contain all the following information:
 - a. The proposed development site, including boundaries, dimensions, and gross area;
 - b. Features identified on the existing site analysis maps that are proposed to remain on the site;
 - c. Features identified on the existing site map, if any, which are proposed to be removed or modified by the development;
 - d. The location and dimensions of all proposed public and private streets, drives, rights-of-way, and easements;
 - e. The location and dimensions of all existing and proposed structures, utilities, pavement, and other improvements on the site. Setback dimensions for all existing and proposed buildings shall be provided on the site plan;

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- f. The location and dimensions of entrances and exits to the site for vehicular, pedestrian, and bicycle access;
 - g. The location and dimensions of all parking and vehicle circulation areas (show striping for parking stalls and wheel stops);
 - h. Pedestrian and bicycle circulation areas, including sidewalks, internal pathways, pathway connections to adjacent properties, and any bicycle lanes or trails;
 - i. Loading and service areas for waste disposal, loading, and delivery;
 - j. Outdoor recreation spaces, common areas, plazas, outdoor seating, street furniture, and similar improvements;
 - k. Location, type, and height of outdoor lighting;
 - l. Location of mail boxes, if known;
 - m. Name and address of project designer, if applicable;
 - n. Locations of bus stops and other public or private transportation facilities; and
 - o. Locations, sizes, and types of signs.

Response: The Preliminary Plans (Exhibit A) included in the application materials show the information required above, as applicable. This submittal requirement is met.

- 3. **Architectural Drawings.** Architectural drawings shall include, as applicable:
 - a. Building elevations with dimensions;
 - b. Building materials, colors, and type; and
 - c. Name and contact information of the architect or designer.

Response: The Preliminary Architectural Plans (Exhibit B) and Preliminary Architectural Materials (Exhibit C) included in the application materials show the information required above. This submittal requirement is met.

- 4. **Preliminary Grading Plan.** A preliminary grading plan prepared by a registered engineer shall be required for development sites one-half acre or larger, or where otherwise required by the City. The preliminary grading plan shall show the location and extent to which grading will take place, indicating general changes to contour lines, slope ratios, slope stabilization proposals, and location and height of retaining walls, if proposed. Surface water detention and treatment plans may also be required, in accordance with Section 17-3.6.040.

Response: A Preliminary Demolition, Grading, Erosion, and Sediment Control Plan prepared by a registered professional engineer is included in the Preliminary Plans (Exhibit A). This submittal requirement is met.

- 5. **Landscape Plan.** Where a landscape plan is required, it shall show the following, pursuant to Chapter 17-3.4:
 - a. The location and height of existing and proposed fences, buffering, or screening materials;
 - b. The location of existing and proposed terraces, retaining walls, decks, patios, shelters, and play areas;

- c. The location, size, and species of the existing and proposed plant materials (at time of planting);
- d. Existing and proposed building and pavement outlines;
- e. Specifications for soil at time of planting, irrigation if plantings are not drought tolerant (may be automatic or other approved method of irrigation), and anticipated planting schedule; and
- f. Other information as deemed appropriate by the Planning Official. An arborist’s report may be required for sites with mature trees that are to be retained and protected.

Response: As applicable, the above information is illustrated on the Preliminary Landscape Plan and Preliminary Architectural Plans included in this application. This submittal requirement is met.

- 6. Deed Restrictions. Copies of all existing and proposed restrictions or covenants, including those for roadway access control.

Response: Copies of existing deed restrictions are included with the application materials (Exhibit I). This submittal requirement is met.

- 7. Narrative. Letter or narrative report documenting compliance with the applicable approval criteria contained in Section 17-4.2.050.

Response: This application includes a written narrative responding to applicable approval criteria of Section 17-4.2.050. This submittal requirement is met.

- 8. Traffic Impact Analysis, when required by Section 17-3.6.020.A(4).

Response: A Transportation Impact Study (TIS) is included with the application materials (Exhibit E). This submittal requirement is met.

- 9. Other information determined by the Planning Official. The City may require studies or exhibits prepared by qualified professionals to address specific site features or project impacts (e.g., traffic, noise, environmental features, natural hazards, etc.), as necessary to determine a proposal’s conformance with this Code.

Response: This application includes plans and reports that are sufficient to show compliance with the applicable sections of the Molalla Development Code. This criterion is satisfied.

17-4.2.050 Approval Criteria

An application for Site Design Review shall be approved if the proposal meets all of the following criteria. The Planning Official, in approving the application, may impose reasonable conditions of approval, consistent with the applicable criteria.

- A. The application is complete, in accordance with Section 17-4.2.040;

Response: As discussed in Section 17-4.2.040, this application includes the required submittal materials. This criterion is satisfied.

- B. The application complies with all of the applicable provisions of the underlying Zoning District (Division II), including, but not limited to, building and yard setbacks, lot area and dimensions, density and floor area, lot coverage, building height, building orientation, architecture, and other applicable standards;

Response: This application involves Site Design Review for multifamily dwellings on property that has a C-2 zoning designation. The provisions of Division II are addressed in this narrative; therefore, this criterion is met.

- C. The proposal includes required upgrades, if any, to existing development that does not comply with the applicable zoning district standards, pursuant to Chapter 17-1.4 Nonconforming Situations;

Response: The property does not have existing nonconforming development as outlined in Chapter 17-1.4. Therefore, this criterion is not applicable.

- D. The proposal complies with all of the Development and Design Standards of Division III, as applicable, including, but not limited to:

1. Chapter 17-3.3 Access and Circulation,
2. Chapter 17-3.4 Landscaping, Fences and Walls, Outdoor Lighting,
3. Chapter 17-3.5 Parking and Loading,
4. Chapter 17-3.6 Public Facilities, and

Response: This narrative addresses the applicable Development and Design Standards of Division III and demonstrates compliance. This criterion is met.

5. Chapter 17-3.7 Signs;

Response: It is anticipated the site will have signage. The final sign designs and locations are not available at the time of this application because they will be contingent on final architectural design and site plan approval. A sign permit application that meets the applicable requirements of Chapter 17-3.7 will be submitted separately. To the extent applicable, this criterion is met.

- E. For non-residential uses, all adverse impacts to adjacent properties, such as light, glare, noise, odor, vibration, smoke, dust, or visual impact, are avoided; or where impacts cannot be avoided, they are minimized; and

Response: This application involves Site Design Review for multifamily dwellings. Therefore, this criterion is not applicable.

- F. The proposal meets all existing conditions of approval for the site or use, as required by prior land use decision(s), as applicable.

Note: Compliance with other City codes and requirements, though not applicable land use criteria, may be required prior to issuance of building permits.

Response: This site does not have existing conditions of approval through a prior land use decision. However, this project includes a new pedestrian walkway on the south side of the shared driveway as discussed in the staff report of the site design review application for Colima Apartments (DRW04-2019). Therefore, to the extent applicable, this criterion is met.

Chapter 21.90 TREES

21.90.020 Tree retention.

(...)

- C. Any tree that is removed shall be replanted on the same lot within 1 year unless the Planning Director determines that an adequate number of trees remain on the property.

-
- D. All new development shall incorporate trees within the development.
 - E. When a protected tree lies within an area where development is scheduled to occur and no alternative exists to removing the tree, a new tree must be planted for every tree that is removed.

Response: This project includes the replacement of two trees that were previously removed. As discussed in Section 17-3.4.030.E, this project requires a minimum of two trees to be planted as part of the landscaping. As shown on the Preliminary Landscape Plan included in Exhibit A, this project includes six new trees. Therefore, these criteria are met.

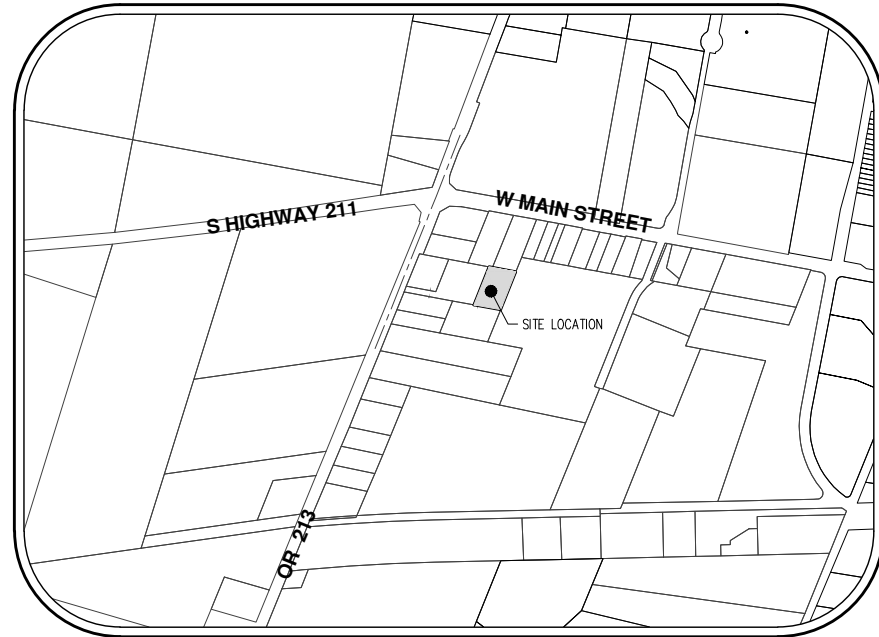
IV. Conclusion

The required findings have been made, and this written narrative and accompanying documentation demonstrate that the application is consistent with the applicable provisions of the City of Molalla Development Code. The evidence in the record supports approval of the application.

Exhibit A: Preliminary Plans

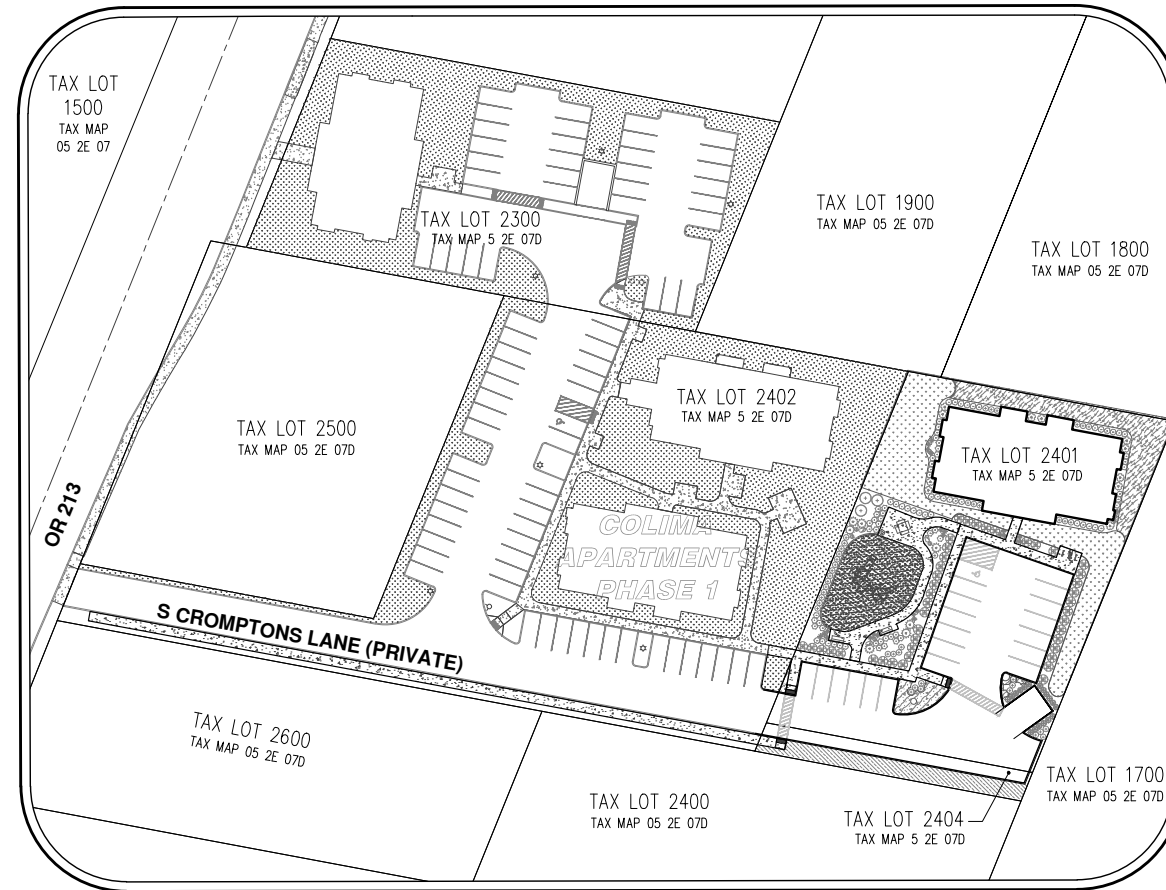
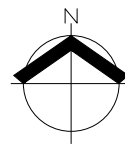
COLIMA APARTMENTS PHASE 2

SITE DESIGN REVIEW PLANS



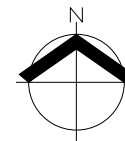
VICINITY MAP

SCALE: 1"=500'



SITE MAP

SCALE: 1"=50'



APPLICANT:

ANGEL JIMENEZ ALEJANDREZ
P.O. BOX 180
CANBY, OR 97013

**LAND USE PLANNING,
CIVIL ENGINEERING,
LANDSCAPE
ARCHITECTURE, AND
SURVEYING FIRM:**

AKS ENGINEERING & FORESTRY, LLC
CONTACT: CHRIS GOODELL
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151

PROJECT LOCATION:

12763 S CROMPTONS LANE,
MOLALLA, OR 97038

PROPERTY DESCRIPTION:

TAX LOTS 2401 AND 2404,
CLACKAMAS COUNTY ASSESSOR'S
MAP 5-2E-07D WILLAMETTE
MERIDIAN, CLACKAMAS COUNTY,
OREGON

SITE AREA:

± 0.68 ACRES

ZONING:

GENERAL COMMERCIAL (C-2)

EXISTING LAND USE:

VACANT LAND

PROJECT PURPOSE:

SITE DESIGN REVIEW FOR CREATION OF
A NEW MULTIFAMILY RESIDENTIAL
COMMUNITY

VERTICAL DATUM:

VERTICAL DATUM: ELEVATIONS ARE
BASED ON NATIONAL GEODETIC SURVEY
BENCHMARK PID: RD1508, LOCATED AT
THE CORNER OF HIGHWAY 99E AND S
BARLOW ROAD WITH AN ELEVATION OF
105.09 FEET (NAVD 88)

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
DECIDUOUS TREE			STORM DRAIN CLEAN OUT		
CONIFEROUS TREE			STORM DRAIN CATCH BASIN		
FIRE HYDRANT			STORM DRAIN AREA DRAIN		
WATER BLOWOFF			STORM DRAIN MANHOLE		
WATER METER			GAS METER		
WATER VALVE			GAS VALVE		
DOUBLE CHECK VALVE			GUY WIRE ANCHOR		
AIR RELEASE VALVE			UTILITY POLE		
SANITARY SEWER CLEAN OUT			POWER VAULT		
SANITARY SEWER MANHOLE			POWER JUNCTION BOX		
SIGN			POWER PEDESTAL		
STREET LIGHT			COMMUNICATIONS VAULT		
MAILBOX			COMMUNICATIONS JUNCTION BOX		
			COMMUNICATIONS RISER		

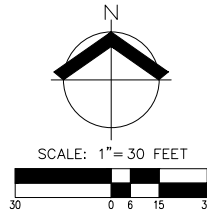
EXISTING

PROPOSED

RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
EASEMENT		
FENCE LINE		
GRAVEL EDGE		
POWER LINE		
OVERHEAD WIRE		
COMMUNICATIONS LINE		
FIBER OPTIC LINE		
GAS LINE		
STORM DRAIN LINE		
SANITARY SEWER LINE		
WATER LINE		

SHEET INDEX

- P-01 COVER SHEET WITH SITE AND VICINITY MAPS
- P-02 EXISTING CONDITIONS PLAN
- P-03 PRELIMINARY SITE PLAN
- P-04 PRELIMINARY SITE PLAN WITH AERIAL PHOTOGRAPH
- P-05 PRELIMINARY LANDSCAPE PLAN
- P-06 PRELIMINARY DEMOLITION, GRADING, EROSION, AND SEDIMENT CONTROL PLAN
- P-07 PRELIMINARY COMPOSITE UTILITY PLAN
- P-08 PRELIMINARY SITE LIGHTING PLAN
- P-09 PRELIMINARY FIRE TRUCK TURNING MOVEMENTS PLAN
- P-10 PRELIMINARY FIRE AND LIFE SAFETY PLAN



- NOTES:**
- UTILITIES SHOWN WITHIN PROJECT LIMITS AND S CROMPTIONS LANE ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 21309706. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
 - FIELD WORK WAS CONDUCTED OCTOBER 21-22, 2021.
 - ALL EXISTING IMPROVEMENTS WERE DERIVED FROM AKS ENGINEERING AND FORESTRY "COLIMA APARTMENTS" SITE DEVELOPMENT CONSTRUCTION PLANS DATED 06/24/2020 AND APPROVED ON 07/01/2020.
 - THE BUILDINGS FOOTPRINTS SHOWN ON TAX LOT 2402 WERE DERIVED FROM DOUG CIRCOSTA, ARCHITECT LLC ARCHITECTURAL PLANS "COLIMA APARTMENTS" JOB NO. 1922 DATED 05-05-2020 REFERENCED IN AKS ENGINEERING AND FORESTRY "COLIMA APARTMENTS" SITE DEVELOPMENT CONSTRUCTION PLANS DATED 06/24/2020 AND APPROVED ON 07/01/2020.
 - VERTICAL DATUM: ELEVATIONS ARE BASED ON NATIONAL GEODETIC SURVEY BENCHMARK PID: RD1508, LOCATED AT THE NE CORNER OF HIGHWAY 99E AND S BARLOW ROAD WITH AN ELEVATION OF 105.09 FEET (NAVD 88).
 - CONTOUR INTERVAL IS 1 FOOT.

EXISTING CONDITIONS PLAN
COLIMA APARTMENTS PHASE 2
12763 S CROMPTIONS LANE
MOLALLA, OREGON

REGISTERED PROFESSIONAL LAND SURVEYOR
 PRELIMINARY NOT FOR CONSTRUCTION
 C. ROBERT D. RETTIG
 60124LS
 RENEWS: 12/31/22
 JOB NUMBER: 7435
 DATE: 01/27/2022
 DESIGNED BY:
 DRAWN BY: MTB
 CHECKED BY: RDR

AKS DRAWING FILE: 7435-01 EXCOND - PH2.DWG | LAYOUT: P-02

- # NOTES:**
1. NEW ASPHALT PAVEMENT (TYP)
 2. NEW CONCRETE CURB
 3. VARIABLE WIDTH CONCRETE SIDEWALK*
 4. 5' WIDE CONCRETE SIDEWALK
 5. 6' WOOD FENCE ALONG NORTHERN AND EASTERN BOUNDARIES. RECENTLY INSTALLED, TO BE PERMITTED THROUGH THIS APPLICATION.
 6. ADA ACCESSIBLE PARKING STALL (9'x18')
 7. VEHICLE PARKING STALL (8.5'x18')
 8. ADA ACCESSIBLE VAN LOADING AREA DELINEATED BY PAVEMENT STRIPING
 9. GARBAGE AND RECYCLING ENCLOSURE WITH 6' CHAIN LINK FENCE AND GATE
 10. LIGHT POLE, SEE SHEET P-08 FOR MORE INFORMATION
 11. PAVEMENT STRIPING TO DELINEATE PEDESTRIAN CROSSING OF VEHICULAR DRIVE AISLE
 12. CONCRETE PAD AND STAPLE DESIGN BIKE RACKS
 13. CONCRETE PAD FOR PICNIC TABLE AREA
 14. CONCRETE PAD FOR BENCH
 15. LANDSCAPING AREA, SEE SHEET P-05 FOR MORE INFORMATION
 16. ADA ACCESSIBLE RAMP WITH DETECTABLE WARNING SURFACE

- LEGEND:**
- ADA ACCESSIBLE WALKWAY

PROJECT DETAILS:

TOTAL AREA:	±29,621 SF
BUILDINGS:	±4,551 SF (15.4%)
HARDSCAPE: (INCLUDES VEHICULAR AND PEDESTRIAN ROUTES)	±11,152 SF (37.6%)
COMMON OPEN SPACE AND LANDSCAPING: (BASED ON NET BUILDABLE AREA)	±4,962 SF (19.7%)
TOTAL LANDSCAPING: (BASED ON GROSS SITE AREA)	±13,864 SF (46.8%)

SETBACKS PER TABLE 17-2.2.040E:
 MINIMUM FRONT, STREET SIDE, INTERIOR SIDE, AND REAR PROPERTY LINES: 0 FEET

AREA CALCULATIONS:

GROSS SITE AREA:	±29,621 SF (± 0.68 AC)
EASEMENT AREA:	±4,437 SF (± 0.10 AC)
NET BUILDABLE AREA:	±25,184 SF (± 0.58 AC)

PARKING COUNT:

PARKING SPACES REQUIRED:

PHASE 1:

3 BEDROOMS (6 UNITS, 2.5 SPACES PER):	15 SPACES
2 BEDROOMS (24 UNITS, 2 SPACES PER):	48 SPACES
1 BEDROOM (6 UNITS, 1.5 SPACES PER):	9 SPACES

PHASE 2:

3 BEDROOMS (3 UNITS, 2.5 SPACES PER):	8 SPACES
2 BEDROOMS (9 UNITS, 2 SPACES PER):	18 SPACES

TOTAL SPACES REQUIRED (PH1 AND PH2): 98 SPACES

PARKING SPACES PROVIDED:

PHASE 1:

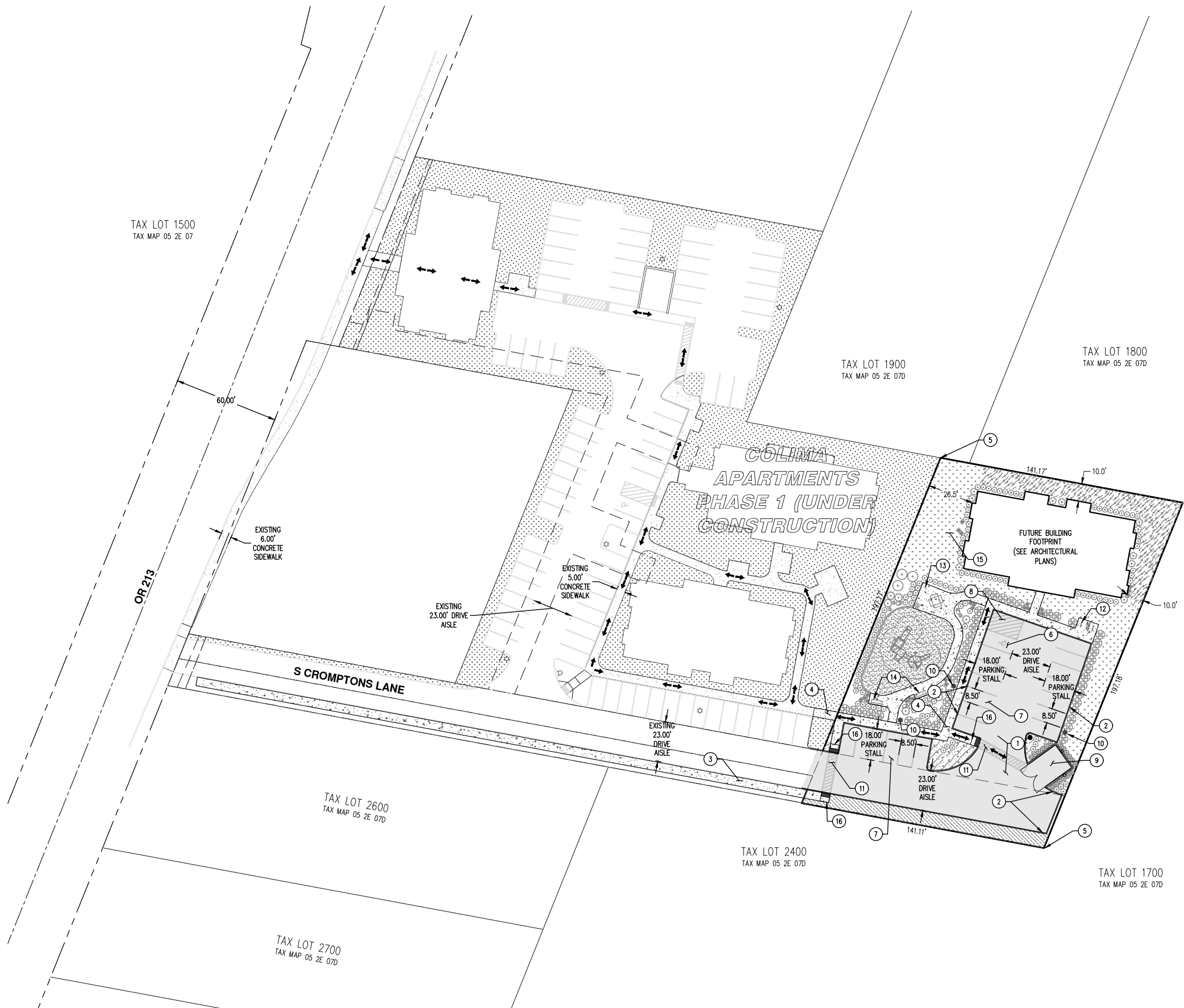
TOTAL SPACES PROVIDED (PH1 AND PH2):	78 SPACES
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PHASE 2:

TOTAL SPACES PROVIDED (PH1 AND PH2):	20 SPACES
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TOTAL SPACES PROVIDED (PH1 AND PH2): 98 SPACES
 BIKE PARKING REQUIRED/PROVIDED: 6 SPACES

- NOTES:**
1. SEE PRELIMINARY ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS.
 2. SHARED PARKING, ACCESS, UTILITIES EASEMENTS TO BE RECORDED AS NECESSARY
- * SIDEWALK WIDTH VARIES IN SOME AREAS TO ACCOUNT FOR EXISTING IMPROVEMENTS THAT CANNOT BE EASILY REMOVED OR RELOCATED.



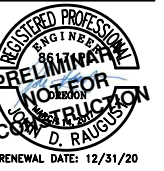
**PRELIMINARY SITE PLAN
 COLIMA APARTMENTS PHASE 2
 12763 S CROMPTONS LANE
 MOLALLA, OREGON**



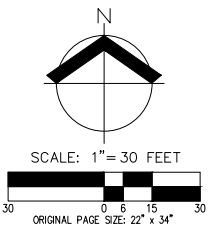
JOB NUMBER:	7435
DATE:	01/27/2022
DESIGNED BY:	JG
DRAWN BY:	JG
CHECKED BY:	JDR



**PRELIMINARY SITE PLAN WITH AERIAL PHOTOGRAPH
 COLIMA APARTMENTS PHASE 2
 12763 S CROMPTONS LANE
 MOLALLA, OREGON**

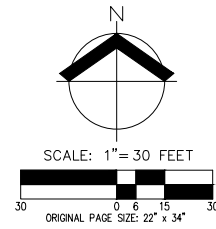


JOB NUMBER:	7435
DATE:	01/27/2022
DESIGNED BY:	JG
DRAWN BY:	JG
CHECKED BY:	JDR



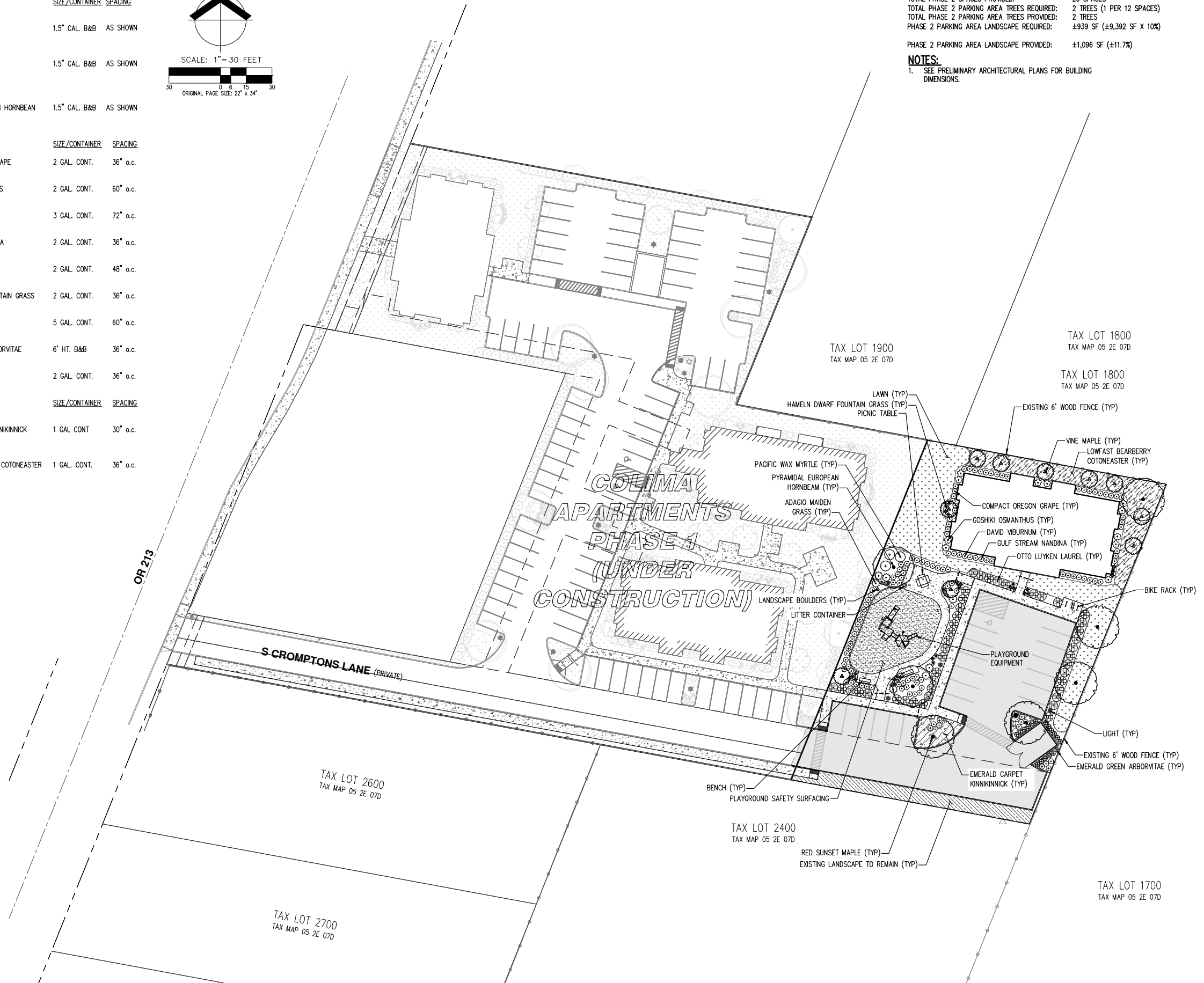
PRELIMINARY PLANT SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	ACER CIRCINATUM	VINE MAPLE	1.5" CAL. B&B	AS SHOWN
	ACER RUBRUM 'FRANKSRED'™	RED SUNSET MAPLE	1.5" CAL. B&B	AS SHOWN
	CARPINUS BETULUS 'FASTIGIATA' (REPLACEMENT TREE)*	PYRAMIDAL EUROPEAN HORNBEAN	1.5" CAL. B&B	AS SHOWN
SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	MAHONIA AQUIFOLIUM 'COMPACTA'	COMPACT OREGON GRAPE	2 GAL. CONT.	36" o.c.
	MISCANTHUS SINENSIS 'ADAGIO'	ADAGIO MAIDEN GRASS	2 GAL. CONT.	60" o.c.
	MYRICA CALIFORNICA	PACIFIC WAX MYRTLE	3 GAL. CONT.	72" o.c.
	NANDINA DOMESTICA 'GULF STREAM'™	GULF STREAM NANDINA	2 GAL. CONT.	36" o.c.
	OSMANTHUS HETEROPHYLLUS 'GOSHIKI'	GOSHIKI OSMANTHUS	2 GAL. CONT.	48" o.c.
	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN DWARF FOUNTAIN GRASS	2 GAL. CONT.	36" o.c.
	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN LAUREL	5 GAL. CONT.	60" o.c.
	THUJA OCCIDENTALIS 'SMARAGO'	EMERALD GREEN ARBORVITAE	6' HT. B&B	36" o.c.
	VIBURNUM DAVIDII	DAVID VIBURNUM	2 GAL. CONT.	36" o.c.
GROUND COVERS	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	ARCTOSTAPHYLOS UVA-URSI 'EMERALD CARPET'	EMERALD CARPET KINNIKINICK	1 GAL. CONT.	30" o.c.
	COTONEASTER DAMMERI 'LOWFAST'	LOWFAST BEARBERRY COTONEASTER	1 GAL. CONT.	36" o.c.
	LAWN: SEED			
	EXISTING LANDSCAPING TO REMAIN			



PARKING LOT LANDSCAPING:
 TOTAL PHASE 2 SPACES PROVIDED: 20 SPACES
 TOTAL PHASE 2 PARKING AREA TREES REQUIRED: 2 TREES (1 PER 12 SPACES)
 TOTAL PHASE 2 PARKING AREA TREES PROVIDED: 2 TREES
 PHASE 2 PARKING AREA LANDSCAPE REQUIRED: ±939 SF (±9,392 SF X 10%)
 PHASE 2 PARKING AREA LANDSCAPE PROVIDED: ±1,096 SF (±11.7%)

NOTES:
 1. SEE PRELIMINARY ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS.



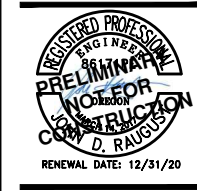
PRELIMINARY LANDSCAPE NOTES:

- PRELIMINARY LANDSCAPE PLAN IS INTENDED TO PORTRAY DESIGN INTENT ONLY. PLAN CHANGES, INCLUDING CHANGES TO PLANT VARIETY, LOCATIONS, AND OTHER PLAN ELEMENTS MAY OCCUR PRIOR TO FINAL PLAN APPROVAL, WHERE ALLOWED BY CITY OF MOLALLA STANDARDS.
- ALL LANDSCAPING SHALL CONFORM TO APPLICABLE CITY OF MOLALLA STANDARDS (DEVELOPMENT CODE 17-3.4) AND TO AMERICAN STANDARDS FOR NURSERY STOCK, ANSI Z60.1, CURRENT EDITION. ALL LANDSCAPING MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH RECOGNIZED, BEST-PRACTICE INDUSTRY STANDARDS, SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTORS BOARD (OLCB).
- CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AND PROVIDING IRRIGATION, AS NECESSARY, FOR ALL LANDSCAPE AREAS, PER DEVELOPMENT CODE 17-3.4.030(C)(17). IRRIGATION SYSTEM SHALL BE DESIGN-BUILD BY THE LANDSCAPE CONTRACTOR.
- ALL PLANT MATERIAL SHALL BE OF HIGH GRADE, HEALTHY, EVENLY BRANCHED, TYPICAL FOR THEIR SPECIES, AND MEET THE SIZE AND GRADING OF THE AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60.1). CONTAINERIZED PLANT STOCK SHALL BE FULLY ROOTED, BUT NOT ROOT-BOUND, IN THE CONTAINERS IN WHICH THEY ARE DELIVERED.
- SOIL PREPARATION: ADEQUATE TOPSOIL SHALL BE PROVIDED AND AMENDED AS NECESSARY FOR HEALTHY PLANT ESTABLISHMENT, PER DEVELOPMENT CODE 17-3.4.030(C)(17).
- MULCH: APPLY 3" DEEP WELL-AGED MEDIUM GRIND OR SHREDDED DARK HEMLOCK BARK MULCH IN PLANTING BEDS, TAKING CARE TO NOT COVER FOLIAGE OR BURY ROOT CROWNS. WHERE STREET TREES ARE PLANTED IN LAWN AREAS, A 3" DIAMETER MULCH RING SHALL BE APPLIED AROUND EACH TREE TO FACILITATE EASE OF MAINTENANCE AND TO RETAIN SOIL MOISTURE.



JOB NUMBER: 7435
 DATE: 01/27/2022
 DESIGNED BY: KAH
 DRAWN BY: KAH
 CHECKED BY: KAH

PRELIMINARY DEMOLITION, GRADING, EROSION, AND SEDIMENT CONTROL PLAN
COLIMA APARTMENTS PHASE 2
12763 S CROMPTONS LANE
MOLALLA, OREGON



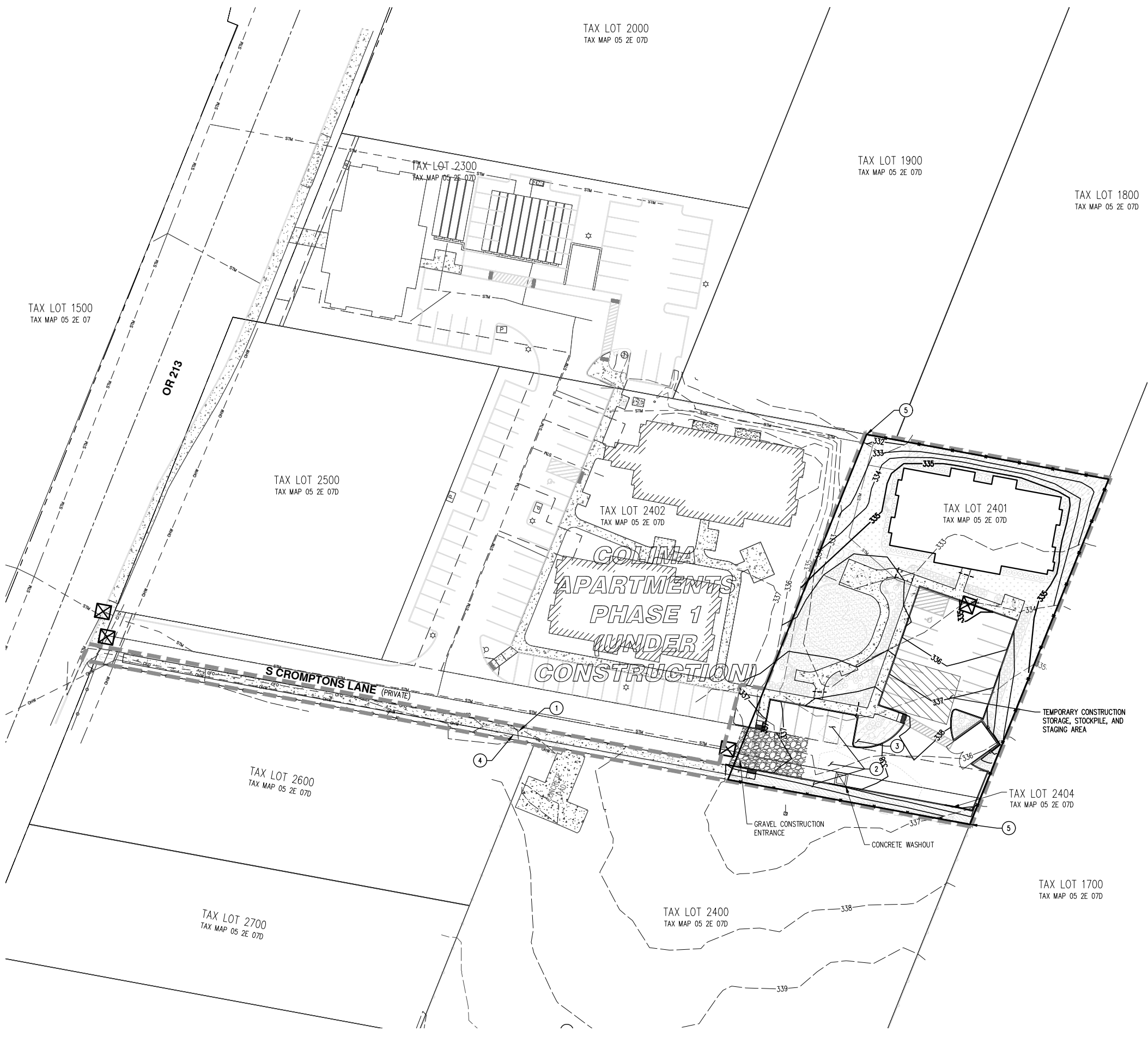
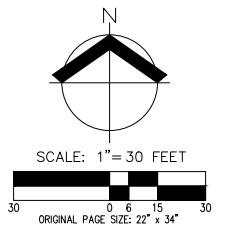
JOB NUMBER:	7435
DATE:	01/27/2022
DESIGNED BY:	JG
DRAWN BY:	JG
CHECKED BY:	JDR

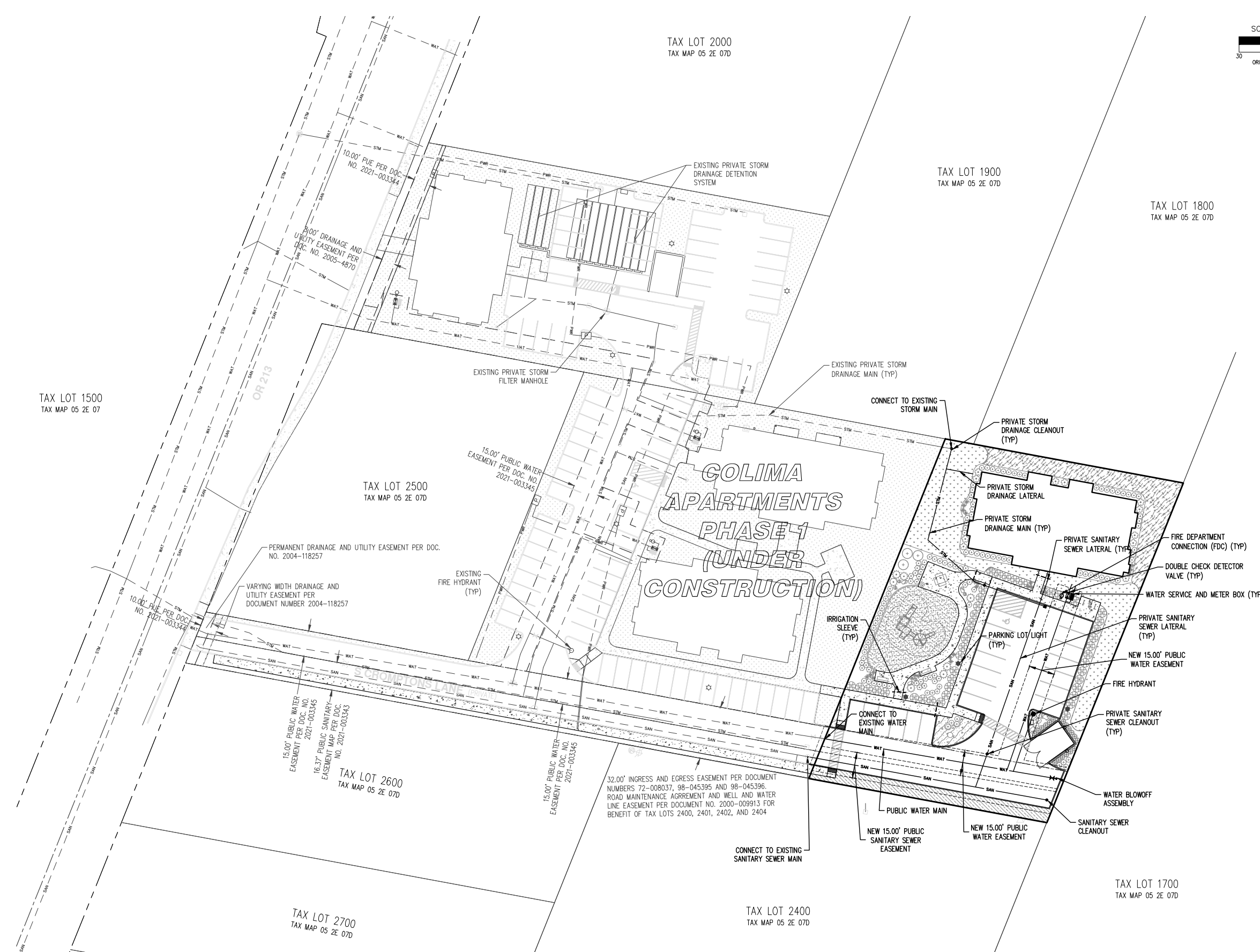
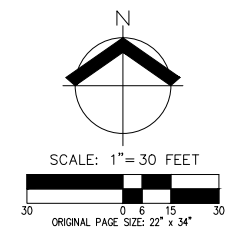
- DEMOLITION KEYED NOTES:**
1. REMOVE EXISTING SHED
 2. REMOVE EXISTING GRAVEL PILE
 3. REMOVE EXISTING ASPHALT PILE
 4. EXISTING WELL TO BE DECOMMISSIONED
 5. PROTECT EXISTING FENCE

- NOTES:**
1. EXISTING WELLS, SEPTIC SYSTEMS, FUEL TANKS, ETC. SHALL BE DECOMMISSIONED PER APPLICABLE JURISDICTIONAL REQUIREMENTS.
 2. COORDINATE REMOVAL OF UNDERGROUND UTILITIES WITH APPLICABLE UTILITY PROVIDER(S) WELL IN ADVANCE OF PLANNED WORK.

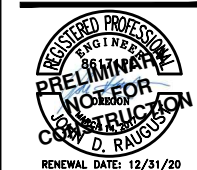
LEGEND

EXISTING GROUND CONTOUR (1 FT)	---	349
EXISTING GROUND CONTOUR (5 FT)	---	350
FINISHED GRADE CONTOUR (1 FT)	---	349
FINISHED GRADE CONTOUR (5 FT)	---	345
SEDIMENT FENCE	---	X
INLET PROTECTION	⊠	
CONCRETE WASHOUT AREA	□	
GRAVEL CONSTRUCTION ENTRANCE	▨	
PROJECT LIMITS	---	

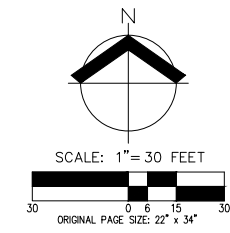
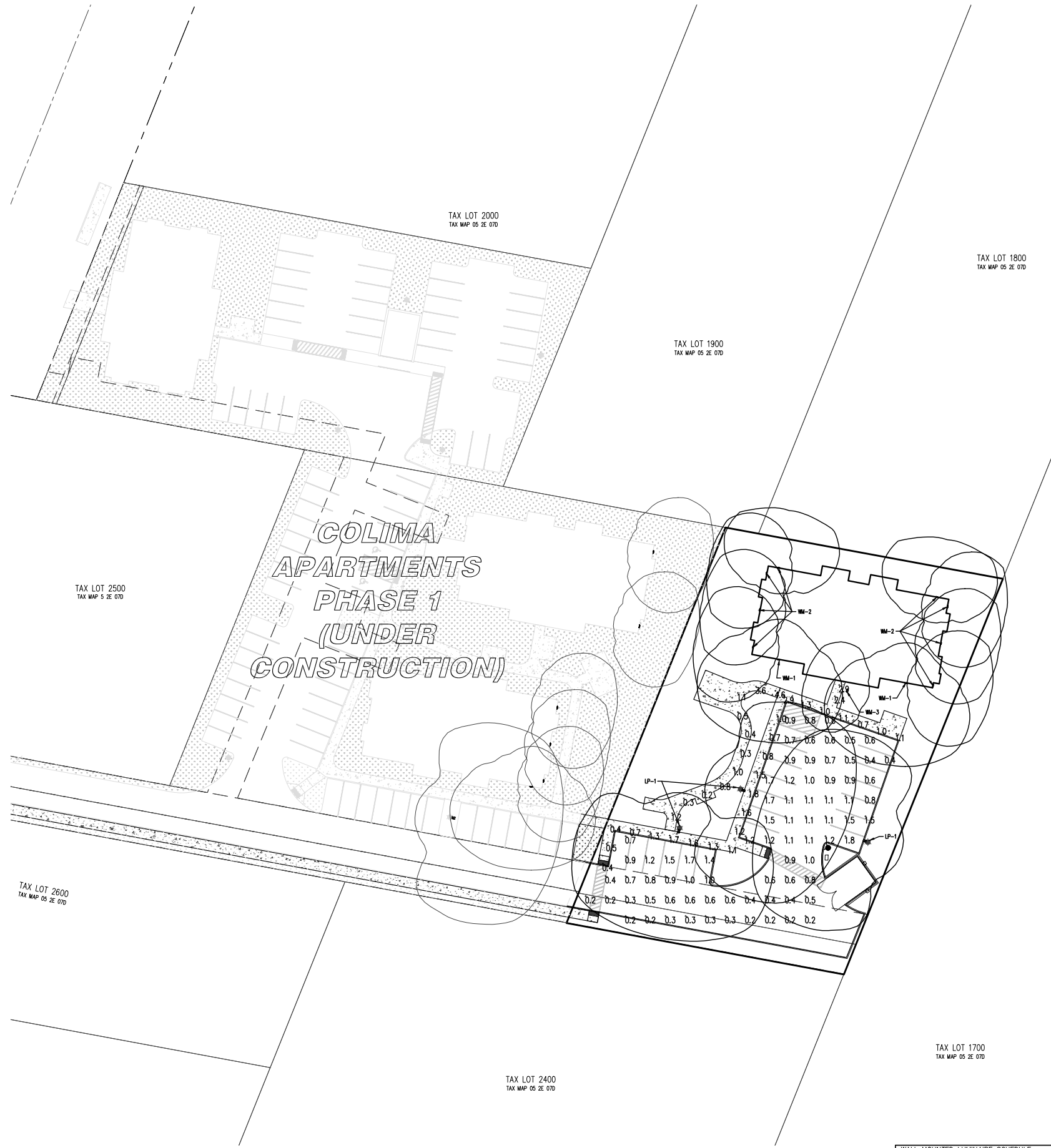




**PRELIMINARY COMPOSITE UTILITY PLAN
 COLIMA APARTMENTS PHASE 2
 12763 S CROMPTONS LANE
 MOLALLA, OREGON**



JOB NUMBER:	7435
DATE:	01/27/2022
DESIGNED BY:	JG
DRAWN BY:	JG
CHECKED BY:	JDR



LIGHT LEVEL SUMMARY

PARKING AREA
 MINIMUM LIGHT LEVEL
 -TARGET: 0.2 fc
 -ACHIEVED: 0.2 fc
 AVERAGE LIGHT LEVEL
 -TARGET: ≥0.8 fc
 -ACHIEVED: 0.8 fc
 UNIFORMITY RATIO (MAX/MIN)
 -TARGET: ≤20.0
 -ACHIEVED: 9.0

WALKWAYS
 AVERAGE LIGHT LEVEL
 -TARGET: ≥0.2 fc
 -ACHIEVED: 1.6 fc

BUILDING ENTRANCES
 AVERAGE LIGHT LEVEL
 -TARGET: ≥2.0 fc
 -ACHIEVED: 2.9 fc

WALL MOUNTED LUMINAIRE SCHEDULE

LABEL	TAG	DESCRIPTION	MOUNTING HEIGHT (FT)	QTY	TOTAL LUMENS	LUM. WATTS	LLF
WM-1	NEW	80W PROLITE LED (PLEDWPCAROW-3K)	12	2	8,871	80	0.75
WM-2	NEW	28W PROLITE LED (PLEDWPCA30W-3K)	12	8	3,181	28	0.75
WM-3	NEW	12W PROLITE LED (PLEDWPCA30W-3K)	12	1	1,250	12	0.75

LUMINAIRE AND POLE SCHEDULE

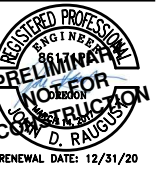
LABEL	TAG	DESCRIPTION	MOUNTING HEIGHT (FT)	ARM LENGTH (FT)	POLE TYPE	QTY	TOTAL LUMENS	LUM. WATTS	LLF
LP-1	NEW	LUMARK RV RIDGEVIEW LED (LDRV-T4-F02-D)	16	0.5	AL	3	4,852	55	0.75

PRELIMINARY SITE LIGHTING PLAN
COLIMA APARTMENTS PHASE 2
12763 S CROMPTONS LANE
MOLALLA, OREGON

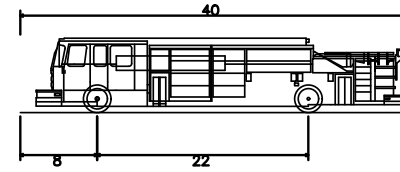


JOB NUMBER: 7435
 DATE: 01/27/2022
 DESIGNED BY: JG
 DRAWN BY: JG
 CHECKED BY: JDR

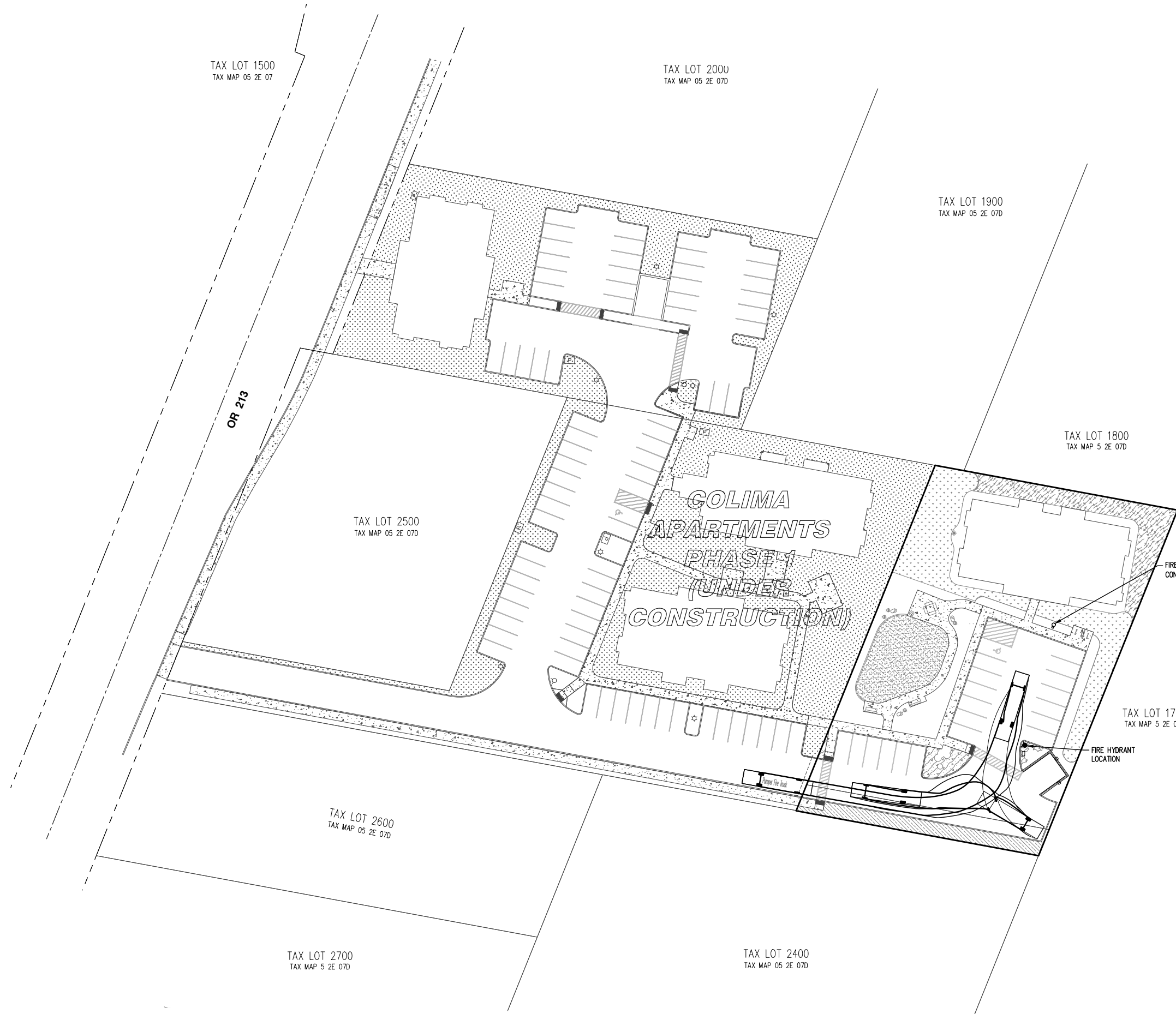
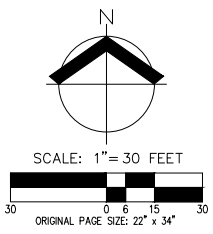
PRELIMINARY FIRE TRUCK TURNING MOVEMENTS PLAN
COLIMA APARTMENTS PHASE 2
12763 S CROMPTONS LANE
MOLALLA, OREGON



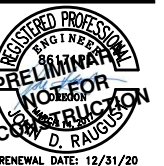
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 DATE: 01/27/2022
 DESIGNED BY: JG
 DRAWN BY: JG
 CHECKED BY: JDR



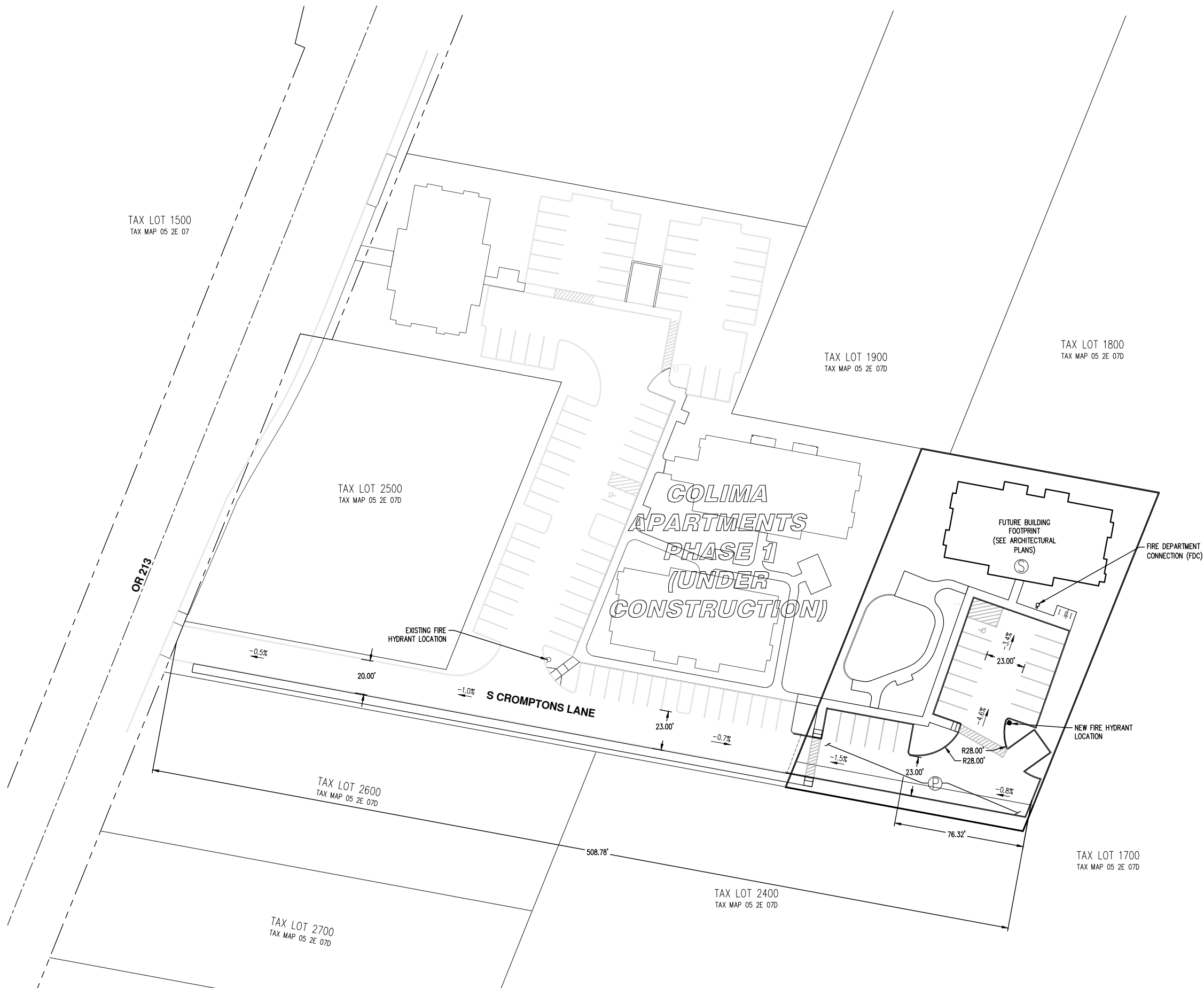
Pumper Fire Truck	
Overall Length	40.000ft
Overall Width	8.167ft
Overall Body Height	7.745ft
Min Body Ground Clearance	0.656ft
Track Width	8.167ft
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°



**PRELIMINARY FIRE AND LIFE SAFETY PLAN
 COLIMA APARTMENTS PHASE 2
 12763 S CROMPTONS LANE
 MOLALLA, OREGON**

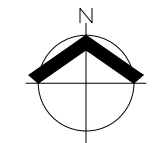


RENEWAL DATE: 12/31/20
 JOB NUMBER: 7435
 DATE: 01/27/2022
 DESIGNED BY: JG
 DRAWN BY: JG
 CHECKED BY: JDR



LEGEND:

- NEW FIRE HYDRANT
- ⊕ EXISTING FIRE HYDRANT
- Ⓟ NO PARKING AREA – CURB SHALL BE PAINTED WITH YELLOW PAINT IN ADDITION TO NO PARKING SIGNS.
- ↔ -0.0% SLOPE DIRECTION (NEGATIVE DENOTES DOWNHILL)
- Ⓢ BUILDING TO HAVE FIRE SUPPRESSION SPRINKLERS (SEE PRELIMINARY ARCHITECTURAL PLANS)



SCALE: 1" = 30 FEET
 ORIGINAL PAGE SIZE: 22" x 34"

Exhibit B: Preliminary Architectural Plans

SYMBOL LEGEND

- ★ TYPE 'D' LIGHT POLE 16'
- ◆ WALL MOUNTED LIGHT FIXTURE

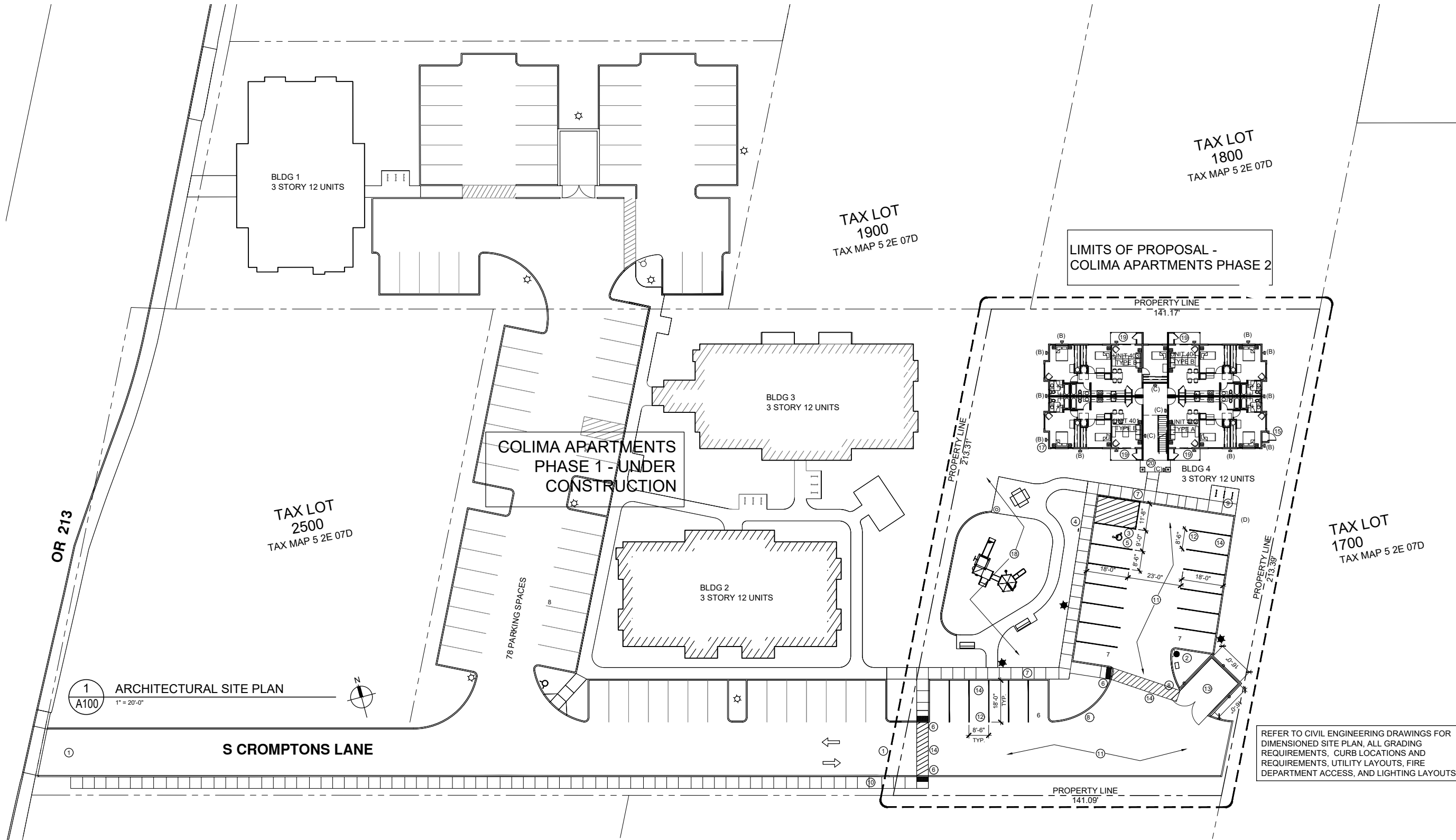
REFER TO CIVIL DRAWINGS FOR LIGHTING LAYOUT AND PHOTOMETRIC SITE LIGHTING ANALYSIS. INSURE NO LIGHT INTRUSION ONTO ADJACENT PROPERTIES AND RIGHT OF WAY. INSURE ADEQUATE LIGHTING ALONG ALL WALKING SURFACES FOR SAFE PEDESTRIAN TRAVEL. CONVIENE PRE-CONSTRUCTION CONFERENCE PRIOR TO INSTALLATION.

KEY NOTES

- ① VEHICLE SITE ENTRY.
- ② FIRE HYDRANT
- ③ ACCESSIBLE PARKING SPACES WITH SHARED 8' WIDE ACCESS AISLE.
- ④ ACCESSIBLE PARKING SIGNAGE.
- ⑤ VAN ACCESSIBLE PARKING SPACE
- ⑥ 24" DEEP DETECTABLE WARNING SURFACE - ADA COMPLIANT CROSSING. - REFER TO CIVIL DRAWINGS FOR REQUIREMENTS
- ⑦ CONCRETE SIDEWALK WITH CONTROL JOINTS EVERY 6-FEET.
- ⑧ 6-INCH CONCRETE CURB. REFER TO CIVIL DRAWINGS
- ⑨ (6) 2' X 6' BICYCLE PARKING SPACE.
- ⑩ PEDESTRIAN SIDEWALK.
- ⑪ ASPHALT PAVED DRIVEWAY
- ⑫ PAINTED PARKING SPACE STRIPING - TYPICAL EACH SPACE.
- ⑬ TRASH AND RECYCLE ENCLOSURE FOR ROLL OUT CARTS AND DUMPSTER WITH DRAIN IN FLOOR CONNECTED TO SANITARY SEWER. - SEE 3 / A203. SEE CIVIL DRAWINGS. TRASH ENCLOSURE TO BE 8' HIGH BLACK CHAIN LINK FENCING WITH MATCHING SLATS FOR SOLID SCREENING WITH PAIR OF 4060 METAL GATES WITH SCREENING SLATS.
- ⑭ STRIPED PEDESTRIAN CROSSING
- ⑮ BUILDING FIRE SPRINKLER RISER CLOSET
- ⑯ REFER TO CIVIL DRAWINGS FOR ALL GRADE REQUIREMENTS
- ⑰ BUILDING ELECTRICAL SERVICE ENTRY AND EQUIPMENT. USE PANEL SIDING BEHIND ELECTRICAL EQUIPMENT AND PAINT BEFORE INSTALLATION OF EQUIPMENT.
- ⑱ CHILDREN'S PLAY AREA - SEE LANDSCAPE PLANS
- ⑲ PRIVATE PATIO SPACE
- ⑳ COVERED BUILDING ACCESS

GENERAL NOTES

- 1. ALL SITE WORK TO CONFORM TO THE ACCESSIBILITY REQUIREMENTS OF CHAPTER 11 OF THE 2014 OREGON STRUCTURAL SPECIALTY CODE AND ICC/ANSI A117.1-2009.
- 2. ALL SIDEWALKS SHOWN TO NOT EXCEED 1:20 SLOPE VERTICAL AND 1:50 CROSS SLOPE
- 3. REFER TO LANDSCAPE PLAN FOR PLANTING IN ALL LANDSCAPE AREAS.
- 4. PROVIDE 6-INCH TALL CAST IN PLACE CONCRETE CURB AROUND THE PERIMETER OF THE LANDSCAPE ISLANDS AND AT OTHER LOCATIONS SHOWN ON DRAWINGS. VERIFY ALL REQUIREMENTS WITH CIVIL DRAWINGS
- 5. PARKING AREA TO BE ASPHALT PAVING WITH 6" CAST IN PLACE CONCRETE CURB. VERIFY ALL REQUIREMENTS WITH CIVIL DRAWINGS.
- 6. VERIFY LOCATION OF ALL EXISTING EASEMENTS. VERIFY WHICH EASEMENTS ARE TO REMAIN IN PLACE AND WHICH ARE TO BE ABANDONED.
- 7. VERIFY ALL BUILDING SETBACK REQUIREMENTS.



REFER TO CIVIL ENGINEERING DRAWINGS FOR DIMENSIONED SITE PLAN, ALL GRADING REQUIREMENTS, CURB LOCATIONS AND REQUIREMENTS, UTILITY LAYOUTS, FIRE DEPARTMENT ACCESS, AND LIGHTING LAYOUTS.



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Colima Apartments
 Phase 2

12763 S CROMPTONS LANE
 MOLALLA, OREGON

job no.: 1922
 date: 12-20-2021

SITE PLAN

A100
 109

Land Use Drawing - Not for Construction



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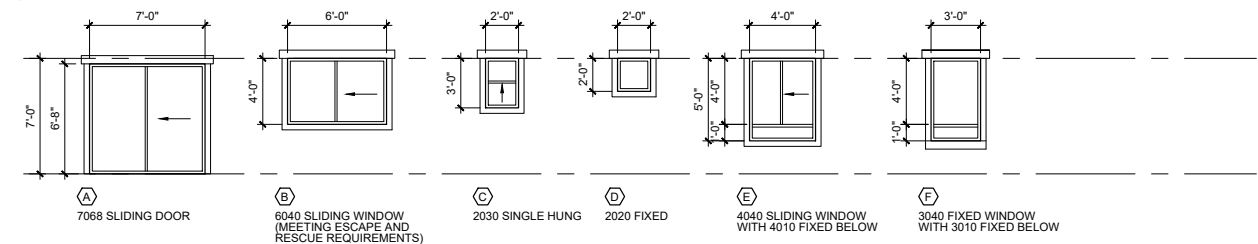
BUILDING 4
BUILDING ELEVATIONS

A202

Land Use Drawing - Not for Construction

WINDOW TYPES

- ALL WINDOWS TO BE DUAL PANE INSULATED VINYL WINDOW SYSTEM WITH MIN. U = 0.30, LOW-E GLAZING, AND MIN. SHGC = 0.40.
 - FRAME COLOR: WHITE
 - WINDOW HEAD HEIGHT TO BE 7'-0" ABOVE FFL TYPICAL ON ALL FLOORS.
 - PROVIDE TEMPERED SAFETY GLAZING AT ALL HAZARDOUS LOCATIONS AND AS INDICATED ON ELEVATIONS.
 - SLIDER DIRECTION INDICATED ON ELEVATIONS.
- ① TEMPERED SAFETY GLAZING



2 BUILDING ELEVATION
 A202 3/16" = 1'-0"



1 BUILDING ELEVATION
 A202 3/16" = 1'-0"

GENERAL NOTES

- SEE ROOF PLAN AND BLDG. PLANS FOR GUTTER AND DOWNSPOUT LOCATIONS.
- SEE SHEETS A600, A601, AND A602 FOR WINDOW AND SIDING INSTALLATION REQUIREMENTS.
- WINDOW AND DOOR TRIM REQUIREMENTS: 5/4 X 6 TRIM AT WINDOW HEAD WITH 2" EXTENSION ON EACH END. 5/4 X 4 TRIM AT WINDOW JAMBS. 5/4 X 6 TRIM AT SILL.
- ALL FASCIA AT ROOF EDGES TO BE 2 X 6 - PAINTED.
- ALL GUTTERS TO BE PAINTED TO MATCH FASCIA. ALL DOWNSPOUTS PAINTED TO MATCH ADJACENT BODY COLOR.
- PROVIDE BUILDING ADDRESSING SIGNAGE ON EACH BUILDING WHERE REQUIRED BY THE FIRE MARSHALL. PROVIDE WALL MOUNT LIGHT FIXTURE ABOVE EACH SIGN. PRIOR TO INSTALLATION REVIEW PROPOSED LOCATIONS WITH ARCHITECT AND OWNER.

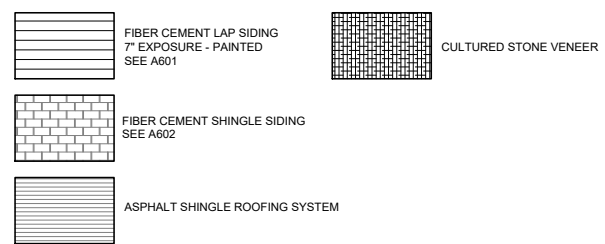
SYMBOL LEGEND

- ⊕ WALL MOUNTED LIGHT FIXTURE - VERIFY FIXTURE TYPE AND MOUNTING HEIGHT PRIOR TO INSTALLING ELECTRICAL SERVICE BOXES - SEE A100 SITE PLAN FOR ADDITIONAL FIXTURE LOCATIONS.

KEY NOTES

- 5/4x6 TRIM - PAINTED (EXTEND 2" EA. SIDE AT WINDOWS AS SHOWN)
- 5/4 x 4 TRIM - PAINTED
- 5/4 x 8 TRIM - PAINTED
- 2x6 FASCIA - PAINTED
- METAL GUARDRAIL
- BUILDING ADDRESSING PER FIRE MARSHALL WITH LIGHT FIXTURE. VERIFY REQUIREMENTS AND MOUNTING HEIGHT PRIOR TO ROUGH-IN AND INSTALLATION.

SYMBOL LEGEND





WINDOW TYPES
SEE SHEET A202

GENERAL NOTES
SEE SHEET A202

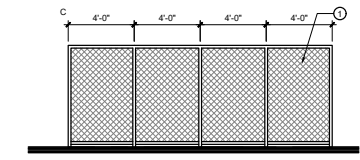
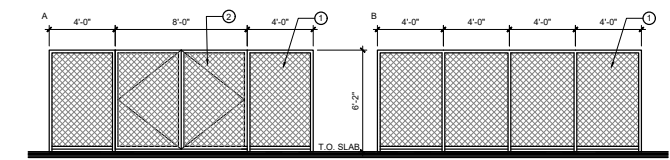
KEY NOTES
SEE SHEET A202

SYMBOL LEGEND
SEE SHEET A202



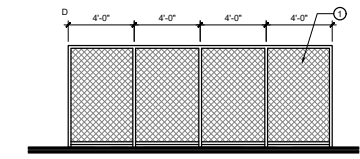
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2 BUILDING ELEVATION
A203 3/16" = 1'-0"

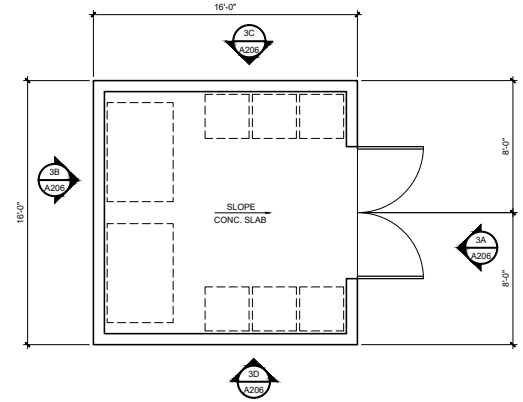


KEY NOTES

- BLACK CHAIN LINK METAL FENCING WITH MATCHING SLATS FOR SOLID SCREENING
- PR-4000 METAL TRASH ENCLOSURE GATES WITH VINYL COATED CHAIN LINK WITH MATCHING SLAT INFILL



1 BUILDING ELEVATION
A203 3/16" = 1'-0"



3 TRASH ENCLOSURE
A203 3/16" = 1'-0"

Colima Apartments
Phase 2
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MOLALLA, OREGON

job no.: 1922
date: 12-20-2021

BUILDING 4
BUILDING ELEVATIONS

A203

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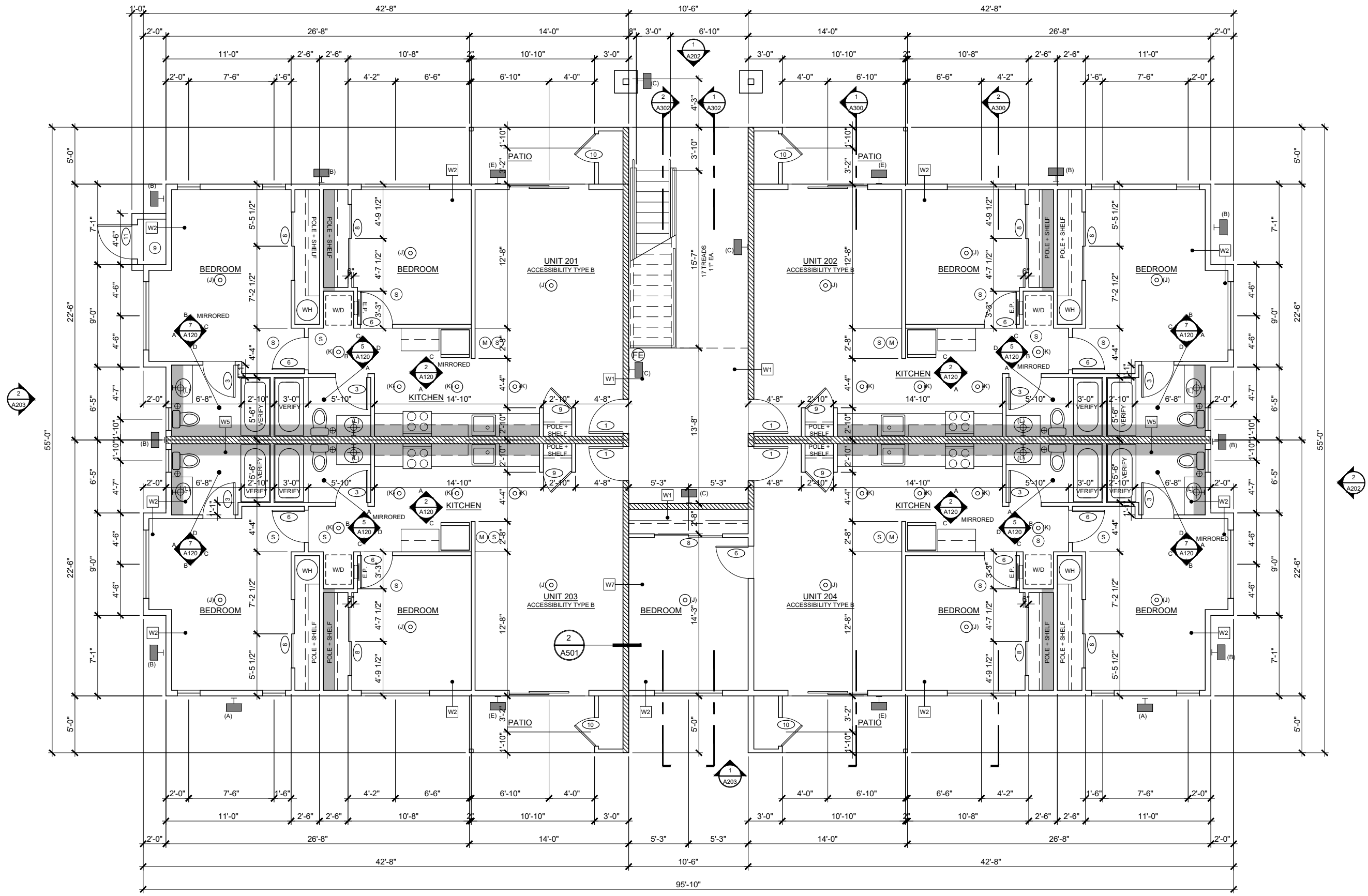
12763 S CROMPTONS LANE
 MOLALLA, OREGON

job no.: 1922
 date: 12-20-2021

BUILDING 4
 FIRST FLOOR
 PLAN

A122
 112

Land Use Drawing - Not for Construction



1 BUILDING 4 FIRST FLOOR PLAN
 A122 1/4" = 1'-0"



BUILDING PLAN KEY NOTES

SEE SHEET A109

BUILDING PLAN SYMBOL LEGEND

SEE SHEET A109

INTERIOR LIGHTING FIXTURES

SEE SHEET A108

SITE AND EXTERIOR LIGHTING

SEE SHEET A102
 (SEE SHEET A109 SYMBOL LEGEND)

DOOR SCHEDULE

SEE SHEET A109



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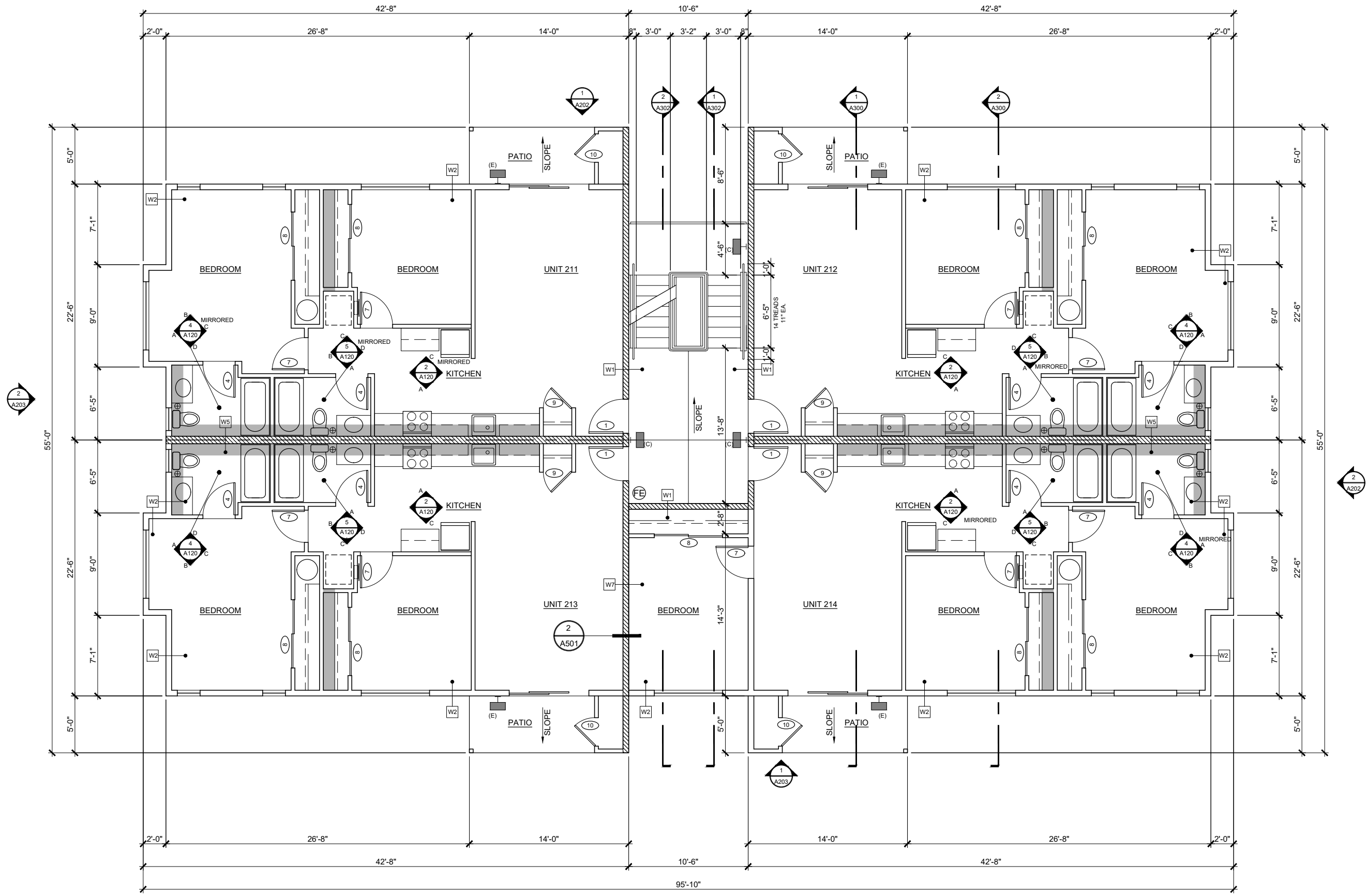
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date: 12-20-2021

BUILDING 4
SECOND
FLOOR PLAN

A123
113

Land Use Drawing - Not for Construction



1 BUILDING 4 SECOND FLOOR PLAN
A123 1/4" = 1'-0"

SEE A122 FOR DIMENSIONS

BUILDING PLAN KEY NOTES

SEE SHEET A109

INTERIOR LIGHTING FIXTURES

SEE SHEET A108

DOOR SCHEDULE

SEE SHEET A109

BUILDING PLAN SYMBOL LEGEND

SEE SHEET A109

SITE AND EXTERIOR LIGHTING

SEE SHEET A102
(SEE SHEET A109 SYMBOL LEGEND)



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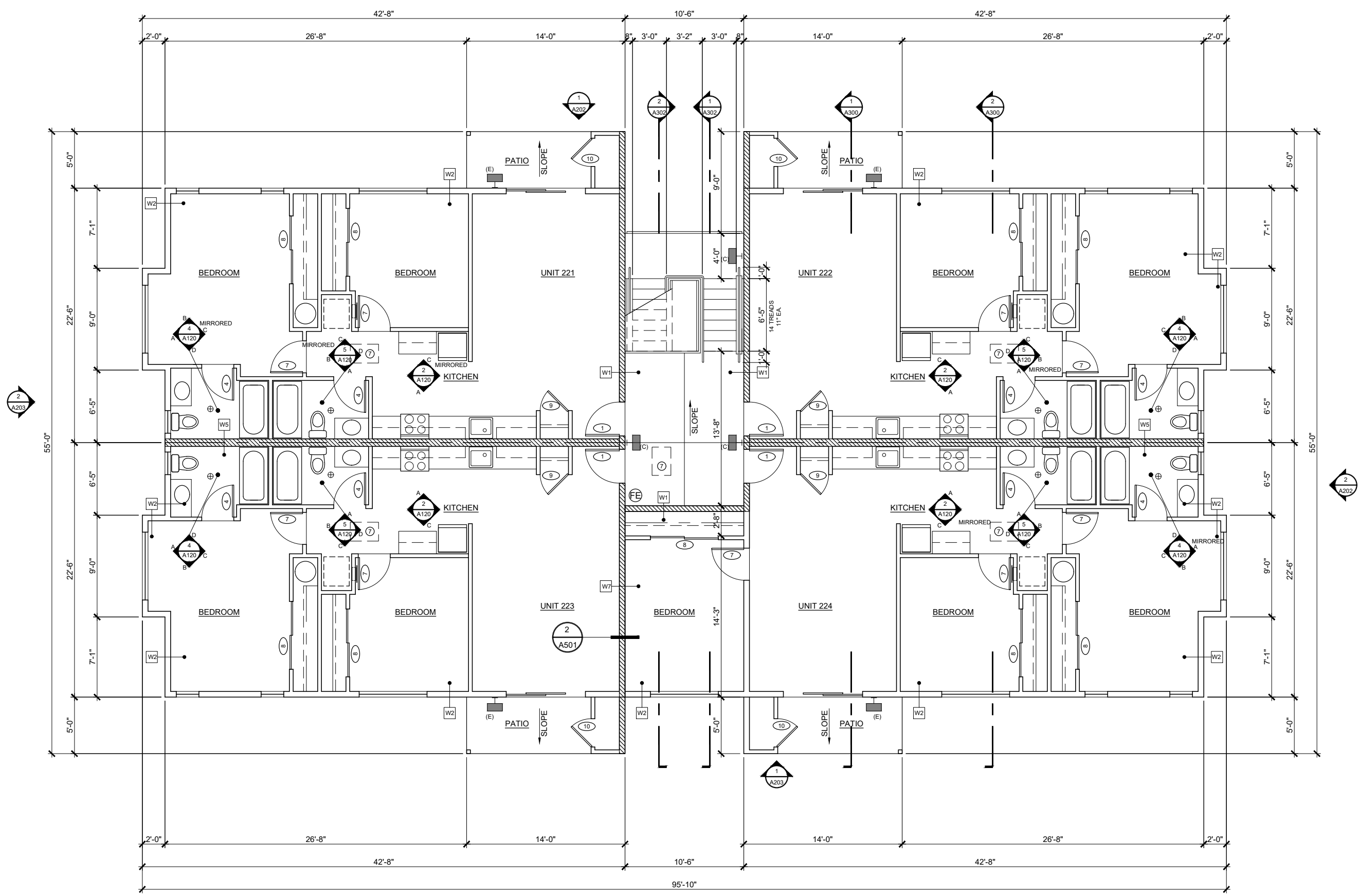
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 MOLALLA, OREGON

job no.: 1922
 date: 12-20-2021

**BUILDING 4
 THIRD FLOOR
 PLAN**

A124
 114

Land Use Drawing - Not for Construction



1
A124 BUILDING 4 THIRD FLOOR PLAN
 1/4" = 1'-0"

SEE A122 FOR DIMENSIONS



BUILDING PLAN KEY NOTES

SEE SHEET A109

BUILDING PLAN SYMBOL LEGEND

SEE SHEET A109

INTERIOR LIGHTING FIXTURES

SEE SHEET A108

SITE AND EXTERIOR LIGHTING

SEE SHEET A102
 (SEE SHEET A109 SYMBOL LEGEND)

DOOR SCHEDULE

SEE SHEET A109



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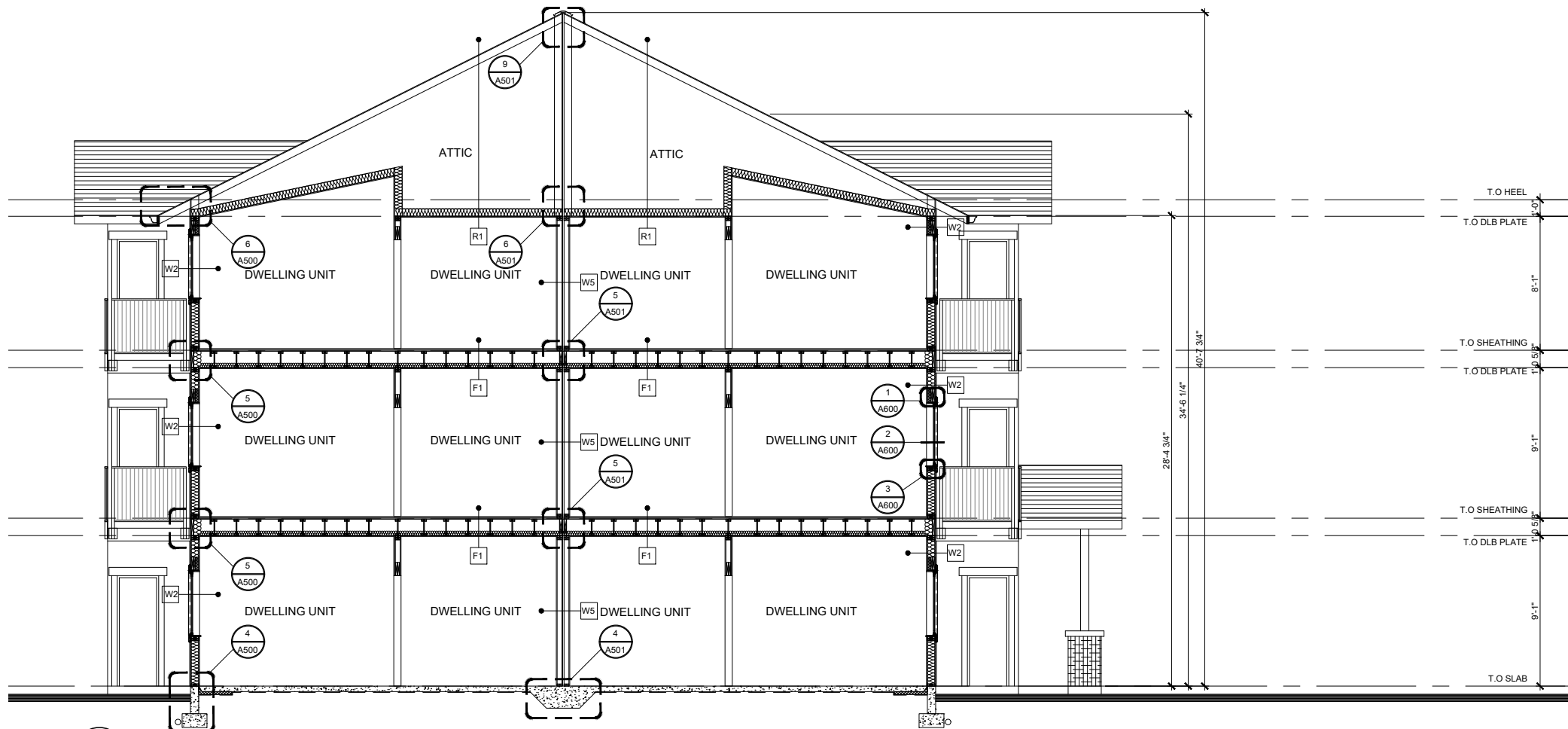
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date: 12-20-2021

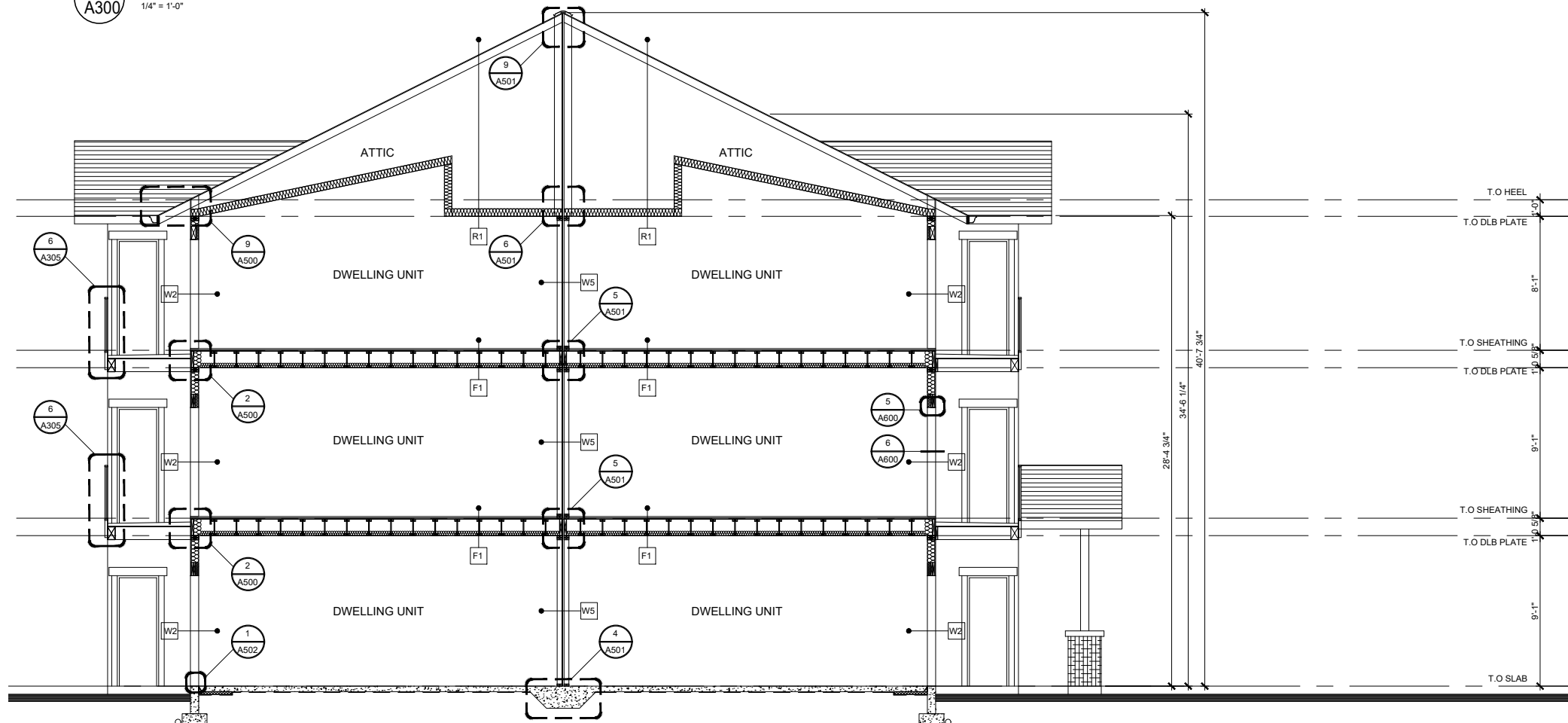
**BUILDING
SECTIONS**

A300
115

Land Use Drawing - Not for Construction



2 BUILDING SECTION
A300 1/4" = 1'-0"



1 BUILDING SECTION
A300 1/4" = 1'-0"



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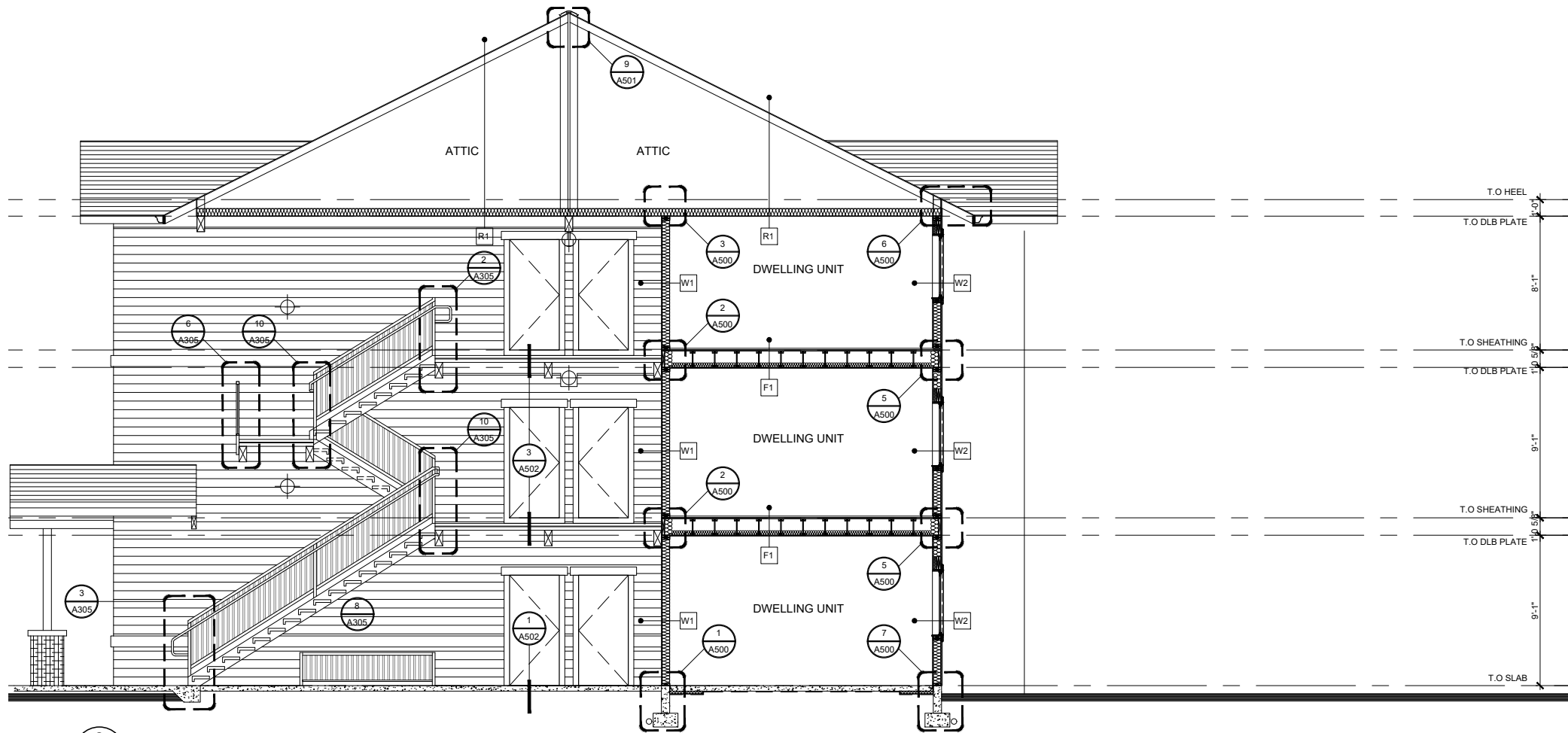
12763 S CROMPTONS LANE
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job no.: 1922
date: 12-20-2021

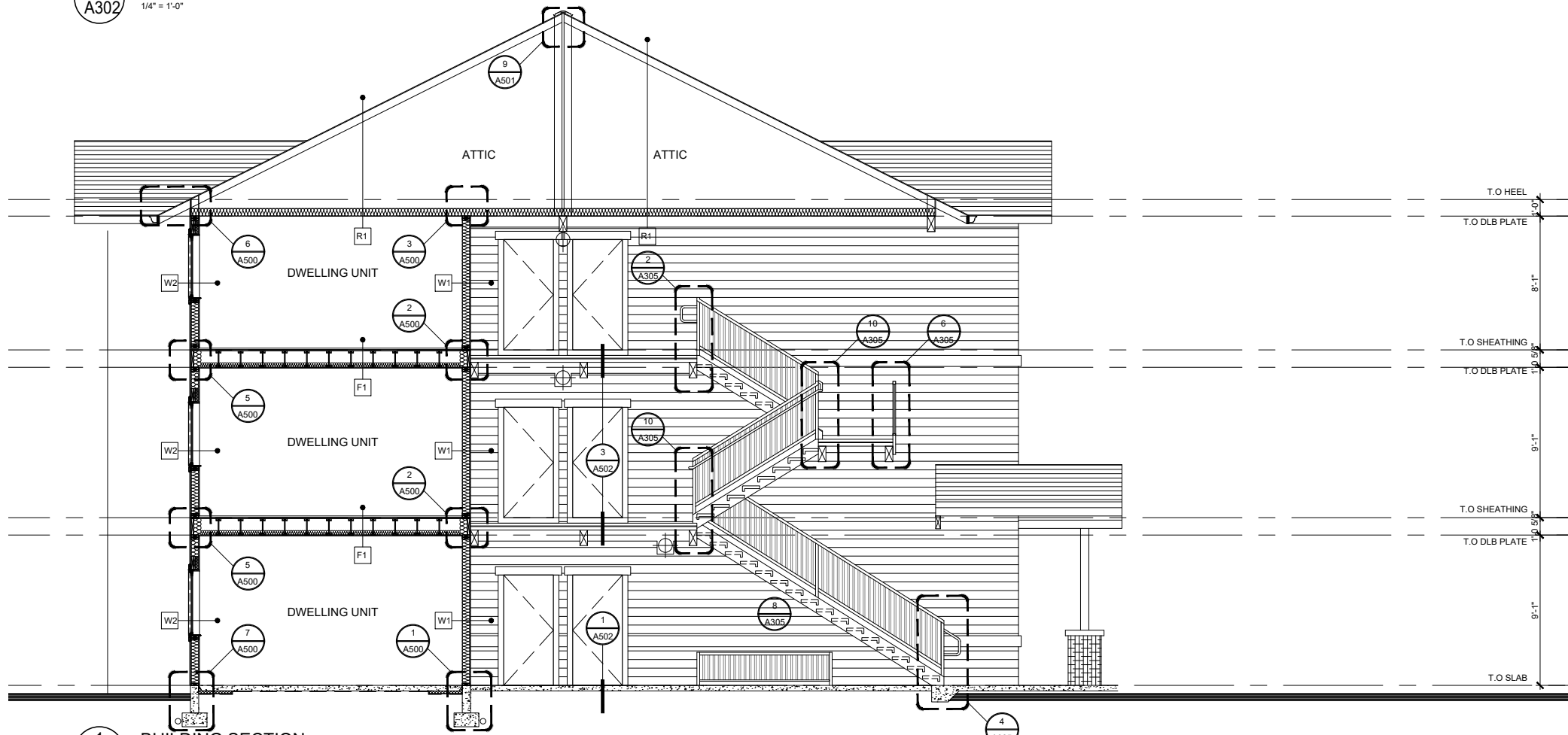
BUILDING 4
SECTIONS

A302
118

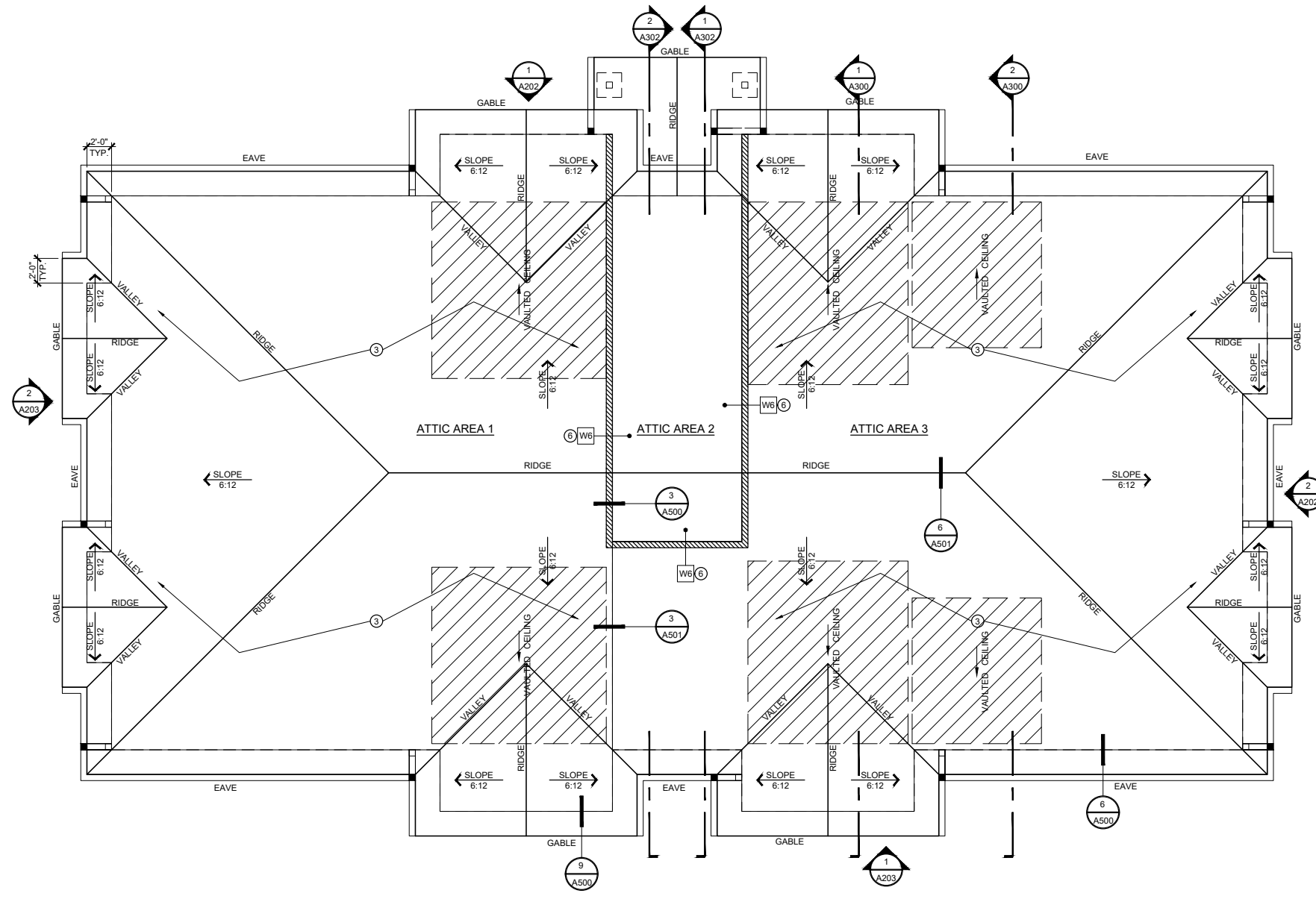
Land Use Drawing - Not for Construction



2 BUILDING SECTION
A302 1/4" = 1'-0"



1 BUILDING SECTION
A302 1/4" = 1'-0"



1 BUILDING 4 ROOF PLAN
 A125 3/16" = 1'-0"



ATTIC VENTILATION NOTES

1. PROVIDE CONTINUOUS RIDGE VENT AT ROOF RIDGES, 18 SQ. IN. NFVA PER LINEAL FOOT. SHINGLE VENT II, BY AIRVENT INC. OR APPROVED EQUAL.
2. PROVIDE EAVE VENTING BETWEEN TRUSS BAYS. PROVIDE (3) 3" DIA. (7.07 SQ. IN.) HOLES MAX. AT BLOCKING BETWEEN TRUSSES WITH INSECT SCREENING.
3. NET FREE CROSS-VENTILATION AREA REQUIRED = 1/300. INSURE NOT LESS THAN 50 PER CENT AND NOT MORE THAN 80 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY RIDGE VENTING. REMAINDER OF VENTILATION TO BE PROVIDED BY EAVE VENTING.
4. PROVIDE CLASS I OR II VAPOR BARRIER INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.
5. PROVIDE INSULATION BAFFLES AT EAVE TO INSURE FREE AIR FLOW.

ATTIC VENTILATION CALCULATIONS

MINIMUM NET FREE VENTILATING AREA REQUIRED:

ATTIC AREA 1:	2,006 SF / 300 X 144 =	963 SQ. IN. NFVA
ATTIC AREA 2:	295 SF / 300 X 144 =	142 SQ. IN. NFVA
ATTIC AREA 3:	2,184 SF / 300 X 144 =	1,048 SQ. IN. NFVA



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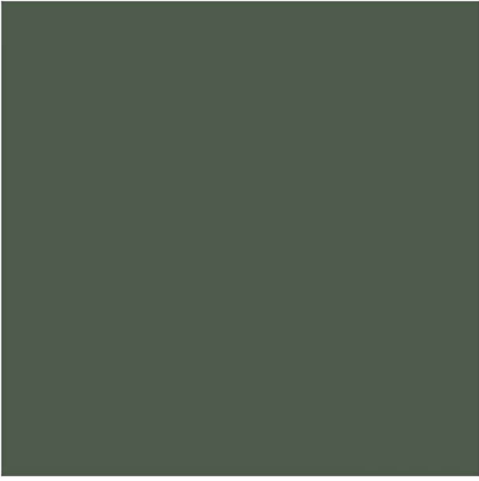
job no.: 1922
 date: 12-20-2021

BUILDING 4
 ROOF PLAN

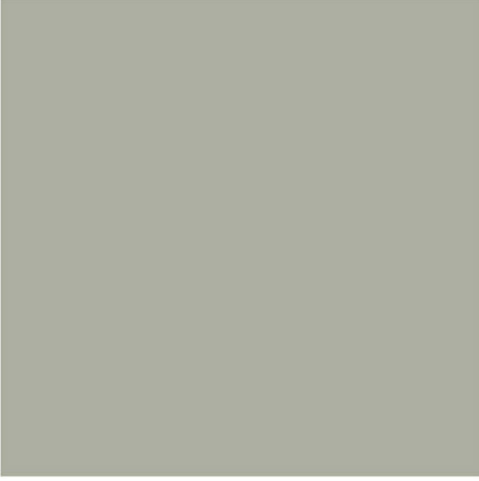
A125
 117

Land Use Drawing - Not for Construction

Exhibit C: Preliminary Architectural Materials



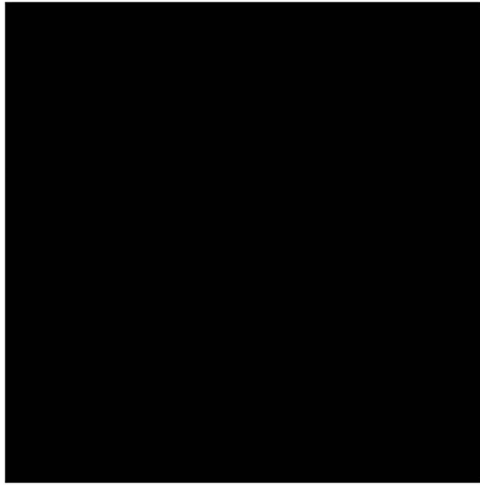
P1. Rodda 0459 Body Color



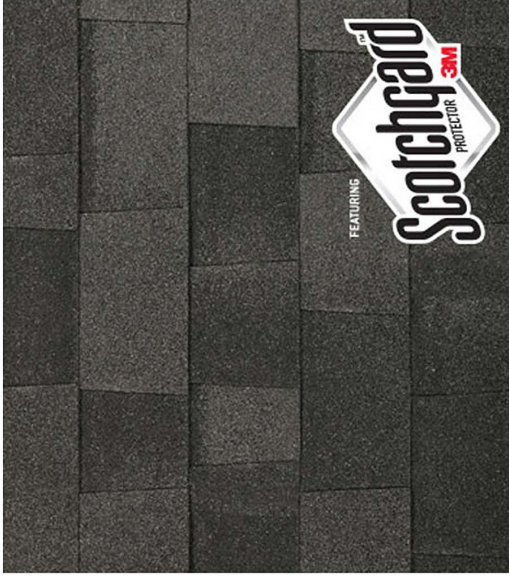
P2. Rodda CA164 Body Color



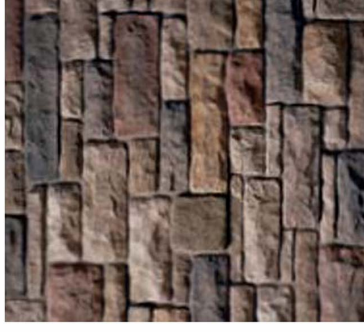
P3. Rodda CA014 Trim



P4. Black Metal Railings



Roofing. Malarkey Midnight Black



Cultured Stone Base at Entry Porch

Colima Apartments Paint Color Palette

SELECTIONS FOR MATERIALS ONLY - NOT COLORS

Exterior Siding

SELECT CEDARMILL®

Woodstock Brown



SMOOTH

Countrylane Red



Thickness	5/16 in.					
Length	12 ft. planks					
Width	5.25 in.*	6.25 in.	7.25 in.	8.25 in.	9.25 in.*	12 in.*
Exposure	4 in.	5 in.	6 in.	7 in.	8 in.	10.75 in.
ColorPlus Pcs./Pallet		280	252	210		
Prime Pcs./Pallet	360	308	252	230	190	152
Pcs./Sq.	25.0	20.0	16.7	14.3	12.5	9.3

Exposure

BEADED CEDARMILL®

Khaki Brown



BEADED SMOOTH

Heathered Moss



Thickness	5/16 in.	
Length	12 ft. planks	
Width	8.25 in.	
Exposure	7 in.	
ColorPlus Pcs./Pallet	210	
Prime Pcs./Pallet	240	
Pcs./Sq.	14.3	

CUSTOM COLONIAL ROUGHSAWN®**

Mountain Sage



CUSTOM COLONIAL SMOOTH®**

Timber Bark



Thickness	5/16 in.	
Length	12 ft. planks	
Width	8 in.	
Exposure	6.75 in.	
ColorPlus Pcs./Pallet	216	
Prime Pcs./Pallet	240	
Pcs./Sq.	14.9	

RUSTIC CEDAR***

Not available with ColorPlus Technology



Thickness	5/16 in.	
Length	12 ft. planks	
Width	6.25 in.	8.25 in.
Exposure	5 in.	7 in.
Pcs./Pallet	308	230
Pcs./Sq.	20	14.3

*These 5.25 in., 9.25 in. and 12 in. are only available primed.

**Custom Colonial Roughsawn and Custom Colonial Smooth are only available in the HZ10 zone.

***Rustic Cedar available exclusively in Washington, Denver and Oregon districts.

Products are available primed or with ColorPlus Technology finishes. All sizes and textures not available in all areas.

For more details, visit jameshardiepros.com



STAGGERED EDGE PANEL

Sandstone Beige

Thickness 1/4 in.
Length 48 in.
Height 15.25 in.
Exp. 6 in.
Pcs./Pallet 100
Sq./Pallet 2
Pcs./Sq. 50



Exterior Siding

STRAIGHT EDGE PANEL

Iron Gray

Thickness 1/4 in.
Length 48 in.
Height 15.25 in.
Exp. 7 in.
Pcs./Pallet 86
Sq./Pallet 2
Pcs./Sq. 43



INDIVIDUAL SHINGLES*

Monterey Taupe

Thickness 1/4 in.
Length 4.2 in. 5.5 in. 6.75 in. 7.25 in. 10 in.
Height 15.25 in.
Exp. 7 in.
Pcs./Pallet 630
Sq./Pallet 2
Pcs./Sq. 315



HALF ROUNDS

Not available with ColorPlus Technology

Thickness 1/4 in.
Length 48 in.
Height 15.25 in.
Exp. 7 in.
Pcs./Pallet 86
Sq./Pallet 2
Pcs./Sq. 43

*Individual Shingles not available in the Denver district.

HARDIETRIM® BOARDS

4/4 RUSTIC GRAIN®

Autumn Tan



4/4 SMOOTH

Autumn Tan



Thickness	.75 in.				
Length	12 ft. boards				
Width	3.5 in.	5.5 in.	7.25 in.	9.25 in.	11.25 in.
Primed Pcs./Pallet	322	184	138	115	92

Trim

5/4 RUSTIC GRAIN®

Autumn Tan



5/4 SMOOTH

Autumn Tan



Thickness	1 in.				
Length	12 ft. boards				
Width	3.5 in.	5.5 in.	7.25 in.	9.25 in.	11.25 in.
Primed Pcs./Pallet	238	136	120	85	68

Pallet counts shown are for primed HZ10® products.
For information on other products, visit jameshardie.com/trim.

HARDIETRIM® BATTEN BOARDS

Battens at Breezeway Panel Edges



RUSTIC GRAIN®

Autumn Tan

Thickness	.75 in.
Length	12 ft. boards
Width	2.5 in.
Pcs./Pallet	437



SMOOTH

Autumn Tan

Thickness	.75 in.
Length	12 ft. boards
Width	2.5 in.
Pcs./Pallet	437

Products are available primed or with ColorPlus Technology finishes. All sizes and textures not available in all areas.
For more details, visit jameshardiepros.com

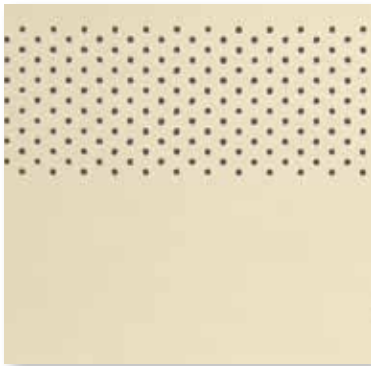


VENTED CEDARMILL®

Sail Cloth

Thickness	1/4 in.		
Length	12 ft.	12 ft.	8 ft.
Width	12 in.	16 in.	24 in.
ColorPlus Pcs./Pallet	216	156	108
Prime Pcs./Pallet	200	150	100

Vented Breezeway Soffit



VENTED SMOOTH

Not available with ColorPlus Technology

Thickness	1/4 in.		
Length	12 ft.	12 ft.	8 ft.
Width	12 in.	16 in.	24 in.
Pcs./Pallet	200	150	100

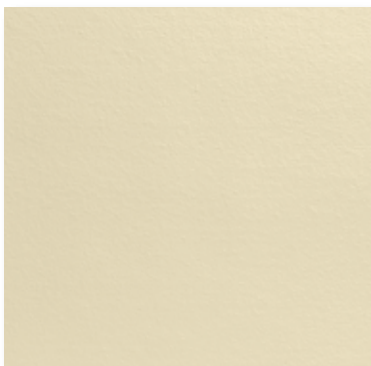


NON-VENTED CEDARMILL®

Sail Cloth

Thickness	1/4 in.			
Length	12 ft.	12 ft.	8 ft.	8 ft.*
Width	12 in.	16 in.	24 in.	48 in.
ColorPlus Pcs./Pallet	216	156	108	
Prime Pcs./Pallet	200	150	100	50

Non-Vented Breezeway Soffit



NON-VENTED SMOOTH

Not available with ColorPlus Technology

Thickness	1/4 in.			
Length	12 ft.	12 ft.	8 ft.	8 ft.*
Width	12 in.	16 in.	24 in.	48 in.
Pcs./Pallet	200	150	100	50

Using the proper amount of vented HardieSoffit panels is crucial to a building's ventilation performance. James Hardie has taken the guess work out of soffit ventilation by providing the table below illustrating the minimum amount of vented HardieSoffit panels recommended for your attic space.**

ATTIC SQ. FT.	LINEAR FT. OF VENTED SOFFIT
200	10
300	14
400	19
500	24
600	29
700	34
800	38
900	43
1000	48
1100	53
1200	58
1300	62
1400	67
1500	72
1600	77
1700	82
1800	86
1900	91
2000	96
2100	101
2200	106
2300	110
2400	115
2500	120
2600	125
2700	130
2800	134
2900	139
3000	144
3100	149

*These 48 in. x 8 ft. panels only available primed.

**Linear Feet of Vented Soffit calculation is based on 2012 International Residential Code (IRC) Section 806.2, Exception 2, with a 50% upper attic and 50% lower attic split of required ventilation, using soffit with a net free ventilation of 5 square inches per linear foot. This Exception is also approved in 2015 IRC Section 806.2. Always consult a building design professional to confirm attic ventilation meets local building code requirements.

EUROPEAN CASTLE STONE



Bucks County European Castle Stone (CSV-573784)



Chardonay Limestone

LIMESTONE



Chardonay European Castle Stone (CSV-573786)



Bucks County Limestone (CSV-2074)



Cedar Limestone (CSV-2044)

Cultured Stone Base at Entry Porch



Chardonay Limestone (CSV-2045)



Golden Buckeye Limestone (CSV-528458)



Suede Limestone (CSV-2046)



TYPE: _____ DATE: _____
 JOB NAME: _____
 CONTRACTOR: _____
 CATALOG NO: _____
 NOTES: _____

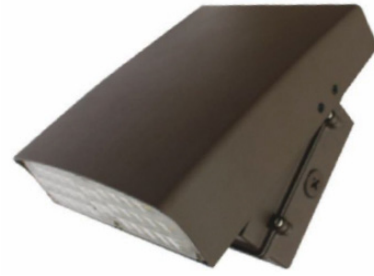
PLEDWPCA80W/120W

80 & 120 Watt Adjustable & 30 Watt LED Area Light

FEATURES

- Available in 3000k (warm white), 4000k (neutral white) and 5000k (cool white) color temperatures*
- Long-life LEDs provide 69,000 hours of operation with at least 70% of initial lumen output (L70)**
- LEDWPCA80W delivers 8,871 lumens and 110 lumens per watt (LPW) at both 3000k & 4000k, and 9,241 lumens and 115 LP Wat 5000k*
- LEDWPCA120W delivers 13,949 lumens and 112 lumens per watt (LPW) at both
- Heavy-duty, spring-loaded hinge provides the flexibility of focusing light near the mounting surface or projecting light forward
- Universal 100-277 AC voltage (50-60Hz) is standard
- Watertight, compression-type electrical connectors prevent moisture intrusion
- Power factor > 0.90
- Total harmonic distortion < 20%
- Color rendering index > 80
- Die cast aluminum housing with durable, dark bronze, powder coat paint
- Durable, UV-resistant polycarbonate lens
- Removable, threaded plugs for side attachment of 1/2" rigid electrical conduit, or for button photocells
- Easy installation in new construction or retrofit

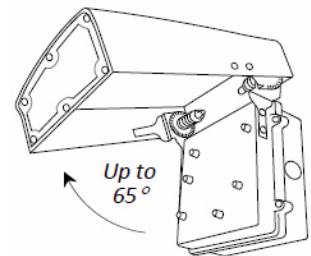
*Contact factory for other color temperatures and lumen packages
 ** L70 hours are IES TM-21-11 calculated hours.



The PLEDWPCA series is a contemporary, commercial-grade area luminaire. It features a heavy-duty, spring-loaded hinge, which provides the flexibility of focusing light near the mounting surface or projecting light forward. With a die cast aluminum housing and a polycarbonate lens, the PLEDWPCA series will stand up to many years of punishing environmental conditions. High-efficacy, long-life LEDs provide both energy and maintenance cost savings compared to traditional, HID area lights.

VERTICAL ADJUSTABILITY

- Heavy-duty, spring-loaded hinge provides vertical adjustability of the luminaire housing up to 65°
- Adjustability provides for a range of lighting effects from full-cutoff downlight to forward throw
- Knurled notches securely retain rotated position even in demanding environments.

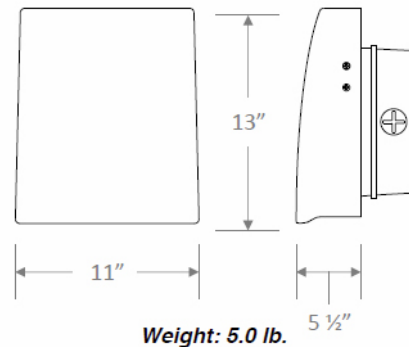


WARRANTY & LISTINGS

- cULus listed for wet locations (-20°C to 40°C / -4°F to 104°F)
- IP65 rated
- Complies with FCC Part 15 class B
- Complies with EN61000-4-5, surge immunity (1kV)
- 5-year warranty on all electronics and housing



DIMENSIONS



ORDERING INFORMATION

MODEL	LUMINAIRE WATTS	LUMINAIRE LUMENS	LUMENS PER WATT	COLOR TEMPERATURE	DLC OEM: DONGGUAN THAILIGHT SEMICONDUCTOR LIGHTING CO.,LTD
PLEDWPCA80W-3K	80	8,871	111	3000k	TLWMK803WMZZ[blank(PC)]
PLEDWPCA80W-4K	80	8,871	111	4000k	TLWMK804WMZZ[blank(PC)]
PLEDWPCA80W-5K	80	9,241	116	5000k	TLWMK805WMZZ[blank(PC)]
PLEDWPCA120W-3K	123	13,949	113	3000k	
PLEDWPCA120W-4K	123	13,949	113	4000k	TLWMK1204WMZZ[blank(PC)]
PLEDWPCA120W-5K	123	14,227	116	5000k	TLWMK1204WMZZ[blank(PC)]

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ELECTRICAL DATA

MODEL	COLOR TEMP	CRI ¹	LUMINAIRE LUMENS	LUMINAIRE WATTS	LUMENS PER WATT	INPUT VOLTAGE	INPUT CURRENT (A)			POWER FACTOR	THD ²	L ₇₀ Hours
							120V	240V	277V			
PLEDWPCA80W-3K	3000k	> 80	8,871	111	80	120-277 (50-60Hz)	0.67	0.34	0.29	> 90%	< 20%	69,000
PLEDWPCA80W-4K	4000k	> 80	8,871	111	80	120-277 (50-60Hz)	0.67	0.34	0.29	> 90%	< 20%	69,000
PLEDWPCA80W-5K	5000k	> 80	9,241	116	80	120-277 (50-60Hz)	0.67	0.34	0.29	> 90%	< 20%	69,000
PLEDWPCA120W-3K	3000k	> 80	13,949	113	123	120-277 (50-60Hz)	1.04	0.52	0.45	> 90%	< 20%	69,000
PLEDWPCA120W-4K	4000k	> 80	13,949	113	123	120-277 (50-60Hz)	1.04	0.52	0.45	> 90%	< 20%	69,000
PLEDWPCA120W-5K	5000k	> 80	14,227	116	123	120-277 (50-60Hz)	1.04	0.52	0.45	> 90%	< 20%	69,000

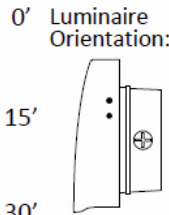
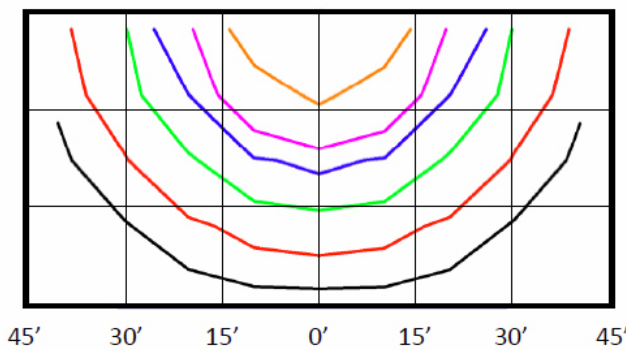
¹ Color rendering index

² Total harmonic distortion

³ L₇₀ refers to the number of hours at which lumen output declines to 70% of the initial level. L₇₀ hours are IES TM-21-11 calculated hours.

PHOTOMETRIC DATA

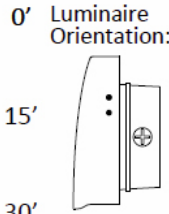
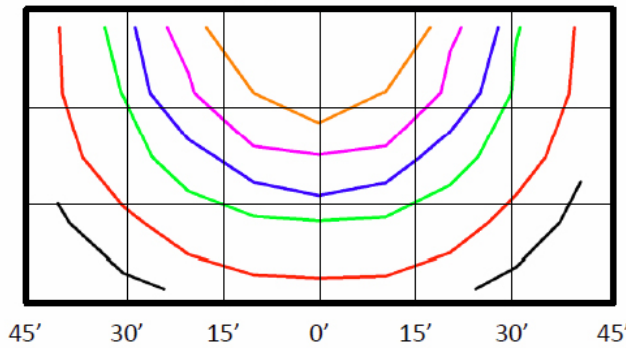
LEDWPCA80W-5K (9,241 Lumens)



BUG Rating: B3-U0-G1

Zone	Lumens	%
FL - Front - Low (0-30)	1,541	17%
FM - Front - Medium (30-60)	2,653	29%
FH - Front - High (60-80)	689	7%
FVH - Front - Very High (80-90)	40	0%
Total Forward Light	4,923	53%
BL - Back - Low (0-30)	1,596	17%
BM - Back - Medium (30-60)	2,158	23%
BH - Back - High (60-80)	515	6%
BVH - Back - Very High (80-90)	49	1%
Total Back Light	4,318	47%
UL - Up Light - Low (90-100)	0	0%
UH - Up Light - High (100-180)	0	0%
Total Up Light	0	0%
Total Lumens	9,241	100%

LEDWPCA120W-5K (14,227 Lumens)



BUG Rating: B3-U0-G1

Zone	Lumens	%
FL - Front - Low (0-30)	2,307	16%
FM - Front - Medium (30-60)	3,961	28%
FH - Front - High (60-80)	1,061	7%
FVH - Front - Very High (80-90)	66	0%
Total Forward Light	7,394	52%
BL - Back - Low (0-30)	2,467	17%
BM - Back - Medium (30-60)	3,531	25%
BH - Back - High (60-80)	768	5%
BVH - Back - Very High (80-90)	67	0%
Total Back Light	6,833	48%
UL - Up Light - Low (90-100)	0	0%
UH - Up Light - High (100-180)	0	0%
Total Up Light	0	0%
Total Lumens	14,227	100%

Foot Candles

- 5.0
- 2.0
- 1.0
- 0.5
- 0.2
- 0.1

Notes:

- Isofootcandle plots depict initial footcandles at grade.
- Gridlines represent units of mounting height of 15 feet.



TYPE: _____ DATE: _____
 JOB NAME: _____
 CONTRACTOR: _____
 CATALOG NO: _____
 NOTES: _____

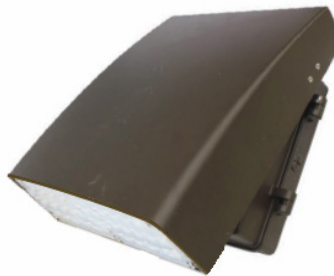
PLEDWPCA30W/50W

30 & 50 Watt Adjustable & 30 Watt LED Area Light

FEATURES

- Available in 3000k (warm white), 4000k (neutral white) and 5000k (cool white) color temperatures*
- Long-life LEDs provide 69,000 hours of operation with at least 70% of initial lumen output (L70)**
- LEDWPCA80W delivers 8,871 lumens and 110 lumens per watt (LPW) at both 3000k & 4000k, and 9,241 lumens and 115 LP Wat 5000k*
- LEDWPCA120W delivers 13,949 lumens and 112 lumens per watt (LPW) at both
- Heavy-duty, spring-loaded hinge provides the flexibility of focusing light near the mounting surface or projecting light forward
- Universal 100-277 AC voltage (50-60Hz) is standard
- Watertight, compression-type electrical connectors prevent moisture intrusion
- Power factor > 0.90
- Total harmonic distortion < 20%
- Color rendering index > 80
- Die cast aluminum housing with durable, dark bronze, powder coat paint
- Durable, UV-resistant polycarbonate lens
- Removable, threaded plugs for side attachment of 1/2" rigid electrical conduit, or for button photocells
- Easy installation in new construction or retrofit

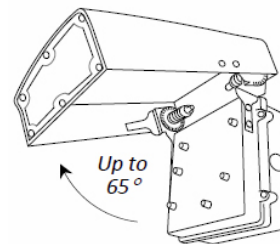
*Contact factory for other color temperatures and lumen packages
 ** L70 hours are IES TM-21-11 calculated hours.



The PLEDWPCA series is a contemporary, commercial-grade area luminaire. It features a heavy-duty, spring-loaded hinge, which provides the flexibility of focusing light near the mounting surface or projecting light forward. With a die cast aluminum housing and a polycarbonate lens, the PLEDWPCA series will stand up to many years of punishing environmental conditions. High-efficacy, long-life LEDs provide both energy and maintenance cost savings compared to traditional, HID area lights.

VERTICAL ADJUSTABILITY

- Heavy-duty, spring-loaded hinge provides vertical adjustability of the luminaire housing up to 65°
- Adjustability provides for a range of lighting effects from full-cutoff downlight to forward throw
- Knurled notches securely retain rotated position even in demanding environments.

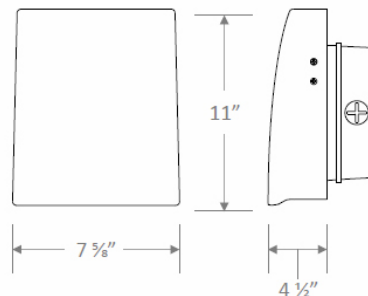


WARRANTY & LISTINGS

- cULus listed for wet locations (-20°C to 40°C / -4°F to 104°F)
- IP65 rated
- Complies with FCC Part 15 class B
- Complies with EN61000-4-5, surge immunity (1kV)
- 5-year warranty on all electronics and housing



DIMENSIONS



Weight: 4.0 lb.

ORDERING INFORMATION

MODEL	LUMINAIRE WATTS	LUMINAIRE LUMENS	LUMENS PER WATT	COLOR TEMPERATURE	DLC OEM: DONGGUAN THAILIGHT SEMICONDUCTOR LIGHTING CO.,LTD
PLEDWPCA30W-3K	28	3,181	114	3000k	TLWMK303WMZZ[blank(PC)]
PLEDWPCA30W-4K	28	3,181	114	4000k	TLWMK304WMZZ[blank(PC)]
PLEDWPCA30W-5K	28	3,298	120	5000k	TLWMK305WMZZ[blank(PC)]
PLEDWPCA50W-3K	50	5,099	103	3000k	TLWMK503WMZZ[blank(PC)]
PLEDWPCA50W-4K	50	5,099	103	4000k	TLWMK504WMZZ[blank(PC)]
PLEDWPCA50W-5K	50	5,287	108	5000k	TLWMK505WMZZ[blank(PC)]

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ELECTRICAL DATA

MODEL	COLOR TEMP	CRI ¹	LUMINAIRE LUMENS	LUMINAIRE WATTS	LUMENS PER WATT	INPUT VOLTAGE	INPUT CURRENT (A)			POWER FACTOR	THD ²	L ₇₀ Hours
							120V	240V	277V			
PLEDWPCA30W-3K	3000k	> 80	3,181	28	114	120-277 (50-60Hz)	0.23	0.12	0.10	> 90%	< 20%	69,000
PLEDWPCA30W-4K	4000k	> 80	3,181	28	114	120-277 (50-60Hz)	0.23	0.12	0.10	> 90%	< 20%	69,000
PLEDWPCA30W-5K	5000k	> 80	3,298	28	120	120-277 (50-60Hz)	0.23	0.12	0.10	> 90%	< 20%	69,000
PLEDWPCA50W-3K	3000k	> 80	5,099	50	103	120-277 (50-60Hz)	0.41	0.21	0.18	> 90%	< 20%	69,000
PLEDWPCA50W-4K	4000k	> 80	5,099	50	103	120-277 (50-60Hz)	0.41	0.21	0.18	> 90%	< 20%	69,000
PLEDWPCA50W-5K	5000k	> 80	5,287	50	108	120-277 (50-60Hz)	0.41	0.21	0.18	> 90%	< 20%	69,000

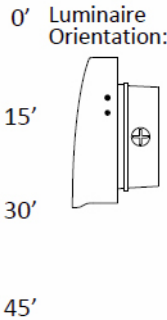
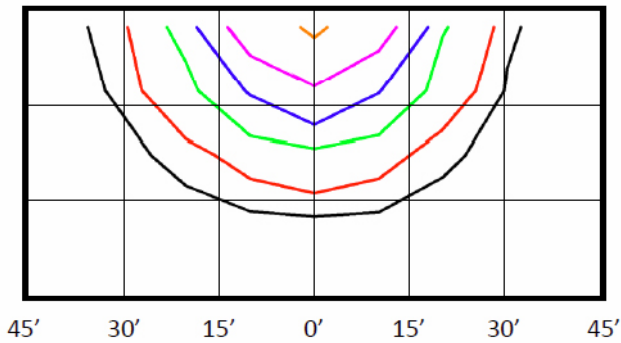
¹ Color rendering index

² Total harmonic distortion

³ L₇₀ refers to the number of hours at which lumen output declines to 70% of the initial level. L₇₀ hours are IES TM-21-11 calculated hours.

PHOTOMETRIC DATA

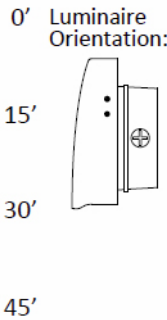
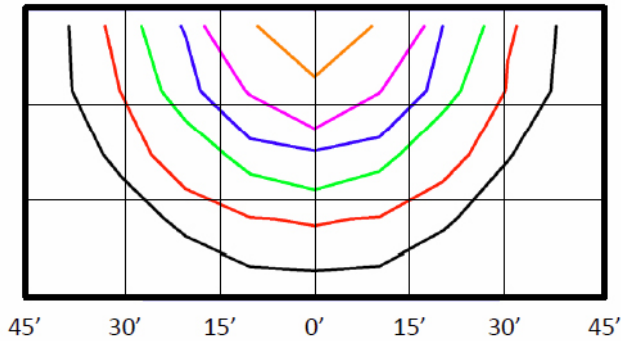
LEDWPCA30W-5K (3,298 Lumens)



BUG Rating: B2-U0-G1

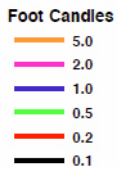
Zone	Lumens	%
FL - Front - Low (0-30)	565	17%
FM - Front - Medium (30-60)	895	27%
FH - Front - High (60-80)	214	6%
FVH - Front - Very High (80-90)	9	0%
Total Forward Light	1,683	51%
BL - Back - Low (0-30)	550	17%
BM - Back - Medium (30-60)	836	25%
BH - Back - High (60-80)	210	6%
BVH - Back - Very High (80-90)	20	1%
Total Back Light	1,615	49%
UL - Up Light - Low (90-100)	0	0%
UH - Up Light - High (100-180)	0	0%
Total Up Light	0	0%
Total Lumens	3,298	100%

LEDWPCA50W-5K (5,287 Lumens)



BUG Rating: B2-U0-G1

Zone	Lumens	%
FL - Front - Low (0-30)	980	19%
FM - Front - Medium (30-60)	1,699	32%
FH - Front - High (60-80)	443	8%
FVH - Front - Very High (80-90)	25	0%
Total Forward Light	3,147	60%
BL - Back - Low (0-30)	779	15%
BM - Back - Medium (30-60)	1,070	20%
BH - Back - High (60-80)	264	5%
BVH - Back - Very High (80-90)	27	1%
Total Back Light	2,140	40%
UL - Up Light - Low (90-100)	0	0%
UH - Up Light - High (100-180)	0	0%
Total Up Light	0	0%
Total Lumens	5,287	100%



Notes:

- Isofootcandle plots depict initial footcandles at grade.
- Gridlines represent units of mounting height of 15 feet.

TYPE: _____ DATE: _____
 JOB NAME: _____
 CONTRACTOR: _____
 CATALOG NO: _____
 NOTES: _____



PLEDWPCA12W

12 Watt Adjustable Full Cutoff LED Area Light

FEATURES

- Available in 3000k (warm white), 4000k (neutral white) and 5000k (cool white) color temperatures*
- Long-life LEDs provide 69,000 hours of operation with at least 70% of initial lumen output (L70)**
- Delivers 1,250 lumens and 106 lumens per watt (LPW) at both 3000k & 4000k, and 1,321 lumens and 111 LPW at 5000k*
- Heavy-duty, spring-loaded hinge provides the flexibility of focusing light near the mounting surface or projecting light forward
- Universal 100-277 AC voltage (50-60Hz) is standard
- Watertight, compression-type electrical connectors prevent moisture intrusion
- Power factor > 0.90
- Total harmonic distortion < 20%
- Color rendering index > 80
- Die cast aluminum housing with durable, dark bronze, powder coat paint
- Durable, UV-resistant polycarbonate lens
- Removable, threaded plugs for side attachment of 1/2" rigid electrical conduit, or for button photocells
- Easy installation in new construction or retrofit

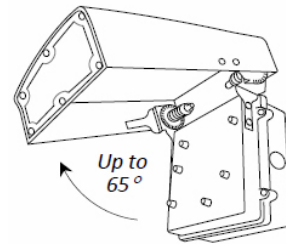
*Contact factory for other color temperatures and lumen packages
 ** L70 hours are IES TM-21-11 calculated hours.



The PLEDWPCA series is a contemporary, commercial-grade area luminaire. It features a heavy-duty, spring-loaded hinge, which provides the flexibility of focusing light near the mounting surface or projecting light forward. With a die cast aluminum housing and a polycarbonate lens, the PLEDWPCA series will stand up to many years of punishing environmental conditions. High-efficacy, long-life LEDs provide both energy and maintenance cost savings compared to traditional, HID area lights.

VERTICAL ADJUSTABILITY

- Heavy-duty, spring-loaded hinge provides vertical adjustability of the luminaire housing up to 65°
- Adjustability provides for a range of lighting effects from full-cutoff downlight to forward throw
- Knurled notches securely retain rotated position even in demanding environments.

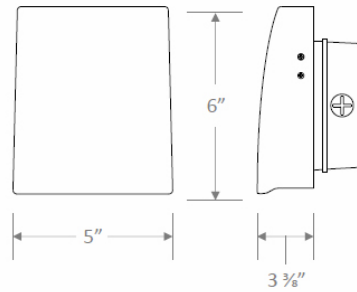


WARRANTY & LISTINGS

- cULus listed for wet locations (-20°C to 40°C / -4°F to 104°F)
- IP65 rated
- DLC approved
- Complies with FCC Part 15 class B
- Complies with EN61000-4-5, surge immunity (1kV)
- 5-year warranty on all electronics and housing



DIMENSIONS



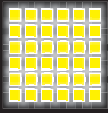
Weight: 2.4 lb.

ORDERING INFORMATION

MODEL	LUMINAIRE WATTS	LUMINAIRE LUMENS	LUMENS PER WATT	COLOR TEMPERATURE
PLEDWPCA12W-3K	12	1,250	45	3000k
PLEDWPCA12W-4K	12	1,250	45	4000k
PLEDWPCA12W-5K	12	1,321	85	5000k

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ELECTRICAL DATA

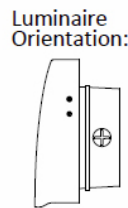
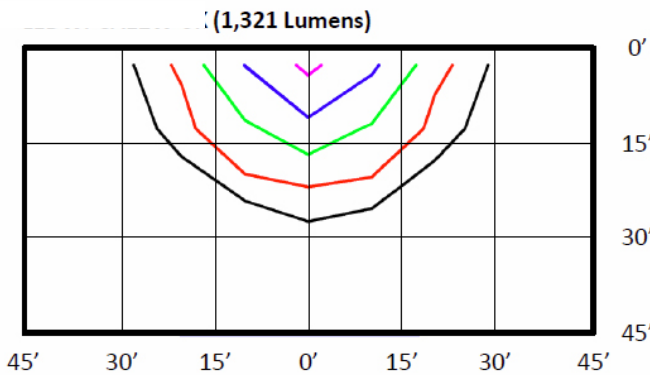
MODEL	COLOR TEMP	CRI ¹	LUMINAIRE LUMENS	LUMINAIRE WATTS	LUMENS PER WATT	INPUT VOLTAGE	INPUT CURRENT (A)			POWER FACTOR	THD ²	L ₇₀ Hours
							120V	240V	277V			
PLEDWPCA12W-3K	3000k	> 80	1,250	12	106	120-277 (50-60Hz)	0.10	0.05	0.04	> 90%	< 20%	69,000
PLEDWPCA12W-4K	4000k	> 80	1,250	12	106	120-277 (50-60Hz)	0.10	0.05	0.04	> 90%	< 20%	69,000
PLEDWPCA12W-5K	5000k	> 80	1,321	12	111	120-277 (50-60Hz)	0.10	0.05	0.04	> 90%	< 20%	69,000

¹ Color rendering index

² Total harmonic distortion

³ L₇₀ refers to the number of hours at which lumen output declines to 70% of the initial level. L₇₀ hours are IES TM-21-11 calculated hours.

PHOTOMETRIC DATA



BUG Rating: B1-U0-G0

Zone	Lumens	%
FL - Front - Low (0-30)	229	17%
FM - Front - Medium (30-60)	373	28%
FH - Front - High (60-80)	89	7%
FVH - Front - Very High (80-90)	4	0%
Total Forward Light	696	53%
BL - Back - Low (0-30)	212	16%
BM - Back - Medium (30-60)	322	24%
BH - Back - High (60-80)	82	6%
BVH - Back - Very High (80-90)	8	1%
Total Back Light	625	47%
UL - Up Light - Low (90-100)	0	0%
UH - Up Light - High (100-180)	0	0%
Total Up Light	0	0%
Total Lumens	1,321	100%

- Foot Candles**
- 5.0
 - 2.0
 - 1.0
 - 0.5
 - 0.2
 - 0.1

Notes:

- Isofootcandle plots depict initial footcandles at grade.
- Gridlines represent units of mounting height of 15 feet.

Type D Fixture - Pole mounted in parking areas

DESCRIPTION

The Ridgeview™ LED area luminaire is the compact, efficient, economical approach to LED area lighting. A pure blend of traditional form and LED efficiency; Ridgeview provides functional, low-profile design with excellent operating performance. Patented modular LightBAR™ technology delivers uniform and energy-conscious illumination to parking lots and perimeter security lighting applications.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction

Rugged one-piece, die-cast aluminum housing secures the thermally conductive LED panel and electrical chamber. Low profile, 3G vibration rated compact design minimizes wind load requirements. Extruded aluminum frame secured with stainless steel hardware confines the LightBAR panel to the thermally conductive housing. The unique glide bracket LightBAR panel allows for easy access to the electrical chamber.

Optics

Choice of twelve (12) patented, high efficiency AccuLED Optics™ manufactured from injection-molded acrylic. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED optics create consistent distributions with the scalability

to meet customized application requirements. Offered standard in 4000°K (+/- 275K) CCT and nominal 70 CRI.

Electrical

LED drivers are hard-mounted to die-cast aluminum back casting for optimal heat sinking and operation efficiency. 120-277V 50/60Hz, 347V 60Hz, 480V 50/60Hz operation. Shipped standard with Cooper Lighting proprietary circuit module designed to withstand 10kV of transient line surge. 90% lumen maintenance expected at 60,000 hours per IESNA TM-21. The Ridgeview LED luminaire is suitable for operating temperatures from -30°C to 40°C. LightBARs feature IP66 enclosure rating.

Mounting

Cast aluminum 6" arm includes bolt guides allowing for easy

position of the fixture during installation to pole. Standard single carton packaging of housing, square pole arm and round pole adapter provide contractor-friendly installation. Wall mount models feature a cast aluminum arm that is directly mounted to a 4" supplied wall plate secured with set screws.

Finish

Components finished in a 5-stage Super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Optional colors include black, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

Warranty

Five-year limited warranty.

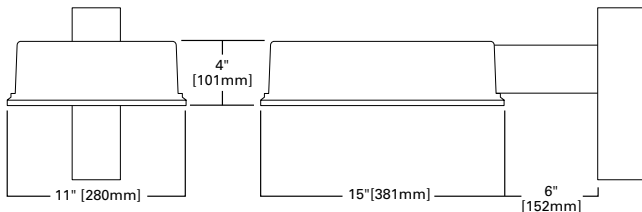


RV RIDGEVIEW

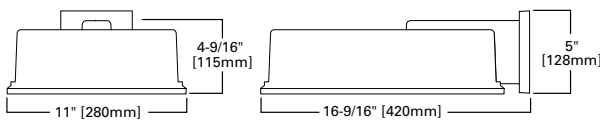
1 - 4 LightBARs
Solid State LED
AREA LUMINAIRE

DIMENSIONS

POLE MOUNT

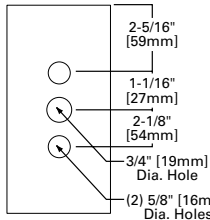


WALL MOUNT

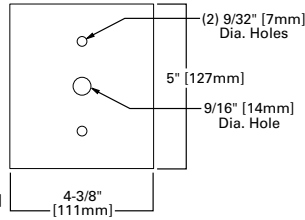


DRILLING PATTERNS

TYPE "R"



WALL MOUNT (WM)



CERTIFICATIONS

UL/cUL Listed
LM79 / LM80 Compliant
3G Vibration Rated
IP65 Fixture Rating, IP66 LightBARs
ARRA Compliant
ISO 9001
DesignLights Consortium® Qualified*

ENERGY DATA

Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz,
480V/60Hz
-30°C Minimum Temperature
40°C Ambient Temperature Rating
50°C (Optional) Ambient Temperature
Rating

EPA

Effective Projected Area: (Sq. Ft.)
Without Arm: 0.48
With Arm: 0.67

SHIPPING DATA

Approximate Net Weight:
12.5 lbs. (5.8 kgs.)



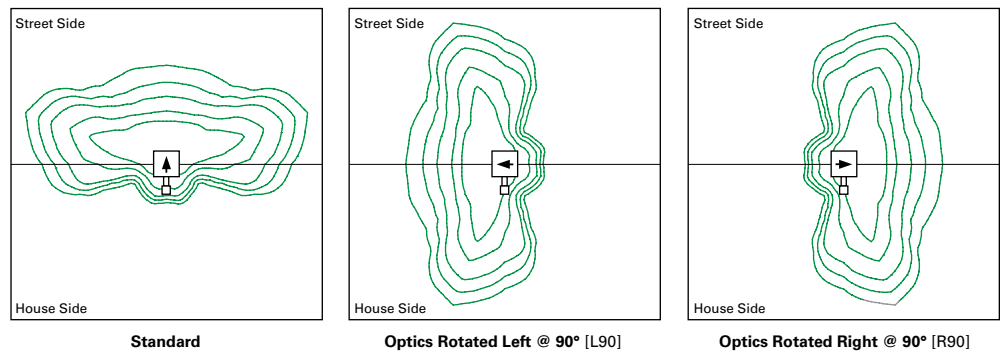
POWER AND LUMENS BY BAR COUNT

Number of LightBARs	DISTRIBUTION													
	Power (Watts)	Current @ 120V (A)	Current @ 277V (A)	T2	T3	T4	SL2	SL3	SL4	5MQ	5WQ	5XQ	RW	SLR/SLL
7 LED LIGHTBAR														
C01	27	0.23	0.13	1,886	1,858	1,842	1,869	1,895	1,842	1,959	1,929	1,965	1,866	1,742
C02	54	0.46	0.21	3,743	3,687	3,655	3,708	3,761	3,655	3,886	3,827	3,899	3,702	3,457
C03	77	0.65	0.29	5,514	5,431	5,385	5,463	5,540	3,655	5,725	5,638	5,744	5,454	5,093
C04	101	0.86	0.37	7,334	7,224	7,163	7,266	7,369	7,161	7,615	7,499	7,640	7,254	6,774
21 LED LIGHTBAR														
B01	27	0.23	0.13	2,320	2,285	2,266	2,299	2,331	2,266	2,409	2,373	2,417	2,295	2,143
B02	51	0.43	0.20	4,604	4,534	4,496	4,561	4,625	4,495	4,780	4,707	4,796	4,554	4,252
B03	73	0.62	0.28	6,782	6,680	6,624	6,719	6,814	6,622	7,042	6,935	7,065	6,708	6,264
B04	95	0.81	0.35	9,021	8,885	8,810	6,719	9,064	8,808	9,366	9,224	9,397	8,923	8,332

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.04
15°C	1.03
25°C	1.00
40°C	0.96
50°C	0.92

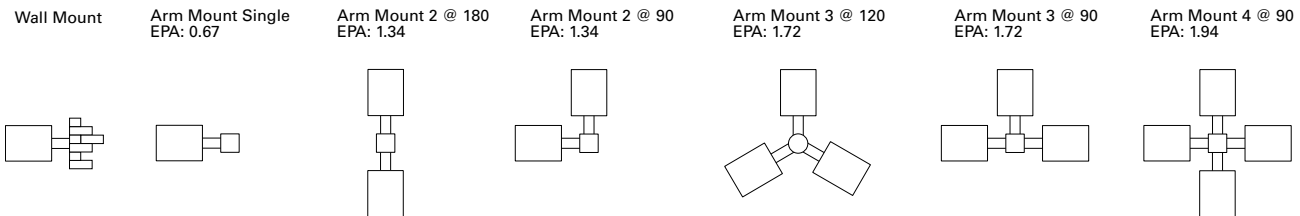
OPTIC ORIENTATION



LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
25°C	> 94%	> 350,000
40°C	> 93%	> 250,000
50°C	> 90%	> 170,000

MOUNTING CONFIGURATIONS



ORDERING INFORMATION

Sample Number: LDRV-T2-B02-E-DP

Lamp Type	Series ¹	Distribution ²	Number of LightBARs ^{3,4}	Voltage
LED=Solid State Light Emitting Diodes	RV=Ridgeview	T2=Type II T3=Type III T4=Type IV SL2=Type II with Spill Control SL3=Type III with Spill Control SL4=Type IV with Spill Control 5MQ=Type V Square Medium 5WQ=Type V Square Wide 5XQ=Type V Square Extra Wide RW=Rectangular Wide SLL=90° Spill Light Eliminator Left SLR=90° Spill Light Eliminator Right	B01=(1) 21 LED LightBAR B02=(2) 21 LED LightBARs B03=(3) 21 LED LightBARs B04=(4) 21 LED LightBARs C01=(1) 7 LED LightBAR C02=(2) 7 LED LightBARs C03=(3) 7 LED LightBARs C04=(4) 7 LED LightBARs	E=Universal (120-277V) 347=347V ⁵ 480=480V ⁵
Options (Add as Suffix)		Color	Accessories (Order Separately) ¹⁴	
HA=50°C High Ambient Temperature Rating ⁶ WM=Wall Mount Arm and Mounting Plate ⁷ R90=Optics Rotated Right 90° L90=Optics Rotated Left 90° PC=Button Type Photocontrol ⁸ PER=NEMA Twistlock Photocontrol Receptacle ⁸ 2L=Two Circuits ⁹ 7060=70 CRI 6000K CCT ¹⁰ 8030=80 CRI 3000K CCT ¹⁰ LCF=LightBAR Cover Plate Matches Housing Finish MS-LXX=Motion Sensor for ON/OFF Operation ¹¹ MS/X-LXX=Motion Sensor for Bi-Level Switching ¹² BBLEDCLD=UL924 Cold Battery Backup (Specify Voltage) ¹³		AP=Grey BZ=Bronze (Standard) BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White	MA1175-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon MA1176-XX=2 @ 180° Tenon Adapter for 3-1/2" O.D. Tenon MA1177-XX=3 @ 120° Tenon Adapter for 3-1/2" O.D. Tenon MA1178-XX=4 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon MA1179-XX=2 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon MA1180-XX=2 @ 120° Tenon Adapter for 3-1/2" O.D. Tenon MA1181-XX=3 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon MA1182-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon MA1183-XX=2 @ 180° Tenon Adapter for 2-3/8" O.D. Tenon MA1184-XX=3 @ 120° Tenon Adapter for 2-3/8" O.D. Tenon MA1185-XX=4 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon MA1186-XX=2 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon MA1187-XX=3 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon OA/RA1013=Photocontrol Shorting Cap RV/WG=Field Installed Wire Guard MA1300-XX=Wall Mount Plate (Type R Drill Pattern) MA1305-XX=R to M Square Pole Adapter MA1306-XX=R to M Round Pole Adapter MA1253=10kV Circuit Module Replacement OA/RA1014=NEMA Twistlock Photocontrol - 120V OA/RA1016=NEMA Twistlock Photocontrol - Multi-Tap OA/RA1027=NEMA Twistlock Photocontrol - 480V OA/RA1201=NEMA Twistlock Photocontrol - 347V	

NOTES:

- DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
- 6" Arm and round pole adapter included with fixture.
- 21 LED LightBAR powered at 350mA, 7 LED LightBAR powered at 1A.
- Lumen values based upon 4000°K CCT, 350mA drive current, 25°C ambient operating temperature.
- Not available with Two Circuit Option.
- HA not available with BLBLEDCLD options.
- Wall mount arm and mounting plate included with fixture.
- Specify voltage. Available in 120, 208, 240 or 277V. Not available with HA option.
- Low-level output varies by bar count, consult factory. Not available with 347V or 480V.
- Consult factory for lead time and lumen multiplier.
- Sensor housed in external box mounted to the luminaire. Replace XX with mounting height in feet for proper lens selection (e.g., MS-L20). Not available with HA option. Consult factory for additional information.
- Motion sensor for bi-level switching. Sensor housed in external box mounted to the luminaire. Available in B02 - B04 and C02 - C04 configurations. Replace X with number of bars operating in low output mode and replace XX with fixture mounting height for proper lens selection (e.g., MS/3-L20). Not available with HA option. Consult factory of additional information.
- Specify 120V or 277V. Available with B01 or C01 configurations only. 25°C ambient operating temperature.
- Replace XX with color designation.

Exhibit D: City Land Use Application Form



Planning & Community Development
 117 N. Molalla Avenue
 Molalla, OR. 97038
 (503) 759-0219
 Fax: (503) 829-3676

<i>FOR OFFICE USE ONLY:</i>	
Planning File No. : _____	City Approval: _____
Date Received: _____	Title: _____
Fee: _____	Date: _____
Land Use Type: II	Fee Paid: _____
Received by: _____	

APPLICATION FOR LAND USE ACTION

Type of Land Use Action Requested: (check all that apply)

- Annexation
- Plan Amendment (Proposed Zone _____)
- Planned Unit Development
- Site Design Review
- Conditional Use
- Partition (# of lots _____)
- Subdivision (# of lots _____)
- Other: _____
- Variance (list standards to be varied in description)

Owner/Applicant:

Applicant: _____ Phone: Please contact Applicant's Consultant
 Applicant Address: _____ Email: Please contact Applicant's Consultant
 Owner: _____ Phone: Please contact Applicant's Consultant
 Owner Address: _____ Email: Please contact Applicant's Consultant

Contact for additional info: _____

Applicant's Consultant: AKS Engineering & Forestry, LLC
 Contact: Chris Goodell
 12965 SW Herman Road, Suite 100
 (503) 563-6151 | chrisg@aks-eng.com

Property Information:

Address: _____
 Assessors _____
 Map/Taxlot #: _____
 Current Use of Site: _____ Zoning Designation: _____
 Intended Use: _____

Proposed Action:

Proposed Use: _____

Proposed No. of Phases (one each year): _____

Authorizing Signatures:

I hereby certify that the information on this application and attachments are correct and that the property affected by this application is in the exclusive ownership or control of the applicant, or that the applicant has the consent of all partners in ownership of the affected property. An authorization letter from the property owner has been attached in the event that the owner's signature has not been provided below.

Property Owner(s):

Please see attached

Print or Type

Signature

Please see attached

Print or Type

Signature

Applicant(s) or Authorized Agent:

Please see attached

Print or Type

Signature

Please see attached

Print or Type

Signature

The following materials must be submitted with your application or it will not be accepted at the counter. Once taken at the counter, the City has up to 30 days to review the materials submitted to determine if we have everything we need to complete the review. Applicant can verify submittal includes specific materials necessary for the application per checklist.

- 3 Copies of Application Form*** completely filled out and signed by the property owner (or person with authority to make decisions on the property).
- Copy of Deed** to verify ownership, easements, etc.
- At least 3 folded** sets of plans*
- At least 3 copies** of narrative addressing application criteria*
- Fee** (along with calculations utilized to determine fee if applicable)

***Please Note** that the required numbers of copies identified on the checklist are required for completeness; however, upon initial submittal applicants are encouraged to submit only 3 copies for completeness review. Prior to completeness, the required number of copies identified on the checklist and one full electronic copy will be required to be submitted.

Authorizing Signatures:

I hereby certify that the information on this application and attachments are correct and that the property affected by this application is in the exclusive ownership or control of the applicant, or that the applicant has the consent of all partners in ownership of the affected property. An authorization letter from the property owner has been attached in the event that the owner's signature has not been provided below.

Property Owner(s):

Angel Jimenez
Print or Type

Angel Jimenez
Signature

Print or Type

Signature

Applicant(s) or Authorized Agent:

Angel Jimenez
Print or Type

Angel Jimenez
Signature

Print or Type

Signature

The following materials must be submitted with your application or it will not be accepted at the counter. Once taken at the counter, the City has up to 30 days to review the materials submitted to determine if we have everything we need to complete the review. Applicant can verify submittal includes specific materials necessary for the application per checklist.

- 3 Copies of Application Form*** completely filled out and signed by the property owner (or person with authority to make decisions on the property).
- Copy of Deed** to verify ownership, easements, etc.

Exhibit E: Transportation Impact Study



**lancaster
moble**

Colima Apartments - Phase 2

Transportation Impact
Study

Molalla, Oregon

Date:

January 12, 2022

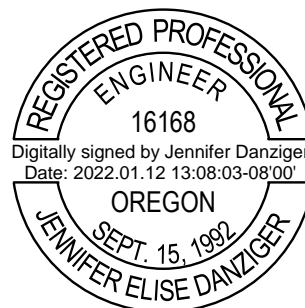
Prepared for:

John Raugust, PE

AKS Engineering & Forestry, LLC

Prepared by:

Jennifer Danziger, PE



RENEWS: 12/31/2023

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Executive Summary

1. Phase 2 of the Colima Apartments development will redevelop the property located at 12763 S Cromptons Lane in Molalla, Oregon with a 12-unit apartment building.
2. The trip generation calculations show that the proposed development is expected to generate a net increase of 4 morning peak hour, 5 evening peak hour, and 70 daily trips on the roadway network.
3. No significant trends or crash patterns were identified at any of the study intersections. Accordingly, no specific safety mitigation is recommended.
4. Adequate sight distance is available at the site access to ensure safe operation of the intersection along Highway 213.
5. The projected traffic demand on S Cromptons Lane is well below the threshold for warranting a signal under any of the analysis scenarios.
6. The proposed development will not trigger the traffic signal warrant at the Highway 211/Leroy Avenue/Cascade Center intersection. Only 2 peak hour site trips are expected to travel through this intersection and these trips would not alter the side street volumes on Leroy Avenue or the Cascade Center driveway.
7. Phase 1 of the Colima Apartments development was conditioned to install southbound left-turn lane on Highway 213 at S Cromptons Lane; no further improvement is necessary.
8. The volumes on northbound Highway 213 at Cromptons Lane are well below the thresholds for warranting a right-turn lane.
9. All study area intersections are expected to operate acceptably under all buildout conditions.
10. The results of the queuing simulation show that all turn lanes on the highway can accommodate the estimated queues under buildout conditions.
11. Based on the detailed analysis, the surrounding transportation system can safely support the proposed development.



Project Description

Introduction

Phase 2 of the Colima Apartments development will redevelop the property located at 12763 S Cromptons Lane in Molalla, Oregon. The subject site comprises two tax lots totaling approximately 0.67 acres. The project includes the construction of a 12-unit apartment building.

This report examines the traffic impacts of the proposed development on the transportation system in the vicinity of the project site. The purpose of this report is to ensure safe and efficient performance of the transportation facilities that will be impacted by the proposed development. The study area includes:

- Highway 213 at Highway 211
- Highway 213 at S Cromptons Lane (site access)

All supporting data and calculations are included in the appendix to this report.

Location Description

The project site is located east of Highway 213 and south of Highway 211 in Molalla, Oregon, as shown in Figure 1. The subject site, outlined in red, includes tax lots 52E07D 2401, and 2404.



Figure 1: Project Location (image from Google Earth)

Lots 2401 and 2404 are zoned Central Commercial (C-2). Both parcels will continue to take access from S Cromptons Lane:

- Lot 2401 is immediately east of the Colima Apartments site which is under development with multifamily housing. This parcel was developed with a single-family residence.
- Lot 2404 is a sliver of land that is part of the alignment for S Cromptons Lane. This parcel is currently vacant.
- The parcel to the north is currently developed with a single-family residence but has C-2 zoning. It does not have access rights to S Cromptons Lane.
- The parcel to the south is currently developed with a single-family residence but has Heavy Industrial (M-2) zoning. This parcel has access rights to S Cromptons Lane.
- The parcel to the east is nearly 10 acres, zoned M-2 and largely undeveloped. It does not have access rights to S Cromptons Lane.

Vicinity Streets

The study area includes three roadways expected to be impacted by the proposed development. Table 1 provides a description of each of the vicinity roadways within the study area.

Table 1: Vicinity Roadways

Roadway	Jurisdiction	Functional Classification	Cross-Section	Speed	On-street Parking	Bicycle Lanes	Curbs & Sidewalks
Hwy 213	ODOT	Arterial & District Hwy	2 to 4 Lanes	35-40 mph Posted	Not Permitted	Both Sides	Intermittent
Hwy 211	ODOT	Arterial & District Hwy	2 to 4 Lanes	35-45 mph Posted	Not Permitted	Both Sides	Intermittent
S Cromptons Lane	N/A	Private Street	2 Lanes	25 mph Statutory	Permitted	None	None

Notes: Functional Classification based on the Molalla Transportation System Plan

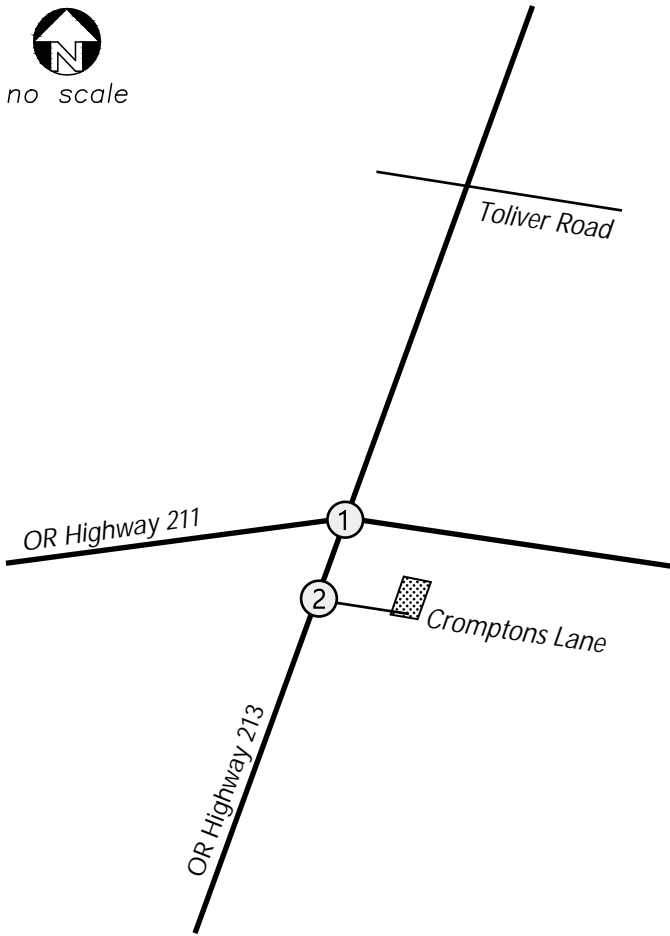
Study Intersections

A majority of site trips generated by the proposed development are expected to impact two nearby intersections of significance. A summarized description of these intersections is provided in Table 2






Table 2: Study Intersections

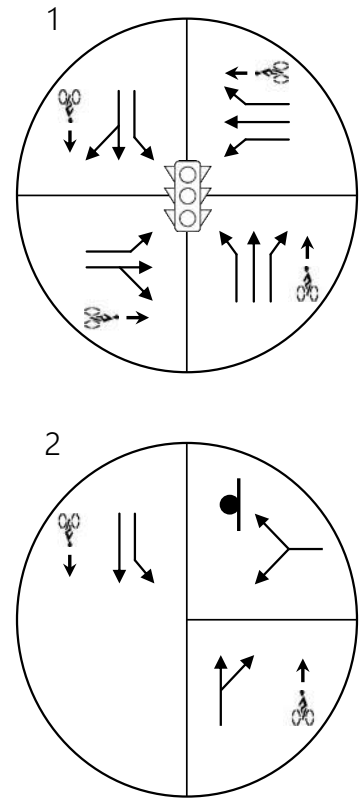
	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	Hwy 213 at Hwy 211	Four-Legged	Signalized	Permitted/Protected Left Turns
2	Hwy 213 at S Cromptons Lane	Three-Legged	Stop-Controlled	WB Stop-Controlled Approach

A vicinity map showing the project site, vicinity streets, and intersection configurations is shown in Figure 2.



LEGEND

-  STUDY INTERSECTION
-  STOP SIGN
-  TRAFFIC SIGNAL
-  BIKE LANE
-  PROJECT SITE



Transit

South Clackamas Transit District has three routes that serve the City of Molalla. Two of the routes have a bus stop on the north side of Highway 211 (W Main Street) at the Safeway Shopping Center just over ¼ mile walking/biking distance from the project site:

- The Molalla City route loops throughout the City in a largely clockwise direction. The bus runs from 7:30 AM to 5:35 PM, Monday through Friday, 9:30 AM to 3:45 PM, Saturday, and has no service on Sunday. Headways are roughly one hour.
- The Molalla to Canby route loops Clackamas County with two stops in Molalla. The bus runs from 6:30 AM to 6:15 PM, Monday through Friday, and has no weekend service.

Site Trips

The proposed development includes the construction of a 12-unit apartment building. To estimate the number of trips that could be generated by the proposed development, trip rates from the *Trip Generation Manual*¹ were used. Specifically, data corresponding to Land Use Code 220, *Multifamily Housing (Low-Rise)*, was referenced based on the number of dwelling units (DU). The trips for the existing home on the site. were estimated using Land Use Code 210, *Single-Family, Detached Housing*. The resulting trip generation estimates are summarized in Table 3. Detailed trip generation calculations are included in the appendix to this report.

Table 3: Trip Generation Summary

Land Use	ITE Code	Size	Morning (AM) Peak Hour			Evening (PM) Peak Hour			Weekday Total
			In	Out	Total	In	Out	Total	
Existing Uses									
Single-Family Detached Housing	210	1 DU	0	1	1	1	0	1	10
Proposed Uses									
Multifamily Housing (Low-Rise)	220	12 DU	1	4	5	4	2	6	80
Net Change			1	3	4	3	2	5	70

The trip generation calculations show that the proposed development is expected to generate a net addition of 4 morning peak hour, 9 evening peak hour, and 70 daily trips.

Trip Distribution

The directional distribution of site trips to and from the proposed development was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study area intersections.

The following trip distribution was estimated and used for analysis:

- 10 percent of trips will travel to/from the south along Highway 213
- 90 percent of trips will travel to/from the north along Highway 213
 - 30 percent of trips will continue to travel to/from the north along Highway 213
 - 35 percent of trips will travel to/from the east along Highway 211
 - 25 percent of trips will travel to/from the west along Highway 211

The trip distribution and assignment for the total site trips generated during the morning and evening peak hours are shown in Figure 3.

¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.

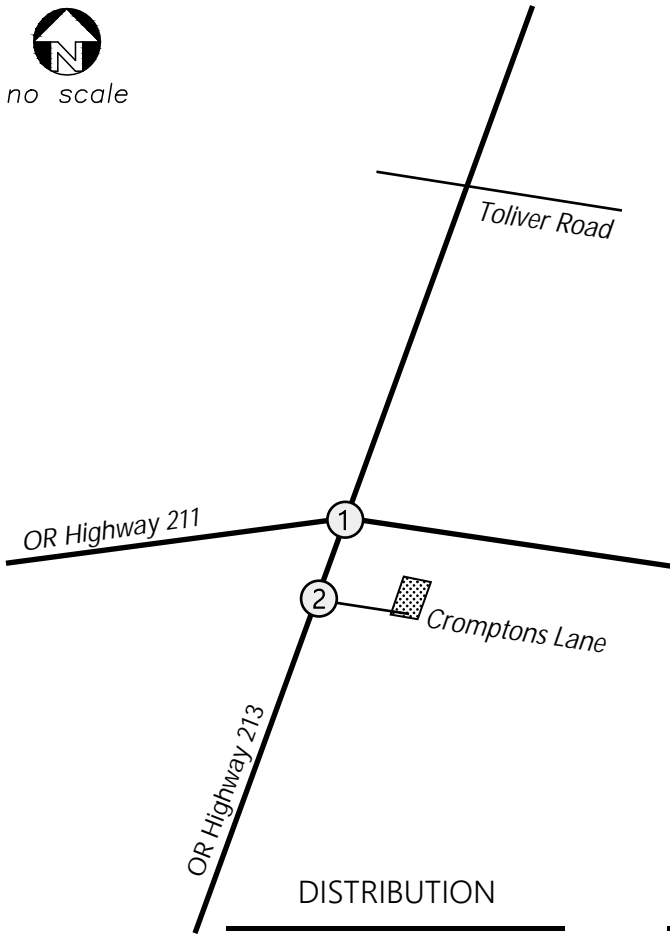
Highway 211 at Leroy Avenue

A future traffic signal is planned for installation at the intersection of Highway 211 at Leroy Avenue. The Cascade Center project will construct the south leg of the intersection, but signalizing the intersection is not a requirement of Cascade Center.

The need for a traffic signal at this intersection is driven primarily by traffic volumes entering the intersection. Traffic signal warrants require minimum thresholds to be met for both the major street (Highway 211) *and* the minor street (Leroy Avenue). Through traffic on Highway 211 is high enough to meet the thresholds, but with currently approved developments, neither the northbound traffic from the new approach constructed with Cascade Center nor the southbound approach of Leroy Avenue will meet the thresholds.

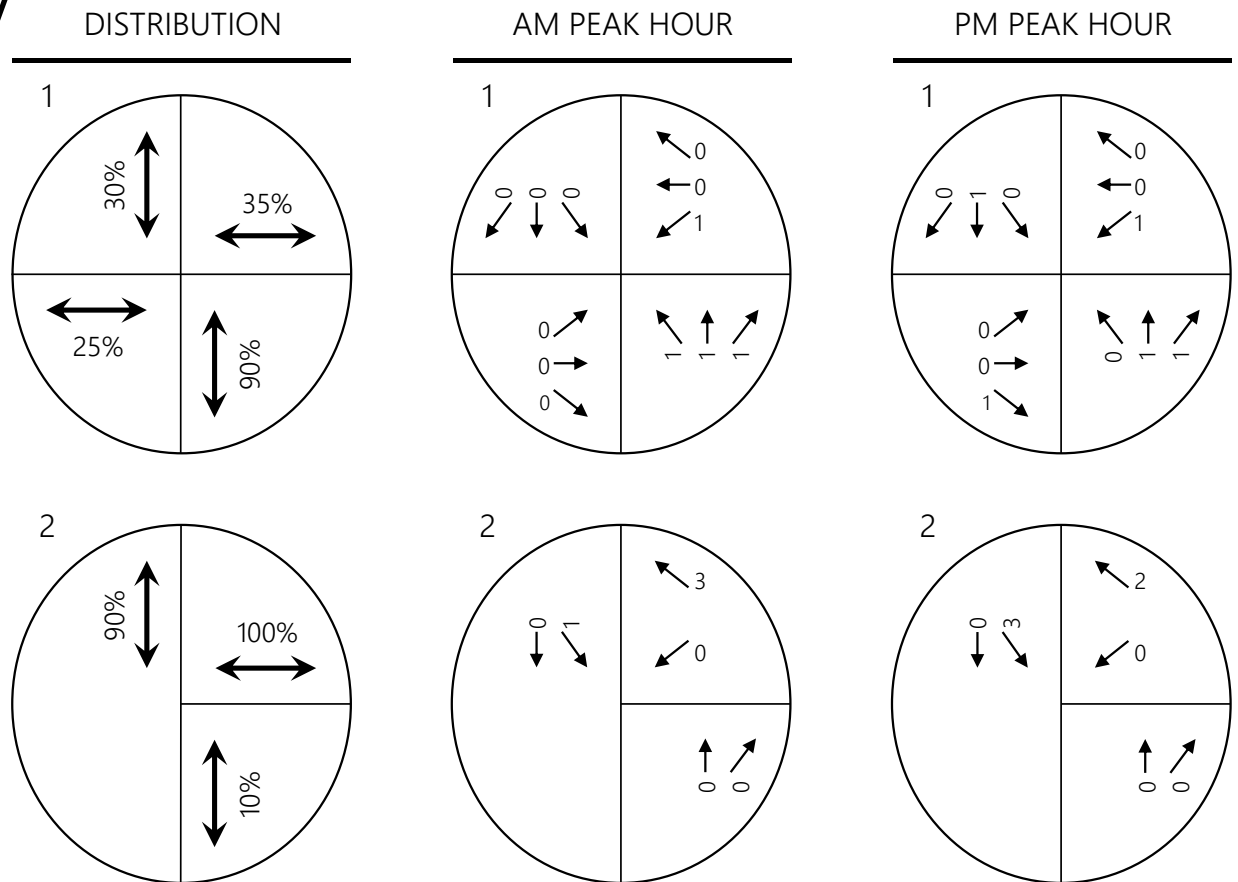
As shown in Figure 3, the site traffic on Highway 211 east of Highway 213 is estimated at 1 eastbound and 1 westbound vehicle in both the morning and evening peak hours. These vehicles are expected to travel east-west through the Leroy Avenue/Highway 211 intersection without turning. However, even if a vehicle is traveling between the site and the shopping at Cascade Center, it would not be a new trip on the south leg since shopping trips to/from Cascade Center have already been included in the calculations for the signal. Only new development south of Highway 211 with access to the south approach could increase the trip generation on the south leg and trigger the signal.

In conclusion, the proposed development will not trigger the traffic signal warrant at the Highway 211/Leroy Avenue/Cascade Center intersection. Only 3 peak hour site trips are expected to travel through this intersection and these trips would not alter the side street volumes on Leroy Avenue or the Cascade Center driveway.



Trip Generation

Period	In	Out	Total
AM	1	3	4
PM	3	2	5
DAILY	35	35	70



Traffic Volumes

Existing Condition

Due to the ongoing COVID-19 viral pandemic, traffic volumes have been depressed relative to normal conditions since mid-March 2020. Under these conditions, traditional traffic count data collection methods are not recommended. Therefore, the following methodology was used to adjust historical traffic counts at the study intersections to estimate year 2021 traffic conditions without the influence of COVID-19:

- New turning movement counts were collected on Tuesday, September 21, 2021, at the intersection of Highway 213 at Highway 211.
- Historical turning movement counts from Tuesday, October 15, 2019, were obtained at the intersection of Highway 213 at Highway 211.
- A growth rate for the study area traffic was derived using ODOT's 2039 Future Volume Table, in accordance with ODOT's *Analysis Procedures Manual*. Averaging data corresponding to mileposts 16.08 and 16.12 of ODOT highway number 160 (OR 213) and mileposts 11.26 and 12.14 of ODOT highway number 161 (OR 211) resulted in a linear growth factor of 2.22 percent per year. This factor was applied to the historical turning movements to account for growth of two years.
- Traffic volumes on the highways were seasonally adjusted to reflect the 30th highest hour of traffic, per procedures described in ODOT's *Analysis Procedures Manual*. Using the ODOT's Seasonal Trend Table², seasonal adjustment factors based on the Commuter seasonal trend. The factors used are:
 - Commuter Adjustment for 9/21/21 Counts: 1.0286
 - Commuter Adjustment for 10/9/19 Counts: 1.0266
- At the intersection of the two highways, the seasonally adjusted and growth adjusted 2019 counts were compared to the seasonally adjusted 2021 counts to establish a COVID-19 adjustment factor. A total adjustment of 1.165 and 1.118 was applied to all intersection turning movements for the morning and evening peak hours, respectively.

Figure 4 shows the year 2021 existing traffic volumes at the study intersections during the morning and evening peak hours.

Background Condition

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. Two components were included in the background traffic estimates: 1) general growth and 2) growth associated with planned developments. Although buildout is targeted to be completed in 2022, an analysis year of 2023 was evaluated to provide a conservative estimate of traffic conditions.

² ODOT Seasonal Trend Table (Updated 7/20/2021)

For the general background growth, the annual growth rate of 2.22 percent per year was applied to the adjusted year 2021 existing traffic volumes. This growth rate was derived from ODOT's 2039 Future Volume Table, as described above.

In addition to the general growth, three nearby developments that are approved but not yet constructed at the time of the traffic counts were included as in-process traffic:

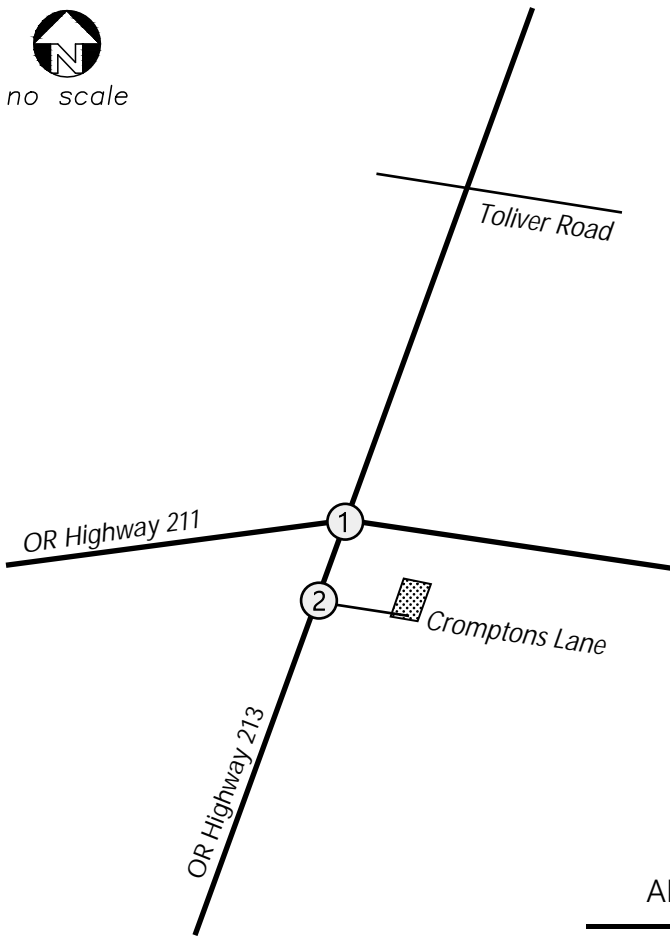
1. Hezzie Lane Subdivision
2. Cascade Center (Retail and Multi-Family)
3. Colima Apartments - Phase 1

Trips from the Cascade Center and Colima Apartments were taken directly from the Transportation Impact Studies prepared for those projects. The Hezzie Lane Subdivision was not required to prepare a TIS. For this project, the trip generation was calculated using the ITE manual.

The trip assignments for these developments were added to the general growth to estimate the year 2023 background volumes shown in Figure 5 for the study intersections during the morning and evening peak hours.

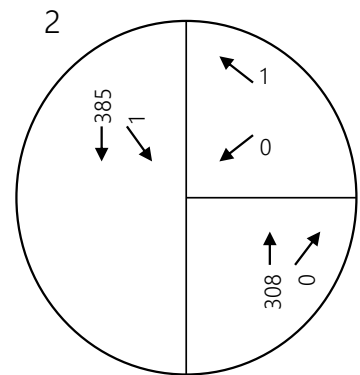
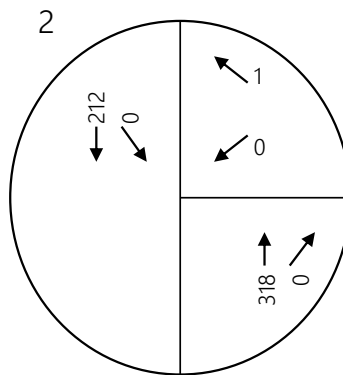
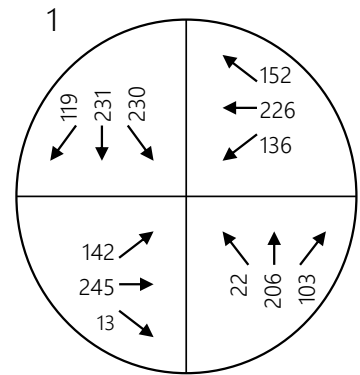
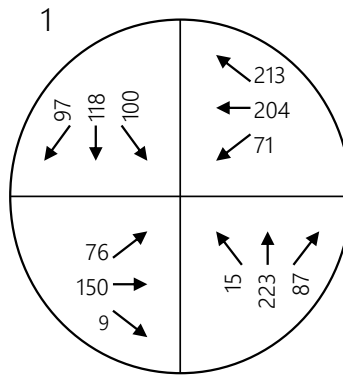
Buildout Conditions

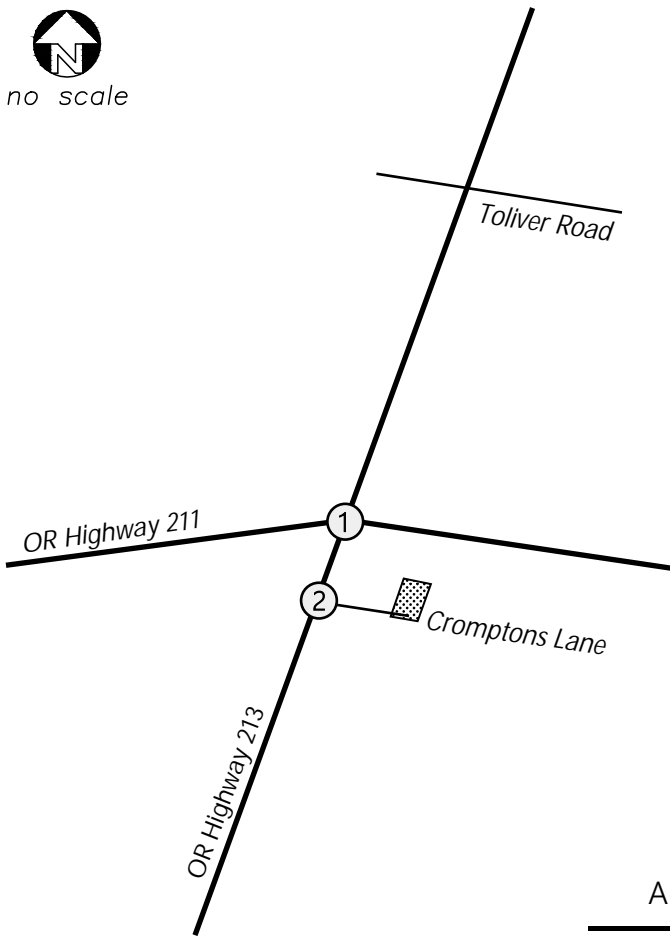
Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the year 2023 background volumes to obtain the expected Year 2023 buildout conditions. Figure 6 shows the resulting year 2023 buildout traffic volumes at the study intersections during the morning and evening peak hours.



AM PEAK HOUR

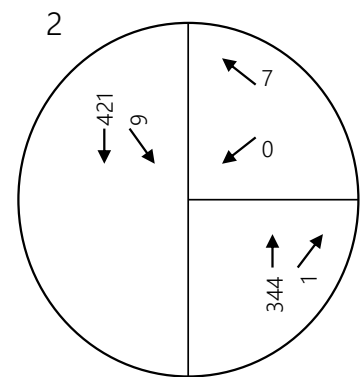
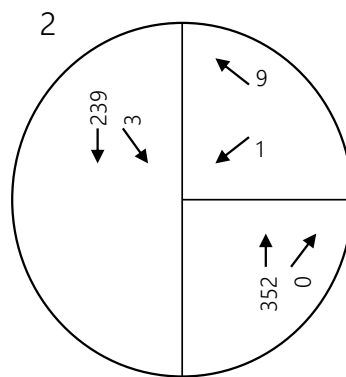
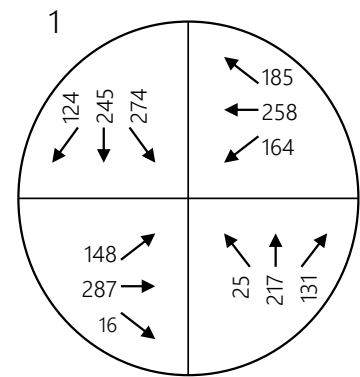
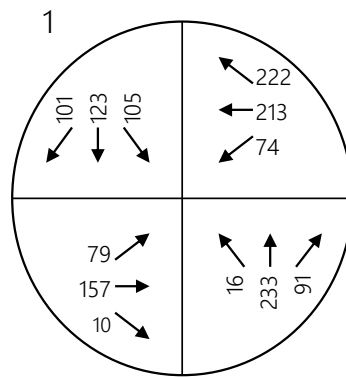
PM PEAK HOUR

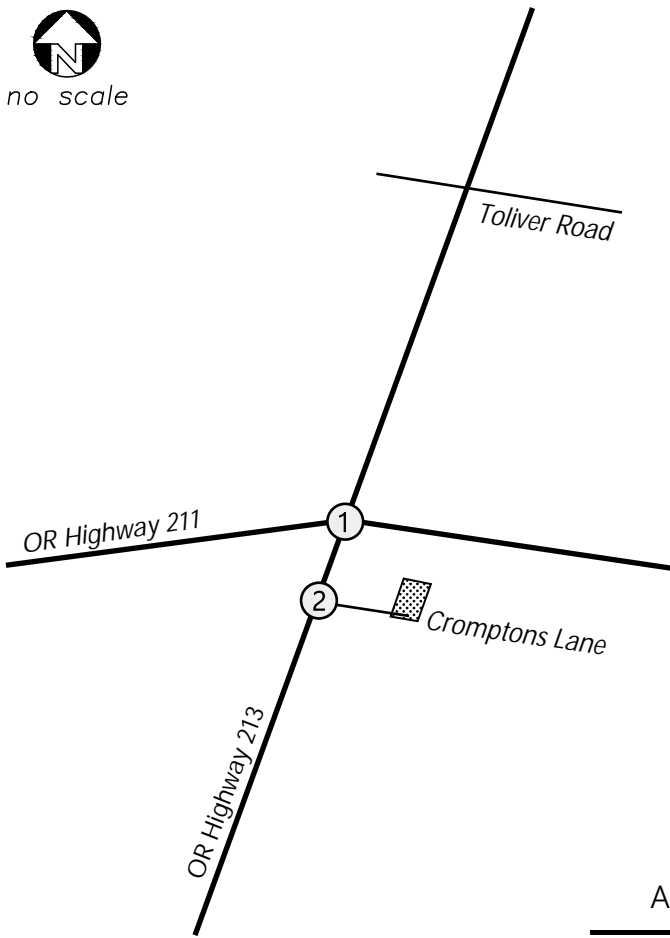




AM PEAK HOUR

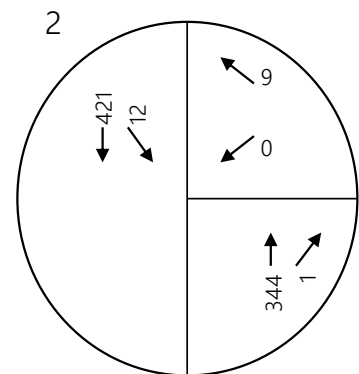
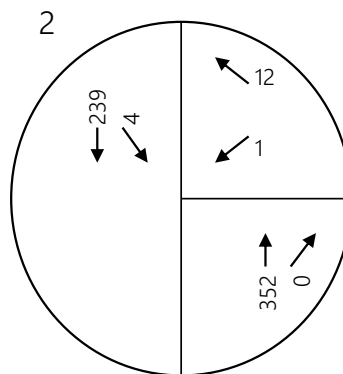
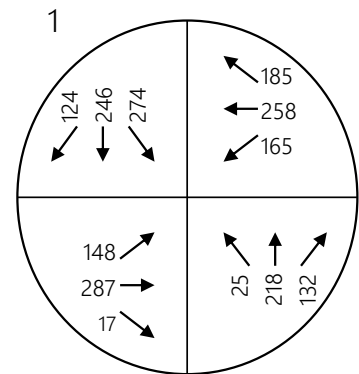
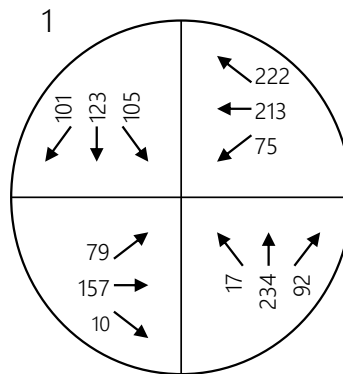
PM PEAK HOUR





AM PEAK HOUR

PM PEAK HOUR



Safety Analysis

Crash History Review

Using data obtained from ODOT’s Crash Data System, a review of approximately five years of the most recent available crash history (January 2015 through December 2019) was performed at the study intersections. The crash data was evaluated based on the number of crashes, the type of collisions, and the severity of the collisions. Crash severity is based on injuries sustained by people involved in the crash, and includes five categories:

- *PDO* – Property Damage Only
- *Injury C* – Possible Injury
- *Injury B* – Suspected Minor Injury
- *Injury A* – Suspected Serious Injury
- *Fatality*

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents approximately 10 percent of the average daily traffic (ADT) at the intersection.

Table 4 provides a summary of crash types while Table 5 summarizes crash severities and rates for each of the study intersections. Detailed crash data is provided in the appendix to this report.

Table 4: Crash Type Summary

	Intersection	Crash Type					Total Crashes
		Turn	Rear End	Angle	Side swipe	Ped/Bike	
1	Hwy 213 at Hwy 211	14	7	2	1	0	26
2	Hwy 213 at S Cromptons Lane	0	0	0	0	0	0

Table 5: Crash Severity and Rate Summary

	Intersection	Severity					Total Crashes	ADT	Crash Rate	90 th % Rate
		PDO	C	B	A	Fatal				
1	Hwy 213 at Hwy 211	17	7	2	0	0	26	18,260	0.78	0.860
2	Hwy 213 at S Cromptons Lane	0	0	0	0	0	0	7,230	0.00	0.293

Crash Severity

None of the crashes reported in the five-year analysis period resulted in a fatality or incapacitating injury (INJA).

Pedestrian and Bicycle Collisions

None of the reported crashes involved a bicyclist or a pedestrian.



ODOT 90th Percentile Crash Rates

Intersection crash rates were compared to the published statewide 90th percentile crash rates within ODOT's Analysis Procedures Manual (APM). According to Exhibit 4-1: Intersection Crash Rates per MEV by Land Type and Traffic Control in the APM, intersections which experience crash rates in excess of 90th percentile crash rates should be "flagged for further analysis". Based on the analysis, the calculated crash rates for both intersections are below they respective ODOT 90th percentile crash rates.

Sight Distance Evaluation

Sight distance was measured at the intersection of S Cromptons Lane at Highway 213 and evaluated in accordance with the standards established in *A Policy of Geometric Design of Highways and Streets*³. According to AASHTO, the driver's eye is assumed to be 14.5 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The vehicle driver's eye height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

Based on the posted speed of 35 mph on Highway 213 near S Cromptons Road and assuming a three-lane cross-section to reflect the striped median, the minimum recommended intersection sight distance is 415 feet. The required stopping sight distance is 250 feet.

Sight distance at the intersection of Highway 213 and S Cromptons Lane was measured to be approximately 400 feet to the south. These sight lines meet the required stopping sight distance but fall slightly short of the recommended intersection sight distance. Vegetation was cleared within the public right-of-way as part of the Phase 1 development and no additional improvements can be made by the proposed development; however, when a sight distance was measured from 10 feet from the edge of the traveled way, the available sight lines are more than 600 feet.

Sight distance to the north extended beyond the intersection of Highway 213 and Highway 211 which meets both the required stopping sight distance and the recommended intersection sight distance.

Based on the above measurements, adequate sight distance is available at the site access to ensure safe operation of the intersection along Highway 213.

Warrant Analysis

Traffic Signal Warrants

ODOT's preliminary traffic signal warrants were examined for the unsignalized study intersection of Highway 213 at S Cromptons Lane. The projected traffic demand on S Cromptons Lane is well below the threshold for warranting a signal under any of the analysis scenarios.

As discussed in the section of the report titled *Highway 211 at Leroy Avenue*, only 3 peak hour site trips are expected to travel through this intersection and these trips would not alter the side street volumes on Leroy Avenue or the Cascade Center driveway. A detailed warrant analysis was not performed; however, this fact

³ American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 7th Edition, 2018.

supports the conclusion that the proposed development will not trigger the traffic signal warrant at the Highway 211/Leroy Avenue/Cascade Center intersection.

Left-turn Lane Warrants

Phase 1 of the Colima Apartments development was conditioned to install southbound left-turn lane on Highway 213 at S Cromptons Lane; therefore, a left-turn lane warrant evaluation was not performed. No further improvement is necessary.

Right-Turn Lane Warrants

Right-turn lane warrants were also examined at the unsignalized intersection of Highway 213 at S Cromptons Lane. A right-turn refuge lane is primarily a safety consideration for the major street, removing right-turning vehicles traveling at slower speeds from the through traffic stream. The right-turn lane warrants were examined using methodologies provided in ODOT's APM Chapter 12. Right-turn lane warrants were evaluated based on the number of advancing vehicles, number of turning vehicles, travel speed, and the number of through lanes.

The volumes on northbound Highway 213 at Cromptons Lane are well below the thresholds for warranting a right-turn lane.



Operational Analysis

An operational analysis was conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)*⁴. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little, or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Performance Targets

Since the study intersections are under ODOT jurisdiction, the applicable performance targets for these facilities are established under the Oregon Highway Plan (OHP) and are based on the v/c ratio of the intersection. Highway 211 is a District Highway located in an Urban Growth Boundary with a posted speed between 35 and 45 mph which has a target maximum allowable v/c ratio is 0.90.⁵ Highway 213 is also a District Highway located in an Urban Growth Boundary, but it has a posted speed of 35 mph which has a target maximum allowable v/c ratio of 0.95. The more conservative target of 0.90 applies to the Highway 213/211 intersection and the target of 0.95 applies to the Highway 213/S Cromptons Lane intersection.

Delay & Capacity Analysis

Results of the analysis are shown in Table 6. Detailed reports are provided in the appendix.

Table 6: Capacity Analysis Summary

Intersection & Scenario	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
1. Highway 213 at Highway 211						
2021 Existing Condition	B	17	0.49	C	21	0.68
2023 Background Condition	B	18	0.51	C	23	0.72
2023 Buildout Condition	B	18	0.51	C	24	0.72
2. Highway 213 at S Cromptons Lane						
2021 Existing Condition	A	0	0.00	A	10	0.00
2023 Background Condition	B	11	0.02	B	11	0.01
2023 Buildout Condition	B	11	0.02	B	11	0.02

BOLDED results indicate operation above acceptable jurisdictional standards.

⁴ Transportation Research Board, *Highway Capacity Manual 6th Edition*, 2016.

⁵ Oregon Department of Transportation, 1999 Oregon Highway Plan, Including amendments November 1999 through May 2015, 1999.

Both intersections are expected to operate acceptably under all analysis scenarios.

Queueing Analysis

A queueing analysis was performed for the background and buildout condition. The queue lengths were estimated based on the results of a Synchro/SimTraffic simulation, with the reported values based on the 95th percentile queue lengths. The 95th percentile queue is a statistical measurement and means that, with 95 percent confidence, the average maximum queue will not exceed this length during the analysis period; however, given this is a statistical measurement based on probability, the 95th percentile queue length may theoretically never be met or observed in the field.

The projected 95th percentile queue lengths reported in the simulation are presented in Table 7 for the morning and evening peak hours. Reported queue lengths were rounded up to the nearest 25 feet, equivalent to an average vehicle length. Detailed queueing analysis worksheets are included in the technical appendix to this report.

Table 7: 95th Percentile Queueing Analysis Summary

Intersection/Movement	Available Storage	2023 Background Condition		2023 Buildout Condition	
		AM	PM	AM	PM
1. Highway 213 at Highway 211					
EB Left-Turn Lane	260 ft	100 ft	175 ft	100 ft	150 ft
WB Left-Turn Lane	235 ft	100 ft	175 ft	100 ft	200 ft
WB Right-Turn Lane	230 ft	150 ft	125 ft	150 ft	125 ft
NB Left-Turn Lane	250 ft	25 ft	50 ft	50 ft	50 ft
NB Right-Turn Lane	260 ft	50 ft	75 ft	50 ft	75 ft
SB Left-Turn Lane	310 ft	125 ft	300 ft	150 ft	300 ft
2. Highway 213 at S Cromptons Lane					
WB Approach	180 ft	50 ft	50 ft	50 ft	50 ft
SB Left-Turn Lane	75 ft	25 ft	25 ft	25 ft	25 ft

BOLDED text indicates queue extends beyond available lane storage.

The results of the queueing simulation show that all turn lanes on the highway can accommodate the estimated queues under background and buildout conditions.

Conclusions

Key findings of this study include:

- No significant trends or crash patterns were identified at any of the study intersections. Accordingly, no specific safety mitigation is recommended.
- Adequate sight distance is available at the site access to ensure safe operation of the intersection along Highway 213.
- The projected traffic demand on S Cromptons Lane is well below the threshold for warranting a signal under any of the analysis scenarios.
- The proposed development will not trigger the traffic signal warrant at the Highway 211/Leroy Avenue/Cascade Center intersection. Only 2 peak hour site trips are expected to travel through this intersection and these trips would not alter the side street volumes on Leroy Avenue or the Cascade Center driveway.
- Phase 1 of the Colima Apartments development was conditioned to install southbound left-turn lane on Highway 213 at S Cromptons Lane; no further improvement is necessary.
- The volumes on northbound Highway 213 at Cromptons Lane are well below the thresholds for warranting a right-turn lane.
- All study area intersections are expected to operate acceptably under all buildout conditions.
- The results of the queuing simulation show that all turn lanes on the highway can accommodate the estimated queues under buildout conditions.
- Based on the detailed analysis, the surrounding transportation system can safely support the proposed development.



TAX LOT 1500
 TAX MAP 05 2E 07

TAX LOT 1900
 TAX MAP 05 2E 07D

TAX LOT 1800
 TAX MAP 05 2E 07D

STATE HIGHWAY 213

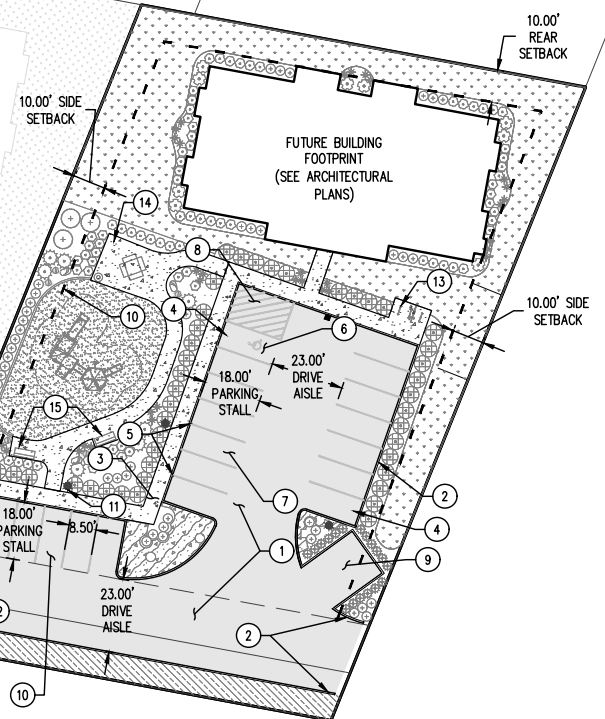
**COLIMA APARTMENTS
 PHASE 1
 (UNDER CONSTRUCTION)**

TAX LOT 2600
 TAX MAP 05 2E 07D

TAX LOT 2400
 TAX MAP 05 2E 07D

TAX LOT 1700
 TAX MAP 05 2E 07D

TAX LOT 2700
 TAX MAP 05 2E 07D



NOTES:

1. NEW AC PAVEMENT (TYP)
2. NEW CONCRETE CURB
3. CONCRETE SIDEWALK (TYP)
4. WHEEL STOP (TYP)
5. EDGE OF PAVEMENT
6. ADA ACCESSIBLE PARKING STALL (8.5'x18')
7. VEHICLE PARKING STALL (8.5'x18')
8. ADA ACCESSIBLE VAN LOADING AREA DELINEATED BY PAVEMENT STRIPING
9. GARBAGE AND RECYCLING ENCLOSURE WITH CMU EXTERIOR WALLS
10. BUILDING SETBACK LINE
11. LIGHT POLE, SEE SHEET P-09 FOR MORE INFORMATION.
12. PAVEMENT STRIPING TO DELINEATE PEDESTRIAN CROSSING IN VEHICULAR AREA
13. CONCRETE PAD AND STAPLE DESIGN FOR BICYCLE ACCESS
14. CONCRETE PAD FOR PICNIC TABLE AREA
15. CONCRETE PAD FOR BENCH

PROJECT DETAILS:

TOTAL AREA:	±29,157 SF
STRUCTURES:	±4,551 SF (15.6%)
HARDSCAPE: (INCLUDES VEHICULAR AND PEDESTRIAN ROUTES)	±12,637 SF (43.3%)
COMMON / OPEN SPACE LANDSCAPING:	±4,236 SF (14.5%)
TOTAL LANDSCAPING:	±14,034 SF (48.1%)

DENSITY CALCULATIONS:

GROSS SITE AREA:	±29,157 SF (± 0.67 AC)
EASEMENT AREA:	±4,437 SF (± 0.10 AC)
NET BUILDABLE AREA:	±25,078 SF (± 0.57 AC)
MINIMUM DENSITY (4 x 0.57):	2 UNITS
MAXIMUM DENSITY (24 x 0.57):	13 UNITS

SETBACK TABLE:

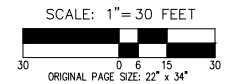
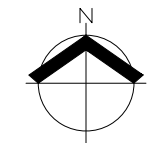
SIDE YARD	10'
REAR YARD	10'

PARKING COUNT:

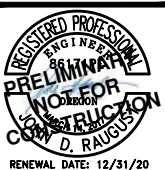
PARKING SPACES REQUIRED:	
PHASE 1:	72 SPACES
PHASE 2:	
3 BEDROOMS (2.5 SPACES PER):	8 SPACES
2 BEDROOMS (2 SPACES PER):	18 SPACES
TOTAL SPACES REQUIRED:	98 SPACES
PARKING SPACES PROVIDED:	
PHASE 1:	78 SPACES
PHASE 2:	20 SPACES
TOTAL SPACES PROVIDED:	98 SPACES
BIKE PARKING REQUIRED/PROVIDED:	6 SPACES

NOTES:

1. SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS.
2. TRENCH PATCHING FOR NEW UTILITIES AND CONNECTIONS IN HIGHWAY 213 SHALL BE PER ODOT REQUIREMENTS.



**PRELIMINARY SITE PLAN
 COLIMA APARTMENTS PHASE 2
 12763 S CROMPTONS LANE
 MOLALLA, OREGON**



JOB NUMBER:	7435
DATE:	12/22/2021
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	



TRIP GENERATION CALCULATIONS
 Source: Trip Generation Manual, 11th Edition

Land Use: Single-Family Detached Housing
 Land Use Code: 210
 Land Use Subcategory: All Sites
 Setting/Location: General Urban/Suburban
 Variable: Dwelling Units
 Trip Type: Vehicle
 Variable Quantity: 1

WARNING: Variable Quantity is less than Minimum Survey Size for Peak Hours

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	26%	74%	
Trip Ends	0	1	1

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	1	0	1

WEEKDAY

Trip Rate: 9.43

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	5	5	10

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	5	5	10



TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use: Multifamily Housing (Low-Rise)
Land Use Code: 220
Land Use Subcategory: Not Close to Rail Transit
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Trip Type: Vehicle
Variable Quantity: 12

WARNING: Variable Quantity is less than Minimum Survey Size for Peak Hours

AM PEAK HOUR

Trip Rate: 0.4

	Enter	Exit	Total
Directional Split	24%	76%	
Trip Ends	1	4	5

PM PEAK HOUR

Trip Rate: 0.51

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	4	2	6

WEEKDAY

Trip Rate: 6.74

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	40	40	80

SATURDAY

Trip Rate: 4.55

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	27	27	54

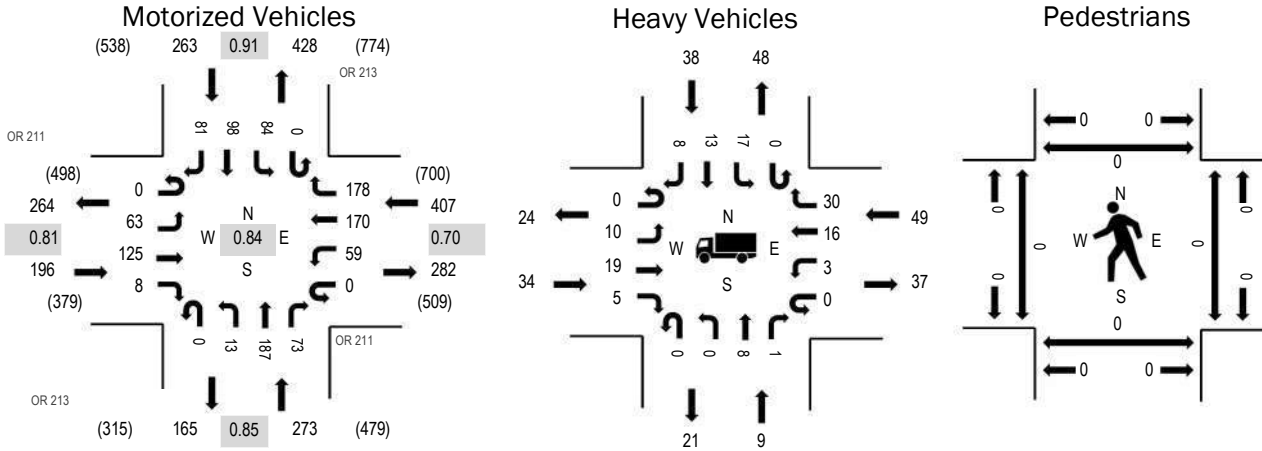
Caution: Small Sample Size



(303) 216-2439
www.alltrafficdata.net

Location: 1 OR 213 & OR 211 AM
Date: Tuesday, September 21, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:20 AM - 07:35 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	17.3%	0.81
WB	12.0%	0.70
NB	3.3%	0.85
SB	14.4%	0.91
All	11.4%	0.84

Traffic Counts - Motorized Vehicles

Interval Start Time	OR 211 Eastbound				OR 211 Westbound				OR 213 Northbound				OR 213 Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	5	14	2	0	4	15	14	0	1	14	4	0	6	1	2	82	1,139
7:05 AM	0	5	11	0	0	1	17	11	0	2	14	8	0	10	5	7	91	1,138
7:10 AM	0	5	9	0	0	4	15	24	0	2	15	15	0	9	9	9	116	1,127
7:15 AM	0	6	8	0	0	0	13	15	0	0	20	5	0	2	6	7	82	1,080
7:20 AM	0	6	10	1	0	7	15	27	0	4	15	4	0	5	5	4	103	1,081
7:25 AM	0	8	19	2	0	6	19	23	0	0	19	7	0	5	12	5	125	1,047
7:30 AM	0	4	12	0	0	12	13	23	0	1	17	9	0	5	9	7	112	1,015
7:35 AM	0	5	7	0	0	7	11	6	0	0	9	2	0	10	14	10	81	975
7:40 AM	0	8	11	0	0	3	15	16	0	0	20	9	0	10	9	7	108	961
7:45 AM	0	4	8	0	0	10	12	2	0	2	18	3	0	4	9	6	78	944
7:50 AM	0	0	9	1	0	2	12	6	0	1	16	3	0	6	11	10	77	940
7:55 AM	0	7	7	2	0	3	13	11	0	0	10	4	0	12	8	7	84	962
8:00 AM	0	7	7	1	0	2	6	11	0	1	17	5	0	3	16	5	81	957
8:05 AM	0	11	8	0	0	4	8	13	0	0	13	3	0	4	5	11	80	
8:10 AM	0	7	14	0	0	3	5	7	0	1	9	2	0	5	8	8	69	
8:15 AM	0	8	5	1	0	4	13	12	0	2	9	9	0	7	8	5	83	
8:20 AM	0	1	5	0	0	4	9	15	0	0	10	5	0	7	9	4	69	
8:25 AM	0	8	5	0	0	2	13	16	0	4	7	4	0	13	16	5	93	
8:30 AM	0	6	3	0	0	1	9	6	0	0	14	4	0	11	8	10	72	
8:35 AM	0	5	10	0	0	3	7	12	0	3	9	4	0	4	5	5	67	
8:40 AM	0	7	6	0	0	2	24	13	0	1	9	5	0	5	7	12	91	
8:45 AM	0	5	5	0	0	2	11	7	0	1	17	5	0	5	9	7	74	
8:50 AM	0	10	9	0	0	10	15	10	0	3	9	3	0	5	10	15	99	
8:55 AM	0	8	21	0	0	2	7	5	0	0	13	5	0	6	8	4	79	
Count Total	0	146	223	10	0	98	297	305	0	29	323	127	0	159	207	172	2,096	
Peak Hour	0	63	125	8	0	59	170	178	0	13	187	73	0	84	98	81	1,139	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

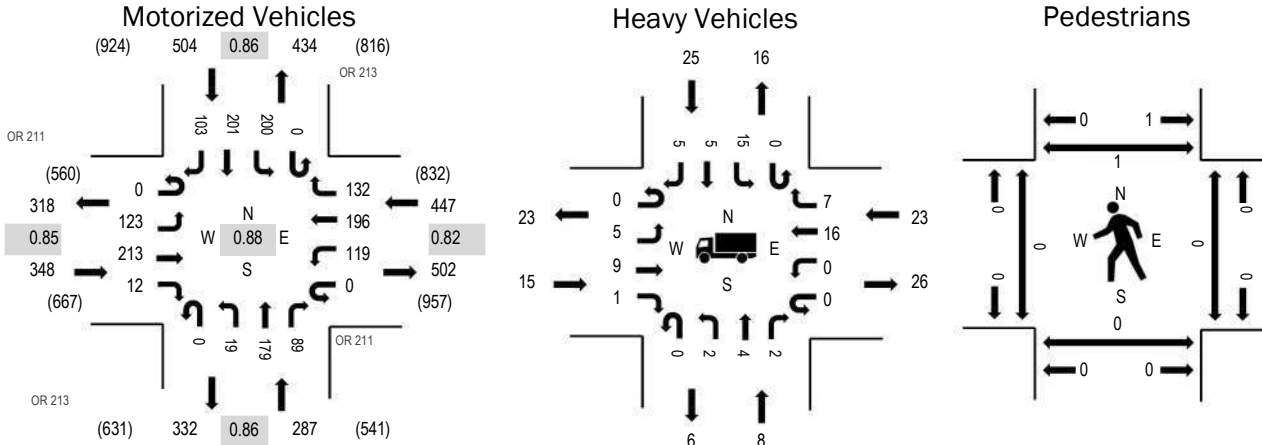
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	3	2	2	0	7	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	1	0	4	2	7	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	1	1	4	3	9	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	1	6	0	7	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	6	1	6	3	16	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	8	1	6	4	19	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	1	0	3	4	8	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	3	0	2	5	10	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	3	1	4	1	9	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	3	1	4	4	12	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	1	1	4	3	9	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	4	0	4	9	17	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	3	0	2	5	10	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	3	1	4	4	12	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	3	2	1	4	10	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	1	1	2	6	10	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	1	1	5	6	13	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	1	5	2	9	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	2	4	6	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	3	0	2	6	11	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	2	2	4	3	11	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	4	4	3	11	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	1	2	7	2	12	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	4	1	2	5	12	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	56	24	89	88	257	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	34	9	49	38	130	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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Location: 1 OR 213 & OR 211 PM
Date: Tuesday, September 21, 2021
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:10 PM - 05:25 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.3%	0.85
WB	5.1%	0.82
NB	2.8%	0.86
SB	5.0%	0.86
All	4.5%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	OR 211 Eastbound				OR 211 Westbound				OR 213 Northbound				OR 213 Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	7	22	1	0	5	20	15	0	1	13	6	0	13	17	9	129	1,450
4:05 PM	0	12	18	0	0	12	12	8	0	0	17	11	0	12	12	3	117	1,455
4:10 PM	0	10	14	2	0	6	14	6	0	1	10	5	0	16	18	4	106	1,457
4:15 PM	0	4	11	1	0	8	21	12	0	0	22	8	0	11	17	10	125	1,512
4:20 PM	0	9	23	2	0	10	13	11	0	0	18	5	0	11	21	5	128	1,534
4:25 PM	0	9	20	1	0	5	12	12	0	0	6	4	0	15	10	9	103	1,550
4:30 PM	0	8	17	1	0	8	21	12	0	1	17	7	0	13	21	5	131	1,586
4:35 PM	0	9	21	0	0	14	9	17	0	0	13	2	0	17	10	12	124	1,559
4:40 PM	0	8	12	1	0	5	18	9	0	4	12	10	0	9	16	7	111	1,532
4:45 PM	0	10	21	1	0	2	13	11	0	0	11	5	0	19	17	6	116	1,544
4:50 PM	0	14	12	1	0	9	16	8	0	2	21	13	0	11	14	9	130	1,535
4:55 PM	0	6	20	3	0	9	14	8	0	0	17	8	0	17	17	11	130	1,524
5:00 PM	0	16	16	0	0	8	23	11	0	2	12	8	0	16	12	10	134	1,514
5:05 PM	0	8	15	1	0	5	10	10	0	3	18	6	0	14	22	7	119	
5:10 PM	0	19	20	1	0	25	16	12	0	1	9	12	0	14	22	10	161	
5:15 PM	0	7	24	3	0	11	30	11	0	2	11	5	0	21	15	7	147	
5:20 PM	0	10	22	0	0	12	8	11	0	3	19	9	0	30	14	6	144	
5:25 PM	0	8	13	0	0	11	18	12	0	1	19	4	0	19	21	13	139	
5:30 PM	0	10	15	1	0	9	8	6	0	1	12	10	0	16	13	3	104	
5:35 PM	0	6	16	1	0	13	9	10	0	1	9	2	0	13	11	6	97	
5:40 PM	0	10	16	1	0	11	16	11	0	2	10	9	0	10	21	6	123	
5:45 PM	0	8	12	0	0	4	9	13	0	3	13	8	0	13	20	4	107	
5:50 PM	0	10	21	1	0	9	19	3	0	2	16	13	0	13	11	1	119	
5:55 PM	0	7	18	0	0	8	8	17	0	0	10	6	0	19	17	10	120	
Count Total	0	225	419	23	0	219	357	256	0	30	335	176	0	362	389	173	2,964	
Peak Hour	0	123	213	12	0	119	196	132	0	19	179	89	0	200	201	103	1,586	

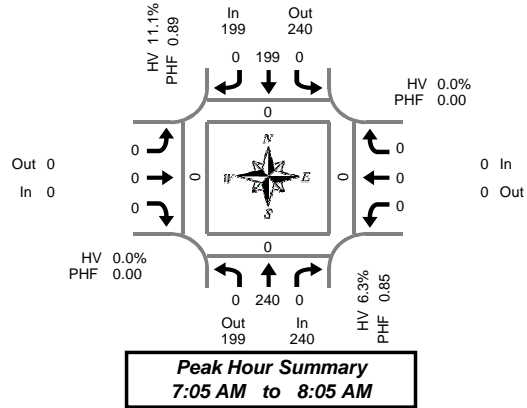
Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	4	3	4	1	12	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	2	0	1	2	5	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	2	1	1	3	7	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	2	5	3	11	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	1	0	2	2	5	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	3	0	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	4	1	1	1	7	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	3	1	2	5	11	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	2	3	1	6	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	2	0	1	2	5	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	1	1
4:50 PM	1	1	1	3	6	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	0	0	1	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	3	4	2	10	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	5	5	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	1	0	3	0	4	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	4	3	8	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	1	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	1	0	4	1	6	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	1	1	0	2	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	2	0	2	5:35 PM	0	0	0	0	0	5:35 PM	0	0	1	0	1
5:40 PM	1	0	0	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	4	4	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	1	0	0	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	2	1	1	1	5	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	29	16	43	41	129	Count Total	0	0	0	0	0	Count Total	0	0	1	1	2
Peak Hour	15	8	23	25	71	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	1	1

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & S Crompton Ln

Tuesday, October 15, 2019

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	18	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	21	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	27	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	23	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM	0	16	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	20	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	23	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:35 AM	0	19	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:40 AM	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	17	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:50 AM	0	24	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:55 AM	0	17	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	13	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	16	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:10 AM	0	17	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:20 AM	0	30	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:25 AM	0	11	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	10	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	22	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:40 AM	0	25	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	24	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	16	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:55 AM	0	17	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	466	0	0	0	366	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	66	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
7:15 AM	0	59	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
7:30 AM	0	62	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118
7:45 AM	0	58	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
8:00 AM	0	46	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92
8:15 AM	0	61	0	0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
8:30 AM	0	57	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94
8:45 AM	0	57	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
Total Survey	0	466	0	0	0	366	0	0	0	0	0	0	0	0	0	0	0	0	0	0	832

Peak Hour Summary

7:05 AM to 8:05 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	240	199	439	0	199	240	439	0	0	0	0	0	0	0	0	0	0	0	0	0	439
%HV	6.3%				11.1%				0.0%				0.0%				8.4%				
PHF	0.85				0.89				0.00				0.00				0.91				

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Total				
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total					
Volume	0	240	0	240	0	199	0	199	0	0	0	0	0	0	0	0	0	0	0	0	439
%HV	0.0%	6.3%	0.0%	6.3%	0.0%	11.1%	0.0%	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.4%
PHF	0.00	0.85	0.00	0.85	0.00	0.89	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91

Rolling Hour Summary

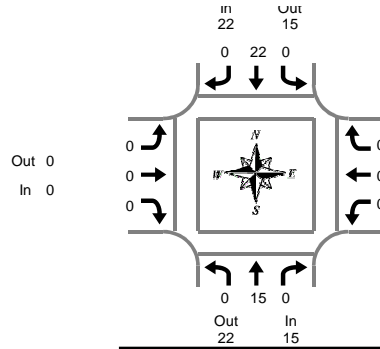
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	245	0	0	0	188	0	0	0	0	0	0	0	0	0	0	0	0	0	0	433
7:15 AM	0	225	0	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	415
7:30 AM	0	227	0	0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0	0	420
7:45 AM	0	222	0	0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	396
8:00 AM	0	221	0	0	0	178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	399

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Hwy 213 & S Crompton Ln

Tuesday, October 15, 2019

7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
7:05 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	4
7:10 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
7:20 AM	0	4	0	4	0	1	0	1	0	0	0	0	0	0	0	0	0	5
7:25 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
7:35 AM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	0	4
7:40 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	5
7:50 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
7:55 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	4
8:00 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	3
8:05 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
8:10 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	1	0	1	0	4	0	4	0	0	0	0	0	0	0	0	0	5
8:20 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:25 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	3
8:35 AM	0	6	0	6	0	3	0	3	0	0	0	0	0	0	0	0	0	9
8:40 AM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
8:50 AM	0	3	0	3	0	1	0	1	0	0	0	0	0	0	0	0	0	4
8:55 AM	0	1	0	1	0	6	0	6	0	0	0	0	0	0	0	0	0	7
Total Survey	0	37	0	37	0	44	0	44	0	0	0	0	0	0	0	0	0	81

Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	0	4	0	4	0	4	0	4	0	0	0	0	0	0	0	0	0	8
7:15 AM	0	5	0	5	0	3	0	3	0	0	0	0	0	0	0	0	0	8
7:30 AM	0	4	0	4	0	5	0	5	0	0	0	0	0	0	0	0	0	9
7:45 AM	0	2	0	2	0	9	0	9	0	0	0	0	0	0	0	0	0	11
8:00 AM	0	2	0	2	0	4	0	4	0	0	0	0	0	0	0	0	0	6
8:15 AM	0	4	0	4	0	5	0	5	0	0	0	0	0	0	0	0	0	9
8:30 AM	0	11	0	11	0	6	0	6	0	0	0	0	0	0	0	0	0	17
8:45 AM	0	5	0	5	0	8	0	8	0	0	0	0	0	0	0	0	0	13
Total Survey	0	37	0	37	0	44	0	44	0	0	0	0	0	0	0	0	0	81

Heavy Vehicle Peak Hour Summary

7:05 AM to 8:05 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound S Crompton Ln			Westbound S Crompton Ln			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	15	22	37	22	15	37	0	0	0	0	0	0	37
PHF	0.63			0.61			0.00			0.00			0.77

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
Volume	0	15	0	15	0	22	0	22	0	0	0	0	0	0	0	0	0	37
PHF	0.00	0.63	0.00	0.63	0.00	0.61	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77

Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	0	15	0	15	0	21	0	21	0	0	0	0	0	0	0	0	0	36
7:15 AM	0	13	0	13	0	21	0	21	0	0	0	0	0	0	0	0	0	34
7:30 AM	0	12	0	12	0	23	0	23	0	0	0	0	0	0	0	0	0	35
7:45 AM	0	19	0	19	0	24	0	24	0	0	0	0	0	0	0	0	0	43
8:00 AM	0	22	0	22	0	23	0	23	0	0	0	0	0	0	0	0	0	45

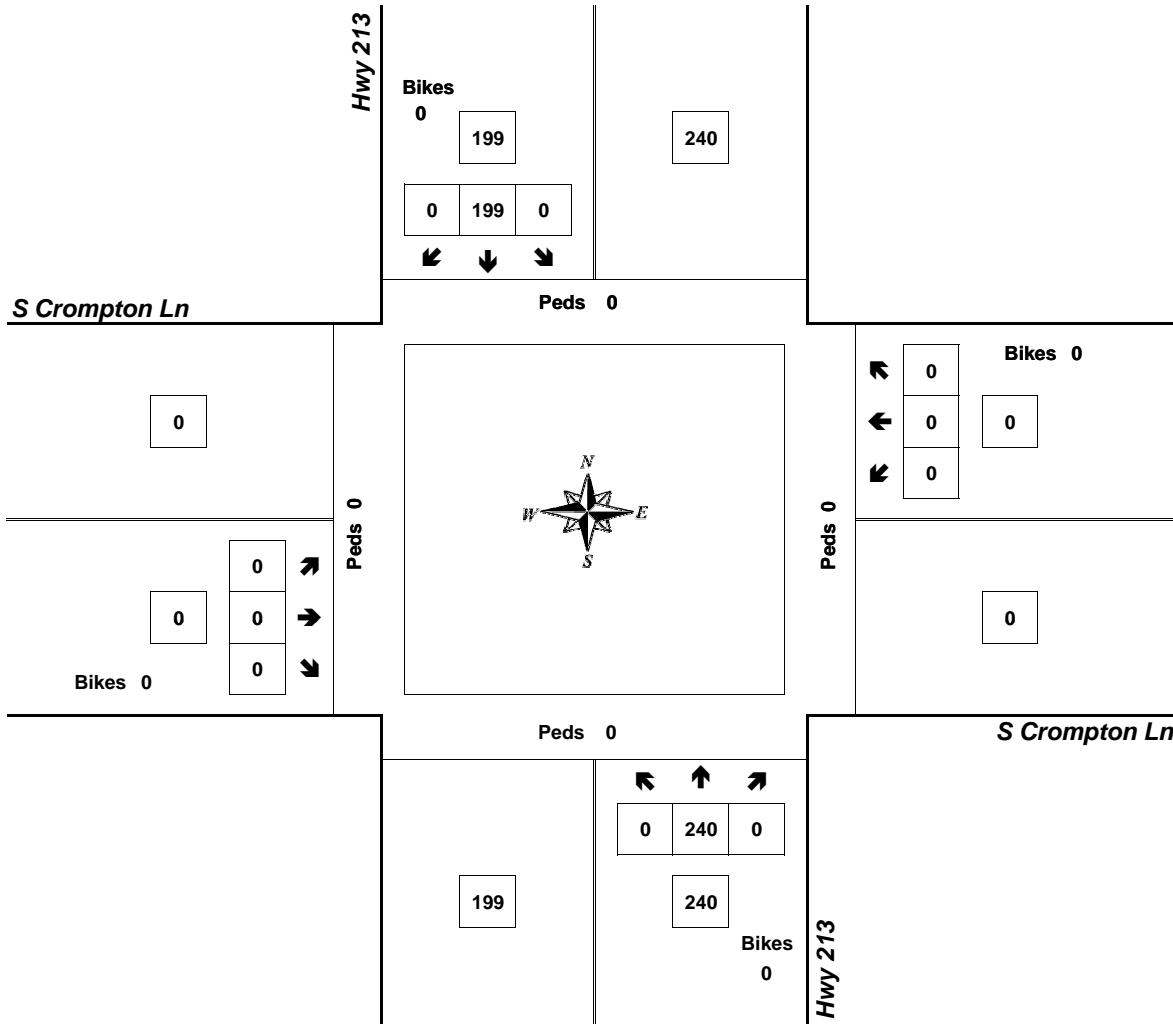
Peak Hour Summary



Clay Carney
(503) 833-2740

Hwy 213 & S Crompton Ln

7:05 AM to 8:05 AM
Tuesday, October 15, 2019



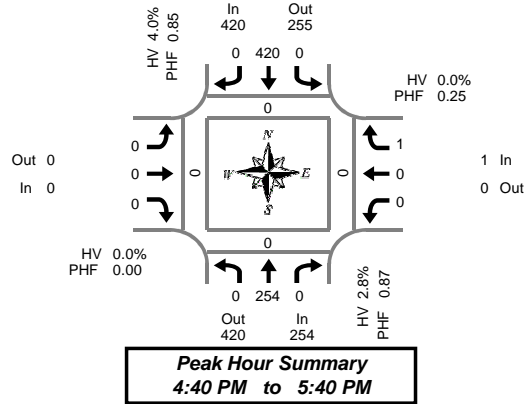
Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.00	0.0%	0
NB	0.85	6.3%	240
SB	0.89	11.1%	199
Intersection	0.91	8.4%	439

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & S Crompton Ln

Tuesday, October 15, 2019
4:00 PM to 6:00 PM

5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total	Pedestrians Crosswalk				
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West	
4:00 PM	0	31	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:05 PM	0	18	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	0	23	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	36	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	19	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	18	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	19	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	11	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	31	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	16	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:50 PM	0	22	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	24	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	27	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	17	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	18	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	14	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	23	0	0	0	37	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:25 PM	0	20	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	15	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	27	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	24	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	20	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	28	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	32	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	533	0	0	0	765	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1,299

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total	Pedestrians Crosswalk				
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West	
4:00 PM	0	72	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	172
4:15 PM	0	73	0	0	0	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	152
4:30 PM	0	61	0	0	0	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	148
4:45 PM	0	62	0	0	0	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	163
5:00 PM	0	62	0	0	0	124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	186
5:15 PM	0	57	0	0	0	102	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	160
5:30 PM	0	66	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	166
5:45 PM	0	80	0	0	0	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	152
Total Survey	0	533	0	0	0	765	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1,299

Peak Hour Summary 4:40 PM to 5:40 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	254	420	674	0	420	255	675	0	0	0	0	0	1	0	1	0	675	0	0	0	0
%HV	2.8%				4.0%				0.0%				0.0%				3.6%				
PHF	0.87				0.85				0.00				0.25				0.91				

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	254	0	254	0	420	0	420	0	0	0	0	0	0	1	1	675
%HV	0.0%	2.8%	0.0%	2.8%	0.0%	4.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%
PHF	0.00	0.87	0.00	0.87	0.00	0.85	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.91

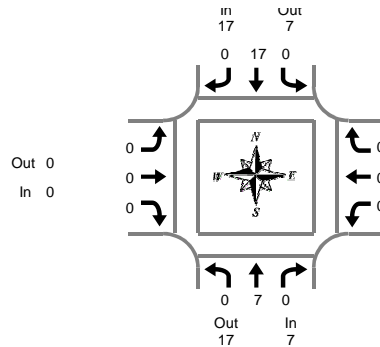
Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total	Pedestrians Crosswalk				
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West	
4:00 PM	0	268	0	0	0	367	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	635
4:15 PM	0	258	0	0	0	391	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	649
4:30 PM	0	242	0	0	0	414	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	657
4:45 PM	0	247	0	0	0	427	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	675
5:00 PM	0	265	0	0	0	398	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	664

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
4:40 PM to 5:40 PM

Hwy 213 & S Crompton Ln

Tuesday, October 15, 2019

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	2	0	2	0	3	0	3	0	0	0	0	0	0	0	0	5
4:05 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
4:10 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
4:20 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
4:25 PM	0	1	0	1	0	4	0	4	0	0	0	0	0	0	0	0	5
4:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
5:05 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:10 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:20 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
5:25 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
5:35 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:40 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	4
5:45 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
5:50 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	23	0	23	0	31	0	31	0	0	0	0	0	0	0	0	54

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	4	0	4	0	5	0	5	0	0	0	0	0	0	0	0	9
4:15 PM	0	8	0	8	0	4	0	4	0	0	0	0	0	0	0	0	12
4:30 PM	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
4:45 PM	0	1	0	1	0	5	0	5	0	0	0	0	0	0	0	0	6
5:00 PM	0	1	0	1	0	5	0	5	0	0	0	0	0	0	0	0	6
5:15 PM	0	2	0	2	0	3	0	3	0	0	0	0	0	0	0	0	5
5:30 PM	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	0	8
5:45 PM	0	3	0	3	0	1	0	1	0	0	0	0	0	0	0	0	4
Total Survey	0	23	0	23	0	31	0	31	0	0	0	0	0	0	0	0	54

Heavy Vehicle Peak Hour Summary

4:40 PM to 5:40 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound S Crompton Ln			Westbound S Crompton Ln			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	17	24	17	7	24	0	0	0	0	0	0	24
PHF	0.44			0.71			0.00			0.00			0.86

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	7	0	7	0	17	0	17	0	0	0	0	0	0	0	0	24
PHF	0.00	0.44	0.00	0.44	0.00	0.71	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	17	0	17	0	14	0	14	0	0	0	0	0	0	0	0	31
4:15 PM	0	14	0	14	0	14	0	14	0	0	0	0	0	0	0	0	28
4:30 PM	0	8	0	8	0	13	0	13	0	0	0	0	0	0	0	0	21
4:45 PM	0	4	0	4	0	21	0	21	0	0	0	0	0	0	0	0	25
5:00 PM	0	6	0	6	0	17	0	17	0	0	0	0	0	0	0	0	23

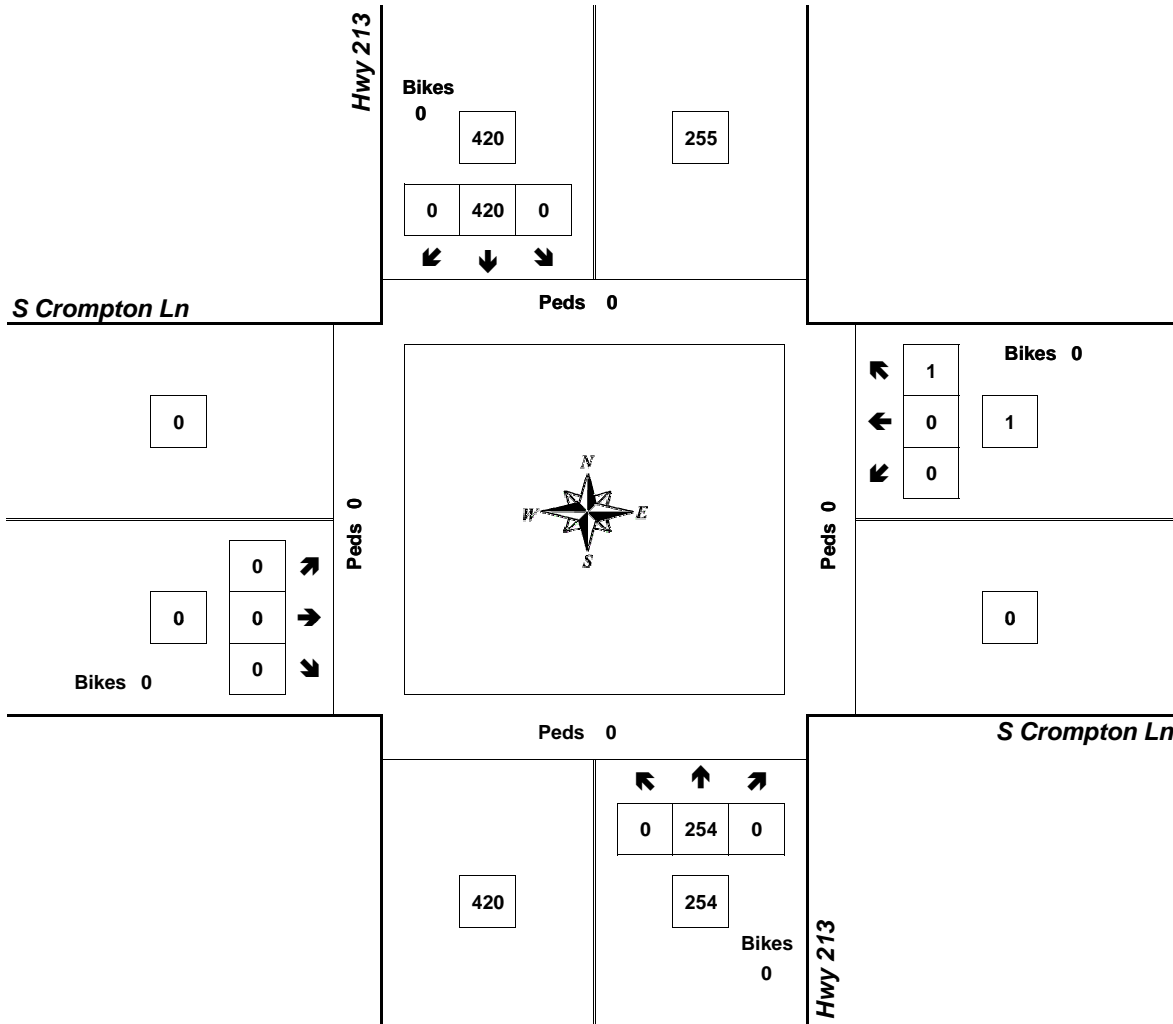
Peak Hour Summary



Clay Carney
(503) 833-2740

Hwy 213 & S Crompton Ln

4:40 PM to 5:40 PM
Tuesday, October 15, 2019



Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.25	0.0%	1
NB	0.87	2.8%	254
SB	0.85	4.0%	420
Intersection	0.91	3.6%	675

Count Period: 4:00 PM to 6:00 PM

161: WOODBURN-ESTACADA

Highway 161 ALL ROAD TYPES, MP 11.2 to 11.38 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 4 of 4 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	MOVE	A	S	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE				
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE											
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED					
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC				
04638	N	N	N	N		11/04/2017	CLACKAMAS	1	16		STRGHT	Y	N	UNK	S-1STOP	01	NONE	9	STRGHT							10			
NONE						SA		MN	0		UN	(NONE)	UNKNOWN	N	UNK	SS-O	N/A		W	-E						000	00		
N						12P	MOLALLA UA	11.28			03	0	N	DAY	PDO		PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	
N						45 9 2.27	-122 36 25.08			016100100S00																			
																	02	NONE	9	STOP									
																	N/A		W	-E						011	00		
																	PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	
02749	N	N	N	N		08/07/2018	CLACKAMAS	1	16		INTER	CROSS	N	CLR	ANGL-STP	01	NONE	9	TURN-L							29			
NONE						TU		MN	0		E		TRF SIGNAL	N	DRY	TURN	N/A		N	-E						000	00		
N						3P	MOLALLA UA	11.31			05	0	N	DAY	PDO		PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	
N						45 9 2.53	-122 36 22.92			016100100S00																			
																	02	NONE	9	STOP									
																	N/A		W	-E						011	00		
																	PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	
04140	N	N	N	N		08/28/2016	CLACKAMAS	1	16		ALLEY		N	CLR	ANGL-OTH	01	NONE	9	STRGHT							02			
CITY						SU		MN	0		UN	(NONE)	NONE	N	DRY	TURN	N/A		W	-E						000	00		
N						10P	MOLALLA UA	11.34			04			N	DARK	PDO		PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00
N						45 9 2.37	-122 36 20.64			016100100S00		(02)																	
																	02	NONE	9	TURN-L									
																	N/A		S	-W						018	00		
																	PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	
04136	N	N	N	N		10/07/2015	CLACKAMAS	1	16		STRGHT		N	RAIN	S-1STOP	01	NONE	0	STRGHT							29			
NONE						WE		MN	0		UN	(NONE)	UNKNOWN	N	WET	REAR	PRVTE		E	-W						000	00		
N						12P	MOLALLA UA	11.37			04			N	DAY	PDO		PSNGR	CAR	01	DRVR	NONE	67	M	OR-Y	026	000	29	
N						45 9 2.11	-122 36 18.38			016100100S00		(02)																	
																	02	NONE	0	STOP									
																	PRVTE		E	-W						011	00		
																	PSNGR	CAR	01	DRVR	NONE	21	F	OR-Y	000	000	00		
																	02	NONE	0	STOP									
																	PRVTE		E	-W						011	00		
																	PSNGR	CAR	02	PSNG	NO<5	01	F			000	000	00	

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.



Preliminary Traffic Signal Warrant Analysis

Project: 21125 - Crompton's Lane
 Date: 12/29/2021
 Scenario: 2023 Buildout PM Peak Hour

Major Street:	Highway 213	Minor Street:	Crompton's Lane	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	774	PM Peak Hour Volumes:	8	Total Rights RT Discount
			8	
			100%	

Warrant Used:

X	100 percent of standard warrants used
	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	7,740	8,850	
Minor Street*	0	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	7,740	13,300	
Minor Street*	0	1,350	No
<i>Combination Warrant</i>			
Major Street	7,740	10,640	
Minor Street*	0	2,120	No

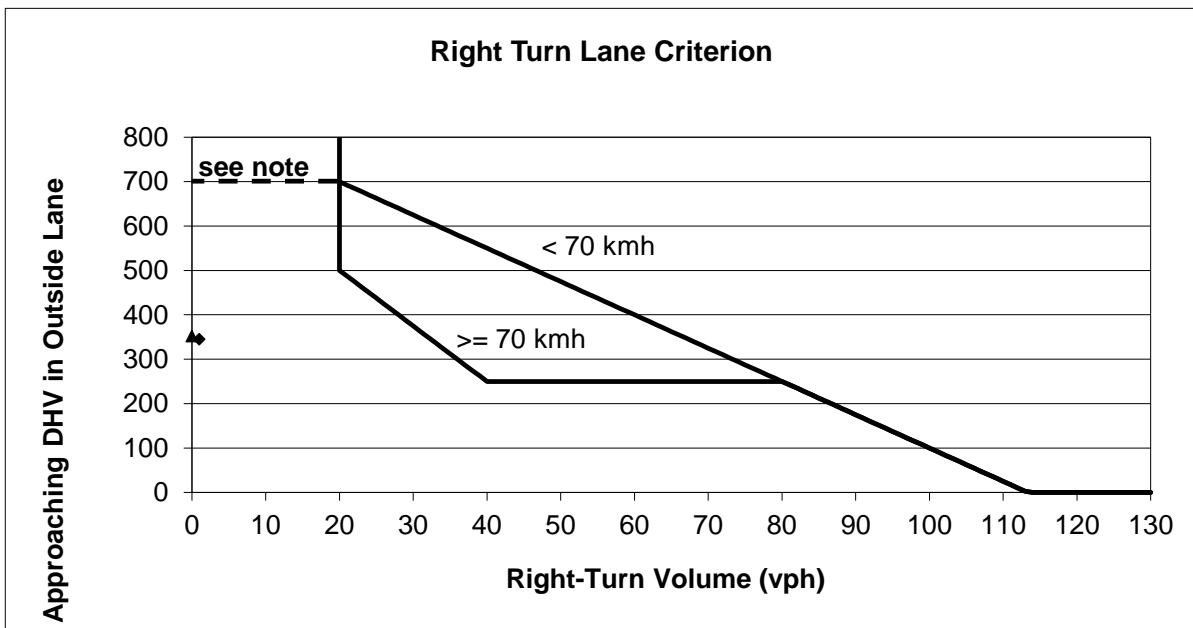
* Minor street right-turning traffic volumes reduced by 100%.



Project: 21125 - Colima Apartments Phase 2
Intersection: Hwy 213 at S Cromptons Lane
Date: 12/29/2021
Scenario: 2023 Buildout

Speed? 25 mph 40 kmh

AM Peak Hour		PM Peak Hour	
Right-Turn Volume	0	Right-Turn Volume	1
Approaching DHV	352	Approaching DHV	345
Lane Needed?	No	Lane Needed?	No



Note: If there is no right turn lane, a shoulder needs to be provided.
If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

HCM Signalized Intersection Capacity Analysis

1: Hwy 213 & Hwy 211/W Main

12/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	150	9	71	204	213	15	223	87	100	118	97
Future Volume (vph)	76	150	9	71	204	213	15	223	87	100	118	97
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1421	1483		1484	1562	1328	1614	1699	1444	1458	1431	
Flt Permitted	0.44	1.00		0.61	1.00	1.00	0.60	1.00	1.00	0.38	1.00	
Satd. Flow (perm)	663	1483		952	1562	1328	1022	1699	1444	589	1431	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	90	179	11	85	243	254	18	265	104	119	140	115
RTOR Reduction (vph)	0	2	0	0	0	186	0	0	74	0	24	0
Lane Group Flow (vph)	90	188	0	85	243	68	18	265	30	119	231	0
Heavy Vehicles (%)	17%	17%	17%	12%	12%	12%	3%	3%	3%	14%	14%	14%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8	4		
Actuated Green, G (s)	26.3	19.9		23.7	18.6	18.6	20.8	20.2	20.2	33.2	27.6	
Effective Green, g (s)	28.3	20.9		25.7	19.6	19.6	22.8	21.2	21.2	34.2	28.6	
Actuated g/C Ratio	0.39	0.29		0.35	0.27	0.27	0.31	0.29	0.29	0.47	0.39	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	332	423		378	418	355	331	492	418	382	559	
v/s Ratio Prot	c0.03	0.13		0.02	c0.16		0.00	c0.16		c0.04	0.16	
v/s Ratio Perm	0.08			0.06		0.05	0.02		0.02	0.11		
v/c Ratio	0.27	0.44		0.22	0.58	0.19	0.05	0.54	0.07	0.31	0.41	
Uniform Delay, d1	14.9	21.4		16.4	23.2	20.7	17.5	21.9	18.9	11.9	16.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.5		0.2	1.7	0.2	0.1	0.9	0.1	0.3	0.4	
Delay (s)	15.3	21.9		16.6	24.9	20.9	17.6	22.8	18.9	12.3	16.6	
Level of Service	B	C		B	C	C	B	C	B	B	B	
Approach Delay (s)		19.8			21.9			21.5			15.2	
Approach LOS		B			C			C			B	

Intersection Summary

HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	73.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

1: Hwy 213 & Hwy 211/W Main

12/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↗
Traffic Volume (veh/h)	76	150	9	71	204	213	15	223	87	100	118	97
Future Volume (veh/h)	76	150	9	71	204	213	15	223	87	100	118	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1518	1518	1518	1586	1586	1586	1709	1709	1709	1559	1559	1559
Adj Flow Rate, veh/h	90	179	11	85	243	254	18	265	104	119	140	115
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	17	17	17	12	12	12	3	3	3	14	14	14
Cap, veh/h	392	430	26	478	479	406	341	388	329	354	227	186
Arrive On Green	0.09	0.30	0.29	0.08	0.30	0.30	0.04	0.23	0.23	0.10	0.29	0.27
Sat Flow, veh/h	1446	1415	87	1511	1586	1344	1628	1709	1448	1485	792	650
Grp Volume(v), veh/h	90	0	190	85	243	254	18	265	104	119	0	255
Grp Sat Flow(s),veh/h/ln	1446	0	1502	1511	1586	1344	1628	1709	1448	1485	0	1442
Q Serve(g_s), s	2.3	0.0	5.6	2.0	7.0	9.1	0.5	7.9	3.3	3.2	0.0	8.6
Cycle Q Clear(g_c), s	2.3	0.0	5.6	2.0	7.0	9.1	0.5	7.9	3.3	3.2	0.0	8.6
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	392	0	457	478	479	406	341	388	329	354	0	413
V/C Ratio(X)	0.23	0.00	0.42	0.18	0.51	0.63	0.05	0.68	0.32	0.34	0.00	0.62
Avail Cap(c_a), veh/h	553	0	1184	569	1165	987	451	1163	985	579	0	1188
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	15.5	11.5	16.1	16.8	15.4	19.7	18.0	13.7	0.0	17.5
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.1	0.6	1.2	0.0	1.6	0.4	0.4	0.0	1.1
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(50%),veh/ln	0.6	0.0	1.6	0.6	2.3	2.5	0.2	3.0	1.0	0.9	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	0.0	16.0	11.6	16.7	17.9	15.5	21.3	18.4	14.1	0.0	18.6
LnGrp LOS	B	A	B	B	B	B	B	C	B	B	A	B
Approach Vol, veh/h		280			582			387			374	
Approach Delay, s/veh		14.7			16.5			20.3			17.2	
Approach LOS		B			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	21.0	6.2	20.0	8.8	20.9	9.5	16.7				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	7.0	43.0	5.0	45.0	10.0	40.0	13.0	37.0				
Max Q Clear Time (g_c+I1), s	4.0	7.6	2.5	10.6	4.3	11.1	5.2	9.9				
Green Ext Time (p_c), s	0.1	1.8	0.0	1.1	0.1	4.8	0.2	1.8				

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Notes

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

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	0	318	0	0	212
Future Vol, veh/h	0	0	318	0	0	212
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	6	6	11	11
Mvmt Flow	0	0	349	0	0	233

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	582	349	0	0	349
Stage 1	349	-	-	-	-
Stage 2	233	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.21
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.299
Pot Cap-1 Maneuver	475	694	-	-	1161
Stage 1	714	-	-	-	-
Stage 2	806	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	475	694	-	-	1161
Mov Cap-2 Maneuver	475	-	-	-	-
Stage 1	714	-	-	-	-
Stage 2	806	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1161
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

HCM Signalized Intersection Capacity Analysis

1: Hwy 213 & Hwy 211/W Main

12/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↗
Traffic Volume (vph)	171	255	17	167	155	133	12	177	115	213	276	135
Future Volume (vph)	171	255	17	167	155	133	12	177	115	213	276	135
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1568	1635		1568	1651	1263	1630	1716	1419	1551	1555	
Flt Permitted	0.60	1.00		0.32	1.00	1.00	0.50	1.00	1.00	0.44	1.00	
Satd. Flow (perm)	992	1635		535	1651	1263	862	1716	1419	714	1555	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	188	280	19	184	170	146	13	195	126	234	303	148
RTOR Reduction (vph)	0	2	0	0	0	108	0	0	95	0	14	0
Lane Group Flow (vph)	188	297	0	184	170	38	13	195	31	234	437	0
Confl. Peds. (#/hr)									6	6		
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	2%	2%	2%	7%	7%	7%
Parking (#/hr)						0						
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8	4		
Actuated Green, G (s)	30.4	20.4		32.4	21.4	21.4	20.9	20.2	20.2	39.4	33.7	
Effective Green, g (s)	32.4	21.4		34.4	22.4	22.4	22.9	21.2	21.2	40.4	34.7	
Actuated g/C Ratio	0.38	0.25		0.40	0.26	0.26	0.27	0.25	0.25	0.47	0.40	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	448	407		358	431	329	245	424	350	484	628	
v/s Ratio Prot	0.05	c0.18		c0.07	0.10		0.00	0.11		c0.09	c0.28	
v/s Ratio Perm	0.10			0.13		0.03	0.01		0.02	0.14		
v/c Ratio	0.42	0.73		0.51	0.39	0.12	0.05	0.46	0.09	0.48	0.70	
Uniform Delay, d1	18.9	29.5		18.1	26.1	24.2	23.2	27.4	24.9	14.6	21.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	6.0		0.9	0.4	0.1	0.1	0.6	0.1	0.6	3.1	
Delay (s)	19.4	35.6		19.1	26.5	24.3	23.3	28.0	24.9	15.2	24.3	
Level of Service	B	D		B	C	C	C	C	C	B	C	
Approach Delay (s)		29.3			23.1			26.7			21.2	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	85.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

1: Hwy 213 & Hwy 211/W Main

12/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	255	17	167	155	133	12	177	115	213	276	135
Future Volume (veh/h)	171	255	17	167	155	133	12	177	115	213	276	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	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	1668	1668	1668	1668	1668	1668	1723	1723	1723	1654	1654	1654
Adj Flow Rate, veh/h	188	280	19	184	170	146	13	195	126	234	303	148
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	6	6	6	6	6	2	2	2	7	7	7
Cap, veh/h	477	384	26	395	416	317	244	404	338	485	372	182
Arrive On Green	0.13	0.25	0.23	0.13	0.25	0.25	0.03	0.23	0.23	0.15	0.36	0.34
Sat Flow, veh/h	1589	1544	105	1589	1668	1272	1641	1723	1441	1576	1046	511
Grp Volume(v), veh/h	188	0	299	184	170	146	13	195	126	234	0	451
Grp Sat Flow(s),veh/h/ln	1589	0	1649	1589	1668	1272	1641	1723	1441	1576	0	1557
Q Serve(g_s), s	5.6	0.0	11.2	5.5	5.7	6.6	0.4	6.6	4.9	6.9	0.0	17.7
Cycle Q Clear(g_c), s	5.6	0.0	11.2	5.5	5.7	6.6	0.4	6.6	4.9	6.9	0.0	17.7
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	477	0	410	395	416	317	244	404	338	485	0	554
V/C Ratio(X)	0.39	0.00	0.73	0.47	0.41	0.46	0.05	0.48	0.37	0.48	0.00	0.81
Avail Cap(c_a), veh/h	535	0	857	546	965	736	339	946	791	643	0	1109
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	23.3	16.0	21.2	21.5	19.0	22.3	21.6	14.2	0.0	19.9
Incr Delay (d2), s/veh	0.4	0.0	1.9	0.6	0.5	0.8	0.1	0.7	0.5	0.6	0.0	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(50%),veh/ln	1.8	0.0	4.1	1.8	2.1	1.9	0.1	2.5	1.6	2.2	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	0.0	25.1	16.6	21.6	22.2	19.1	22.9	22.1	14.8	0.0	22.1
LnGrp LOS	B	A	C	B	C	C	B	C	C	B	A	C
Approach Vol, veh/h		487			500			334			685	
Approach Delay, s/veh		21.4			20.0			22.5			19.6	
Approach LOS		C			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	20.8	6.1	28.0	12.6	20.8	14.2	19.8				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	14.0	34.0	5.0	47.0	10.0	38.0	16.0	36.0				
Max Q Clear Time (g_c+I1), s	7.5	13.2	2.4	19.7	7.6	8.6	8.9	8.6				
Green Ext Time (p_c), s	0.3	2.5	0.0	2.0	0.1	2.9	0.5	1.6				

Intersection Summary

HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Hwy 213 & Crompton's Lane

12/29/2021

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	1	272	0	0	450
Future Vol, veh/h	0	1	272	0	0	450
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	3	3	4	4
Mvmt Flow	0	1	299	0	0	495

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	794	299	0	0	299	0
Stage 1	299	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.14	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.236	-
Pot Cap-1 Maneuver	357	741	-	-	1251	-
Stage 1	752	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	357	741	-	-	1251	-
Mov Cap-2 Maneuver	357	-	-	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	741	1251
HCM Lane V/C Ratio	-	-	0.001	-
HCM Control Delay (s)	-	-	9.9	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM Signalized Intersection Capacity Analysis

1: Hwy 213 & Hwy 211/W Main

12/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	157	10	74	213	222	16	233	91	105	123	101
Future Volume (vph)	79	157	10	74	213	222	16	233	91	105	123	101
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1421	1482		1484	1562	1328	1614	1699	1444	1458	1431	
Flt Permitted	0.43	1.00		0.60	1.00	1.00	0.60	1.00	1.00	0.36	1.00	
Satd. Flow (perm)	642	1482		936	1562	1328	1011	1699	1444	557	1431	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	94	187	12	88	254	264	19	277	108	125	146	120
RTOR Reduction (vph)	0	2	0	0	0	192	0	0	77	0	25	0
Lane Group Flow (vph)	94	197	0	88	254	72	19	277	31	125	241	0
Heavy Vehicles (%)	17%	17%	17%	12%	12%	12%	3%	3%	3%	14%	14%	14%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8	4		
Actuated Green, G (s)	27.0	20.5		24.2	19.1	19.1	21.4	19.9	19.9	32.9	26.4	
Effective Green, g (s)	29.0	21.5		26.2	20.1	20.1	23.4	20.9	20.9	33.9	27.4	
Actuated g/C Ratio	0.39	0.29		0.36	0.27	0.27	0.32	0.28	0.28	0.46	0.37	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	332	433		379	427	363	342	483	410	367	533	
v/s Ratio Prot	c0.03	0.13		0.02	c0.16		0.00	c0.16		c0.04	0.17	
v/s Ratio Perm	0.08			0.06		0.05	0.02		0.02	0.12		
v/c Ratio	0.28	0.45		0.23	0.59	0.20	0.06	0.57	0.07	0.34	0.45	
Uniform Delay, d1	14.7	21.2		16.2	23.2	20.5	17.3	22.5	19.2	12.4	17.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.6		0.2	1.9	0.2	0.0	1.4	0.1	0.4	0.4	
Delay (s)	15.1	21.8		16.4	25.0	20.7	17.3	23.8	19.3	12.8	17.8	
Level of Service	B	C		B	C	C	B	C	B	B	B	
Approach Delay (s)		19.6			21.9			22.3			16.2	
Approach LOS		B			C			C			B	

Intersection Summary

HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

1: Hwy 213 & Hwy 211/W Main

12/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	157	10	74	213	222	16	233	91	105	123	101
Future Volume (veh/h)	79	157	10	74	213	222	16	233	91	105	123	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1518	1518	1518	1586	1586	1586	1709	1709	1709	1559	1559	1559
Adj Flow Rate, veh/h	94	187	12	88	254	264	19	277	108	125	146	120
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	17	17	17	12	12	12	3	3	3	14	14	14
Cap, veh/h	382	436	28	470	487	413	335	396	336	350	232	191
Arrive On Green	0.08	0.31	0.29	0.08	0.31	0.31	0.04	0.23	0.23	0.10	0.29	0.28
Sat Flow, veh/h	1446	1411	91	1511	1586	1344	1628	1709	1448	1485	791	650
Grp Volume(v), veh/h	94	0	199	88	254	264	19	277	108	125	0	266
Grp Sat Flow(s),veh/h/ln	1446	0	1502	1511	1586	1344	1628	1709	1448	1485	0	1442
Q Serve(g_s), s	2.5	0.0	6.1	2.2	7.7	9.8	0.5	8.6	3.6	3.4	0.0	9.3
Cycle Q Clear(g_c), s	2.5	0.0	6.1	2.2	7.7	9.8	0.5	8.6	3.6	3.4	0.0	9.3
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	382	0	464	470	487	413	335	396	336	350	0	423
V/C Ratio(X)	0.25	0.00	0.43	0.19	0.52	0.64	0.06	0.70	0.32	0.36	0.00	0.63
Avail Cap(c_a), veh/h	534	0	1137	554	1119	949	438	1118	947	557	0	1142
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	16.0	11.8	16.6	17.4	15.9	20.5	18.5	14.0	0.0	18.0
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.1	0.6	1.2	0.1	1.7	0.4	0.5	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(50%),veh/ln	0.7	0.0	1.8	0.6	2.5	2.8	0.2	3.3	1.1	1.0	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	0.0	16.5	12.0	17.3	18.6	15.9	22.1	18.9	14.5	0.0	19.2
LnGrp LOS	B	A	B	B	B	B	B	C	B	B	A	B
Approach Vol, veh/h		293			606			404			391	
Approach Delay, s/veh		15.1			17.1			21.0			17.7	
Approach LOS		B			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	22.0	6.3	21.0	8.9	21.8	9.9	17.5				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	7.0	43.0	5.0	45.0	10.0	40.0	13.0	37.0				
Max Q Clear Time (g_c+I1), s	4.2	8.1	2.5	11.3	4.5	11.8	5.4	10.6				
Green Ext Time (p_c), s	0.1	1.9	0.0	1.1	0.1	5.0	0.2	1.8				

Intersection Summary

HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

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

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	1	9	352	0	3	239
Future Vol, veh/h	1	9	352	0	3	239
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	6	6	11	11
Mvmt Flow	1	10	387	0	3	263

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	656	387	0	0	387	0
Stage 1	387	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.21	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.299	-
Pot Cap-1 Maneuver	430	661	-	-	1124	-
Stage 1	686	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	429	661	-	-	1124	-
Mov Cap-2 Maneuver	429	-	-	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	774	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	627	1124
HCM Lane V/C Ratio	-	-	0.018	0.003
HCM Control Delay (s)	-	-	10.8	8.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM Signalized Intersection Capacity Analysis

1: Hwy 213 & Hwy 211/W Main

12/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↗
Traffic Volume (vph)	148	287	16	164	258	185	25	217	131	274	245	124
Future Volume (vph)	148	287	16	164	258	185	25	217	131	274	245	124
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1598	1669		1583	1667	1248	1614	1699	1444	1583	1583	
Flt Permitted	0.40	1.00		0.25	1.00	1.00	0.52	1.00	1.00	0.35	1.00	
Satd. Flow (perm)	677	1669		425	1667	1248	879	1699	1444	587	1583	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	168	326	18	186	293	210	28	247	149	311	278	141
RTOR Reduction (vph)	0	1	0	0	0	152	0	0	113	0	15	0
Lane Group Flow (vph)	168	343	0	186	293	58	28	247	36	311	404	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Parking (#/hr)						0						
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8	4		
Actuated Green, G (s)	32.1	22.4		35.3	24.0	24.0	23.7	21.1	21.1	42.0	34.4	
Effective Green, g (s)	34.1	23.4		37.3	25.0	25.0	25.7	22.1	22.1	43.0	35.4	
Actuated g/C Ratio	0.38	0.26		0.41	0.28	0.28	0.28	0.24	0.24	0.47	0.39	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	363	430		331	459	343	278	413	351	463	617	
v/s Ratio Prot	0.05	c0.21		c0.08	0.18		0.00	0.15		c0.12	0.26	
v/s Ratio Perm	0.12			0.15		0.05	0.02		0.03	c0.19		
v/c Ratio	0.46	0.80		0.56	0.64	0.17	0.10	0.60	0.10	0.67	0.65	
Uniform Delay, d1	20.1	31.4		19.1	28.9	25.0	23.7	30.4	26.6	16.6	22.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	9.6		1.8	2.5	0.2	0.1	2.0	0.1	3.5	2.2	
Delay (s)	20.8	41.0		20.8	31.4	25.1	23.8	32.3	26.7	20.0	24.9	
Level of Service	C	D		C	C	C	C	C	C	C	C	
Approach Delay (s)		34.3			26.6			29.8			22.8	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

1: Hwy 213 & Hwy 211/W Main

12/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	287	16	164	258	185	25	217	131	274	245	124
Future Volume (veh/h)	148	287	16	164	258	185	25	217	131	274	245	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	0.90	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	1695	1695	1695	1682	1682	1682	1709	1709	1709	1682	1682	1682
Adj Flow Rate, veh/h	168	326	18	186	293	210	28	247	149	311	278	141
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	5	5	5	3	3	3	5	5	5
Cap, veh/h	392	432	24	378	475	362	274	346	293	462	364	185
Arrive On Green	0.11	0.27	0.26	0.12	0.28	0.28	0.04	0.20	0.20	0.19	0.35	0.33
Sat Flow, veh/h	1615	1592	88	1602	1682	1280	1628	1709	1448	1602	1052	534
Grp Volume(v), veh/h	168	0	344	186	293	210	28	247	149	311	0	419
Grp Sat Flow(s),veh/h/ln	1615	0	1679	1602	1682	1280	1628	1709	1448	1602	0	1586
Q Serve(g_s), s	5.3	0.0	13.8	5.9	11.2	10.4	1.0	9.9	6.7	10.4	0.0	17.3
Cycle Q Clear(g_c), s	5.3	0.0	13.8	5.9	11.2	10.4	1.0	9.9	6.7	10.4	0.0	17.3
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	392	0	455	378	475	362	274	346	293	462	0	549
V/C Ratio(X)	0.43	0.00	0.76	0.49	0.62	0.58	0.10	0.71	0.51	0.67	0.00	0.76
Avail Cap(c_a), veh/h	454	0	798	508	890	678	337	858	727	533	0	1033
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	0.0	24.6	16.9	23.0	22.7	21.6	27.4	26.1	17.0	0.0	21.6
Incr Delay (d2), s/veh	0.5	0.0	1.9	0.7	1.0	1.1	0.1	2.0	1.0	2.4	0.0	1.7
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(50%),veh/ln	1.8	0.0	5.2	2.0	4.2	3.0	0.4	4.0	2.3	3.7	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.1	0.0	26.6	17.7	23.9	23.8	21.8	29.4	27.1	19.3	0.0	23.2
LnGrp LOS	B	A	C	B	C	C	C	C	C	B	A	C
Approach Vol, veh/h		512			689			424			730	
Approach Delay, s/veh		23.5			22.2			28.1			21.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	24.0	7.2	29.5	12.2	24.8	17.8	18.9				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	14.0	34.0	5.0	47.0	10.0	38.0	16.0	36.0				
Max Q Clear Time (g_c+I1), s	7.9	15.8	3.0	19.3	7.3	13.2	12.4	11.9				
Green Ext Time (p_c), s	0.3	2.8	0.0	1.8	0.1	4.8	0.4	2.0				

Intersection Summary

HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Notes

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

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	7	344	1	9	421
Future Vol, veh/h	0	7	344	1	9	421
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	3	3	4	4
Mvmt Flow	0	8	378	1	10	463

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	862	379	0	0	379
Stage 1	379	-	-	-	-
Stage 2	483	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.14
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.236
Pot Cap-1 Maneuver	325	668	-	-	1169
Stage 1	692	-	-	-	-
Stage 2	620	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	322	668	-	-	1169
Mov Cap-2 Maneuver	322	-	-	-	-
Stage 1	692	-	-	-	-
Stage 2	614	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	668	1169
HCM Lane V/C Ratio	-	-	0.012	0.008
HCM Control Delay (s)	-	-	10.5	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM Signalized Intersection Capacity Analysis

1: Hwy 213 & Hwy 211/W Main

01/12/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	157	10	75	213	222	17	234	92	105	123	101
Future Volume (vph)	79	157	10	75	213	222	17	234	92	105	123	101
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1421	1482		1484	1562	1328	1614	1699	1444	1458	1431	
Flt Permitted	0.43	1.00		0.60	1.00	1.00	0.60	1.00	1.00	0.36	1.00	
Satd. Flow (perm)	641	1482		936	1562	1328	1011	1699	1444	554	1431	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	94	187	12	89	254	264	20	279	110	125	146	120
RTOR Reduction (vph)	0	2	0	0	0	192	0	0	79	0	25	0
Lane Group Flow (vph)	94	197	0	89	254	72	20	279	31	125	241	0
Heavy Vehicles (%)	17%	17%	17%	12%	12%	12%	3%	3%	3%	14%	14%	14%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8	4		
Actuated Green, G (s)	27.0	20.5		24.2	19.1	19.1	21.5	20.0	20.0	33.0	26.5	
Effective Green, g (s)	29.0	21.5		26.2	20.1	20.1	23.5	21.0	21.0	34.0	27.5	
Actuated g/C Ratio	0.39	0.29		0.36	0.27	0.27	0.32	0.29	0.29	0.46	0.37	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	332	432		378	426	362	343	484	412	366	534	
v/s Ratio Prot	c0.03	0.13		0.02	c0.16		0.00	c0.16		c0.04	0.17	
v/s Ratio Perm	0.08			0.06		0.05	0.02		0.02	0.12		
v/c Ratio	0.28	0.46		0.24	0.60	0.20	0.06	0.58	0.08	0.34	0.45	
Uniform Delay, d1	14.8	21.3		16.2	23.2	20.6	17.3	22.5	19.2	12.4	17.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.6		0.2	1.9	0.2	0.1	1.4	0.1	0.4	0.4	
Delay (s)	15.1	21.8		16.5	25.1	20.8	17.3	23.9	19.3	12.8	17.8	
Level of Service	B	C		B	C	C	B	C	B	B	B	
Approach Delay (s)		19.7			22.0			22.3			16.2	
Approach LOS		B			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			20.3	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			73.6	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			49.9%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

1: Hwy 213 & Hwy 211/W Main

01/12/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↖	↖	↖	↖	↖	↖	↗	↗
Traffic Volume (veh/h)	79	157	10	75	213	222	17	234	92	105	123	101
Future Volume (veh/h)	79	157	10	75	213	222	17	234	92	105	123	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1518	1518	1518	1586	1586	1586	1709	1709	1709	1559	1559	1559
Adj Flow Rate, veh/h	94	187	12	89	254	264	20	279	110	125	146	120
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	17	17	17	12	12	12	3	3	3	14	14	14
Cap, veh/h	381	435	28	469	487	412	337	398	338	349	232	191
Arrive On Green	0.08	0.31	0.29	0.08	0.31	0.31	0.04	0.23	0.23	0.10	0.29	0.28
Sat Flow, veh/h	1446	1411	91	1511	1586	1344	1628	1709	1448	1485	791	650
Grp Volume(v), veh/h	94	0	199	89	254	264	20	279	110	125	0	266
Grp Sat Flow(s),veh/h/ln	1446	0	1502	1511	1586	1344	1628	1709	1448	1485	0	1442
Q Serve(g_s), s	2.5	0.0	6.2	2.2	7.7	9.9	0.5	8.7	3.7	3.4	0.0	9.4
Cycle Q Clear(g_c), s	2.5	0.0	6.2	2.2	7.7	9.9	0.5	8.7	3.7	3.4	0.0	9.4
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	381	0	463	469	487	412	337	398	338	349	0	423
V/C Ratio(X)	0.25	0.00	0.43	0.19	0.52	0.64	0.06	0.70	0.33	0.36	0.00	0.63
Avail Cap(c_a), veh/h	533	0	1134	552	1116	946	438	1115	945	556	0	1139
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	16.1	11.9	16.7	17.4	15.8	20.5	18.5	14.1	0.0	18.0
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.1	0.6	1.2	0.1	1.7	0.4	0.5	0.0	1.1
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(50%),veh/ln	0.7	0.0	1.8	0.7	2.5	2.8	0.2	3.3	1.1	1.0	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.4	0.0	16.6	12.0	17.3	18.7	15.9	22.1	18.9	14.5	0.0	19.2
LnGrp LOS	B	A	B	B	B	B	B	C	B	B	A	B
Approach Vol, veh/h		293			607			409			391	
Approach Delay, s/veh		15.2			17.1			21.0			17.7	
Approach LOS		B			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	22.0	6.4	21.1	8.9	21.9	9.9	17.6				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	7.0	43.0	5.0	45.0	10.0	40.0	13.0	37.0				
Max Q Clear Time (g_c+I1), s	4.2	8.2	2.5	11.4	4.5	11.9	5.4	10.7				
Green Ext Time (p_c), s	0.1	1.9	0.0	1.1	0.1	5.0	0.2	1.9				

Intersection Summary

HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Notes

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

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	1	12	352	0	4	239
Future Vol, veh/h	1	12	352	0	4	239
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	6	6	11	11
Mvmt Flow	1	13	387	0	4	263

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	658	387	0	0	387	0
Stage 1	387	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.21	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.299	-
Pot Cap-1 Maneuver	429	661	-	-	1124	-
Stage 1	686	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	427	661	-	-	1124	-
Mov Cap-2 Maneuver	427	-	-	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	772	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	634	1124
HCM Lane V/C Ratio	-	-	0.023	0.004
HCM Control Delay (s)	-	-	10.8	8.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM Signalized Intersection Capacity Analysis

1: Hwy 213 & Hwy 211/W Main

01/12/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	148	287	17	165	258	185	25	218	132	274	246	124	
Future Volume (vph)	148	287	17	165	258	185	25	218	132	274	246	124	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1598	1669		1583	1667	1248	1614	1699	1444	1583	1583		
Flt Permitted	0.40	1.00		0.25	1.00	1.00	0.52	1.00	1.00	0.35	1.00		
Satd. Flow (perm)	678	1669		424	1667	1248	877	1699	1444	586	1583		
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Adj. Flow (vph)	168	326	19	188	293	210	28	248	150	311	280	141	
RTOR Reduction (vph)	0	1	0	0	0	152	0	0	113	0	15	0	
Lane Group Flow (vph)	168	344	0	188	293	58	28	248	37	311	406	0	
Confl. Peds. (#/hr)	1					1							
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	5%	5%	5%	
Parking (#/hr)						0							
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases	2			6		6	8		8	4			
Actuated Green, G (s)	32.2	22.5		35.4	24.1	24.1	23.8	21.2	21.2	42.1	34.5		
Effective Green, g (s)	34.2	23.5		37.4	25.1	25.1	25.8	22.2	22.2	43.1	35.5		
Actuated g/C Ratio	0.38	0.26		0.41	0.28	0.28	0.28	0.24	0.24	0.47	0.39		
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5		
Lane Grp Cap (vph)	363	431		331	460	344	278	414	352	463	618		
v/s Ratio Prot	0.05	c0.21		c0.08	0.18		0.00	0.15		c0.12	0.26		
v/s Ratio Perm	0.12			0.16		0.05	0.02		0.03	c0.19			
v/c Ratio	0.46	0.80		0.57	0.64	0.17	0.10	0.60	0.10	0.67	0.66		
Uniform Delay, d1	20.1	31.5		19.1	28.9	25.0	23.7	30.4	26.6	16.6	22.7		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.7	9.6		1.8	2.5	0.2	0.1	2.0	0.1	3.5	2.3		
Delay (s)	20.8	41.0		21.0	31.4	25.1	23.8	32.4	26.7	20.1	25.0		
Level of Service	C	D		C	C	C	C	C	C	C	C		
Approach Delay (s)		34.4			26.7			29.8			22.9		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			27.7									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.72										
Actuated Cycle Length (s)			90.9									Sum of lost time (s)	16.0
Intersection Capacity Utilization			69.7%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

HCM 6th Signalized Intersection Summary

1: Hwy 213 & Hwy 211/W Main

01/12/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↗
Traffic Volume (veh/h)	148	287	17	165	258	185	25	218	132	274	246	124
Future Volume (veh/h)	148	287	17	165	258	185	25	218	132	274	246	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	0.90	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	1695	1695	1695	1682	1682	1682	1709	1709	1709	1682	1682	1682
Adj Flow Rate, veh/h	168	326	19	188	293	210	28	248	150	311	280	141
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	5	5	5	3	3	3	5	5	5
Cap, veh/h	393	431	25	378	477	363	272	347	294	461	365	184
Arrive On Green	0.11	0.27	0.26	0.12	0.28	0.28	0.04	0.20	0.20	0.19	0.35	0.33
Sat Flow, veh/h	1615	1586	92	1602	1682	1280	1628	1709	1448	1602	1055	531
Grp Volume(v), veh/h	168	0	345	188	293	210	28	248	150	311	0	421
Grp Sat Flow(s),veh/h/ln	1615	0	1679	1602	1682	1280	1628	1709	1448	1602	0	1586
Q Serve(g_s), s	5.3	0.0	14.0	6.0	11.2	10.4	1.0	10.0	6.8	10.4	0.0	17.5
Cycle Q Clear(g_c), s	5.3	0.0	14.0	6.0	11.2	10.4	1.0	10.0	6.8	10.4	0.0	17.5
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	393	0	456	378	477	363	272	347	294	461	0	550
V/C Ratio(X)	0.43	0.00	0.76	0.50	0.61	0.58	0.10	0.72	0.51	0.67	0.00	0.77
Avail Cap(c_a), veh/h	454	0	793	505	885	674	334	854	723	530	0	1028
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	24.8	17.0	23.0	22.7	21.8	27.5	26.2	17.1	0.0	21.7
Incr Delay (d2), s/veh	0.5	0.0	1.9	0.8	1.0	1.1	0.1	2.1	1.0	2.4	0.0	1.7
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(50%),veh/ln	1.8	0.0	5.2	2.1	4.3	3.0	0.4	4.1	2.3	3.7	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	0.0	26.7	17.8	24.0	23.8	21.9	29.6	27.3	19.5	0.0	23.4
LnGrp LOS	B	A	C	B	C	C	C	C	C	B	A	C
Approach Vol, veh/h		513			691			426			732	
Approach Delay, s/veh		23.6			22.2			28.3			21.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	24.1	7.2	29.7	12.2	25.0	17.8	19.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	14.0	34.0	5.0	47.0	10.0	38.0	16.0	36.0				
Max Q Clear Time (g_c+I1), s	8.0	16.0	3.0	19.5	7.3	13.2	12.4	12.0				
Green Ext Time (p_c), s	0.3	2.8	0.0	1.8	0.1	4.8	0.4	2.0				

Intersection Summary

HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Hwy 213 & Cromptons Ln

01/12/2022

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	0	9	344	1	12	421
Future Vol, veh/h	0	9	344	1	12	421
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	3	3	4	4
Mvmt Flow	0	10	378	1	13	463

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	868	379	0	0	379
Stage 1	379	-	-	-	-
Stage 2	489	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.14
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.236
Pot Cap-1 Maneuver	323	668	-	-	1169
Stage 1	692	-	-	-	-
Stage 2	616	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	319	668	-	-	1169
Mov Cap-2 Maneuver	319	-	-	-	-
Stage 1	692	-	-	-	-
Stage 2	609	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	668	1169
HCM Lane V/C Ratio	-	-	0.015	0.011
HCM Control Delay (s)	-	-	10.5	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection: 1: Hwy 213 & Hwy 211/W Main

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	102	179	107	245	240	34	244	113	159	220
Average Queue (ft)	34	79	44	100	72	7	102	14	58	75
95th Queue (ft)	82	148	92	186	151	26	190	38	121	152
Link Distance (ft)		943		840			427			953
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275		340		225	275		260	205	
Storage Blk Time (%)				0	0		0		0	0
Queuing Penalty (veh)				1	0		0		0	0

Intersection: 2: Hwy 213 & Cromptons Ln

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	34	26
Average Queue (ft)	10	0
95th Queue (ft)	35	7
Link Distance (ft)	474	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		75
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2

Intersection: 1: Hwy 213 & Hwy 211/W Main

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	262	332	205	268	160	61	232	106	303	539
Average Queue (ft)	76	167	90	135	66	15	118	32	167	228
95th Queue (ft)	158	285	161	223	122	43	210	77	293	555
Link Distance (ft)		943		840			427			953
Upstream Blk Time (%)										1
Queuing Penalty (veh)										0
Storage Bay Dist (ft)	275		340		225	275		260	205	
Storage Blk Time (%)		2		1			0		11	5
Queuing Penalty (veh)		3		3			0		41	15

Intersection: 2: Hwy 213 & Cromptons Ln

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	34	28
Average Queue (ft)	8	2
95th Queue (ft)	31	16
Link Distance (ft)	474	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		75
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 61

Intersection: 1: Hwy 213 & Hwy 211/W Main

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	126	205	131	230	201	50	252	83	208	220
Average Queue (ft)	38	86	51	99	78	9	107	17	63	84
95th Queue (ft)	88	168	103	189	144	31	202	44	131	177
Link Distance (ft)		943		840			427			953
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275		340		225	275		260	205	
Storage Blk Time (%)				0	0		0		0	1
Queuing Penalty (veh)				1	0		0		0	1

Intersection: 2: Hwy 213 & Cromptons Ln

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	39	28
Average Queue (ft)	13	2
95th Queue (ft)	39	13
Link Distance (ft)	474	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		75
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 3

Intersection: 1: Hwy 213 & Hwy 211/W Main

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	171	309	276	350	182	61	262	91	304	543
Average Queue (ft)	73	170	101	149	64	17	114	29	172	212
95th Queue (ft)	146	279	204	277	125	46	211	70	303	419
Link Distance (ft)		943		840			427			953
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275		340		225	275		260	205	
Storage Blk Time (%)		1		3			1		9	6
Queuing Penalty (veh)		1		9			1		35	16

Intersection: 2: Hwy 213 & Cromptons Ln

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	34	34
Average Queue (ft)	7	4
95th Queue (ft)	29	21
Link Distance (ft)	474	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		75
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 63

Exhibit F: Preliminary Stormwater Report

Colima Apartments Phase 2 Molalla, Oregon Preliminary Stormwater Report

Date: January 2022

Client: Angel Jimenez Alejandrez

Engineering Contact: John Raugust, PE

Prepared By: Vu Nguyen, PE

Engineering Firm: AKS Engineering & Forestry, LLC
12965 SW Herman Road
Suite 100
Tualatin, OR 97062

AKS Job Number: 7435-01



RENEWAL DATE: 12/31/2022



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- Appendix B.1:** Predeveloped Catchment Map and Detail
- Appendix B.2:** Predeveloped Hydrograph and Flow Information 2, 10, & 25-Year Storm Event
- Appendix C.1:** Post-developed Catchment Map and Detail
- Appendix C.2:** Post-developed Hydrograph and Flow Information Water Quality Storm Event
- Appendix C.3:** Post-developed Hydrograph and Flow Information 2, 10, & 25-Year Storm Event
- Appendix D:** Emergency Overflow Calculations
- Appendix E:** Soils Information from the USDA Soil Survey of Clackamas County, Oregon
- Appendix F:** Relevant Information from the King County, Washington, Surface Water Design Manual, ODOT Hydraulics Manual, City of Molalla Public Works Design Standard, and City of Molalla Stormwater Master Plan
- Appendix G:** Storm Drain Conveyance System Calculations for 25-Year Storm Event

Preliminary Stormwater Report

COLIMA APARTMENTS PHASE 2, MOLALLA, OREGON

1.0 Purpose of Report

The purpose of this report is to analyze the effect development of this site will have on the downstream stormwater conveyance system, document the criteria the proposed stormwater system was designed to meet, identify the sources of information on which the analysis was based, detail the design methodology, and document the results of the analysis.

2.0 Project Location/Description

The subject site is located on Tax Lots 2401 and 2404 of Clackamas County Assessor's Map 5 2E 07D. The project site is located at 12763 S Cromptons Lane and is adjacent to the Colima Apartments (currently under construction), in Molalla, Oregon. Currently, most of the site area drains to the northwest corner of the site. The stormwater runoff from the developed site will be routed to a Stormfilter manhole for treatment and underground stormwater facility for detention that will be installed with the Colima Apartments project. The Stormfilter manhole and underground stormwater facility will be upsized and modified to accommodate this development. The developed area of the subject site will consist of ±0.68 acres.

3.0 Regulatory Design Criteria

3.1 Stormwater Quantity Management Criteria

3.1.1 City of Molalla Standards

Per City requirements, the stormwater quantity management criteria shall be the more restrictive regulation between the City of Molalla and Oregon Department of Transportation (ODOT). Due to the City's standards being more restrictive, the site will provide stormwater quantity management per City of Molalla requirements, including:

- Stormwater quantity detention facilities shall be designed to capture runoff so the post-development runoff rates from the site do not exceed the predevelopment runoff rates, based on a 2- through 25-year, 24-hour return storm.
- Sizing the storm sewer pipes to convey stormwater flows for the 25-year storm.
- Providing an emergency overflow calculation for the 100-year storm.

3.2 Stormwater Quality Management Criteria

3.2.1 Oregon Department of Transportation (ODOT) Standards

Per City requirements, the stormwater quality management criteria shall be per the more restrictive regulation, between the City of Molalla and ODOT. Due to ODOT standards being more restrictive, the stormwater facilities will provide stormwater quality management per ODOT standards, detailed in the ODOT *Hydraulics Design Manual* (April 2014), which require the water quality design flow rate generated by 50 percent of the 2-year, 24-hour storm (2.5 inches) to be treated. The water quality design storm depth is 1.25 inches.

4.0 Design Methodology

The Santa Barbara Urban Hydrograph (SBUH) Method was used to design the stormwater facilities. The

SBUH Method utilizes the Natural Resources Conservation Service (NRCS) Type 1A 24-hour storm. HydroCAD computer software aided in the analysis. Representative runoff curve numbers (CN) were obtained from the *Technical Release 55 Urban Hydrology for Small Watersheds* and are included in Appendix F.

5.0 Design Parameters

5.1 Design Storm

5.1.1 On-Site Inlet and Conduit Sizing

Stormwater inlets for the site have been placed at locations that will adequately control stormwater runoff from drive aisles and parking lots. The on-site stormwater pipes will be sized using Manning's equation, based on peak flows for the 25-year, 24-hour storm event and per the Oregon Plumbing Specialty Code.

5.1.2 Upstream Basin

Stormwater runoff from the off-site upstream basin along the southerly property line of the site will be collected and routed to the existing outfall location.

5.2 Predeveloped Site Topography and Land Use

5.2.1 Site Topography

Generally, the site has topography with slopes of less than 5%. The vegetative cover of the site consists of grass, trees, and brush.

5.2.2 Land Use

Currently, the land is vacant.

5.3 Soil Type

The soil for this site is classified as Aloha silt loam and Amity silt loam (hydrologic group "C/D") by the NRCS Web Soil Survey for Clackamas County. Information on these soil types is provided in Appendix E.

5.4 Post-developed Site Topography and Land Use

5.4.1 Site Topography

The post-developed site topography will be altered from the predeveloped site topography to allow for the construction of parking lots, drive aisles, a multi-family residential building, concrete sidewalks, and other associated infrastructures and features.

5.4.2 Land Use

The post-developed land use will consist of one multi-family residential apartment building.

5.4.4 Post-Developed Input Parameters

Appendices B.2, C.2, and C.3 provide the HydroCAD reports and input parameters that were generated for the analyzed storm events with respect to the site improvements contributing to the drainage basins.

5.5 Description of Off-Site Contributory Basins

There are no off-site stormwater runoff basins contributing to this site (other than the basins described in Section 5.1.2).

6.0 Calculation Methodology

6.1 Proposed Stormwater Conduit Sizing and Inlet Spacing

To meet standards for a private site, the on-site stormwater conduits will be sized per the Oregon Plumbing Specialty Code and have been sized using Manning's equation, based on peak flows for the 25-year, 24-hour storm event. Catch basins have been placed at locations to adequately convey stormwater runoff from the drive aisles and parking lots.

6.2 Proposed Stormwater Quantity Control Facility Design

The underground stormwater system (ChamberMaxx retention system) that will be installed with the Colima Apartments project will be upsized and modified to accommodate flows generated by the developed areas of the subject property and to meet City of Molalla water quantity requirements (described in Section 3.1). The orifices diameter will be enlarged and the volume of Chambermaxx will be increased to total of 5,689 cubic feet of storage.

6.3 Proposed Stormwater Quality Facility Design

The Stormfilter manhole that will be installed with the Colima Apartments project will be modified to accommodate flows generated by developed areas of the subject property in compliance with ODOT water quality requirements (described in Section 3.2). The modified Stormfilter manhole will have a total of 13 cartridges (9 existing cartridges, plus 4 new cartridges), which can treat up to 0.39 cfs of water quality flow (each 18-inch cartridge can treat up to 0.03 cfs).

6.4 Emergency Overflow Calculations

The flow-control manhole was designed to allow overflow stormwater runoff to flow through the overflow riser inside the flow-control manhole and continue to flow downstream.

6.5 Downstream Analysis

The underground stormwater facility has been designed such that the duration and rate of stormwater peak flow from the post-developed site for the 2- through 25-year storm will be less than the duration and rate of peak flow from the pre-developed site for the 2- through 25-year storm. The stormwater discharge from the underground stormwater facility will flow west through a new private stormwater pipe and continue north, via the existing stormwater conveyance system in S Highway 213. This development will not negatively impact the downstream capacity.

7.0 Stormwater Summary Table

The tables below summarize the pre-developed and post-developed peak flows for each storm event that is routed to the new stormwater facility:

Table 7.1 Pre-Developed Peak Flow for 2, 10, & 25-year Storm Event

Catchment	Peak Flows (cfs)		
	2-YR	10-YR	25-YR
1S (Colima Apartments) and 2S (Colima Apartments Phase 2)	0.30	0.65	0.83

Table 7.2 Post-Developed Peak Flow for 2, 10, & 25-year Storm Event

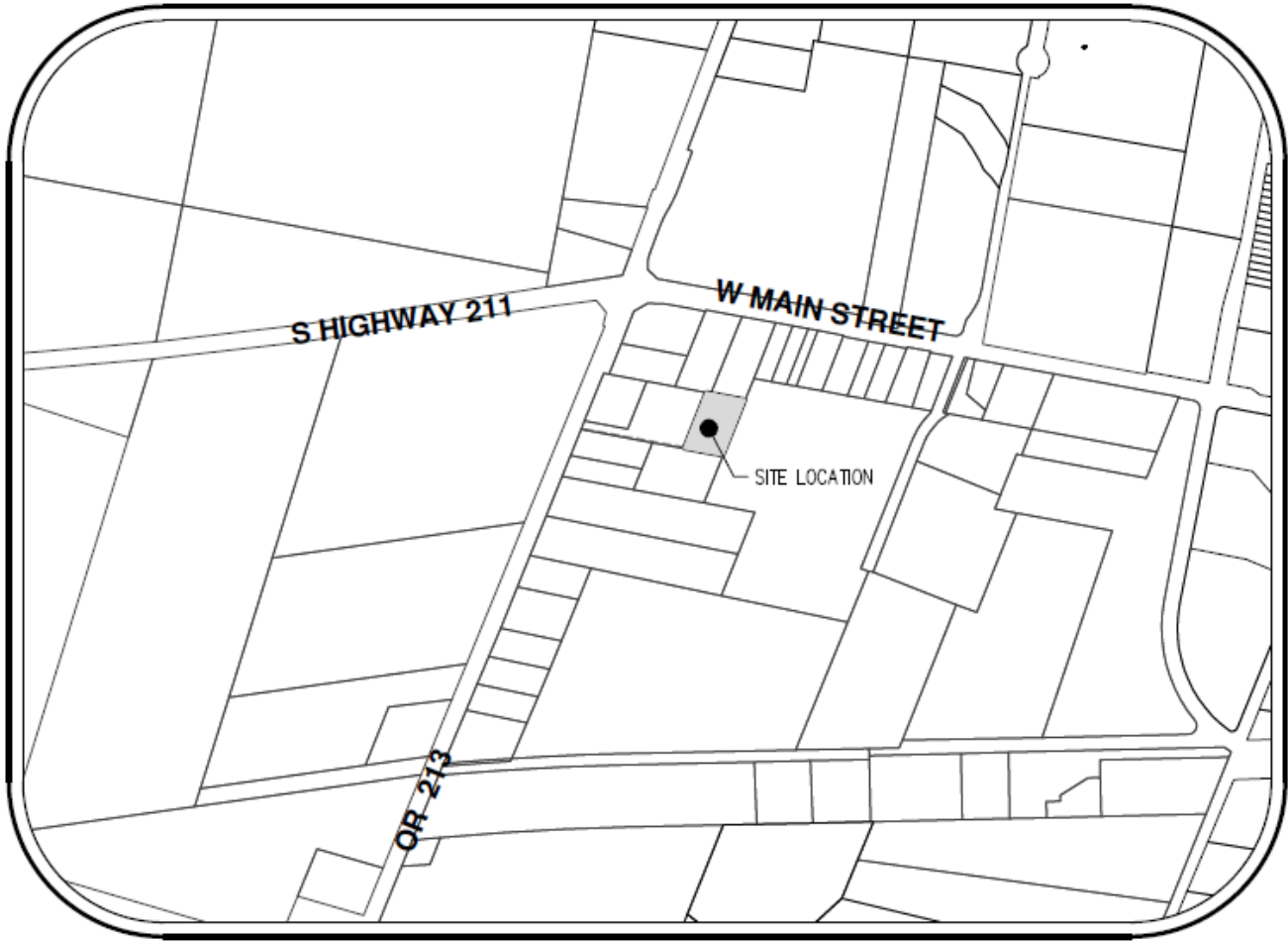
Catchment	Peak Flows (cfs)		
	2-YR	10-YR	25-YR
1S (Colima Apartments) and 2S (Colima Apartments Phase 2)	0.94	1.42	1.66
Allowable Release Rate*	0.30	0.65	0.83
Design Release Rate	0.29	0.62	0.77

*The allowable release rate for the post-developed 2-year storm event per City of Molalla standards is equal to the pre-developed peak runoff rate for the 2-year storm from Catchments 1S and 2S.

*The allowable release rate for the post-developed 10-year storm event per City of Molalla standards is equal to the pre-developed peak runoff rate for the 10-year storm from Catchments 1S and 2S.

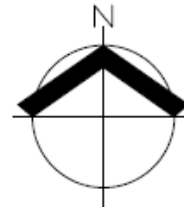
*The allowable release rate for the post-developed 25-year storm event per City of Molalla standards is equal to the pre-developed peak runoff rate for the 25-year storm from Catchments 1S and 2S.

Appendix A: Vicinity Map

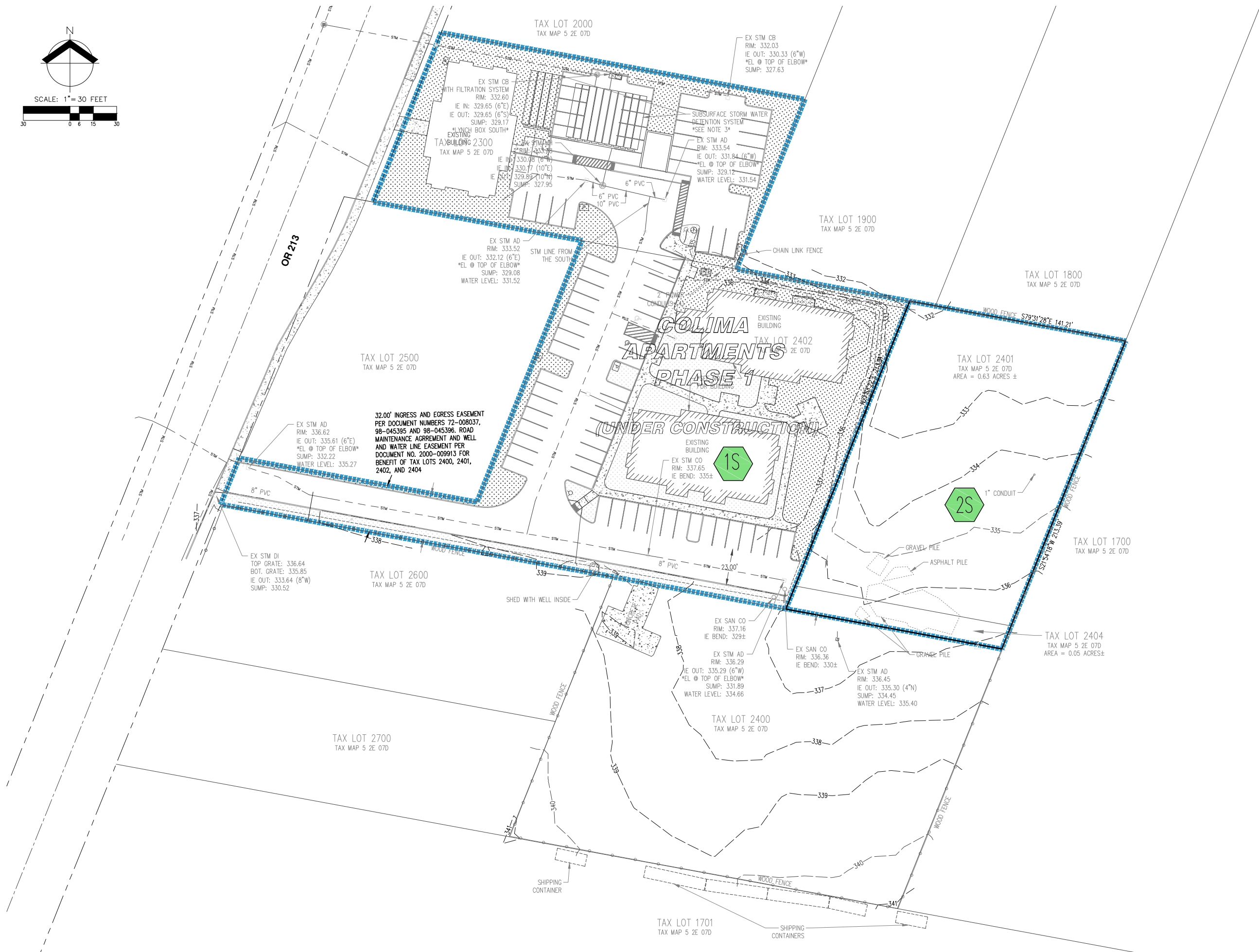
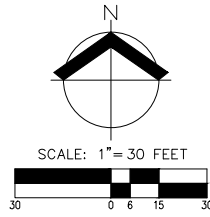


VICINITY MAP

SCALE: 1"=500'



Appendix B.1: Pre-Developed Catchment Map and Detail



PRE-DEVELOPED BASIN MAP
COLIMA APARTMENTS PHASE 2
12763 S CROMPTONS LANE
MOLALLA, OREGON

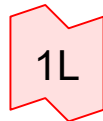
PRELIMINARY
 NOT FOR
 CONSTRUCTION

JOB NUMBER:	7435
DATE:	01/21/2022
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	

**Appendix B.2:
Pre-Developed Hydrograph and Flow
Information 2, 10, & 25-Year Storm Event**



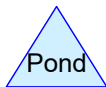
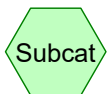
PRE-DEVELOPMENT



SUMMARY



PHASE 2 -
PRE-DEVELOPMENT



Routing Diagram for 7435-2 HydroCAD Pre
Prepared by AKS Engineering & Forestry, LLC, Printed 12/21/2021
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

7435-2 HydroCAD Pre

Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Printed 12/21/2021

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
106,533	80	Pasture - Hydrologic good condition (1S, 2S)

7435-2 HydroCAD Pre

Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr 2-YR Rainfall=2.50"

Printed 12/21/2021

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: PRE-DEVELOPMENT

Runoff Area=77,008 sf 0.00% Impervious Runoff Depth>0.88"
Flow Length=290' Slope=0.0250 '/' Tc=23.3 min CN=80/0 Runoff=0.22 cfs 5,621 cf

Subcatchment 2S: PHASE 2 - PRE-DEVELOPMENT

Runoff Area=29,525 sf 0.00% Impervious Runoff Depth>0.88"
Flow Length=290' Slope=0.0250 '/' Tc=23.3 min CN=80/0 Runoff=0.08 cfs 2,155 cf

Link 1L: SUMMARY

Inflow=0.30 cfs 7,776 cf
Primary=0.30 cfs 7,776 cf

7435-2 HydroCAD Pre

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 2-YR Rainfall=2.50"

Printed 12/21/2021

Summary for Subcatchment 1S: PRE-DEVELOPMENT

Runoff = 0.22 cfs @ 8.19 hrs, Volume= 5,621 cf, Depth> 0.88"

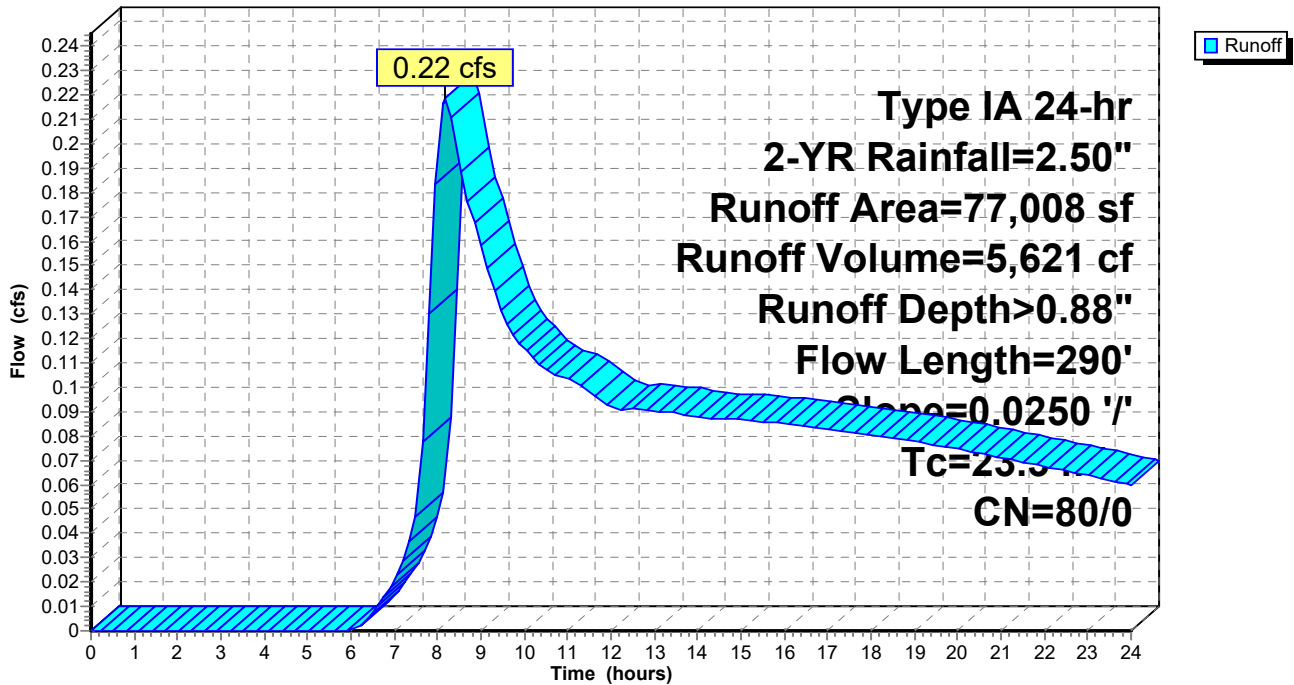
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 2-YR Rainfall=2.50"

Area (sf)	CN	Description
* 77,008	80	Pasture - Hydrologic good condition
77,008		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	290	0.0250	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 1S: PRE-DEVELOPMENT

Hydrograph



7435-2 HydroCAD Pre

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 2-YR Rainfall=2.50"

Printed 12/21/2021

Summary for Subcatchment 2S: PHASE 2 - PRE-DEVELOPMENT

Runoff = 0.08 cfs @ 8.19 hrs, Volume= 2,155 cf, Depth> 0.88"

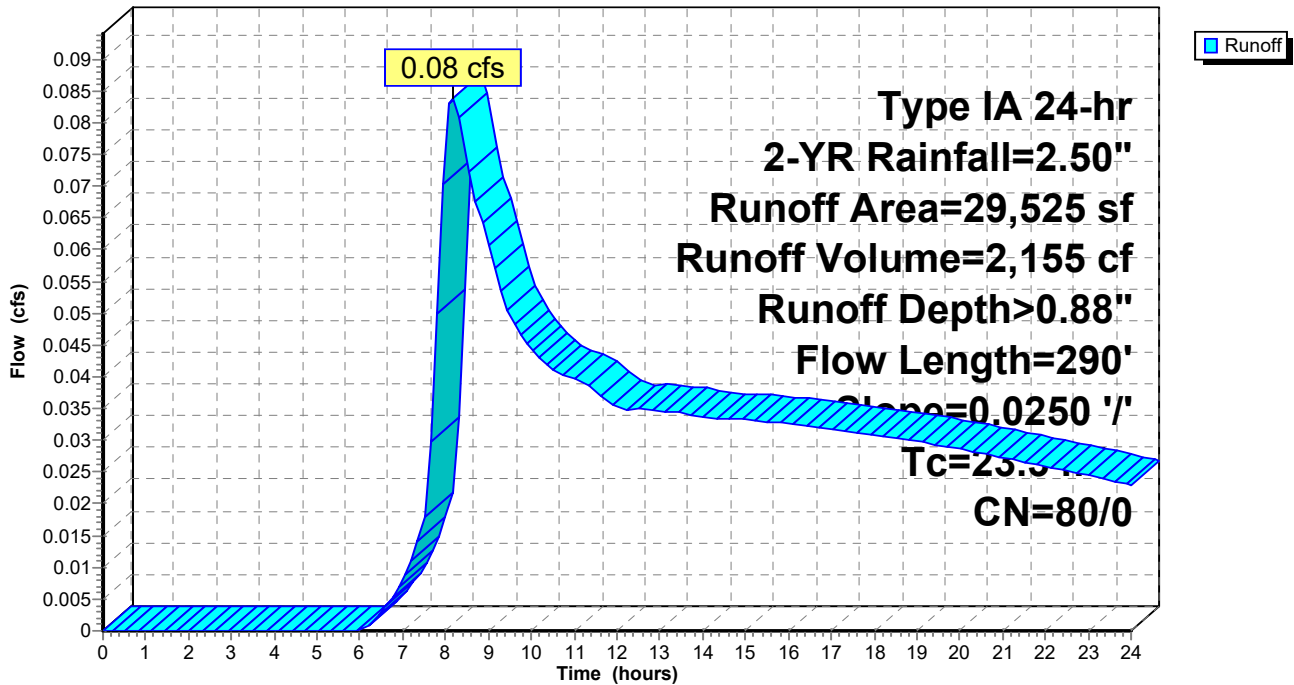
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 2-YR Rainfall=2.50"

Area (sf)	CN	Description
* 29,525	80	Pasture - Hydrologic good condition
29,525		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	290	0.0250	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 2S: PHASE 2 - PRE-DEVELOPMENT

Hydrograph



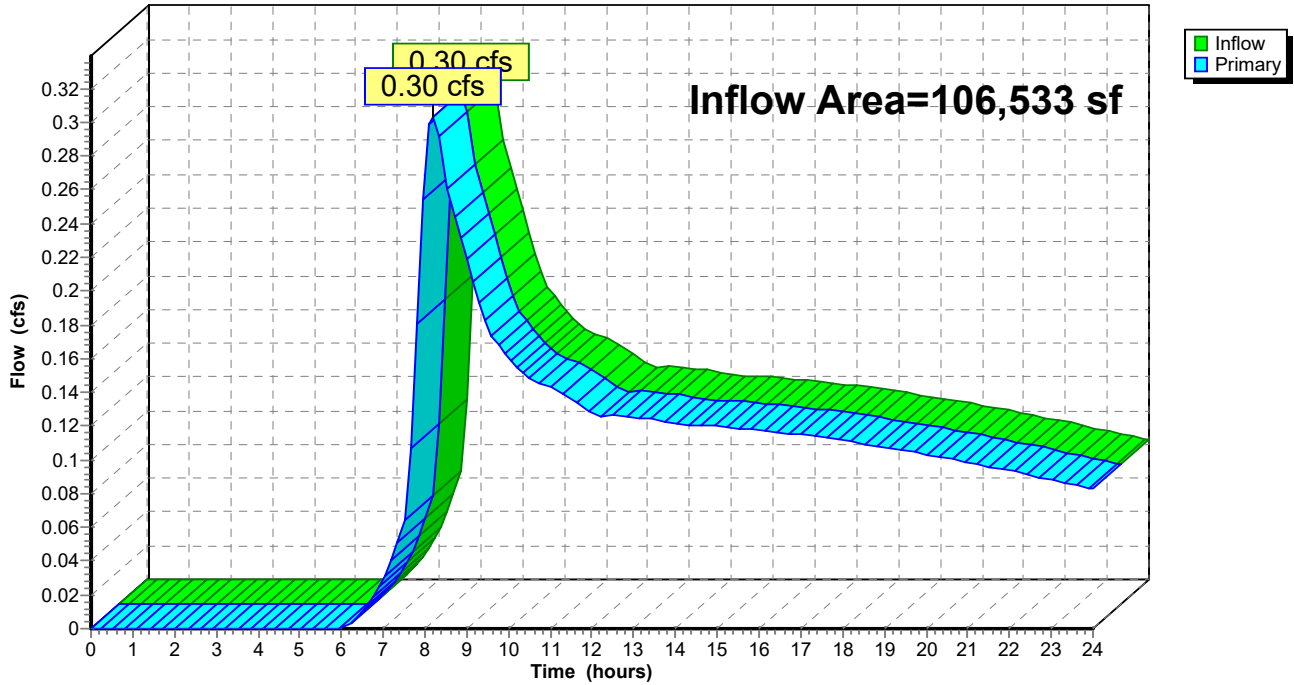
Summary for Link 1L: SUMMARY

Inflow Area = 106,533 sf, 0.00% Impervious, Inflow Depth > 0.88" for 2-YR event
Inflow = 0.30 cfs @ 8.19 hrs, Volume= 7,776 cf
Primary = 0.30 cfs @ 8.19 hrs, Volume= 7,776 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs

Link 1L: SUMMARY

Hydrograph



7435-2 HydroCAD Pre

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 10-YR Rainfall=3.45"

Printed 12/21/2021

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: PRE-DEVELOPMENT

Runoff Area=77,008 sf 0.00% Impervious Runoff Depth>1.58"
Flow Length=290' Slope=0.0250 '/' Tc=23.3 min CN=80/0 Runoff=0.47 cfs 10,116 cf

Subcatchment 2S: PHASE 2 - PRE-DEVELOPMENT

Runoff Area=29,525 sf 0.00% Impervious Runoff Depth>1.58"
Flow Length=290' Slope=0.0250 '/' Tc=23.3 min CN=80/0 Runoff=0.18 cfs 3,878 cf

Link 1L: SUMMARY

Inflow=0.65 cfs 13,994 cf
Primary=0.65 cfs 13,994 cf

7435-2 HydroCAD Pre

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 10-YR Rainfall=3.45"

Printed 12/21/2021

Summary for Subcatchment 1S: PRE-DEVELOPMENT

Runoff = 0.47 cfs @ 8.15 hrs, Volume= 10,116 cf, Depth> 1.58"

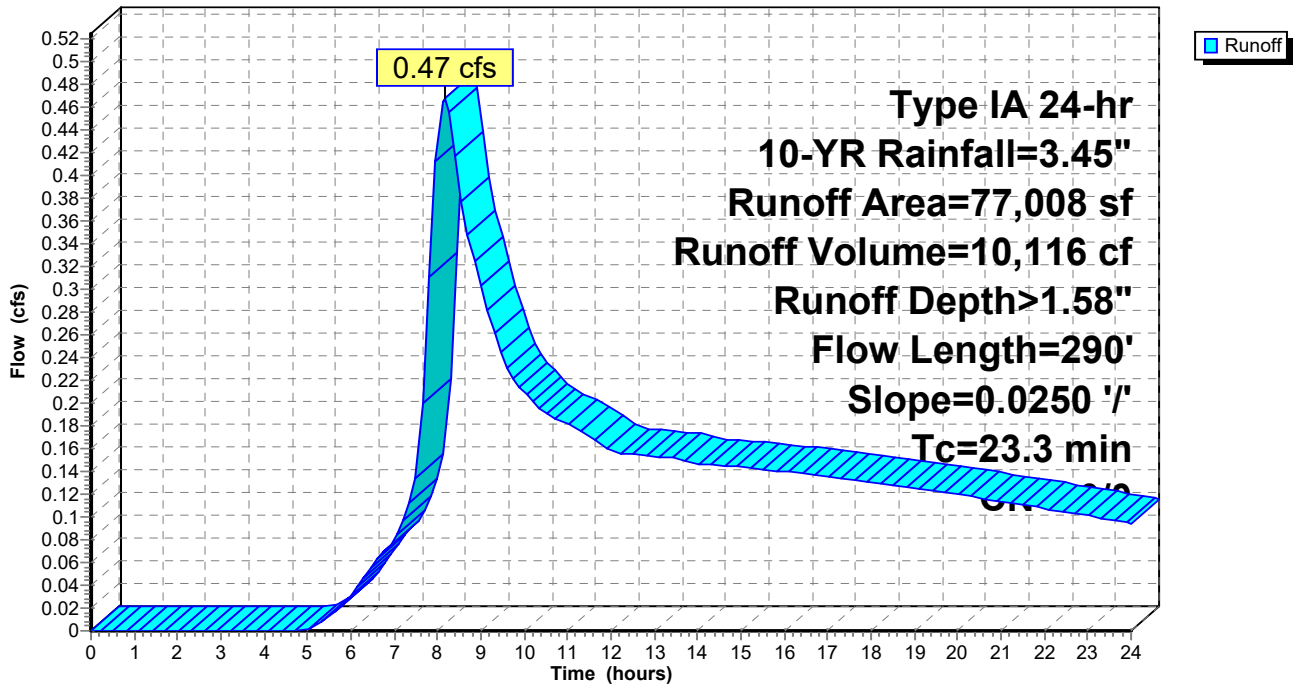
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 10-YR Rainfall=3.45"

Area (sf)	CN	Description
* 77,008	80	Pasture - Hydrologic good condition
77,008		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	290	0.0250	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 1S: PRE-DEVELOPMENT

Hydrograph



7435-2 HydroCAD Pre

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 10-YR Rainfall=3.45"

Printed 12/21/2021

Summary for Subcatchment 2S: PHASE 2 - PRE-DEVELOPMENT

Runoff = 0.18 cfs @ 8.15 hrs, Volume= 3,878 cf, Depth> 1.58"

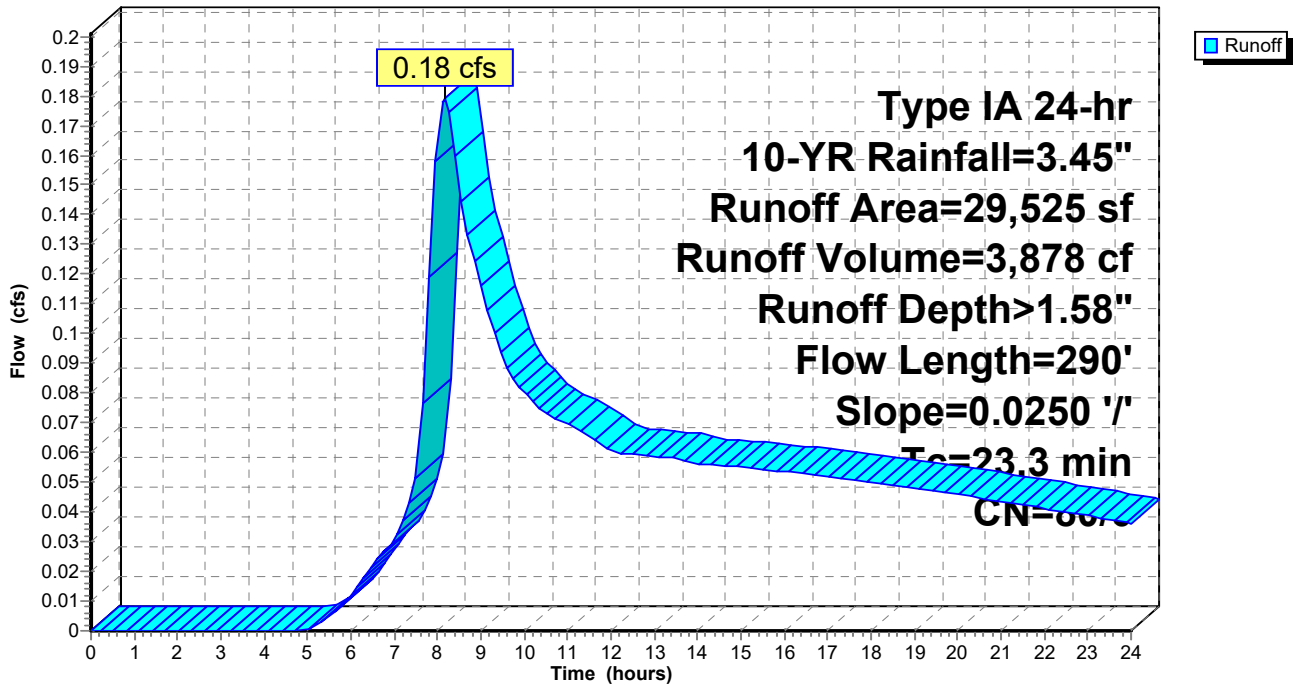
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 10-YR Rainfall=3.45"

Area (sf)	CN	Description
* 29,525	80	Pasture - Hydrologic good condition
29,525		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	290	0.0250	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 2S: PHASE 2 - PRE-DEVELOPMENT

Hydrograph



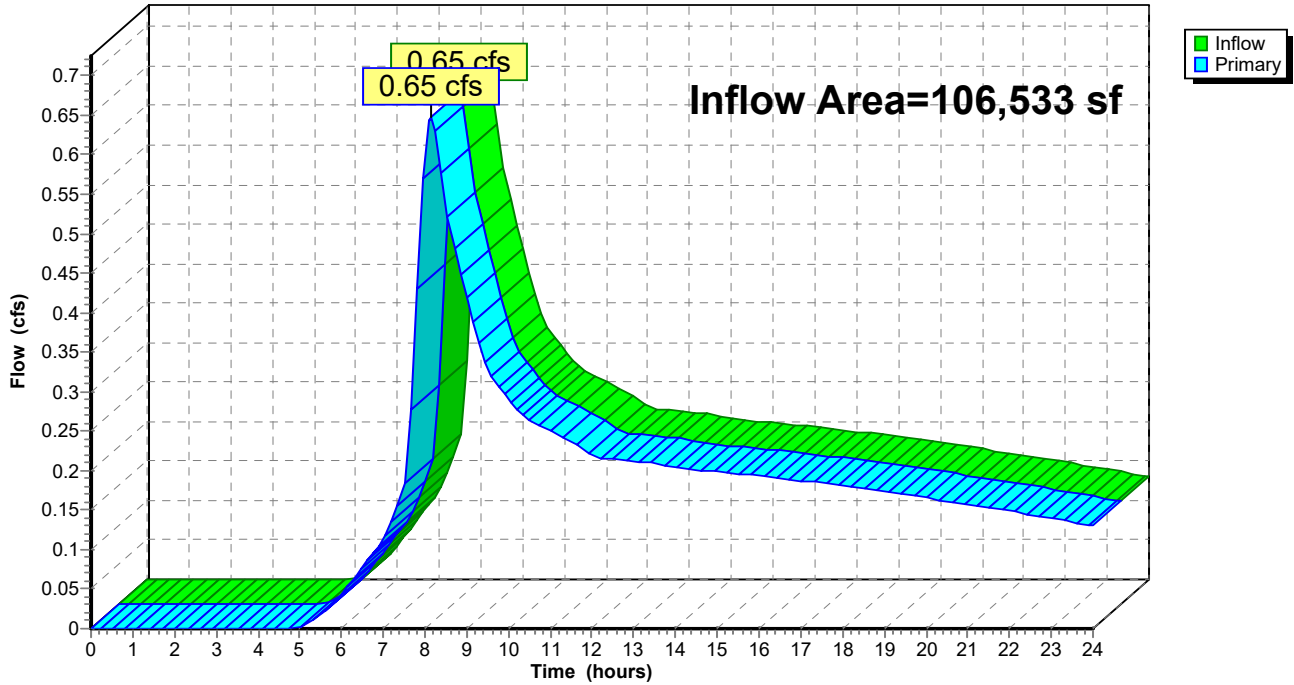
Summary for Link 1L: SUMMARY

Inflow Area = 106,533 sf, 0.00% Impervious, Inflow Depth > 1.58" for 10-YR event
Inflow = 0.65 cfs @ 8.15 hrs, Volume= 13,994 cf
Primary = 0.65 cfs @ 8.15 hrs, Volume= 13,994 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs

Link 1L: SUMMARY

Hydrograph



7435-2 HydroCAD Pre

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Type IA 24-hr 25-YR Rainfall=3.90"

Printed 12/21/2021

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: PRE-DEVELOPMENT

Runoff Area=77,008 sf 0.00% Impervious Runoff Depth>1.94"
Flow Length=290' Slope=0.0250 '/' Tc=23.3 min CN=80/0 Runoff=0.60 cfs 12,419 cf

Subcatchment 2S: PHASE 2 - PRE-DEVELOPMENT

Runoff Area=29,525 sf 0.00% Impervious Runoff Depth>1.94"
Flow Length=290' Slope=0.0250 '/' Tc=23.3 min CN=80/0 Runoff=0.23 cfs 4,762 cf

Link 1L: SUMMARY

Inflow=0.83 cfs 17,181 cf
Primary=0.83 cfs 17,181 cf

7435-2 HydroCAD Pre

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Type IA 24-hr 25-YR Rainfall=3.90"

Printed 12/21/2021

Summary for Subcatchment 1S: PRE-DEVELOPMENT

Runoff = 0.60 cfs @ 8.14 hrs, Volume= 12,419 cf, Depth> 1.94"

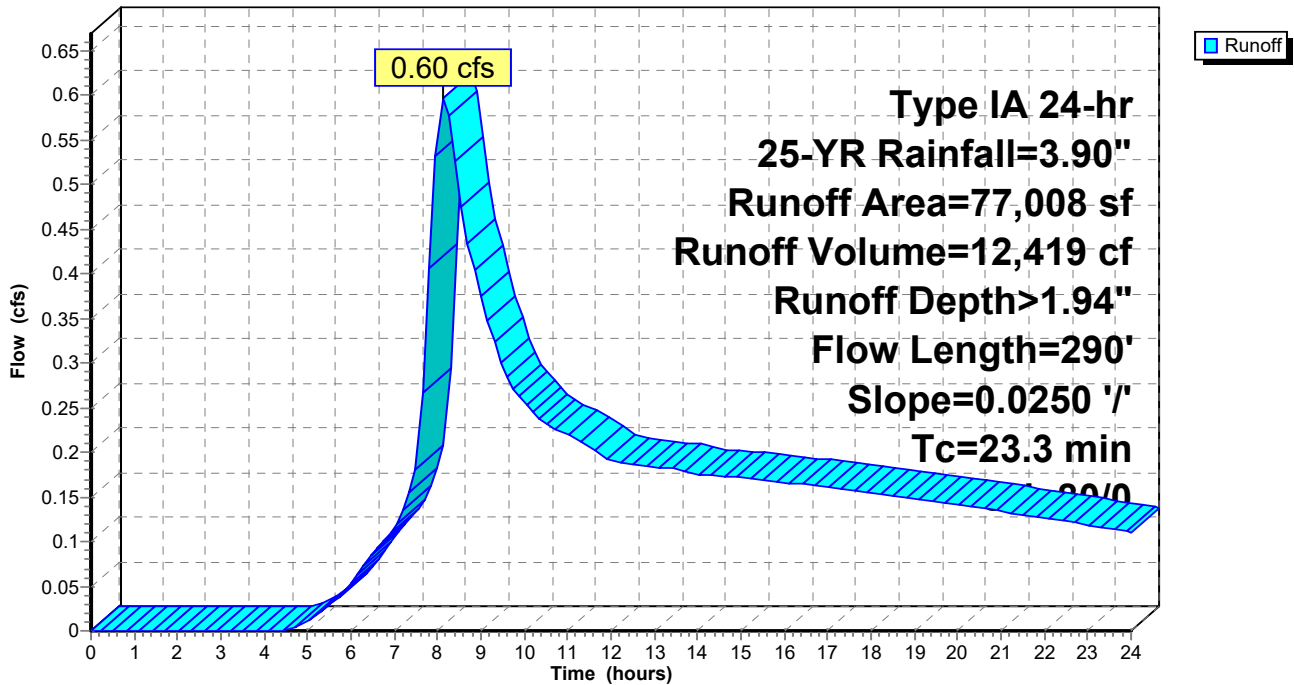
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 25-YR Rainfall=3.90"

Area (sf)	CN	Description
* 77,008	80	Pasture - Hydrologic good condition
77,008		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	290	0.0250	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 1S: PRE-DEVELOPMENT

Hydrograph



7435-2 HydroCAD Pre

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 25-YR Rainfall=3.90"

Printed 12/21/2021

Summary for Subcatchment 2S: PHASE 2 - PRE-DEVELOPMENT

Runoff = 0.23 cfs @ 8.14 hrs, Volume= 4,762 cf, Depth> 1.94"

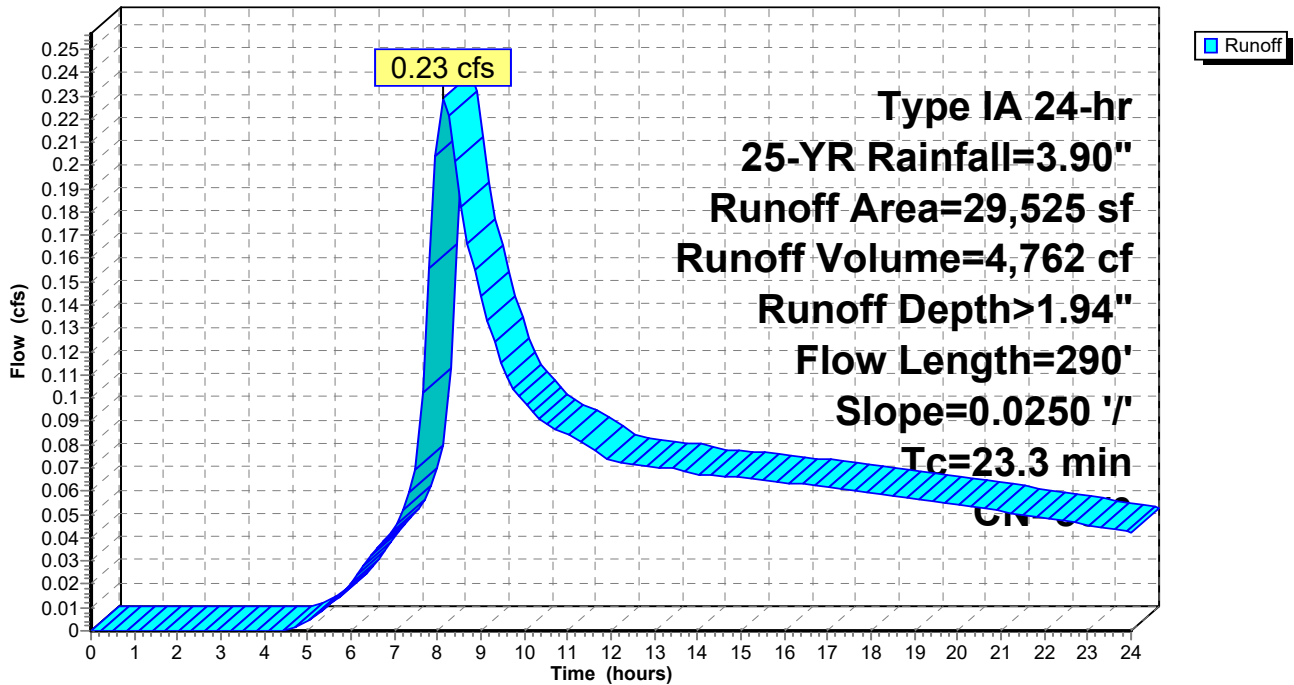
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 25-YR Rainfall=3.90"

Area (sf)	CN	Description
* 29,525	80	Pasture - Hydrologic good condition
29,525		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	290	0.0250	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 2S: PHASE 2 - PRE-DEVELOPMENT

Hydrograph



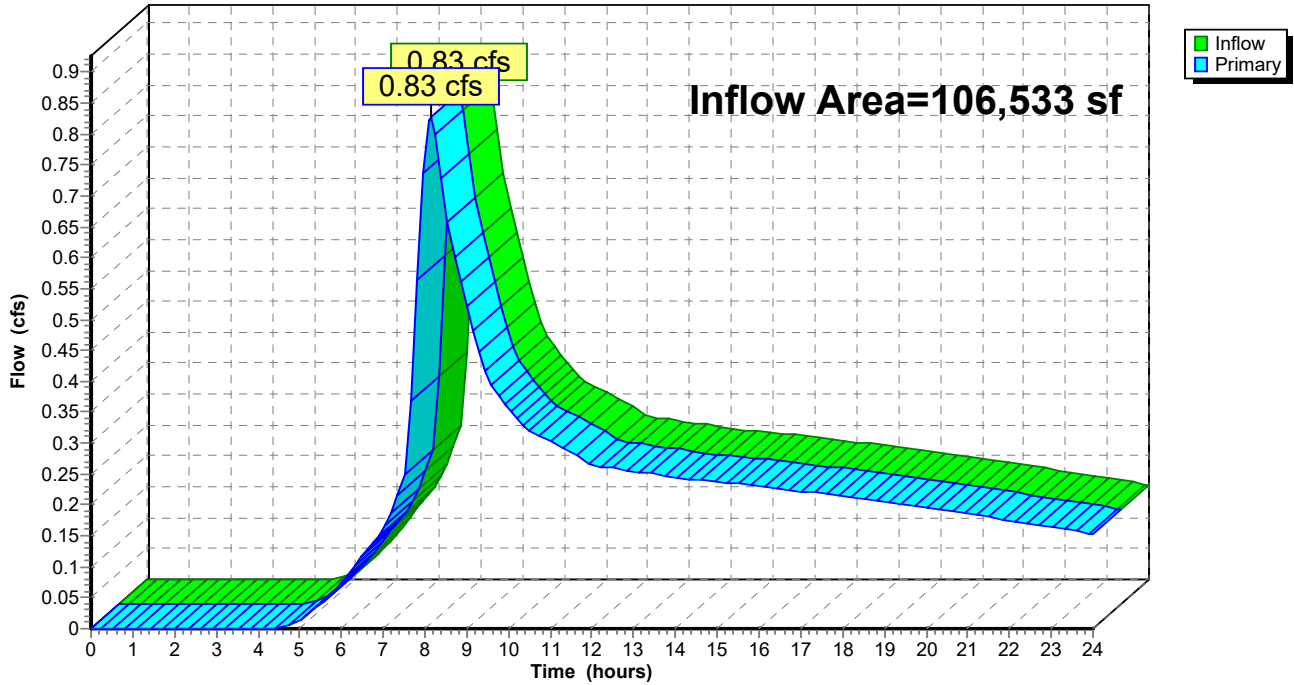
Summary for Link 1L: SUMMARY

Inflow Area = 106,533 sf, 0.00% Impervious, Inflow Depth > 1.94" for 25-YR event
Inflow = 0.83 cfs @ 8.14 hrs, Volume= 17,181 cf
Primary = 0.83 cfs @ 8.14 hrs, Volume= 17,181 cf, Atten= 0%, Lag= 0.0 min

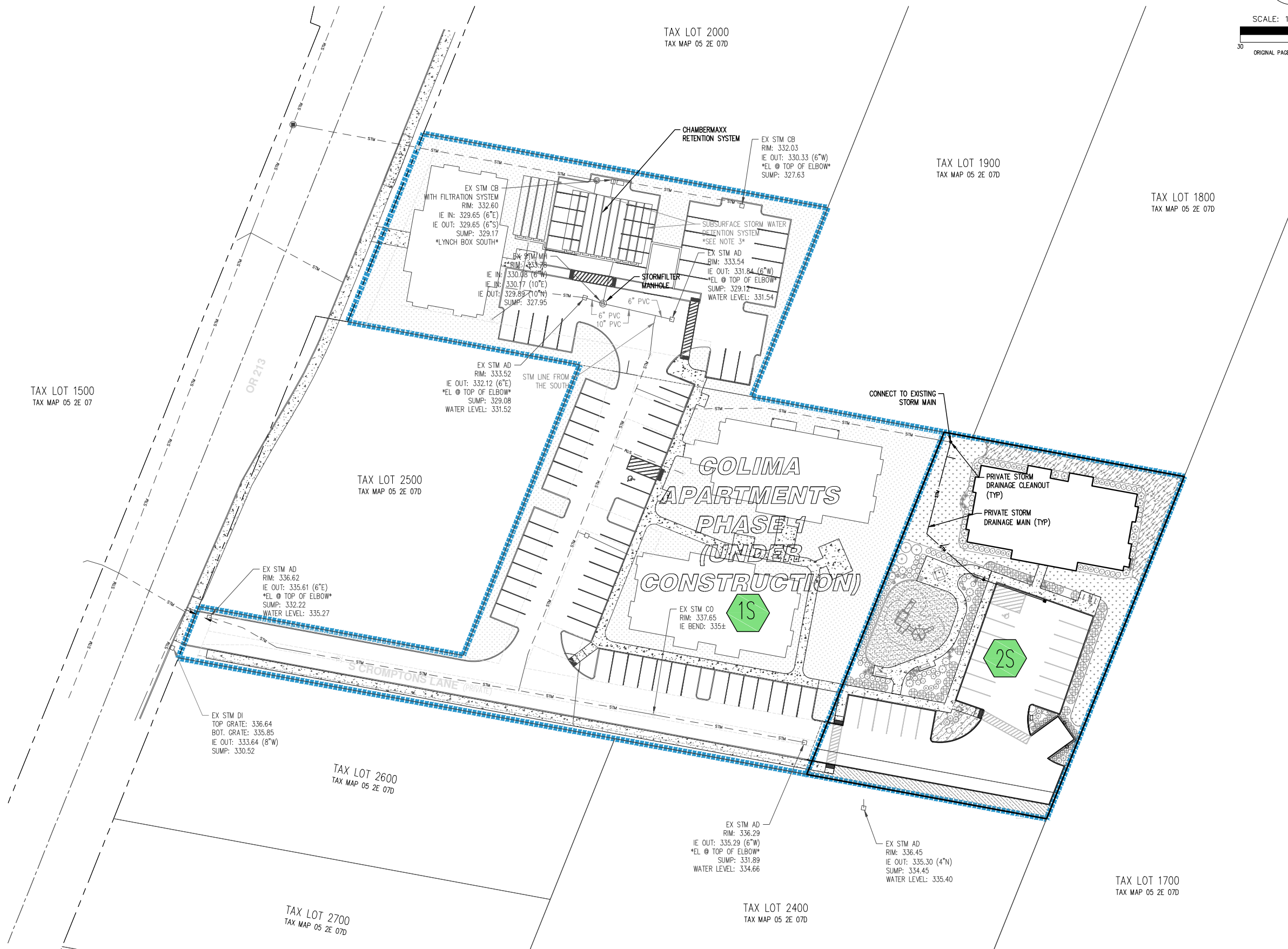
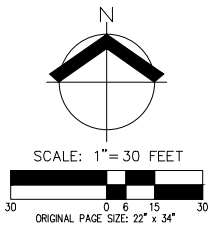
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs

Link 1L: SUMMARY

Hydrograph



Appendix C.1: Post-Developed Catchment Map and Detail

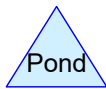
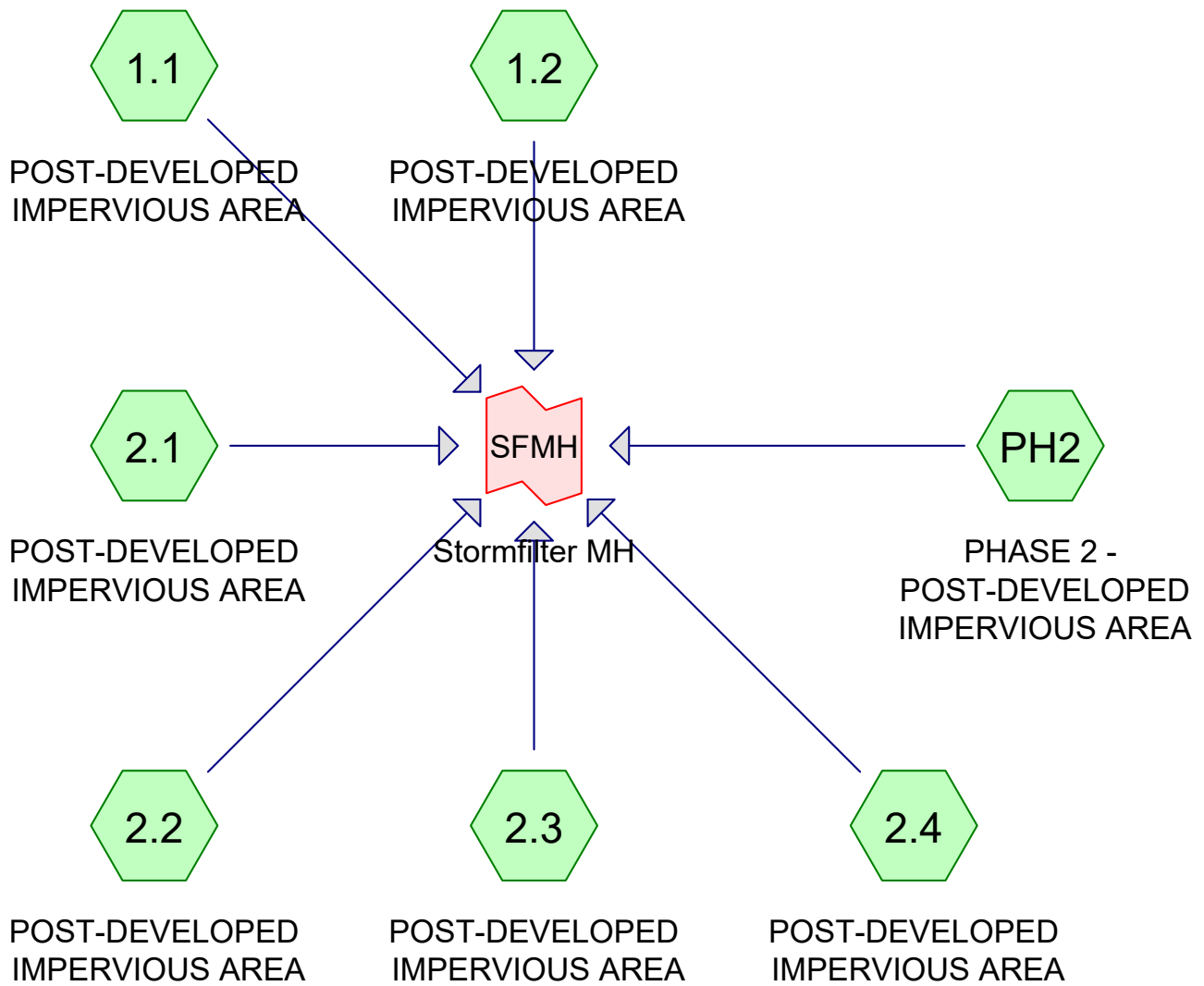


POST-DEVELOPED BASIN MAP
COLIMA APARTMENTS PHASE 2
12763 S CROMPTONS LANE
MOLALLA, OREGON

**PRELIMINARY
 NOT FOR
 CONSTRUCTION**

JOB NUMBER:	7435
DATE:	01/21/2022
DESIGNED BY:	JG
DRAWN BY:	JG
CHECKED BY:	JDR

**Appendix C.2:
Post-Developed Hydrograph and Flow
Information Water Quality Storm Event**



Routing Diagram for 7435-2 HydroCAD Water Quality
 Prepared by AKS Engineering & Forestry, LLC, Printed 12/21/2021
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7435-2 HydroCAD Water Quality

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Printed 12/21/2021

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
9,685	98	AC (PH2)
4,551	98	Building (PH2)
43,145	98	Impervious (1.1, 1.2, 2.1, 2.2, 2.3, 2.4)
2,269	98	Sidewalk (PH2)

7435-2 HydroCAD Water Quality

Prepared by AKS Engineering & Forestry, LLC
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Printed 12/21/2021

Notes Listing (all nodes)

Line#	Node Number	Notes
1	SFMH	Each Cartridge Treat 0.03 cfs

7435-2 HydroCAD Water Quality

Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr WATER QUALITY Rainfall=1.25"

Printed 12/21/2021

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1.1: POST-DEVELOPED IMPERVIOUS AREA	Runoff Area=3,440 sf 100.00% Impervious Runoff Depth>1.03" Tc=5.0 min CN=98 Runoff=0.02 cfs 296 cf
Subcatchment 1.2: POST-DEVELOPED IMPERVIOUS AREA	Runoff Area=6,720 sf 100.00% Impervious Runoff Depth>1.03" Tc=5.0 min CN=98 Runoff=0.04 cfs 578 cf
Subcatchment 2.1: POST-DEVELOPED IMPERVIOUS AREA	Runoff Area=6,250 sf 100.00% Impervious Runoff Depth>1.03" Tc=5.0 min CN=98 Runoff=0.04 cfs 538 cf
Subcatchment 2.2: POST-DEVELOPED IMPERVIOUS AREA	Runoff Area=4,930 sf 100.00% Impervious Runoff Depth>1.03" Tc=5.0 min CN=98 Runoff=0.03 cfs 424 cf
Subcatchment 2.3: POST-DEVELOPED IMPERVIOUS AREA	Runoff Area=13,955 sf 100.00% Impervious Runoff Depth>1.03" Tc=5.0 min CN=98 Runoff=0.09 cfs 1,201 cf
Subcatchment 2.4: POST-DEVELOPED IMPERVIOUS AREA	Runoff Area=7,850 sf 100.00% Impervious Runoff Depth>1.03" Tc=5.0 min CN=98 Runoff=0.05 cfs 676 cf
Subcatchment PH2: PHASE 2 - POST-DEVELOPED	Runoff Area=16,505 sf 100.00% Impervious Runoff Depth>1.03" Tc=5.0 min CN=98 Runoff=0.10 cfs 1,420 cf
Link SFMH: Stormfilter MH	Inflow=0.37 cfs 5,133 cf Primary=0.37 cfs 5,133 cf

7435-2 HydroCAD Water Quality

Prepared by AKS Engineering & Forestry, LLC

HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr WATER QUALITY Rainfall=1.25"

Printed 12/21/2021

Summary for Subcatchment 1.1: POST-DEVELOPED IMPERVIOUS AREA

Runoff = 0.02 cfs @ 7.93 hrs, Volume= 296 cf, Depth> 1.03"

Runoff by SBUH method, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs

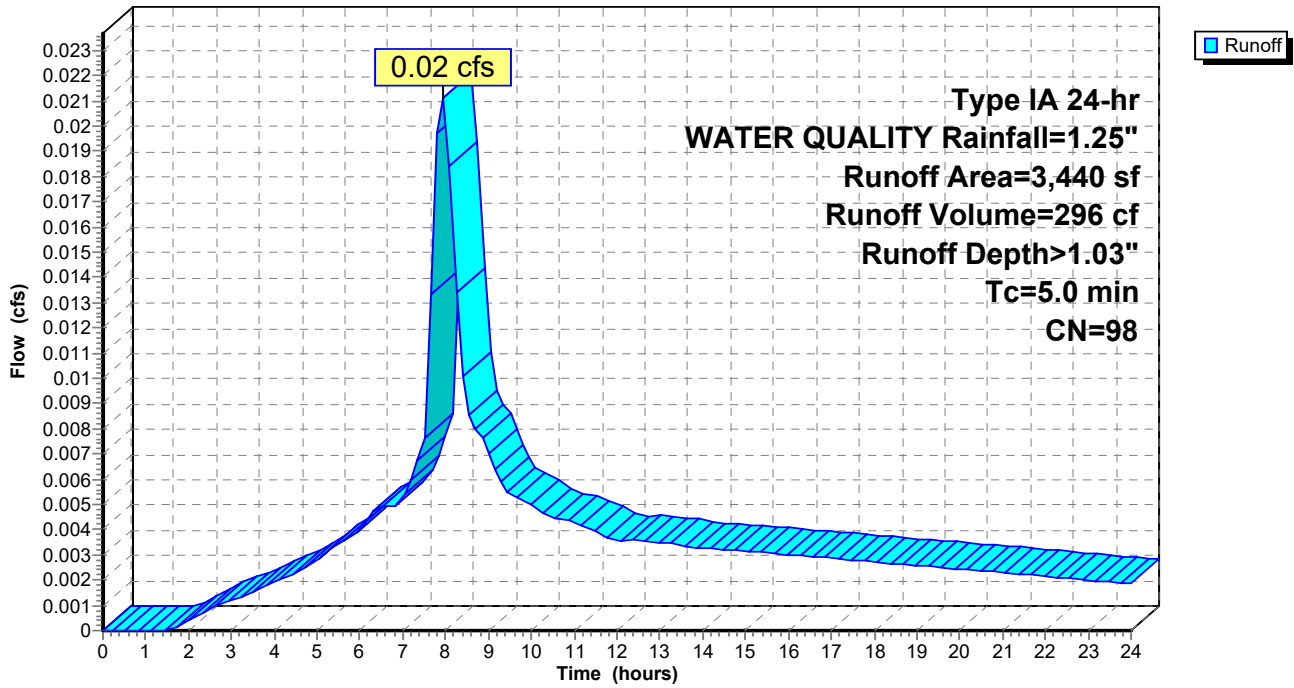
Type IA 24-hr WATER QUALITY Rainfall=1.25"

Area (sf)	CN	Description
* 3,440	98	Impervious
3,440		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1.1: POST-DEVELOPED IMPERVIOUS AREA

Hydrograph



7435-2 HydroCAD Water Quality

Prepared by AKS Engineering & Forestry, LLC

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Type IA 24-hr WATER QUALITY Rainfall=1.25"

Printed 12/21/2021

Summary for Subcatchment 1.2: POST-DEVELOPED IMPERVIOUS AREA

Runoff = 0.04 cfs @ 7.93 hrs, Volume= 578 cf, Depth> 1.03"

Runoff by SBUH method, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs

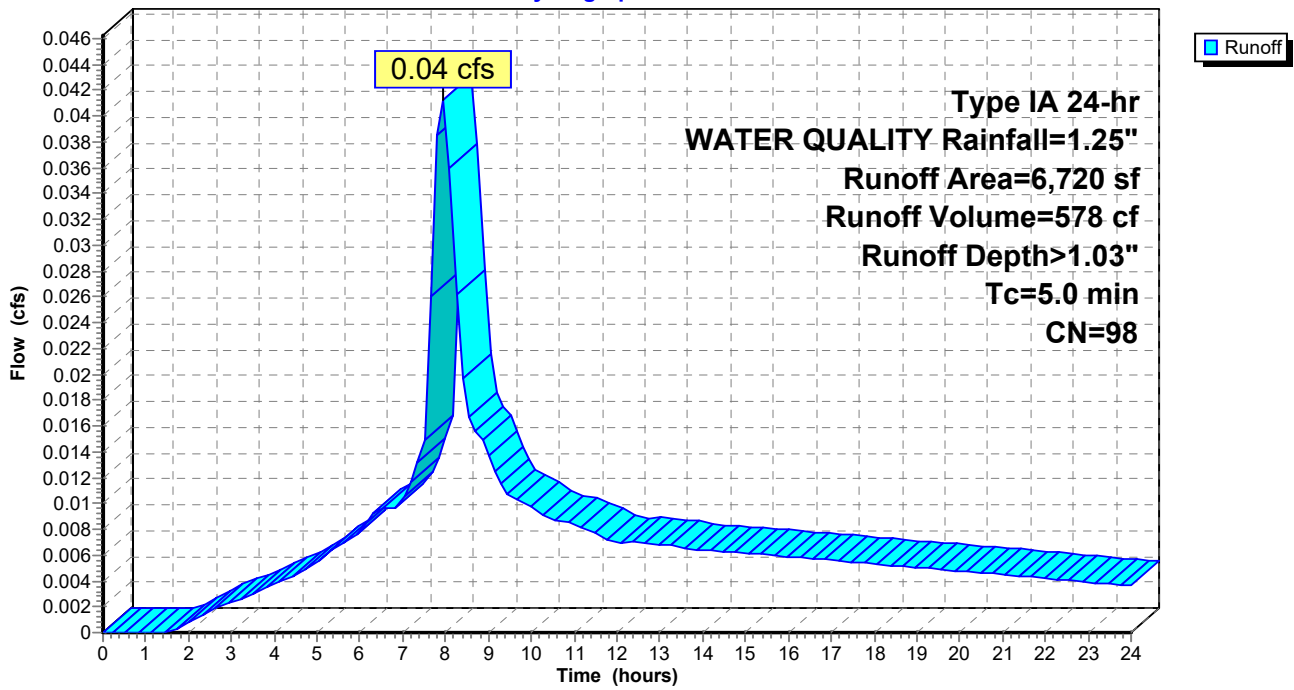
Type IA 24-hr WATER QUALITY Rainfall=1.25"

Area (sf)	CN	Description
* 6,720	98	Impervious
6,720		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1.2: POST-DEVELOPED IMPERVIOUS AREA

Hydrograph



7435-2 HydroCAD Water Quality

Prepared by AKS Engineering & Forestry, LLC

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Type IA 24-hr WATER QUALITY Rainfall=1.25"

Printed 12/21/2021

Summary for Subcatchment 2.1: POST-DEVELOPED IMPERVIOUS AREA

Runoff = 0.04 cfs @ 7.93 hrs, Volume= 538 cf, Depth> 1.03"

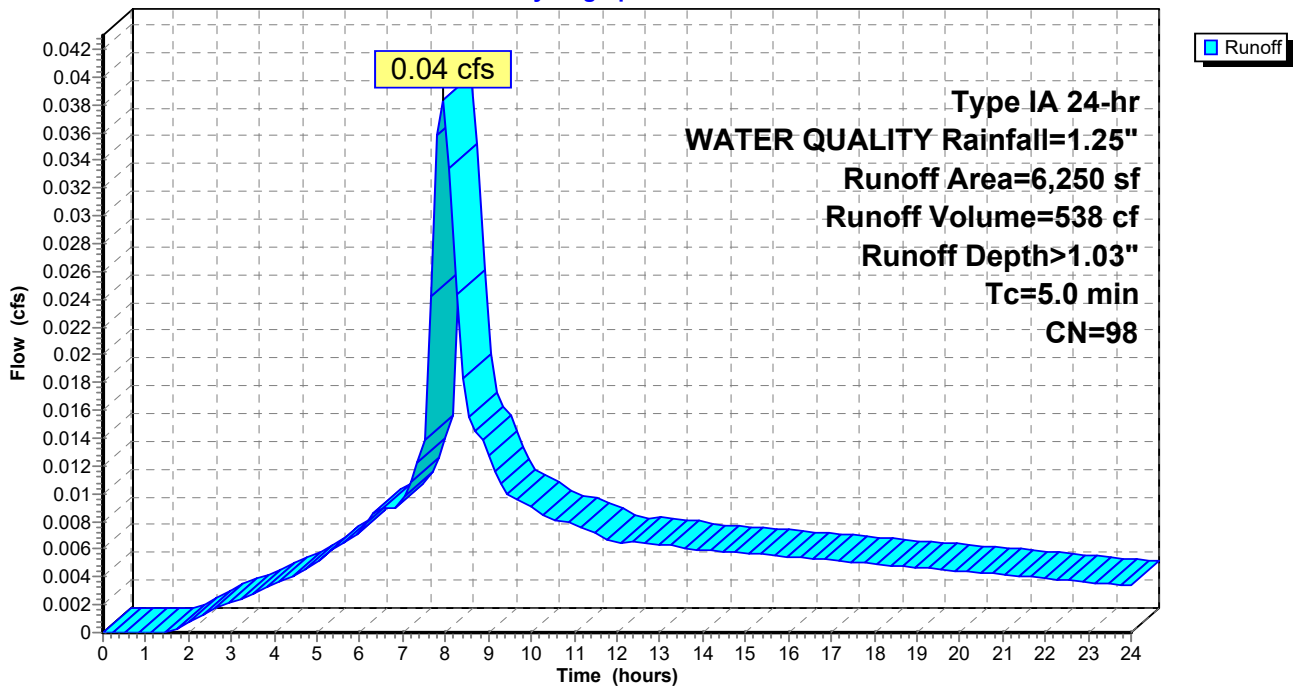
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr WATER QUALITY Rainfall=1.25"

Area (sf)	CN	Description
* 6,250	98	Impervious
6,250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2.1: POST-DEVELOPED IMPERVIOUS AREA

Hydrograph



7435-2 HydroCAD Water Quality

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr WATER QUALITY Rainfall=1.25"

Printed 12/21/2021

Summary for Subcatchment 2.2: POST-DEVELOPED IMPERVIOUS AREA

Runoff = 0.03 cfs @ 7.93 hrs, Volume= 424 cf, Depth> 1.03"

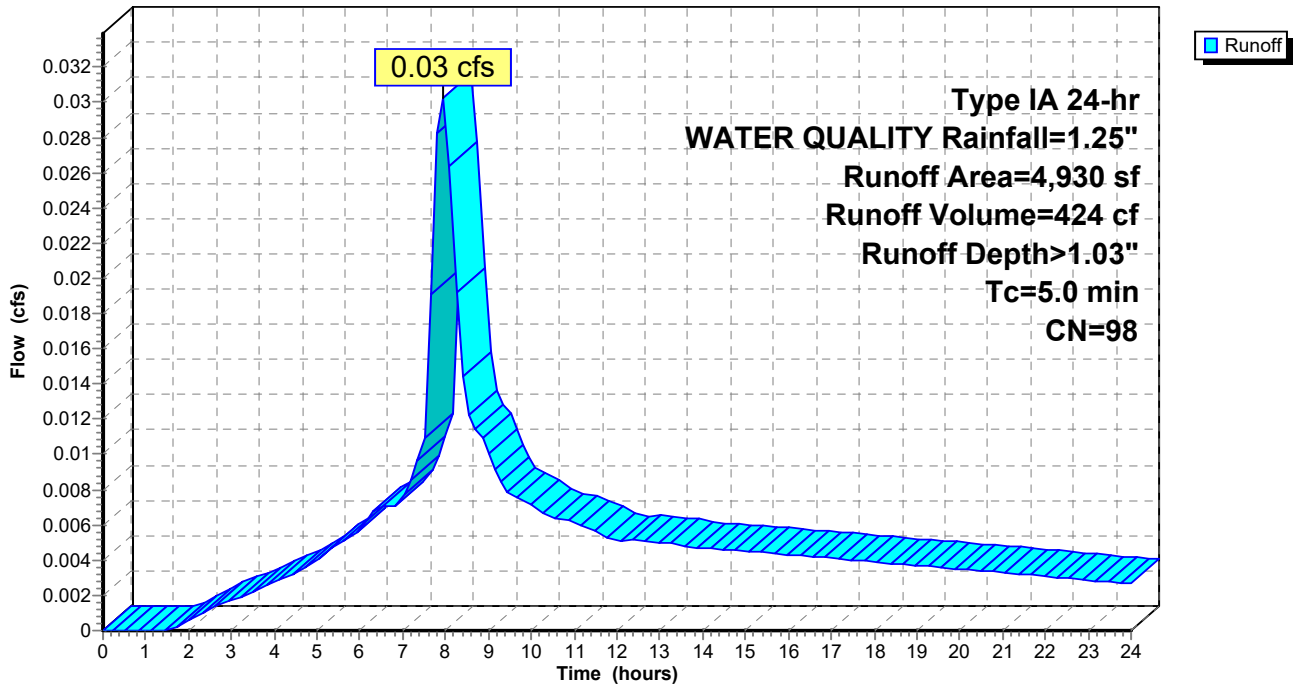
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr WATER QUALITY Rainfall=1.25"

Area (sf)	CN	Description
* 4,930	98	Impervious
4,930		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2.2: POST-DEVELOPED IMPERVIOUS AREA

Hydrograph



7435-2 HydroCAD Water Quality

Prepared by AKS Engineering & Forestry, LLC

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Type IA 24-hr WATER QUALITY Rainfall=1.25"

Printed 12/21/2021

Summary for Subcatchment 2.3: POST-DEVELOPED IMPERVIOUS AREA

Runoff = 0.09 cfs @ 7.93 hrs, Volume= 1,201 cf, Depth> 1.03"

Runoff by SBUH method, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs

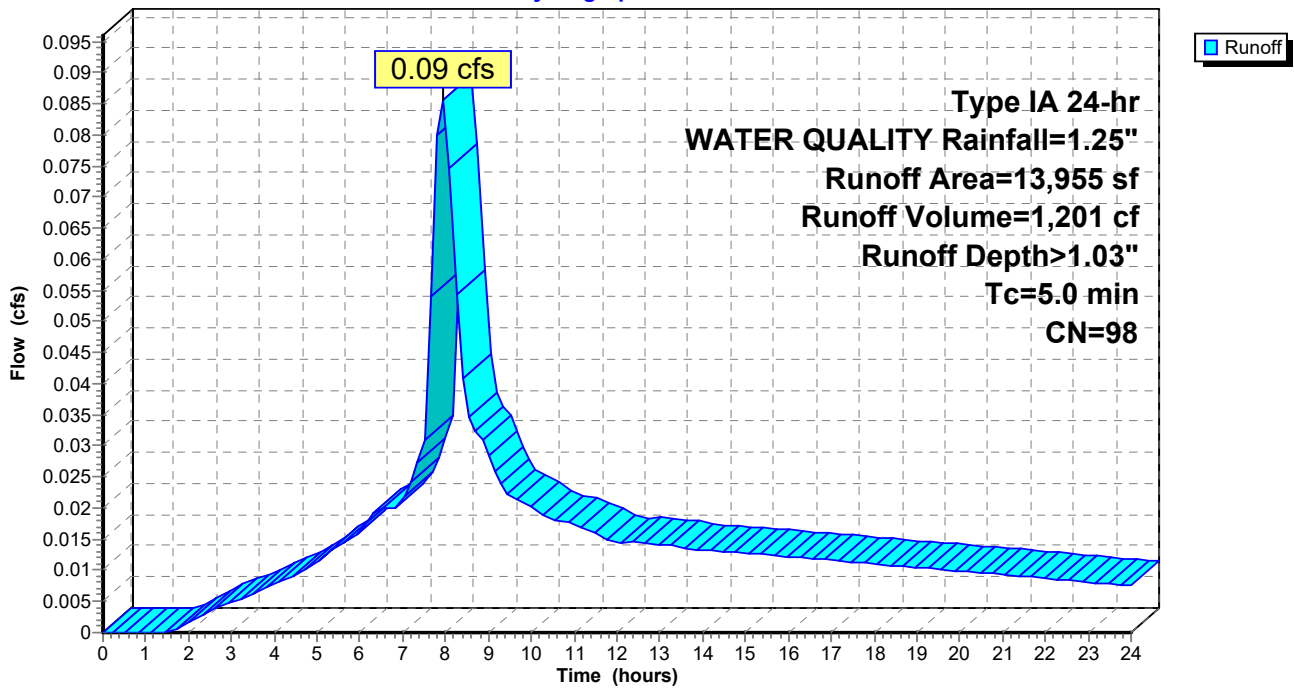
Type IA 24-hr WATER QUALITY Rainfall=1.25"

Area (sf)	CN	Description
* 13,955	98	Impervious
13,955		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2.3: POST-DEVELOPED IMPERVIOUS AREA

Hydrograph



7435-2 HydroCAD Water Quality

Prepared by AKS Engineering & Forestry, LLC
 HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr WATER QUALITY Rainfall=1.25"

Printed 12/21/2021

Summary for Subcatchment 2.4: POST-DEVELOPED IMPERVIOUS AREA

Runoff = 0.05 cfs @ 7.93 hrs, Volume= 676 cf, Depth> 1.03"

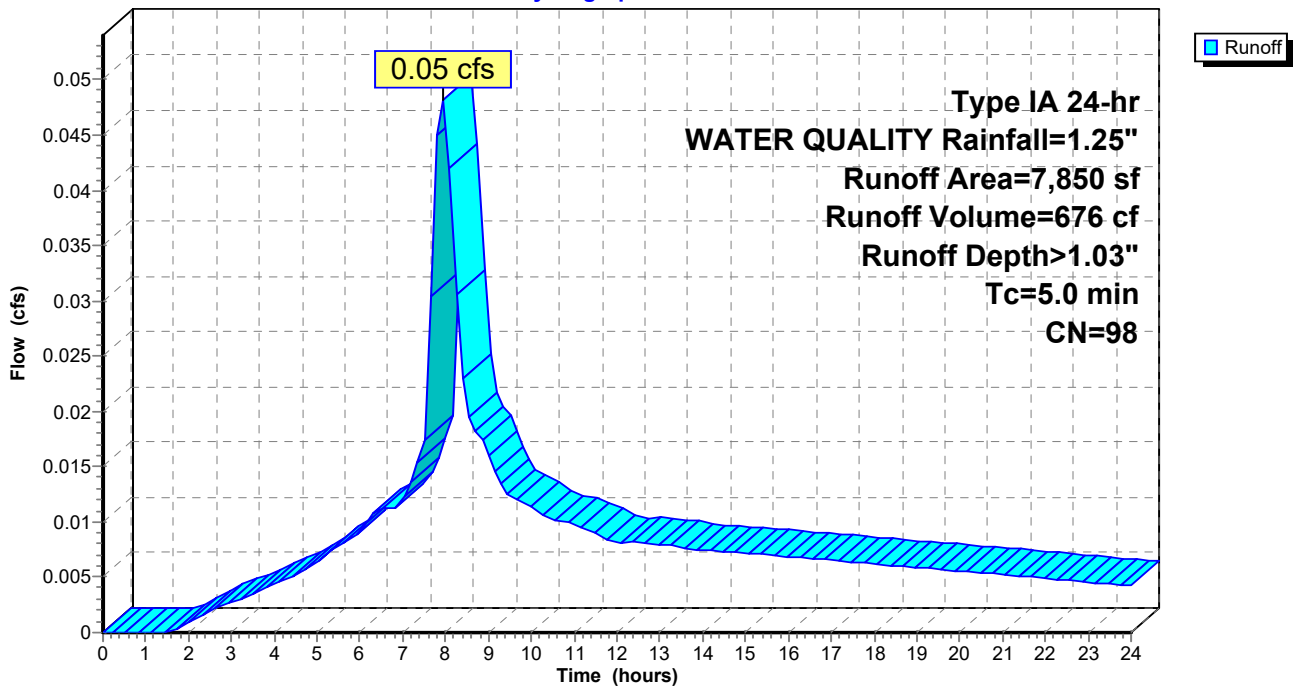
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr WATER QUALITY Rainfall=1.25"

Area (sf)	CN	Description
* 7,850	98	Impervious
7,850		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2.4: POST-DEVELOPED IMPERVIOUS AREA

Hydrograph



7435-2 HydroCAD Water Quality

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Type IA 24-hr WATER QUALITY Rainfall=1.25"

Printed 12/21/2021

Summary for Subcatchment PH2: PHASE 2 - POST-DEVELOPED IMPERVIOUS AREA

Runoff = 0.10 cfs @ 7.93 hrs, Volume= 1,420 cf, Depth> 1.03"

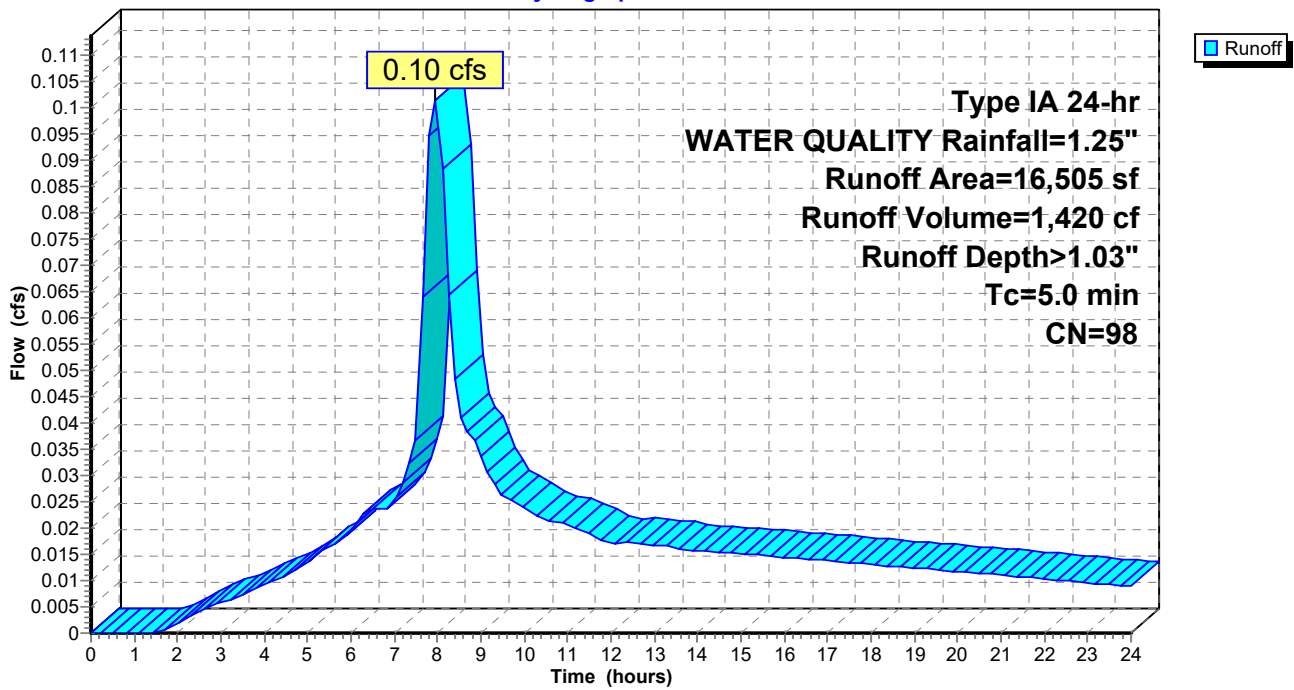
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr WATER QUALITY Rainfall=1.25"

Area (sf)	CN	Description
* 9,685	98	AC
* 2,269	98	Sidewalk
* 4,551	98	Building
16,505	98	Weighted Average
16,505		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment PH2: PHASE 2 - POST-DEVELOPED IMPERVIOUS AREA

Hydrograph



7435-2 HydroCAD Water Quality

Prepared by AKS Engineering & Forestry, LLC

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Type IA 24-hr WATER QUALITY Rainfall=1.25"

Printed 12/21/2021

Summary for Link SFMH: Stormfilter MH

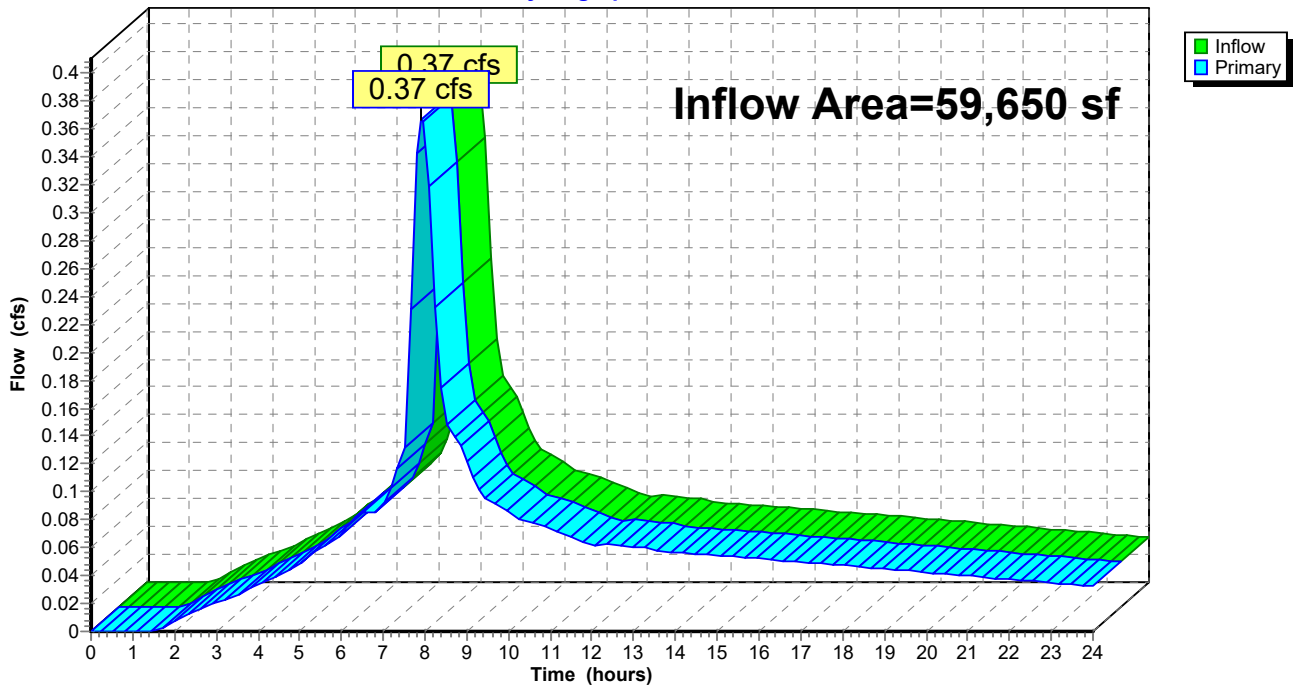
Each Cartridge Treat 0.03 cfs

Inflow Area = 59,650 sf, 100.00% Impervious, Inflow Depth > 1.03" for WATER QUALITY event
Inflow = 0.37 cfs @ 7.93 hrs, Volume= 5,133 cf
Primary = 0.37 cfs @ 7.93 hrs, Volume= 5,133 cf, Atten= 0%, Lag= 0.0 min

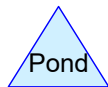
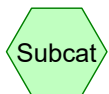
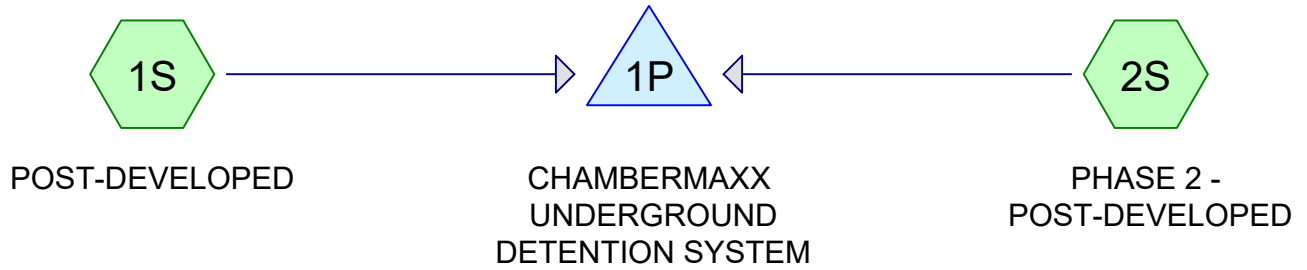
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs

Link SFMH: Stormfilter MH

Hydrograph



**Appendix C.3:
Post-Developed Hydrograph and Flow
Information 2, 10, & 25-Year Storm Event**



Routing Diagram for 7435-2 HydroCAD Post
 Prepared by AKS Engineering & Forestry, LLC, Printed 1/19/2022
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7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
40,148	80	Grass - Good Condition (1S, 2S)
66,385	98	Impervious (1S, 2S)

7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr 2-YR Rainfall=2.50"

Printed 1/19/2022

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST-DEVELOPED

Runoff Area=77,008 sf 64.77% Impervious Runoff Depth>1.78"
Flow Length=70' Slope=0.0100 '/' Tc=10.8 min CN=80/98 Runoff=0.70 cfs 11,399 cf

Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Runoff Area=29,525 sf 55.90% Impervious Runoff Depth>1.65"
Flow Length=70' Slope=0.0100 '/' Tc=10.8 min CN=80/98 Runoff=0.25 cfs 4,069 cf

Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Peak Elev=328.40' Storage=3,434 cf Inflow=0.94 cfs 15,469 cf
Outflow=0.29 cfs 14,544 cf

7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 2-YR Rainfall=2.50"

Printed 1/19/2022

Summary for Subcatchment 1S: POST-DEVELOPED

Runoff = 0.70 cfs @ 8.01 hrs, Volume= 11,399 cf, Depth> 1.78"

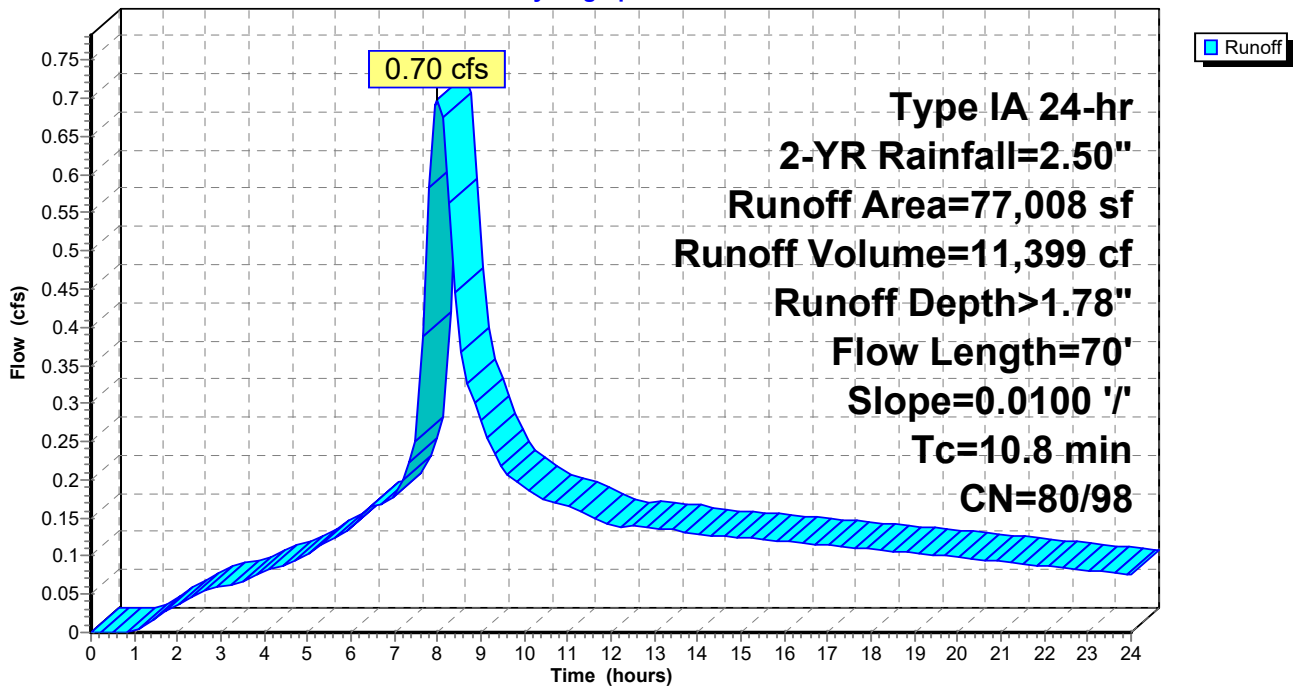
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 2-YR Rainfall=2.50"

Area (sf)	CN	Description
* 49,880	98	Impervious
* 27,128	80	Grass - Good Condition
77,008	92	Weighted Average
27,128		35.23% Pervious Area
49,880		64.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	70	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 1S: POST-DEVELOPED

Hydrograph



7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 2-YR Rainfall=2.50"

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Summary for Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Runoff = 0.25 cfs @ 8.01 hrs, Volume= 4,069 cf, Depth> 1.65"

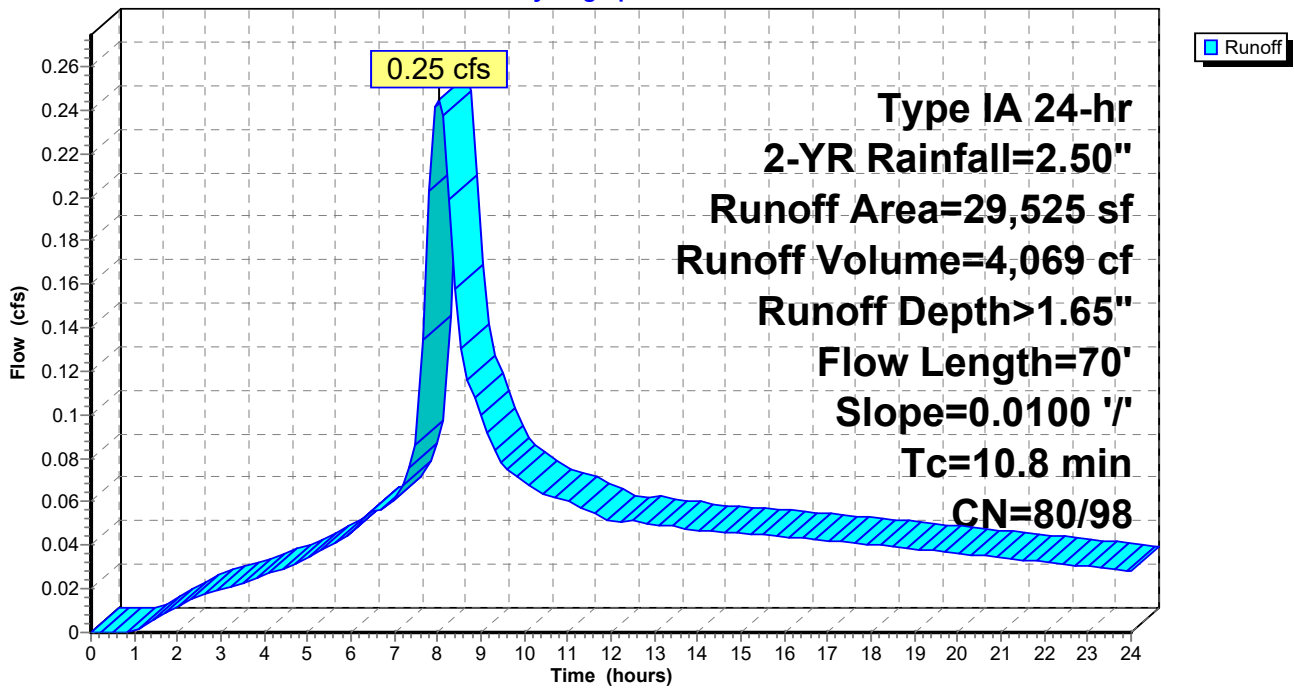
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 2-YR Rainfall=2.50"

Area (sf)	CN	Description
* 16,505	98	Impervious
* 13,020	80	Grass - Good Condition
29,525	90	Weighted Average
13,020		44.10% Pervious Area
16,505		55.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	70	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Hydrograph



7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 2-YR Rainfall=2.50"

Printed 1/19/2022

Summary for Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Inflow Area = 106,533 sf, 62.31% Impervious, Inflow Depth > 1.74" for 2-YR event
 Inflow = 0.94 cfs @ 8.01 hrs, Volume= 15,469 cf
 Outflow = 0.29 cfs @ 9.50 hrs, Volume= 14,544 cf, Atten= 69%, Lag= 89.3 min
 Primary = 0.29 cfs @ 9.50 hrs, Volume= 14,544 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs / 4
 Peak Elev= 328.40' @ 9.50 hrs Surf.Area= 2,554 sf Storage= 3,434 cf

Plug-Flow detention time= 155.0 min calculated for 14,454 cf (93% of inflow)
 Center-of-Mass det. time= 113.3 min (826.7 - 713.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	326.50'	2,210 cf	67.38"W x 37.90"L x 3.52"H Field A 9,003 cf Overall - 3,479 cf Embedded = 5,524 cf x 40.0% Voids
#2A	327.00'	3,479 cf	Contech ChamberMaxx x 70 Inside #1 Effective Size= 49.6"W x 30.0"H => 6.92 sf x 7.12'L = 49.3 cf Overall Size= 51.4"W x 30.3"H x 7.58'L with 0.47' Overlap Row Length Adjustment= +0.32' x 6.92 sf x 14 rows
		5,689 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	326.87'	3.0" Horiz. Orifice C= 0.600
#2	Primary	328.50'	3.5" Horiz. Orifice C= 0.600
#3	Primary	329.87'	12.0" Horiz. Overflow Riser C= 0.600

Primary OutFlow Max=0.29 cfs @ 9.50 hrs HW=328.40' (Free Discharge)

- 1=Orifice (Orifice Controls 0.29 cfs @ 5.95 fps)
- 2=Orifice (Controls 0.00 cfs)
- 3=Overflow Riser (Controls 0.00 cfs)

7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 2-YR Rainfall=2.50"

Printed 1/19/2022

Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM - Chamber Wizard Field A

Chamber Model = Contech ChamberMaxx(Contech®ChamberMaxx®full capacity)

Effective Size= 49.6"W x 30.0"H => 6.92 sf x 7.12'L = 49.3 cf

Overall Size= 51.4"W x 30.3"H x 7.58'L with 0.47' Overlap

Row Length Adjustment= +0.32' x 6.92 sf x 14 rows

51.4" Wide + 5.0" Spacing = 56.4" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.32' Row Adjustment = 35.90' Row Length +12.0" End Stone x 2 = 37.90' Base Length

14 Rows x 51.4" Wide + 5.0" Spacing x 13 + 12.0" Side Stone x 2 = 67.38' Base Width

6.0" Base + 30.3" Chamber Height + 6.0" Cover = 3.52' Field Height

70 Chambers x 49.3 cf +0.32' Row Adjustment x 6.92 sf x 14 Rows = 3,479.1 cf Chamber Storage

9,003.0 cf Field - 3,479.1 cf Chambers = 5,524.0 cf Stone x 40.0% Voids = 2,209.6 cf Stone Storage

Chamber Storage + Stone Storage = 5,688.7 cf = 0.131 af

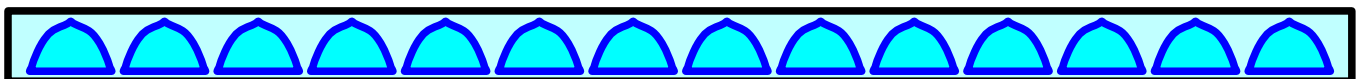
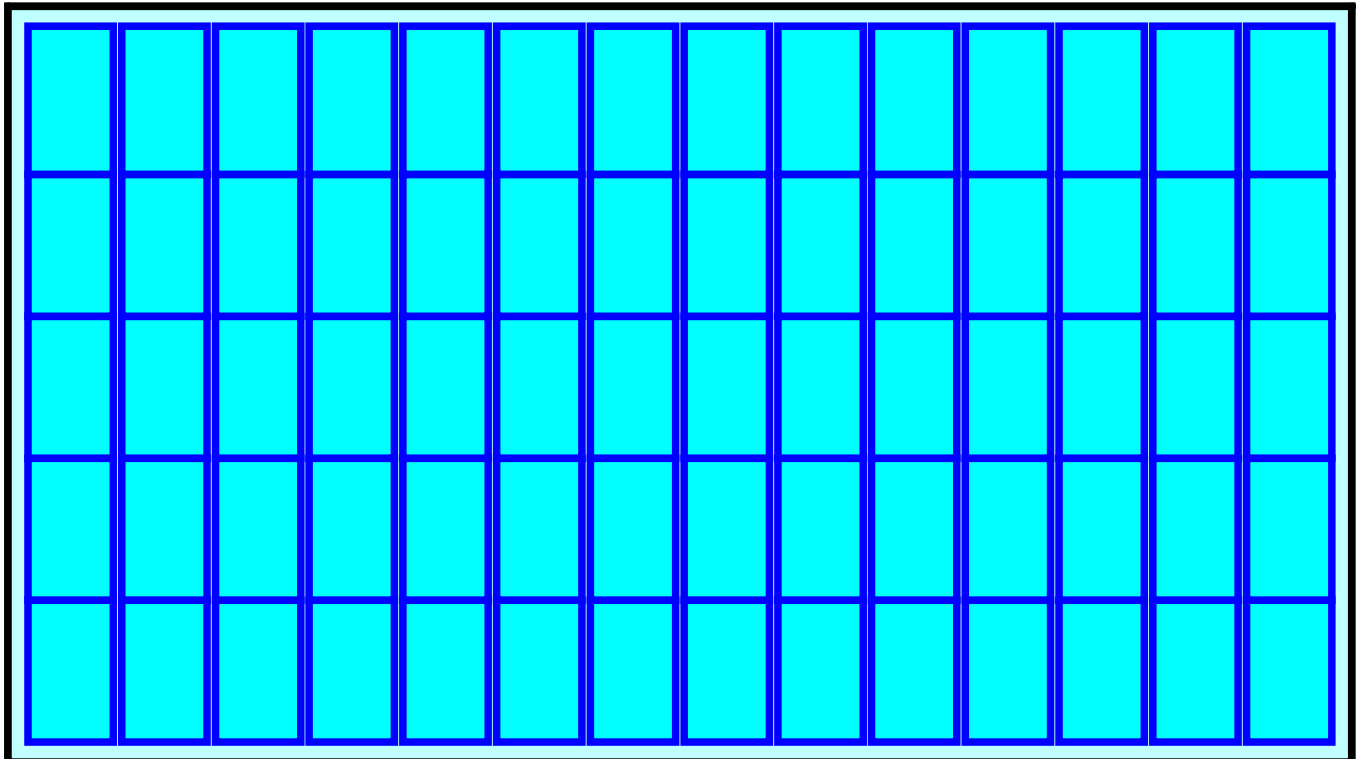
Overall Storage Efficiency = 63.2%

Overall System Size = 37.90' x 67.38' x 3.52'

70 Chambers

333.4 cy Field

204.6 cy Stone



7435-2 HydroCAD Post

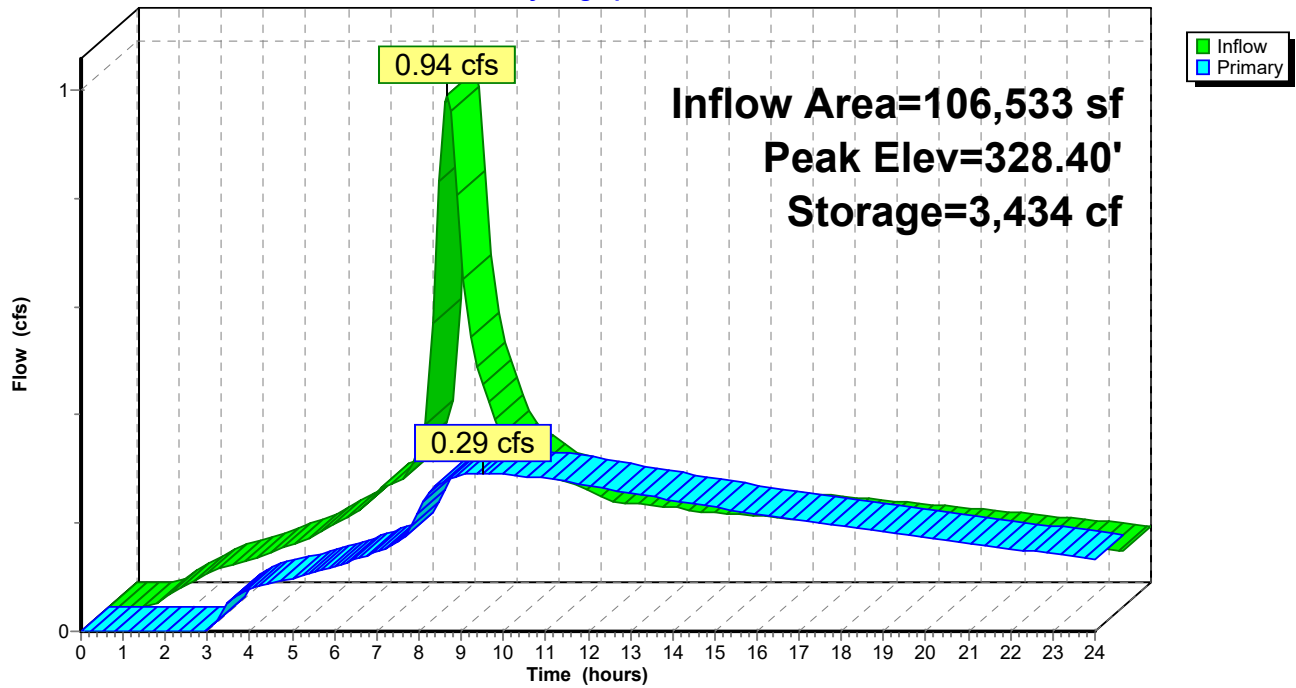
Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 2-YR Rainfall=2.50"

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Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Hydrograph



7435-2 HydroCAD Post

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Type IA 24-hr 10-YR Rainfall=3.45"

Printed 1/19/2022

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST-DEVELOPED

Runoff Area=77,008 sf 64.77% Impervious Runoff Depth>2.64"
Flow Length=70' Slope=0.0100 '/' Tc=10.8 min CN=80/98 Runoff=1.05 cfs 16,910 cf

Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Runoff Area=29,525 sf 55.90% Impervious Runoff Depth>2.49"
Flow Length=70' Slope=0.0100 '/' Tc=10.8 min CN=80/98 Runoff=0.38 cfs 6,130 cf

Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Peak Elev=329.17' Storage=4,761 cf Inflow=1.42 cfs 23,040 cf
Outflow=0.62 cfs 21,260 cf

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Type IA 24-hr 10-YR Rainfall=3.45"

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Summary for Subcatchment 1S: POST-DEVELOPED

Runoff = 1.05 cfs @ 8.00 hrs, Volume= 16,910 cf, Depth> 2.64"

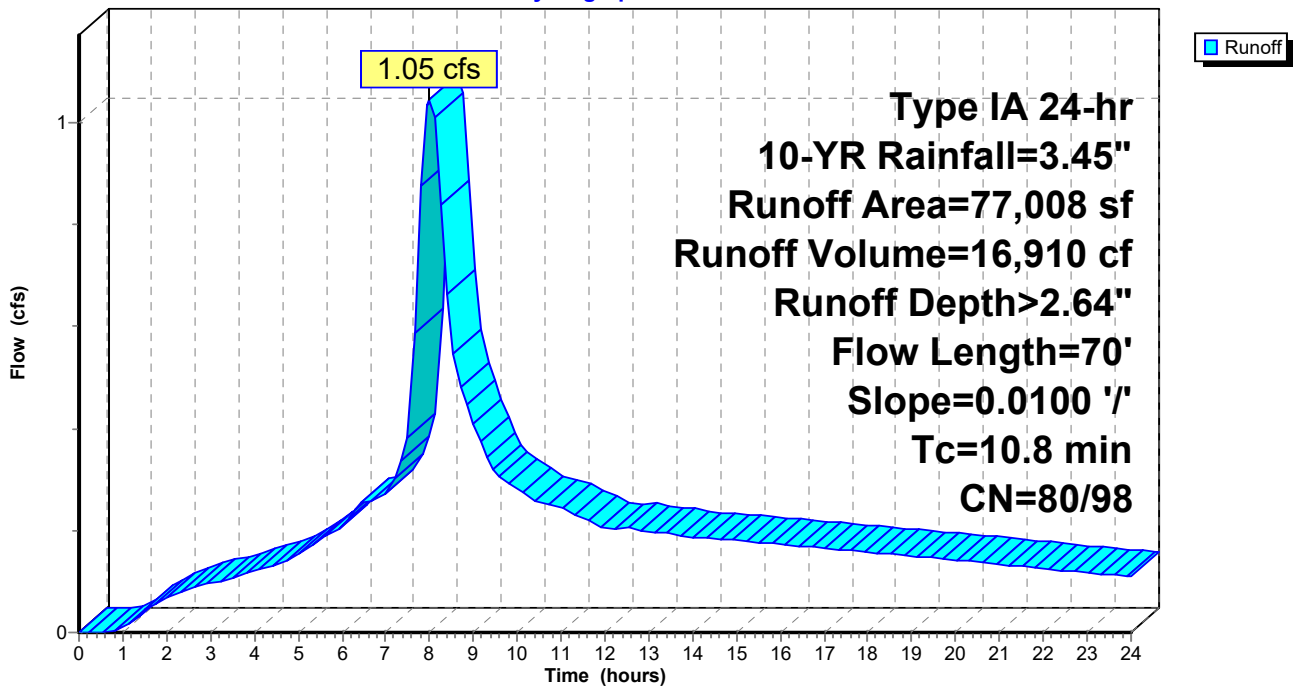
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 10-YR Rainfall=3.45"

Area (sf)	CN	Description
* 49,880	98	Impervious
* 27,128	80	Grass - Good Condition
77,008	92	Weighted Average
27,128		35.23% Pervious Area
49,880		64.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	70	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 1S: POST-DEVELOPED

Hydrograph



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Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 10-YR Rainfall=3.45"

Printed 1/19/2022

Summary for Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Runoff = 0.38 cfs @ 8.01 hrs, Volume= 6,130 cf, Depth> 2.49"

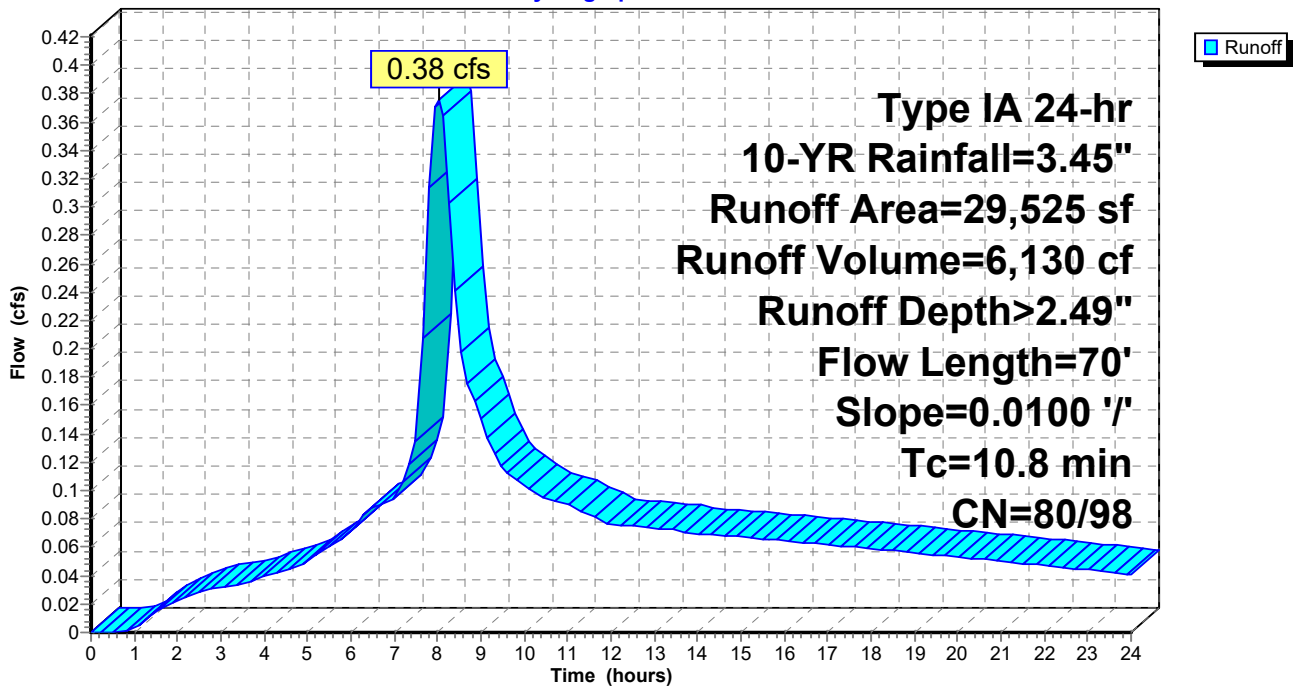
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 10-YR Rainfall=3.45"

Area (sf)	CN	Description
* 16,505	98	Impervious
* 13,020	80	Grass - Good Condition
29,525	90	Weighted Average
13,020		44.10% Pervious Area
16,505		55.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	70	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Hydrograph



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Type IA 24-hr 10-YR Rainfall=3.45"

Printed 1/19/2022

Summary for Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Inflow Area = 106,533 sf, 62.31% Impervious, Inflow Depth > 2.60" for 10-YR event
 Inflow = 1.42 cfs @ 8.01 hrs, Volume= 23,040 cf
 Outflow = 0.62 cfs @ 8.81 hrs, Volume= 21,260 cf, Atten= 56%, Lag= 48.5 min
 Primary = 0.62 cfs @ 8.81 hrs, Volume= 21,260 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs / 4
 Peak Elev= 329.17' @ 8.81 hrs Surf.Area= 2,554 sf Storage= 4,761 cf

Plug-Flow detention time= 153.7 min calculated for 21,260 cf (92% of inflow)
 Center-of-Mass det. time= 99.7 min (804.3 - 704.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	326.50'	2,210 cf	67.38"W x 37.90"L x 3.52"H Field A 9,003 cf Overall - 3,479 cf Embedded = 5,524 cf x 40.0% Voids
#2A	327.00'	3,479 cf	Contech ChamberMaxx x 70 Inside #1 Effective Size= 49.6"W x 30.0"H => 6.92 sf x 7.12'L = 49.3 cf Overall Size= 51.4"W x 30.3"H x 7.58'L with 0.47' Overlap Row Length Adjustment= +0.32' x 6.92 sf x 14 rows
		5,689 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	326.87'	3.0" Horiz. Orifice C= 0.600
#2	Primary	328.50'	3.5" Horiz. Orifice C= 0.600
#3	Primary	329.87'	12.0" Horiz. Overflow Riser C= 0.600

Primary OutFlow Max=0.62 cfs @ 8.81 hrs HW=329.17' (Free Discharge)

- 1=Orifice (Orifice Controls 0.36 cfs @ 7.30 fps)
- 2=Orifice (Orifice Controls 0.26 cfs @ 3.94 fps)
- 3=Overflow Riser (Controls 0.00 cfs)

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Type IA 24-hr 10-YR Rainfall=3.45"

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Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM - Chamber Wizard Field A

Chamber Model = Contech ChamberMaxx(Contech®ChamberMaxx®full capacity)

Effective Size= 49.6"W x 30.0"H => 6.92 sf x 7.12'L = 49.3 cf

Overall Size= 51.4"W x 30.3"H x 7.58'L with 0.47' Overlap

Row Length Adjustment= +0.32' x 6.92 sf x 14 rows

51.4" Wide + 5.0" Spacing = 56.4" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.32' Row Adjustment = 35.90' Row Length +12.0" End Stone x 2 = 37.90' Base Length

14 Rows x 51.4" Wide + 5.0" Spacing x 13 + 12.0" Side Stone x 2 = 67.38' Base Width

6.0" Base + 30.3" Chamber Height + 6.0" Cover = 3.52' Field Height

70 Chambers x 49.3 cf +0.32' Row Adjustment x 6.92 sf x 14 Rows = 3,479.1 cf Chamber Storage

9,003.0 cf Field - 3,479.1 cf Chambers = 5,524.0 cf Stone x 40.0% Voids = 2,209.6 cf Stone Storage

Chamber Storage + Stone Storage = 5,688.7 cf = 0.131 af

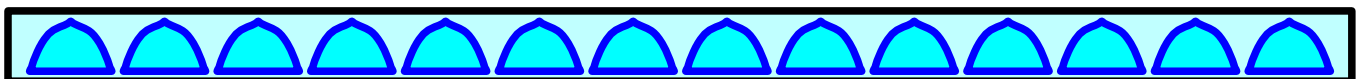
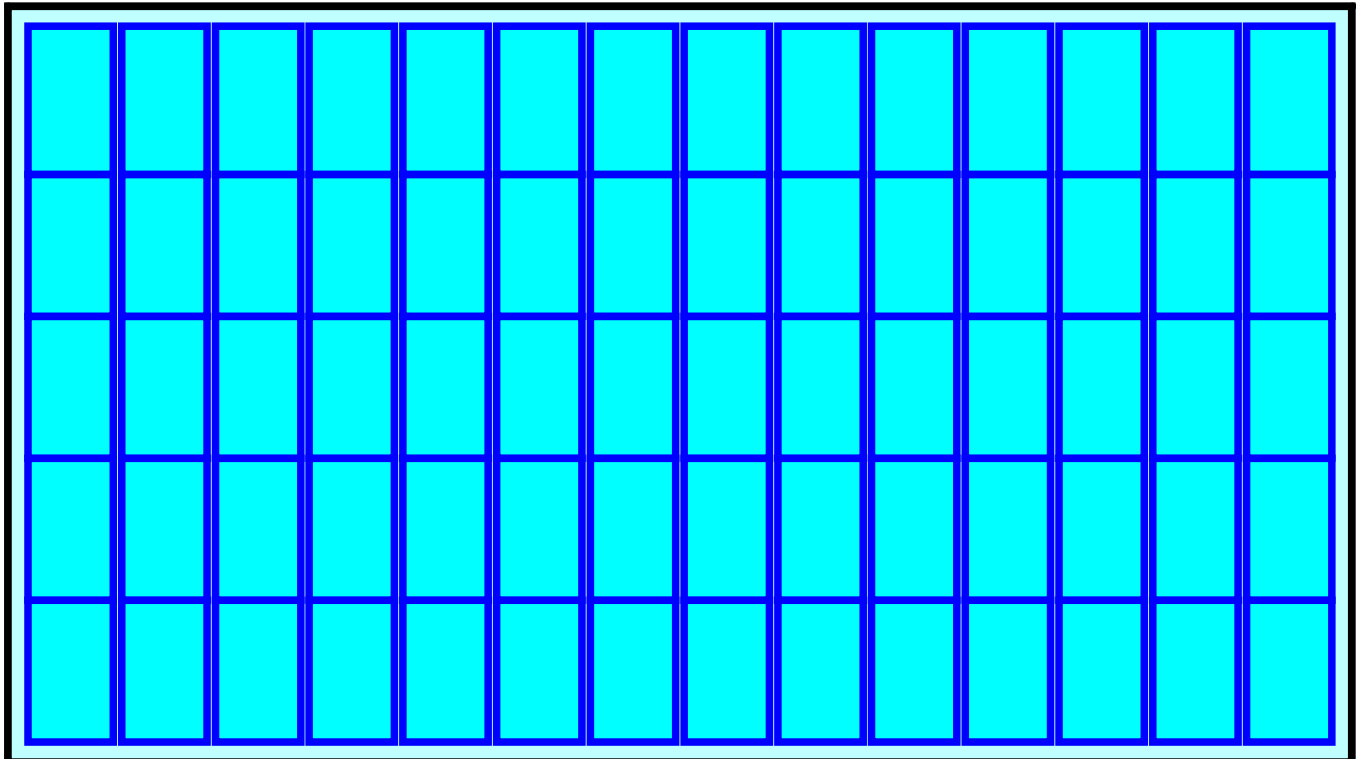
Overall Storage Efficiency = 63.2%

Overall System Size = 37.90' x 67.38' x 3.52'

70 Chambers

333.4 cy Field

204.6 cy Stone



7435-2 HydroCAD Post

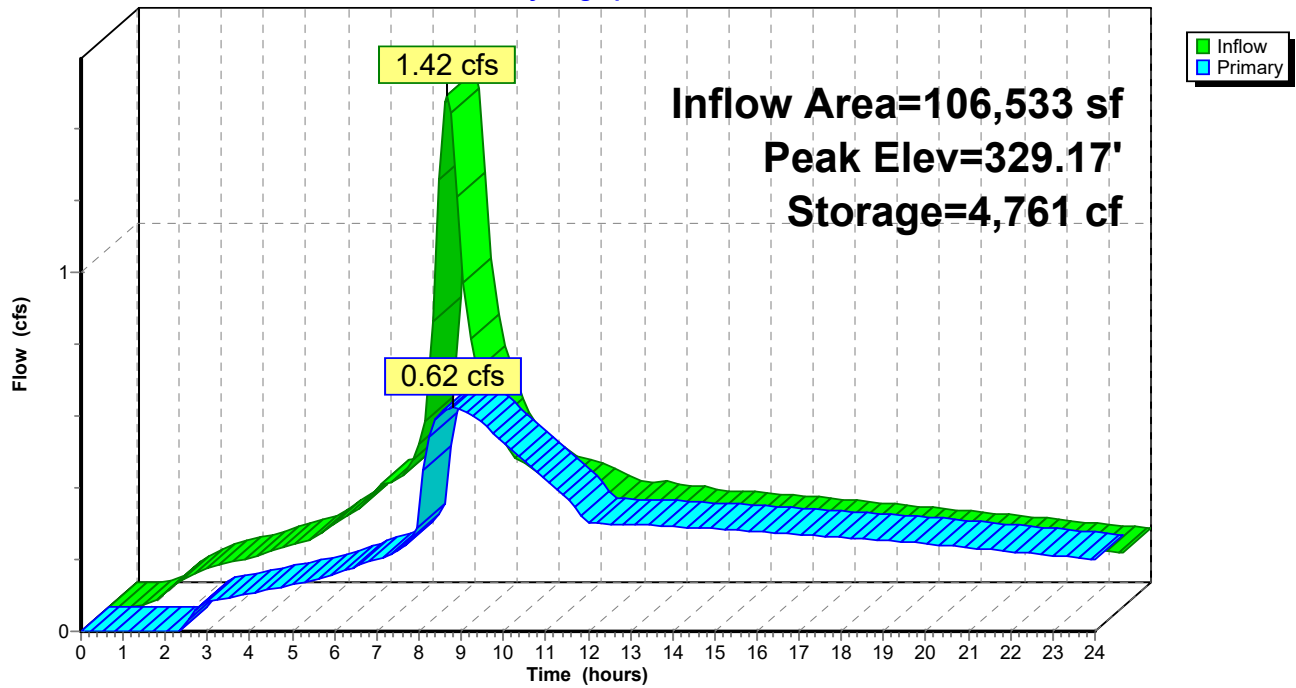
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Type IA 24-hr 10-YR Rainfall=3.45"

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Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Hydrograph



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Type IA 24-hr 25-YR Rainfall=3.90"

Printed 1/19/2022

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST-DEVELOPED

Runoff Area=77,008 sf 64.77% Impervious Runoff Depth>3.05"
Flow Length=70' Slope=0.0100 '/' Tc=10.8 min CN=80/98 Runoff=1.22 cfs 19,585 cf

Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Runoff Area=29,525 sf 55.90% Impervious Runoff Depth>2.90"
Flow Length=70' Slope=0.0100 '/' Tc=10.8 min CN=80/98 Runoff=0.44 cfs 7,137 cf

Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Peak Elev=329.79' Storage=5,451 cf Inflow=1.66 cfs 26,722 cf
Outflow=0.77 cfs 24,482 cf

7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
 HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr 25-YR Rainfall=3.90"

Printed 1/19/2022

Summary for Subcatchment 1S: POST-DEVELOPED

Runoff = 1.22 cfs @ 8.00 hrs, Volume= 19,585 cf, Depth> 3.05"

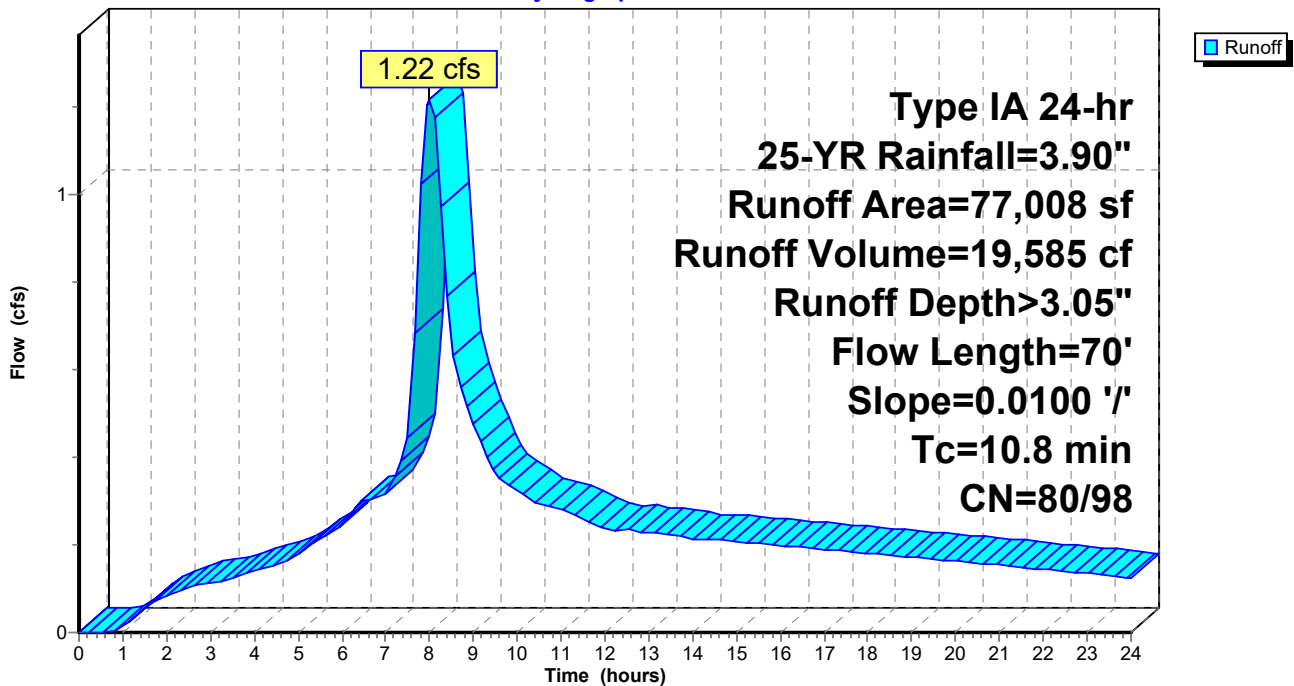
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 25-YR Rainfall=3.90"

Area (sf)	CN	Description
* 49,880	98	Impervious
* 27,128	80	Grass - Good Condition
77,008	92	Weighted Average
27,128		35.23% Pervious Area
49,880		64.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	70	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 1S: POST-DEVELOPED

Hydrograph



7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 25-YR Rainfall=3.90"

Printed 1/19/2022

Summary for Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Runoff = 0.44 cfs @ 8.01 hrs, Volume= 7,137 cf, Depth> 2.90"

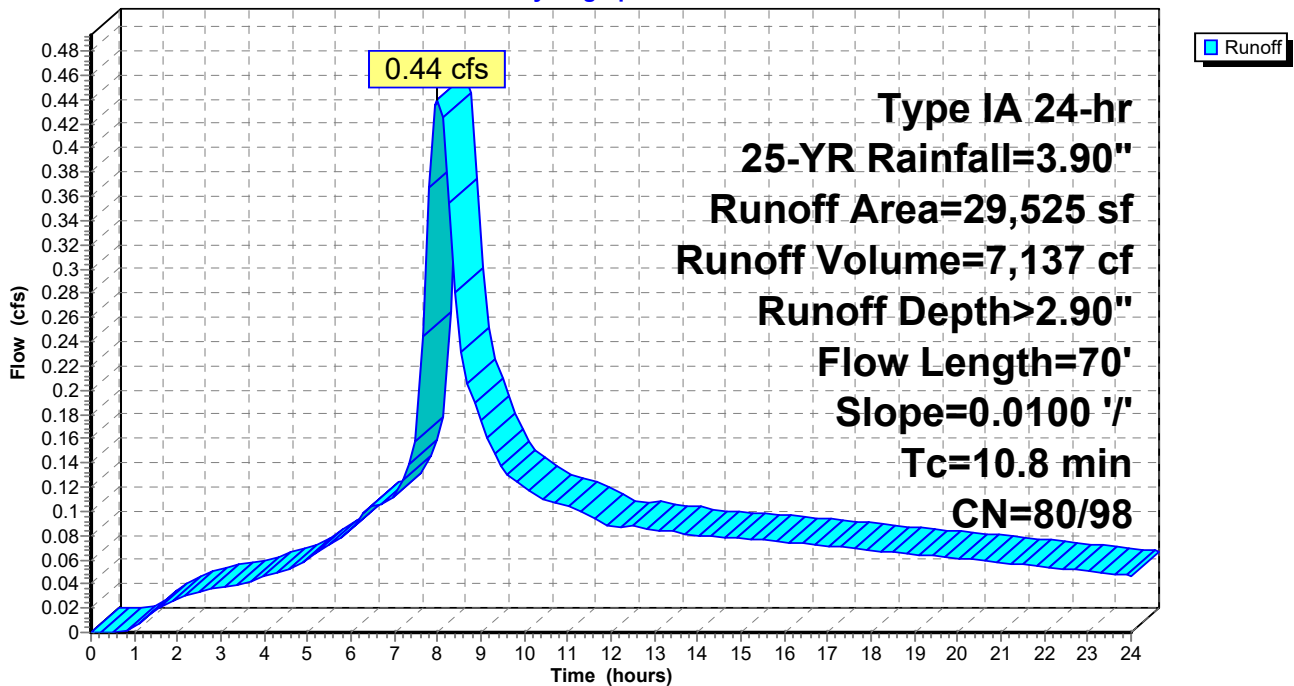
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 25-YR Rainfall=3.90"

	Area (sf)	CN	Description
*	16,505	98	Impervious
*	13,020	80	Grass - Good Condition
	29,525	90	Weighted Average
	13,020		44.10% Pervious Area
	16,505		55.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	70	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Hydrograph



7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 25-YR Rainfall=3.90"

Printed 1/19/2022

Summary for Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Inflow Area = 106,533 sf, 62.31% Impervious, Inflow Depth > 3.01" for 25-YR event
 Inflow = 1.66 cfs @ 8.00 hrs, Volume= 26,722 cf
 Outflow = 0.77 cfs @ 8.71 hrs, Volume= 24,482 cf, Atten= 54%, Lag= 42.5 min
 Primary = 0.77 cfs @ 8.71 hrs, Volume= 24,482 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs / 4
 Peak Elev= 329.79' @ 8.71 hrs Surf.Area= 2,554 sf Storage= 5,451 cf

Plug-Flow detention time= 150.4 min calculated for 24,329 cf (91% of inflow)
 Center-of-Mass det. time= 92.1 min (793.3 - 701.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	326.50'	2,210 cf	67.38"W x 37.90'L x 3.52'H Field A 9,003 cf Overall - 3,479 cf Embedded = 5,524 cf x 40.0% Voids
#2A	327.00'	3,479 cf	Contech ChamberMaxx x 70 Inside #1 Effective Size= 49.6"W x 30.0"H => 6.92 sf x 7.12'L = 49.3 cf Overall Size= 51.4"W x 30.3"H x 7.58'L with 0.47' Overlap Row Length Adjustment= +0.32' x 6.92 sf x 14 rows
		5,689 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	326.87'	3.0" Horiz. Orifice C= 0.600
#2	Primary	328.50'	3.5" Horiz. Orifice C= 0.600
#3	Primary	329.87'	12.0" Horiz. Overflow Riser C= 0.600

Primary OutFlow Max=0.77 cfs @ 8.71 hrs HW=329.79' (Free Discharge)

- 1=Orifice (Orifice Controls 0.40 cfs @ 8.23 fps)
- 2=Orifice (Orifice Controls 0.37 cfs @ 5.47 fps)
- 3=Overflow Riser (Controls 0.00 cfs)

7435-2 HydroCAD Post

Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr 25-YR Rainfall=3.90"

Printed 1/19/2022

Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM - Chamber Wizard Field A

Chamber Model = Contech ChamberMaxx(Contech®ChamberMaxx®full capacity)

Effective Size= 49.6"W x 30.0"H => 6.92 sf x 7.12'L = 49.3 cf

Overall Size= 51.4"W x 30.3"H x 7.58'L with 0.47' Overlap

Row Length Adjustment= +0.32' x 6.92 sf x 14 rows

51.4" Wide + 5.0" Spacing = 56.4" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.32' Row Adjustment = 35.90' Row Length +12.0" End Stone x 2 = 37.90' Base Length

14 Rows x 51.4" Wide + 5.0" Spacing x 13 + 12.0" Side Stone x 2 = 67.38' Base Width

6.0" Base + 30.3" Chamber Height + 6.0" Cover = 3.52' Field Height

70 Chambers x 49.3 cf +0.32' Row Adjustment x 6.92 sf x 14 Rows = 3,479.1 cf Chamber Storage

9,003.0 cf Field - 3,479.1 cf Chambers = 5,524.0 cf Stone x 40.0% Voids = 2,209.6 cf Stone Storage

Chamber Storage + Stone Storage = 5,688.7 cf = 0.131 af

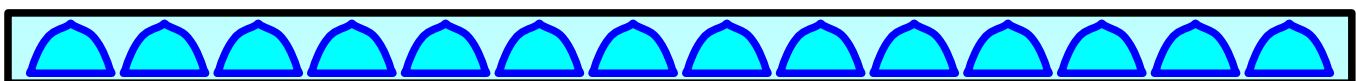
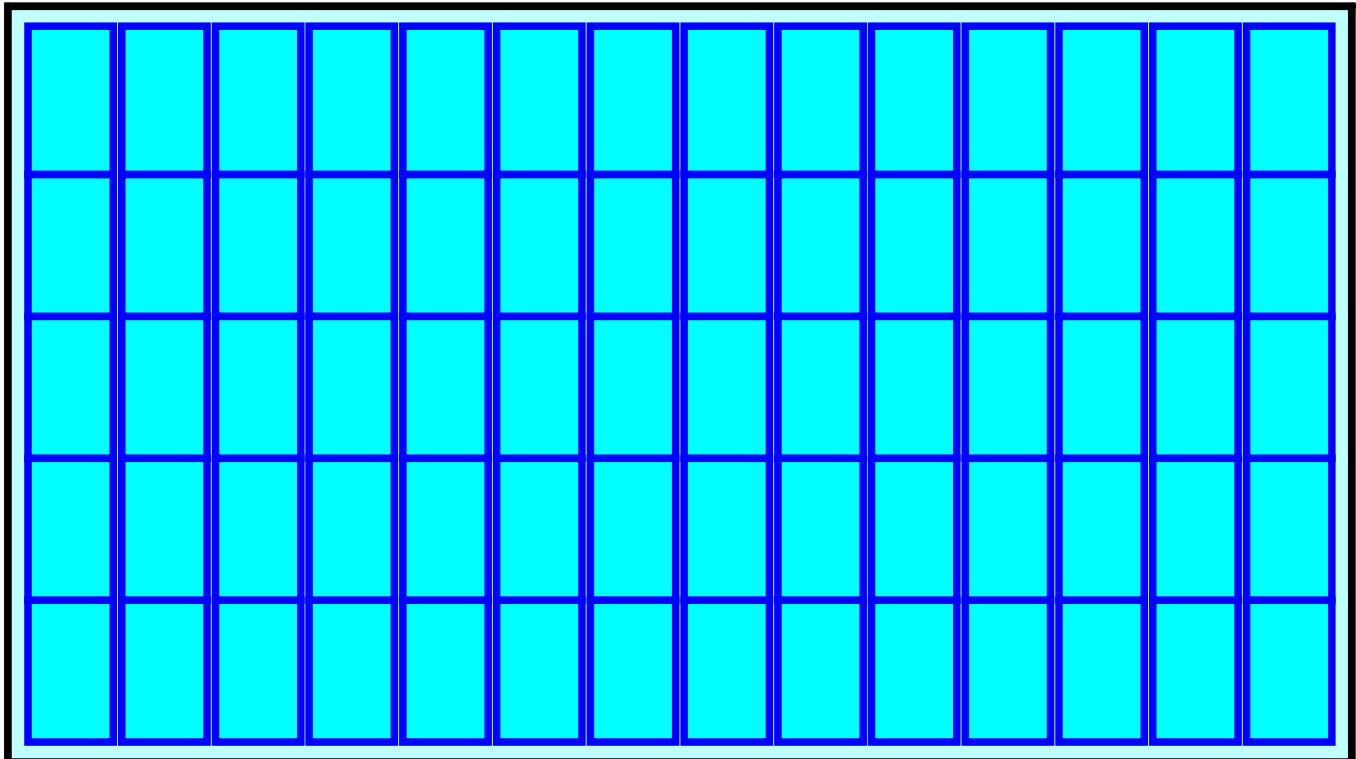
Overall Storage Efficiency = 63.2%

Overall System Size = 37.90' x 67.38' x 3.52'

70 Chambers

333.4 cy Field

204.6 cy Stone



7435-2 HydroCAD Post

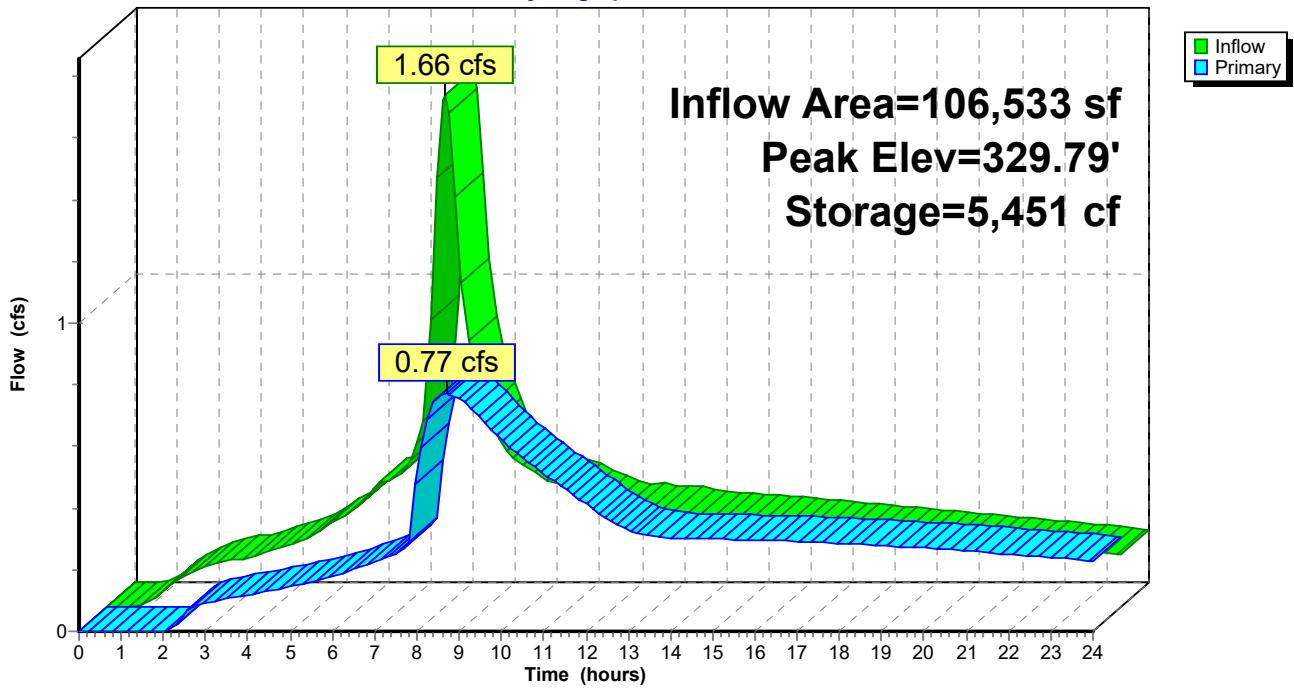
Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 25-YR Rainfall=3.90"

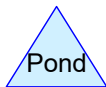
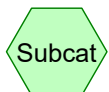
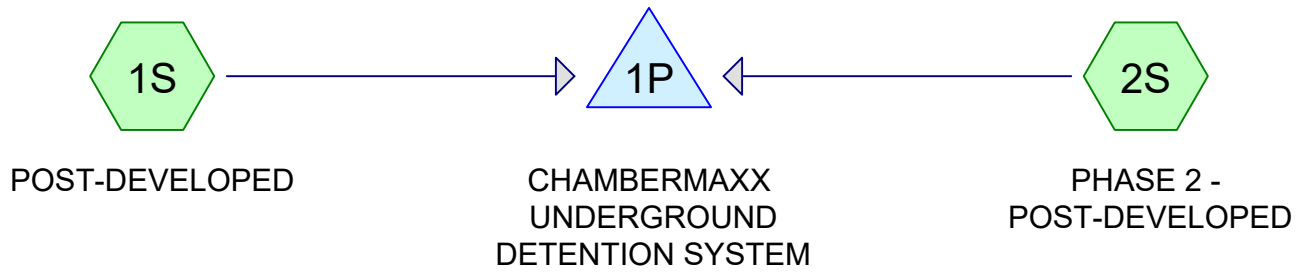
Printed 1/19/2022

Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Hydrograph



Appendix D: Emergency Overflow Calculations



Routing Diagram for 7435-2 HydroCAD Overflow
 Prepared by AKS Engineering & Forestry, LLC, Printed 1/19/2022
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7435-2 HydroCAD Overflow

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
40,148	80	Grass - Good Condition (1S, 2S)
66,385	98	Impervious (1S, 2S)

7435-2 HydroCAD Overflow

Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr 100-YR Rainfall=4.50"

Printed 1/19/2022

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST-DEVELOPED

Runoff Area=77,008 sf 64.77% Impervious Runoff Depth>3.61"
Flow Length=70' Slope=0.0100 '/' Tc=10.8 min CN=80/98 Runoff=1.45 cfs 23,195 cf

Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Runoff Area=29,525 sf 55.90% Impervious Runoff Depth>3.45"
Flow Length=70' Slope=0.0100 '/' Tc=10.8 min CN=80/98 Runoff=0.53 cfs 8,500 cf

Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Peak Elev=330.11' Storage=5,689 cf Inflow=1.97 cfs 31,695 cf
Outflow=1.84 cfs 26,043 cf

7435-2 HydroCAD Overflow

Prepared by AKS Engineering & Forestry, LLC
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Type IA 24-hr 100-YR Rainfall=4.50"

Printed 1/19/2022

Summary for Subcatchment 1S: POST-DEVELOPED

Runoff = 1.45 cfs @ 8.00 hrs, Volume= 23,195 cf, Depth> 3.61"

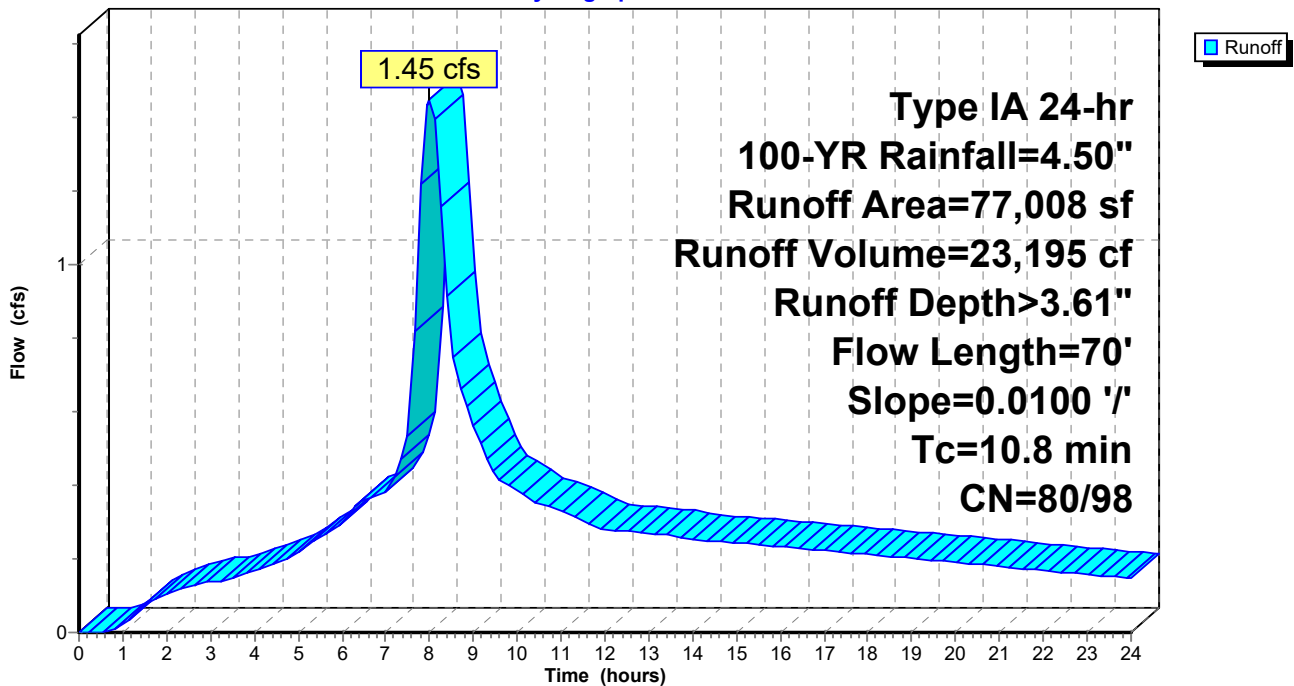
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 100-YR Rainfall=4.50"

Area (sf)	CN	Description
* 49,880	98	Impervious
* 27,128	80	Grass - Good Condition
77,008	92	Weighted Average
27,128		35.23% Pervious Area
49,880		64.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	70	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 1S: POST-DEVELOPED

Hydrograph



7435-2 HydroCAD Overflow

Prepared by AKS Engineering & Forestry, LLC
 HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr 100-YR Rainfall=4.50"

Printed 1/19/2022

Summary for Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Runoff = 0.53 cfs @ 8.01 hrs, Volume= 8,500 cf, Depth> 3.45"

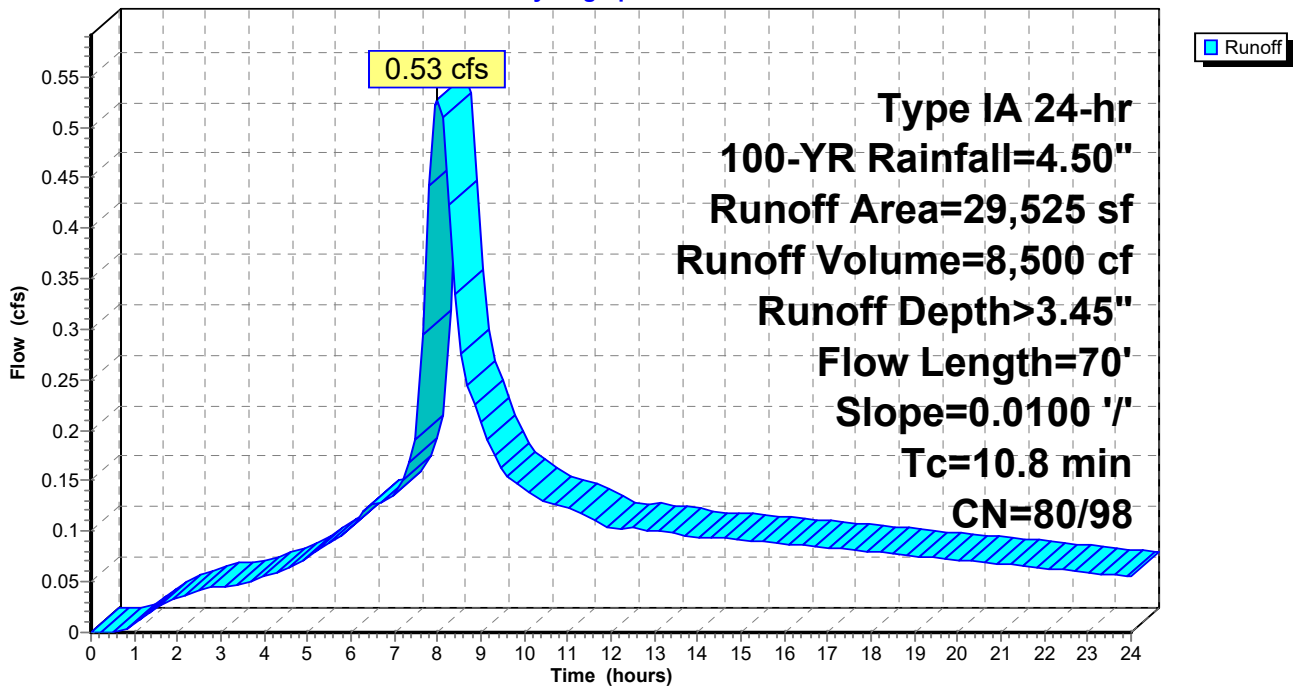
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
 Type IA 24-hr 100-YR Rainfall=4.50"

Area (sf)	CN	Description
* 16,505	98	Impervious
* 13,020	80	Grass - Good Condition
29,525	90	Weighted Average
13,020		44.10% Pervious Area
16,505		55.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	70	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"

Subcatchment 2S: PHASE 2 - POST-DEVELOPED

Hydrograph



7435-2 HydroCAD Overflow

Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr 100-YR Rainfall=4.50"

Printed 1/19/2022

Summary for Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Inflow Area = 106,533 sf, 62.31% Impervious, Inflow Depth > 3.57" for 100-YR event
Inflow = 1.97 cfs @ 8.00 hrs, Volume= 31,695 cf
Outflow = 1.84 cfs @ 8.01 hrs, Volume= 26,043 cf, Atten= 7%, Lag= 0.2 min
Primary = 1.84 cfs @ 8.01 hrs, Volume= 26,043 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs / 4
Peak Elev= 330.11' @ 8.00 hrs Surf.Area= 2,554 sf Storage= 5,689 cf

Plug-Flow detention time= 205.0 min calculated for 26,043 cf (82% of inflow)
Center-of-Mass det. time= 87.8 min (785.1 - 697.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	326.50'	2,210 cf	67.38'W x 37.90'L x 3.52'H Field A 9,003 cf Overall - 3,479 cf Embedded = 5,524 cf x 40.0% Voids
#2A	327.00'	3,479 cf	Contech ChamberMaxx x 70 Inside #1 Effective Size= 49.6"W x 30.0"H => 6.92 sf x 7.12'L = 49.3 cf Overall Size= 51.4"W x 30.3"H x 7.58'L with 0.47' Overlap Row Length Adjustment= +0.32' x 6.92 sf x 14 rows
			5,689 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	329.87'	12.0" Horiz. Overflow Riser C= 0.600

Primary OutFlow Max=1.80 cfs @ 8.01 hrs HW=330.10' (Free Discharge)
↑**1=Overflow Riser** (Orifice Controls 1.80 cfs @ 2.29 fps)

7435-2 HydroCAD Overflow

Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr 100-YR Rainfall=4.50"

Printed 1/19/2022

Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM - Chamber Wizard Field A

Chamber Model = Contech ChamberMaxx(Contech®ChamberMaxx®full capacity)

Effective Size= 49.6"W x 30.0"H => 6.92 sf x 7.12'L = 49.3 cf

Overall Size= 51.4"W x 30.3"H x 7.58'L with 0.47' Overlap

Row Length Adjustment= +0.32' x 6.92 sf x 14 rows

51.4" Wide + 5.0" Spacing = 56.4" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.32' Row Adjustment = 35.90' Row Length +12.0" End Stone x 2 = 37.90' Base Length

14 Rows x 51.4" Wide + 5.0" Spacing x 13 + 12.0" Side Stone x 2 = 67.38' Base Width

6.0" Base + 30.3" Chamber Height + 6.0" Cover = 3.52' Field Height

70 Chambers x 49.3 cf +0.32' Row Adjustment x 6.92 sf x 14 Rows = 3,479.1 cf Chamber Storage

9,003.0 cf Field - 3,479.1 cf Chambers = 5,524.0 cf Stone x 40.0% Voids = 2,209.6 cf Stone Storage

Chamber Storage + Stone Storage = 5,688.7 cf = 0.131 af

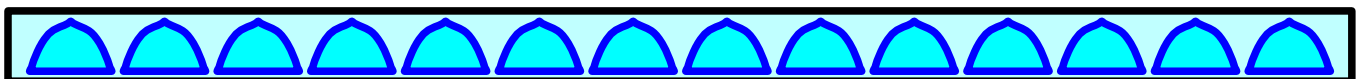
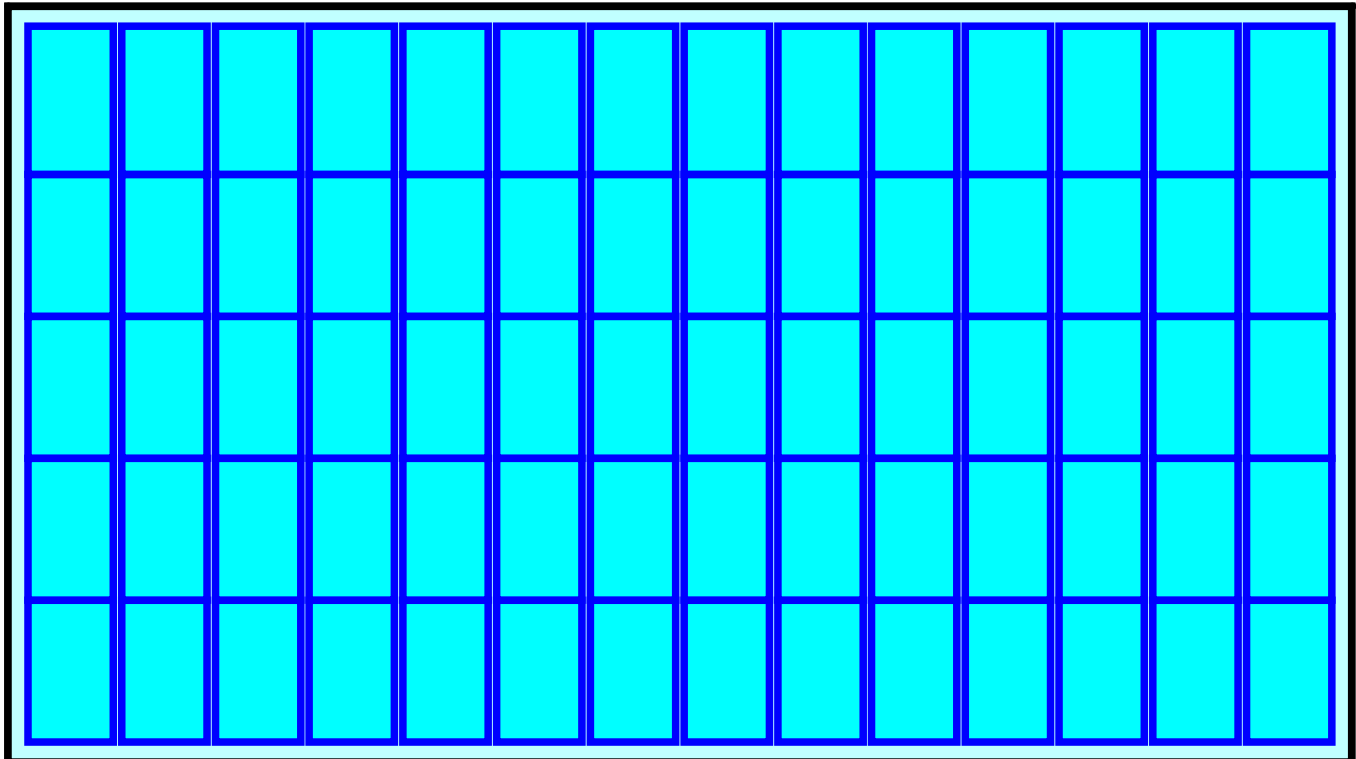
Overall Storage Efficiency = 63.2%

Overall System Size = 37.90' x 67.38' x 3.52'

70 Chambers

333.4 cy Field

204.6 cy Stone



7435-2 HydroCAD Overflow

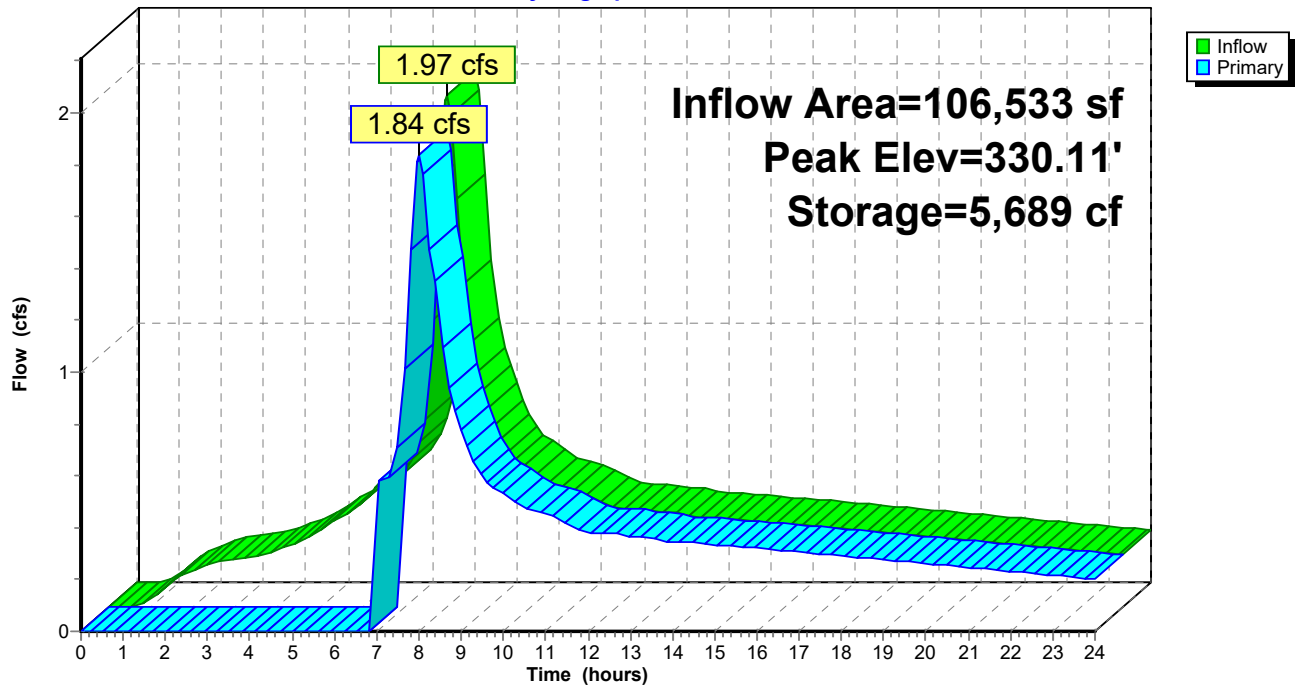
Prepared by AKS Engineering & Forestry, LLC
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Type IA 24-hr 100-YR Rainfall=4.50"

Printed 1/19/2022

Pond 1P: CHAMBERMAXX UNDERGROUND DETENTION SYSTEM

Hydrograph



**Appendix E:
Soils Information from the USDA Soil Survey
of Clackamas County, Oregon**

Custom Soil Resource Report for **Clackamas County Area, Oregon**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:500 if printed on A portrait (8.5" x 11") sheet.

0 5 10 20 30 Meters

0 20 40 80 120 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot


 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
 Survey Area Data: Version 18, Oct 27, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2015—Sep 13, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1A	Aloha silt loam, 0 to 3 percent slopes	0.4	59.4%
3	Amity silt loam	0.3	40.6%
Totals for Area of Interest		0.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Clackamas County Area, Oregon

1A—Aloha silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2231
Elevation: 150 to 400 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Aloha and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Aloha

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 51 inches: silt loam
H3 - 51 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R002XC007OR - Valley Swale Group
Forage suitability group: Somewhat Poorly Drained (G002XY005OR)
Other vegetative classification: Somewhat Poorly Drained (G002XY005OR)
Hydric soil rating: No

Minor Components

Huberly

Percent of map unit: 3 percent
Landform: Swales on terraces

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Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Dayton

Percent of map unit: 2 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

3—Amity silt loam

Map Unit Setting

National map unit symbol: 2247
Elevation: 150 to 400 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Amity and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Amity

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified glaciolacustrine deposits

Typical profile

H1 - 0 to 22 inches: silt loam
H2 - 22 to 62 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None

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Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2w

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: R002XC007OR - Valley Swale Group

Forage suitability group: Somewhat Poorly Drained (G002XY005OR)

Other vegetative classification: Somewhat Poorly Drained (G002XY005OR)

Hydric soil rating: No

Minor Components

Dayton

Percent of map unit: 3 percent

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Other vegetative classification: Poorly Drained (G002XY006OR)

Hydric soil rating: Yes

Huberly

Percent of map unit: 2 percent

Landform: Swales on terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Other vegetative classification: Poorly Drained (G002XY006OR)

Hydric soil rating: Yes

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

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Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

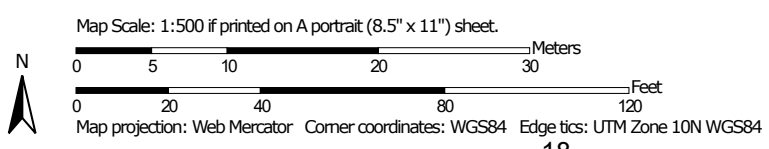
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

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Map—Hydrologic Soil Group




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines


-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
 Survey Area Data: Version 18, Oct 27, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2015—Sep 13, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1A	Aloha silt loam, 0 to 3 percent slopes	C/D	0.4	59.4%
3	Amity silt loam	C/D	0.3	40.6%
Totals for Area of Interest			0.7	100.0%

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

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- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

**Appendix F:
Relevant Information from the King County,
Washington, Surface Water Design Manual,
ODOT Hydraulics Manual, City of Molalla
Public Works Design Standard, and City of
Molalla Stormwater Master Plan**

United States
Department of
Agriculture

Soil
Conservation
Service

Engineering
Division

Technical
Release 55

June 1986



Urban Hydrology for Small Watersheds

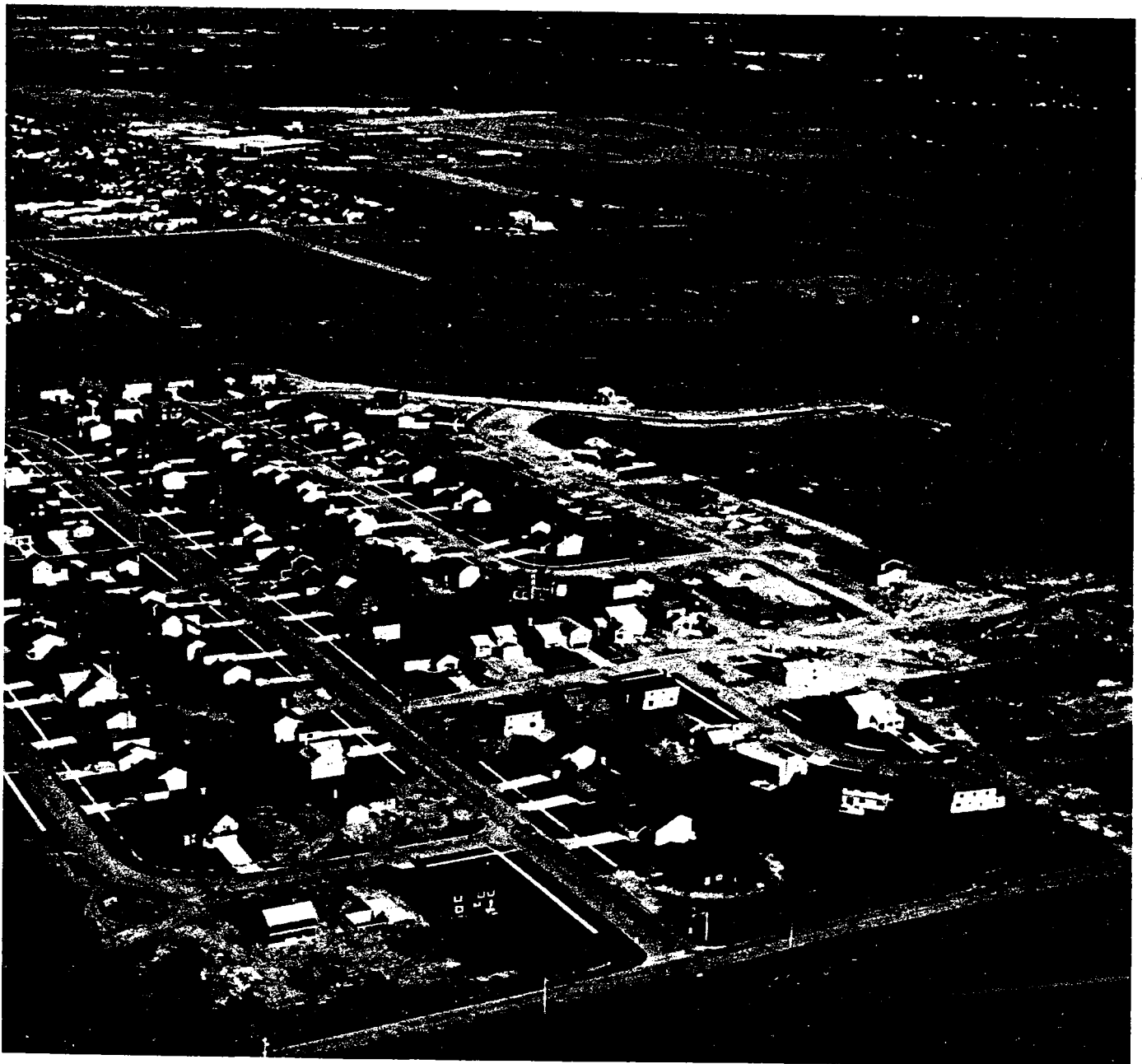


Table 2-2a.—Runoff curve numbers for urban areas¹

Cover description	Average percent impervious area ²	Curve numbers for hydrologic soil group—			
		A	B	C	D
<i>Fully developed urban areas (vegetation established)</i>					
Open space (lawns, parks, golf courses, cemeteries, etc.) ³ :					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%).....		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ⁴ ...		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
<i>Developing urban areas</i>					
Newly graded areas (pervious areas only, no vegetation) ⁵		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

¹Average runoff condition, and $I_a = 0.2S$.

²The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

³CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

⁴Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

⁵Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4, based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Table 2-2b.—Runoff curve numbers for cultivated agricultural lands¹

Cover description			Curve numbers for hydrologic soil group—			
Cover type	Treatment ²	Hydrologic condition ³	A	B	C	D
Fallow	Bare soil	—	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
	C&T + CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C&T	Poor	61	72	79	82
		Good	59	70	78	81
	C&T + CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C&T	Poor	63	73	80	83
		Good	51	67	76	80

¹Average runoff condition, and $I_n = 0.2S$.

²Crop residue cover applies only if residue is on at least 5% of the surface throughout the year.

³Hydrologic condition is based on combination of factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes in rotations, (d) percent of residue cover on the land surface (good $\geq 20\%$), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

Table 2-2c.—Runoff curve numbers for other agricultural lands¹

Cover description	Hydrologic condition	Curve numbers for hydrologic soil group—			
		A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. ²	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. ³	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30	48	65	73
Woods—grass combination (orchard or tree farm). ⁵	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. ⁶	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

¹Average runoff condition, and $I_a = 0.2S$.

²*Poor:* < 50% ground cover or heavily grazed with no mulch.
Fair: 50 to 75% ground cover and not heavily grazed.
Good: > 75% ground cover and lightly or only occasionally grazed.

³*Poor:* < 50% ground cover.
Fair: 50 to 75% ground cover.
Good: > 75% ground cover.

⁴Actual curve number is less than 30; use CN = 30 for runoff computations.

⁵CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

⁶*Poor:* Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

Table 2-2d.—Runoff curve numbers for arid and semiarid rangelands¹

Cover description		Curve numbers for hydrologic soil group—			
Cover type	Hydrologic condition ²	A ³	B	C	D
Herbaceous—mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen—mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush.	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper—pinyon, juniper, or both; grass understory.	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory.	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub—major plants include saltbush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

¹Average runoff condition, and $I_{at} = 0.2S$. For range in humid regions, use table 2-2c.

²*Poor*: <30% ground cover (litter, grass, and brush overstory).

Fair: 30 to 70% ground cover.

Good: >70% ground cover.

³Curve numbers for group A have been developed only for desert shrub.

These projects must treat all new ODOT impervious area and contiguous existing ODOT impervious area whose runoff flows over the new impervious surface (See Figure 14-4).

14.10.2 Water Quality Design Storm, Flow, and Volume

A stormwater treatment facility is sized based on a water quality design flow rate or water quality design volume. The hydrologic analysis needed to determine a design flow rate or volume is discussed in **Chapter 7**. The water quality design storm is discussed below.

Water Quality Design Storm

The water quality design storm is designated as a percentage of the 2-year 24-hour storm and is used to determine the water quality design flow rate or water quality design volume. The maximum design storm depth is 2.5 inches and the minimum water quality design storm depth is 0.7 inches.

The following steps outline how to select the design storm for a project:

- Step 1: Determine the 2-year, 24-hour storm for the project. Use the precipitation maps to determine the project's 2-year, 24-hour storm or the GIS project created for use to view Oregon's precipitation data. See **Chapter 7** for more information.
- Step 2: Determine the water quality design storm factor. Figure 14-5 outlines the storm factor to use for each climate zone in the state.
- Step 3: Determine the water quality design storm. It is determined by multiplying the project's 2-year, 24-hour storm (step 1) times the design storm factor (step 2).

Water Quality Design Flow

The water quality design flow rate is the predicted peak discharge for the proposed conditions using the water quality design storm determined from the steps noted above. The design flow rate is calculated using hydrology guidance in **Chapter 7**. Flow-through stormwater quality facilities discussed in this chapter, such as swales and filter strips, are sized using this flow rate.

Water Quality Design Volume

The water quality design volume is the predicted volume of runoff for the proposed conditions using the water quality design storm determined from the steps noted above. The design volume is calculated using hydrology guidance in **Chapter 7**. Stormwater quality facilities discussed in this chapter that temporarily store runoff, such as stormwater treatment wetlands, wet ponds, extended dry detention ponds, bioretention facilities, and infiltration facilities are sized using this design volume.

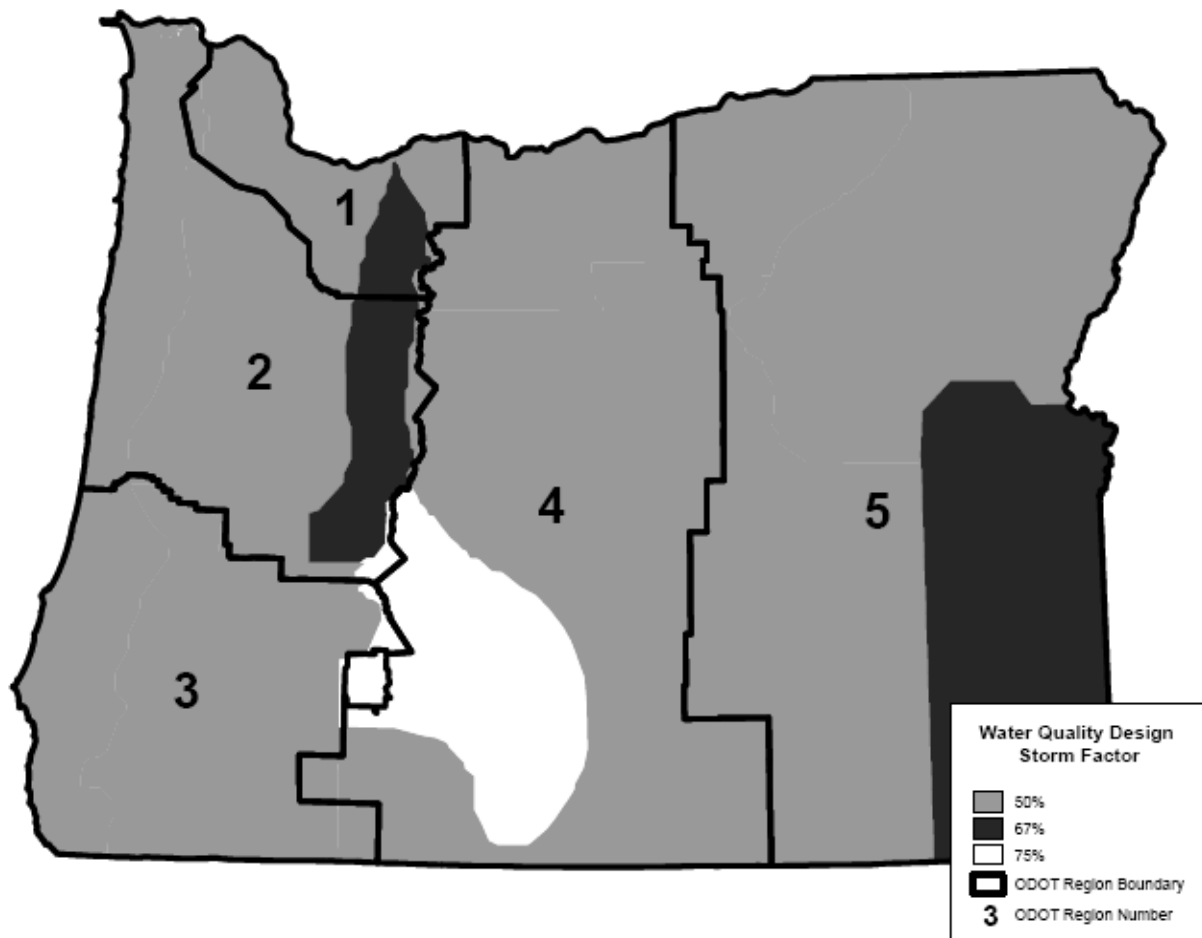


Figure 14-5 Design Storm Factors

Figure 14-6a illustrates an on-line treatment facility.

A single treatment and storage capacity facility is an option when both water quality and water quantity must be provided because of receiving water requirements. This application is considered to be an “on-line” facility and in many situations the most cost-effective stormwater management approach. Use the water quality design guidance in this chapter when designing combination facilities. Combination facilities are examples of units that can provide treatment and storage capacity in a single unit. Additional information on combination facilities is discussed in Section 14.10.7. Storage facility design guidance is discussed in **Chapter 12**.

A single treatment and high flow conveyance facility is an option when:

- Water quality must be provided because of receiving water requirements, and
- Regulating the quantity of stormwater is not required.

2020 MOLALLA STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

City of Molalla – Public Works Department
117 N. Molalla Ave., Molalla, OR 97038

180 or more	0.35	0.40	0.50	0.60	0.70	0.85
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1. Data for east Washington County; data from Clean Water Services.

3.3.3 Unit Hydrograph Method

a. **Hydrograph Analysis:** To obtain a realistic and consistent hydrologic analysis for each development site, all developments shall use the hydrograph analysis method for drainage planning and design unless otherwise approved in advance by the Public Works Department authorized representative. The physical characteristics of the site and the design storm shall be used to determine the magnitude, volume, and duration of the runoff hydrograph. The Santa Barbara Urban Hydrograph (SBUH) will be the primary acceptable unit hydrograph method.

The HYD computer program, developed by King County, Washington, in its “Surface Water Design Manual,” January 1990, uses these methods to generate, add, and route hydrographs. The Public Works Department authorized representative may check all hydrologic calculations using the King County HYD program. However, the City will allow the use of the rational method for analysis of drainage basins of 25 acres or less.

b. **Design Storm:** Return frequency and duration specify the design storm event. The design storms shall be based on two parameters:

1. Total rainfall (depth in inches).
2. Rainfall distribution (dimensionless).

c. **Design Storm Distribution:** The total depth of rainfall for storms of 24-hour duration is shown in **Table 3.2** The rainfall distribution to be used in the City is the design storm of 24-hour duration based on the standard National Resource Conservation Service (NRCS), formerly known as the Soil Conservation Service (SCS), type 1A rainfall distribution using **Table 3.3**.

Table 3.2. RAINFALL DISTRIBUTION

Recurrence Interval (years)	Total Precipitation Depth (inches)
2	2.50
5	3.10
10	3.45
25	3.90
50	4.20
100	4.50

n = Manning's effective roughness coefficient for sheet flow.

L = flow length (feet).

I = rainfall intensity (inches per hour).

S = slope of hydraulic grade line (feet per foot [ft./ft.])

Sheet flow shall not be used for distances over 300 feet.

(2) **Shallow Concentrated Flow:** For slopes less than 0.005 ft./ft. (0.5%), the following equations can be used:

(a) For unpaved surfaces: $V=16.1345 (S)^{0.5}$

(b) For paved surfaces: $V=20.3282 (S)^{0.5}$

Where: V = velocity (feet per second).

S = slope (ft./ft.).

(3) **Channel Flow:** A commonly used method of computing average velocity of flow, once it has measurable depth, is the following equation:

$$V = (1.486 / n) \times R^{0.6} \times S^{0.5}$$

Where: V = velocity (ft./s).

n = Manning's roughness coefficient.

S = slope of flow path (ft./ft.).

R = area/perimeter.

3.3.4 Water Quality Volume and Flow

The water quality storm is the storm required by regulations to be treated. The storm defines both the volume and rate of runoff.

a. Water Quality Storm: Total precipitation of 0.36 inches falling in four hours, with a storm return period of 96 hours.

b. Water Quality Volume (WQV) is the volume of water that is produced by the water quality storm. WQV is equal to 0.36 inches of rainfall over 100% of the new impervious area:

$$\text{Water quality volume (cf)} = \frac{0.36(\text{in}) \times \text{area (sf)}}{12 (\text{in./ft.})}$$

c. Water Quality Flow (WQF) is the average design flow anticipated from the water quality storm:

$$\text{Water quality flow (cfs)} = \frac{\text{Water quality volume (cf)}}{14,400 \text{ sec}}$$

or

$$\text{Water quality flow (cfs)} = \frac{0.36(\text{in}) \times \text{area (sf)}}{12(\text{in./ft.})(4 \text{ hr.})(60 \text{ min/hr.})(60 \text{ sec/min})}$$

3.3.5 Hydraulics

Catch Basins and inlets collect water from an adjacent ditch, gutter line, or pavement and convey the water to a storm sewer or culvert. The inlet systems are to be designed in accordance with the following criteria:

a. Subsection 3.9.7, "Drain Inlet Design Standards."

b. The following sources shall be used to locate catch basins and inlets:

1. ODOT's "Hydraulics Manual."

2. Hydraulic Engineering Circular 12 (Federal Highway Administration, FHWA-84-202), "Drainage of Highway Pavements."

3.3.6 Area Drains

The maximum acceptable intake flow rate for Type II area drains and ditch inlets is shown in **Table 3.4.**

3.4 WATER QUANTITY FACILITY DESIGN

3.4.1 Mitigation Requirement for Quantity

Each new development is responsible for mitigating its impacts on the public stormwater system. The Public Works Department authorized representative shall determine which of the following techniques may be used to satisfy this requirement. Mitigation requirements shall meet applicable federal, state, and local standards and regulations.

- a. Construction of permanent on-site stormwater quantity detention/retention facilities, designed in accordance with Subsection 3.5, "Water Quality Facility Design."
- b. Enlargement or improvement of the downstream conveyance system shall be done in accordance with Subsection 3.5, "Water Quality Facility Design."

3.4.2 Criteria for Requiring On-Site Detention/Retention

On-site facilities shall be constructed when any of the following conditions exist:

- a. The proposed development establishes or increases the impervious surface area by more than 5,000 square feet. Development includes new development, redevelopment, and/or partial redevelopment.
- b. There is an identified downstream deficiency, and detention/retention rather than conveyance system enlargement is determined to be the more effective solution.
- c. There is an identified regional detention/retention site within the boundary of the development.
- d. A site within the boundary of the development would qualify as a regional detention/retention site under the criteria or capital plan adopted by the City.
- e. Water quantity facilities are required by City-adopted stormwater master plans or adopted sub-basin master plans.

3.4.3 Water Quantity Facility Design Standards

- a. When required, stormwater quantity on-site detention/retention facilities shall be designed to capture runoff so the post-development runoff rates from the site do not exceed the predevelopment runoff rates, based on a 2- through 25-year, 24-hour return storm. Specifically, the 2-, 10-, and 25-year post-development runoff rates shall not exceed their respective 2-, 10-, and 25-year predevelopment runoff rates; unless other criteria are identified in an adopted stormwater master plan or sub-basin master plan.
- b. Water quantity facilities shall be designed to include inlet energy dissipation and a sediment forebay. The sediment forebay shall consist of an area in which heavier sediments can accumulate and receive periodic maintenance to remove these sediments. The forebay size shall be engineered with respect to the anticipated flow rate, and have a durable surface, such as concrete or rock, suitable for periodic maintenance. A minimum size of 20 square feet of water area is anticipated. Some type of barrier shall separate the forebay area from the main area of the water quantity facility. The invert of the incoming storm drain pipe shall be set at or above the top of the forebay barrier elevation and shall consider the pipe wall thickness. Pond inlets with a drainage area of less than one third-acre ($\frac{1}{3}$ AC) may not require a sediment forebay.
- c. Water quantity facilities shall be designed to allow for proper functioning with full sediment accumulation as allowed in Subsection 3.6.6, "Sediment Management/Pollutant Control"
- d. When required because of an identified downstream deficiency, stormwater quantity on-site detention/retention facilities shall be designed so the peak runoff rates will not exceed predevelopment rates for the range of storms that cause the downstream deficiency.
- e. The average, wet-season groundwater elevation shall be determined for the proposed stormwater quantity facility. Groundwater elevation may be established through

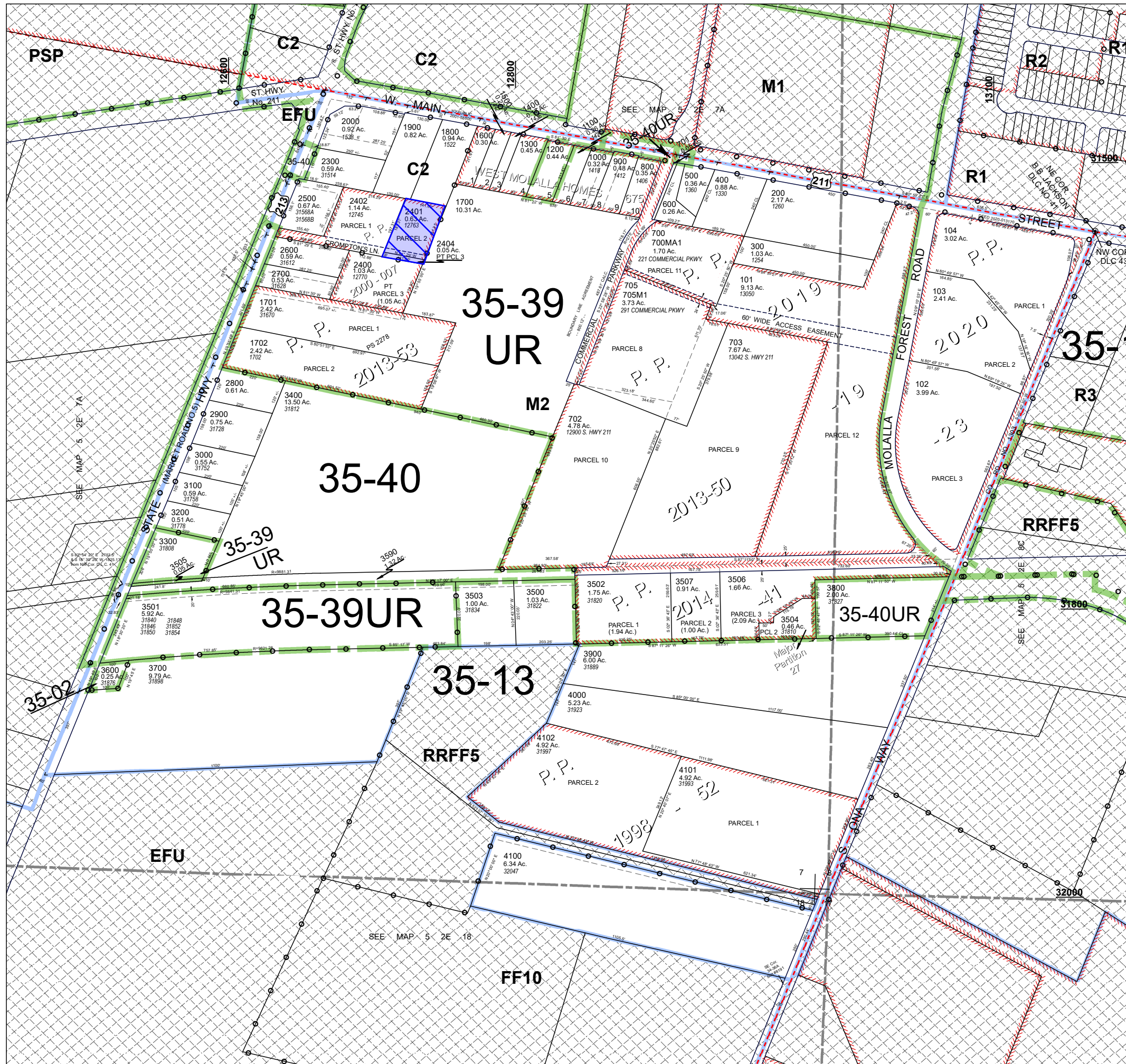
Exhibit G: Clackamas County Assessor's Map

S.E. 1/4 SEC. 7 T. 5S. R. 2E. W.M.
CLACKAMAS COUNTY
1" = 200'

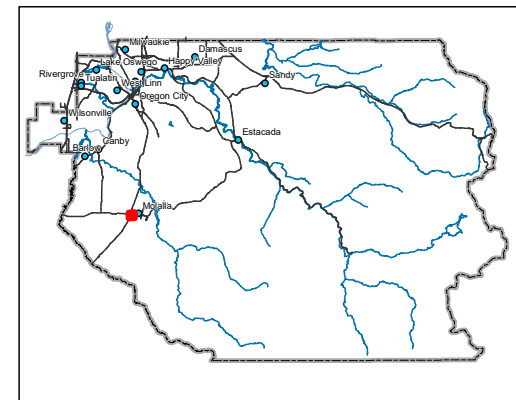
D. L. C.
BENJAMIN B. JACKSON NO. 41

Cancelled Taxlots

- 301
- 790
- 2501
- 2100
- 2200
- 2480
- 103
- 2490
- 100
- 700E1
- 700E3
- 2403
- 700E2
- 705ME1
- 705E2
- 705E1



- Parcel Boundary
- Private Road ROW
- Historical Boundary
- Railroad Centerline
- TaxCodeLines
- Map Index
- WaterLines
- Land Use Zoning
- Plats
- Water
- Corner
- Section Corner
- 1/16th Line
- Govt Lot Line
- DLC Line
- Meander Line
- PLSS Section Line
- Historic Corridor 40'
- Historic Corridor 20'



THIS MAP IS FOR ASSESSMENT
PURPOSES ONLY

Exhibit H: Property Ownership Information

RECORDING REQUESTED BY:



315 Commercial St SE, Ste 150
Salem, OR 97301

Clackamas County Official Records Sherry Hall, County Clerk	2020-025849 04/10/2020 01:08:08 PM
D-D Cnt=1 Stn=73 LESLIE	
\$10.00 \$16.00 \$10.00 \$62.00	\$98.00

AFTER RECORDING RETURN TO:

Order No.: 471820091427-SG
Angel Jimenez Alejandrez
309 NE 19th Avenue
Canby, OR 97013

SEND TAX STATEMENTS TO:

Angel Jimenez Alejandrez
309 NE 19th Avenue
Canby, OR 97013

APN: 01089342

SPACE ABOVE THIS LINE FOR RECORDER'S USE

STATUTORY WARRANTY DEED



Randy G. Burley, Grantor, conveys and warrants to **Angel Jimenez Alejandrez**, Grantee, the following described real property, free and clear of encumbrances except as specifically set forth below, situated in the County of Clackamas, State of Oregon:

Parcel 2 of Partition Plat No. 2000-007, in the City of Molalla, County of Clackamas and State of Oregon.
TOGETHER With an easement for ingress and egress over Parcel 1 of said Partition Plat, as delineated thereon.

SUBJECT TO:

1. Non exclusive easement for ingress, egress and utility purposes as set forth in documents Recording No.: 72-8037, 98-045395 and 98-045396
2. Road Maintenance Agreement and Water Well Easement, including the terms and provisions thereof
Recording Date: February 16, 2000
Recording No.: 2000-009913
3. Easement(s) for the purpose(s) shown below and rights incidental thereto as delineated or as offered for
dedication, on the map of said tract/plat;
Purpose: ingress, egress and utility
Affects: the South 16 feet of subject property

THE TRUE AND ACTUAL CONSIDERATION FOR THIS CONVEYANCE IS TWO HUNDRED SEVENTY THOUSAND AND NO/100 DOLLARS (\$270,000.00). (See ORS 93.030).

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

36262002433
471820091427

STATUTORY WARRANTY DEED

(continued)

IN WITNESS WHEREOF, the undersigned have executed this document on the date(s) set forth below.

Dated: 4/16/2020

Randy G. Burley
Randy G. Burley

State of OR
County of Wasco

This instrument was acknowledged before me on 4/16/2020 by Randy G. Burley .

Sarah Gale Geddes
Notary Public - State of Oregon

My Commission Expires: 7/16/21



38
100



\$103.00

02408222202001088870030036

12/22/2020 10:46:30 AM

D-D Cnt=1 Stn=9 COUNTER1
\$15.00 \$16.00 \$62.00 \$10.00

After recording, return to:

Mr. Angel Jimenez Alejandrez
309 NE 19th Ave
Canby OR 97013

Until a change is requested,
all tax statements should be sent to:

Mr. Angel Jimenez Alejandrez
309 NE 19th Ave
Canby OR 97013

QUITCLAIM DEED

Under ORS 93.865

The grantor,

Mr. Angel Jimenez Alejandrez, a single man
309 NE 19th Ave
Canby OR 97013

for the true and actual consideration of \$1.00

One Dollar and 00/100 cents

RELEASES AND QUITCLAIMS to the grantee,

Colima Property Holdings LLC
309 NE 19th Ave
Canby OR 97013

all right, title, and interest in and to the following described real property:

PARCEL 3, Partition Plat 2000-007, in City of Molalla, County of Clackamas
and State Oregon, TOGETHER WITH an easement for ingress and egress over
Parcel 1 of PARTITION PLAT 2000-007.

And commonly known as: 12770 S Cromptons Ln Molalla OR 97028
Parcel ID: 01089333 and 01160709

This conveyance is made subject to:

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301, AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424 OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTERS 885, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT, OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424 OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTERS 885, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

IN WITNESS WHEREOF, the grantor has signed and sealed these presents this 18th
day of December, 2020.

Angel Jimenez
Signature
Angel Jimenez Alejandre
Print Name
Grantor
Capacity

Signature

Print Name

Capacity

Signature

Print Name

Capacity

Signature

Print Name

Capacity

*Construe all terms with the appropriate gender and quantity
required by the sense of this deed.*

STATE OF Oregon
COUNTY OF Clackamas

On this 18th day of December, 2020, before me, Notary Public in and for
said state, personally appeared Angel Jimenez Alejandre

identified to be the person whose name is subscribed to the within instrument, and
who acknowledged to me He freely executed the same.

Signature: [Signature]
Print Name: Marcos Quintero
Title: Notary Public
My Commission Expires: 01/22/2023

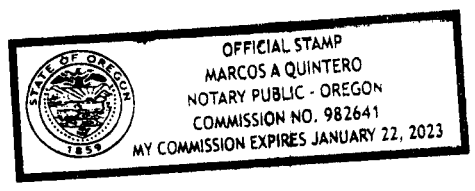


Exhibit I: Existing Deed Restrictions

BARGAIN AND SALE DEED



Transaction Title Insurance Accommodation Recording 9800753

KNOW ALL MEN BY THESE PRESENTS, That Janett B. Burley, hereinafter called grantor, for the consideration hereinafter stated, does hereby grant, bargain, sell and convey unto Terry L. Burley hereinafter called grantee, and unto grantee's heirs, successors and assigns all of that certain real property with the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining, situated in the County of Clackamas, State of Oregon, described as follows, to-wit:

Legal Description Attached on reverse side

Subject to a loan with Clackamas Federal Credit Union of which the vendor agrees to keep current.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

(IF SPACE INSUFFICIENT, CONTINUE DESCRIPTION ON REVERSE SIDE) To Have and to Hold the same unto the said grantee and grantee's heirs, successors and assigns forever. The true and actual consideration paid for this transfer, stated in terms of dollars, is \$ 28,000. However, the actual consideration consists of or includes other property or value given or promised which is the whole consideration (indicate which). In construing this deed and where the context so requires, the singular includes the plural and all grammatical changes shall be implied to make the provisions hereof apply equally to corporations and to individuals. In Witness Whereof, the grantor has executed this instrument this 4th day of December, 1997; if a corporate grantor, it has caused its name to be signed and seal affixed by its officers, duly authorized thereto by order of its board of directors.

Janett B. Burley (handwritten signature)

(If executed by a corporation, affix corporate seal)

(If the signer of the above is a corporation, use the form of acknowledgment opposite.) STATE OF OREGON,

(ORS 194.570)

STATE OF OREGON, County of Clackamas ss.

County of The foregoing instrument was acknowledged before me this 12-4, 1997, by Janett B. Burley, president, and by secretary of

The foregoing instrument was acknowledged before me this 12-4, 1997, by Janett B. Burley, president, and by secretary of

Shulawan Notary Public for Oregon



(SEAL) My commission expires:

My commission expires: 4-16-01

Janett B. Burley PO Box 913 Molalla, OR 97038 GRANTOR'S NAME AND ADDRESS

Terry L. Burley 12770 S. Cromptons Lane Molalla, OR 97038 GRANTEE'S NAME AND ADDRESS

After recording return to: Janett B. Burley PO Box 913 Molalla, OR 97038 NAME, ADDRESS, ZIP

Until a change is requested all tax statements shall be sent to the following address. Janett B. Burley PO Box 913 Molalla, OR 97038 NAME, ADDRESS, ZIP

STATE OF OREGON, County of ss.

I certify that the within instrument was received for record on the day of 19, at o' 98-045395 in book/reel/ page or as fee/file/instrument/microfilm/reception NO. Record of Deeds of said county. Witness my hand and seal of County affixed.

SPACE RESERVED FOR RECORDING USE

By Deputy

Revised T.L. 2488.

A tract of land, being a part of the B.B. Jackson D.L.C. No. 41, in the Southeast one quarter of Section 7, Township 5 South, Range 2 East, Willamette Meridian described as follows:

Beginning at a point on the centerline of Old Territorial Road, now known as Oregon State Highway No. 213, which is South $19^{\circ}55'00''$ West 533.28 feet from a railroad spike at the intersection of said centerline with the north line of the B.B. Jackson D.L.C.; thence South $81^{\circ}29'00''$ East along the north line of that certain tract of land conveyed to Thomas E. Crowe, et ux, by deed recorded as Fee No. 86-38958, deed records of Clackamas County, 287.48 feet to the northeast corner thereof and the true point of beginning; thence South $19^{\circ}55'00''$ West along the easterly lines of the Crowe tract and the southerly extension thereof, 179.92 feet to a 1/2 inch iron pipe at the most southerly southwest corner of a tract of land conveyed to Orville C. Klinger, et ux, by deed recorded in Book 471, Page 137, deed records of Clackamas County; thence South $81^{\circ}29'00''$ East along the south line of the Klinger tract, 253.88 feet to the southeast corner thereof; thence North $19^{\circ}55'00''$ East along the easterly line of the Klinger tract, 179.92 feet; thence North $81^{\circ}29'00''$ West 253.88 feet to the true point of beginning. Said tract contains 44,777 square feet.

TOGETHER WITH a non-exclusive easement, to be used in common with others, for ingress and egress and utility purposes over the following described strip of land; to-witt:

A tract of land, being a part of the B.B. Jackson D.L.C. No. 41, in the Southeast one quarter of Section 7, Township 5 South, Range 2 East, Willamette Meridian described as follows:

Beginning at a point on the centerline of Old Territorial Road, now known as Oregon State Highway No. 213, which is South $19^{\circ}55'00''$ West 533.28 feet from a railroad spike at the intersection of said centerline with the north line of the B.B. Jackson D.L.C.; thence South $81^{\circ}29'00''$ East along the north line of that certain tract of land conveyed to Thomas E. Crowe, et ux, by deed recorded as Fee No. 86-38958, deed records of Clackamas County, 38.68 feet to the easterly right of way line of Oregon State Highway No. 213 and the true point of beginning; thence continuing South $81^{\circ}29'00''$ East along the north line of the Crowe tract and the easterly extension thereof, 518.68 feet to the east line of that tract of land conveyed to Orville C. Klinger, et ux, by deed recorded in Book 471, Page 137, deed records of Clackamas County; thence North $19^{\circ}55'00''$ East along the easterly line of the Klinger tract, 32.88 feet; thence North $81^{\circ}29'00''$ West, parallel with the north line of the Crowe tract, 518.68 feet to the easterly right of way line of Oregon State Highway No. 213; thence South $19^{\circ}55'00''$ West, along said right of way line, 32.88 feet to the true point of beginning. Said tract contains 16,819 square feet.

STATE OF OREGON 98-045395
CLACKAMAS COUNTY
Received and placed in the public
records of Clackamas County
RECEIPT# AND FEE: 73111 840.00
DATE AND TIME: 05/26/98 09:48 AM
JOHN KAUFFMAN, COUNTY CLERK

3

WATER WELL AGREEMENT IS AS FOLLOWS:

Seller, (Janett B. Burley) sellers heirs and assigns shall provide water to Terry L. Burley, tax lot 2400, and Randy G. Burley, tax lot 2401, from well and pressure tank located on easement (see attached) and owned by Janett B. Burley, tax lot 2490. Above mentioned tax lots shall have an easement for access to said well for the purpose of maintenance of existing water lines to the above tax lots.

In consideration thereof, tax lots 2400 and 2401 each agree to pay the sum of \$15.00 of the monthly PGE electric bill on the meter that operates said well. The monthly amount paid of \$15.00 shall not be raised without the consent of all parties including: seller, sellers heirs and assigns and future purchasers.

Owner of tax lot 2490 has sole responsibility for any maintenance or maintenance costs of said well, pump, pressure tank, plumbing & electric controls and potability for said well.

This agreement shall attach to and run with the land in perpetually. In the event either party fails to fulfill the conditions of the agreement, the other party can enforce the agreement in a court of law and the prevailing party shall be entitled to attorney fees, plus court cost and expenses.

<u>Janett B. Burley</u> Seller Janett B. Burley	<u>Jan. 4, 2000</u> Date
<u>Terry L. Burley</u> Terry L. Burley	<u>1-4-2000</u> Date
<u>Randy G. Burley</u> Randy G. Burley	<u>1-4-2000</u> Date

STATE OF OREGON,

County of Clackamas } ss.

FORM NO. 23 - ACKNOWLEDGMENT
STEVENS-NESS LAW PUB. CO., PORTLAND, ORE.

BE IT REMEMBERED, That on this 4th day of Jan, 2000
before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within
named Janett B. Burley, Terry L. Burley & Randy G. Burley

known to me to be the identical individualS described in and who executed the within instrument and
acknowledged to me that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed
my official seal the day and year last above written.



Trisha J. Bates
Notary Public for Oregon.
My Commission expires 6/23/02

4537
STEVENS NESS LAW FIRM PC PORTLAND

THIS INDENTURE Made this 10th day of March, 1972, by and between George G. Wells the duly appointed, qualified and acting personal representative of the estate of Charles C. Gosser, deceased, hereinafter called the first party, and Gordon B. Crompton and Elisabeth B. Crompton, husband and wife hereinafter called the second party; WITNESSETH:

For value received and the consideration hereinafter stated, the receipt whereof hereby is acknowledged, the first party has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell and convey unto the said second party and second party's heirs, successors-in-interest and assigns all the estate, right and interest of the said deceased at the time of decedent's death, and all the right, title and interest that the said estate of said deceased by operation of the law or otherwise may have thereafter acquired in that certain real property situate in the County of Clackamas, State of Oregon, described as follows, to-wit:

Part of the B. B. Jackson D. L. C. in Section 7, T. 5 S., R. 2 E., of the W. N., described as follows:

Beginning at a point in the center line of the old Territorial Road South 19° 55' West 320 feet from the intersection of said center line with the North line of said Jackson D. L. C.; thence South 81° 30' East 540.85 feet to the Northeast corner of that tract conveyed to Orville C. Klinger, et ux, by deed recorded July 7, 1953 in Book 871, page 137 and the true point of beginning; thence South 19° 55' West 213.1 feet; thence North 81° 30' West 141 feet; thence North 19° 55' East 213.1 feet; thence South 81° 30' East 141 feet to the true point of beginning.

TOGETHER WITH AND SUBJECT TO an easement for ingress and egress over a 32 foot strip of land, 16 feet lying on each side of the following described center line;

Beginning at a point that bears North 19° 55' East 16 feet from the Southeast corner of the above described principal tract of land; thence North 81° 30' West 510.85 feet to the Easterly Right of way line of the Old Territorial Road. 72 8037

Recorded By
Robert N. ...
Title Insurance Company

TO HAVE AND TO HOLD the same unto the said second party, and second party's heirs, successors-in-interest and assigns forever.

The true and actual consideration paid for this transfer, stated in terms of dollars, is \$ 1,000.00
consideration (indicate which) the whole

IN WITNESS WHEREOF, the said first party has executed this instrument; if first party is a corporation, it has caused its corporate name to be signed hereto and its corporate seal affixed by its officers duly authorized thereunto by order of its Board of Directors.

George G. Wells
Personal Representative
of the Estate of Charles G. Gosser Deceased.

(If first party is a corporation, affix corporate seal.)

NOTE—The sentence between the symbols (), if not applicable, should be deleted. See OS 93.020.

STATE OF OREGON,
County of Clatsop } ss.
March 10, 19 72
Personally appeared the above named
George G. Wells

STATE OF OREGON, County of _____) ss.
_____, 19____
Personally appeared _____ and
_____, who, being duly sworn,
each for himself and not one for the other, did say that the former is the
_____, president and that the latter is the
_____, secretary of _____

and acknowledged the foregoing instrument to be his voluntary act and deed.
Before me:
John Reed
(OFFICIAL SEAL)
Notary Public for Oregon
My commission expires: 7-11-72

_____, a corporation,
and that the seal affixed to the foregoing instrument is the corporate seal
of said corporation and that said instrument was signed and sealed in
behalf of said corporation by authority of its board of directors; and each of
them acknowledged said instrument to be its voluntary act and deed.
Before me:

Notary Public for Oregon (OFFICIAL SEAL)
My commission expires: _____

PERSONAL REPRESENTATIVE'S DEED
Personal Representative
of the Estate of _____
Deceased.
TO _____
No. _____
AFTER RECORDING RETURN TO
WELLS ACCOUNTING SERVICE
BOX 31
MOLALA, OREGON

STATE OF OREGON, County of Clatsop.
I, George D. Poppen, County Clerk, Ex-Officio Recorder of County Clatsop and Ex-Officio Clerk of the Circuit Court of the State of Oregon, for the County of Clatsop, do hereby certify that the within instrument of writing was received for and recorded in the records of
DEED
1972 MAR 27 PM 4:48
RECORDED
On Paper
GEORGE D. POPPEN
County Clerk
Deputy
Recording Certificate

2

72-8037

BARGAIN AND SALE DEED



Transnation Title Insurance
Accommodation Recording
9800753

KNOW ALL MEN BY THESE PRESENTS, That
Janett B. Burley, hereinafter called grantor,
for the consideration hereinafter stated, does hereby grant, bargain, sell and convey unto
Randy G. Burley
hereinafter called grantee, and unto grantee's heirs, successors and assigns all of that certain real property with the
tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, situated in the County
of Clackamas, State of Oregon, described as follows, to-wit:

Legal Description

Attached on reverse side

Subject to a loan with Clackamas Federal Credit Union of
which the vendor agrees to keep current.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY
DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLAN-
NING DEPARTMENT TO VERIFY APPROVED USES.

(IF SPACE INSUFFICIENT, CONTINUE DESCRIPTION ON REVERSE SIDE)

To Have and to Hold the same unto the said grantee and grantee's heirs, successors and assigns forever.
The true and actual consideration paid for this transfer, stated in terms of dollars, is \$ 22,000

However, the actual consideration consists of or includes other property or value given or promised which is
the whole consideration (indicate which). (The sentence between the symbols @, if not applicable, should be deleted. See ORS 93.030.)

In construing this deed and where the context so requires, the singular includes the plural and all grammatical
changes shall be implied to make the provisions hereof apply equally to corporations and to individuals.

In Witness Whereof, the grantor has executed this instrument this 4th day of December, 1997;
if a corporate grantor, it has caused its name to be signed and seal affixed by its officers, duly authorized thereto by
order of its board of directors.

Janett B. Burley

(If executed by a corporation,
affix corporate seal)

(If the signer of the above is a corporation,
use the form of acknowledgment opposite.)
STATE OF OREGON,

(ORS 194.570)

STATE OF OREGON, County of Clackamas ss.

County of }
The foregoing instrument was acknowledged before
me this 12-4, 1997, by

The foregoing instrument was acknowledged before me this
12-4, 1997, by Janett B. Burley
president, and by
secretary of

(SEAL)

Notary Public for Oregon
My commission expires:

Sharla Walker
Notary Public for Oregon

My commission expires:
4-16-01



Janett B. Burley
PO Box 913
Molalla, OR 97038
GRANTOR'S NAME AND ADDRESS

Randy G. Burley
12757 S. Cromptons Lane
Molalla, OR 97038
GRANTEE'S NAME AND ADDRESS

After recording return to:
Janett B. Burley
PO Box 913
Molalla, OR 97038
NAME, ADDRESS, ZIP

Until a change is requested all tax statements shall be sent to the following address.
Janett B. Burley
PO Box 913
Molalla, OR 97038
NAME, ADDRESS, ZIP

SPACE RESERVE
FOR
RECORDER'S USE

STATE OF OREGON,
County of } ss.

I certify that the within instru-
ment was recorded on the
da 98-045396
at _____, and recorded
in book/roll/volume No _____ on
page _____ or as fee/file/instru-
ment/microfilm/reception No _____,
Record of Deeds of said county.

Witness my hand and seal of
County affixed.

NAME TITLE
By _____ Deputy

Revised T.L. 2481.

A tract of land, being a part of the B.B. Jackson D.L.C. No. 41, in the Southeast one quarter of Section 7, Township 5 South, Range 2 East, Willamette Meridian described as follows:

Beginning at a point on the centerline of Old Territorial Road, now known as Oregon State Highway No. 213, which is South 19°55'00" West 320.00 feet from a railroad spike at the intersection of said centerline with the north line of the B.B. Jackson D.L.C.; thence South 81°29'00" East along the north line of that certain tract of land conveyed to George G. Wells, et ux, by deed recorded as Fee No. 76-23573, deed records of Clackamas County, and the north line of that certain tract of land conveyed to Orville C. Klinger, et ux, by deed recorded in Book 471, Page 137, deed records, 400.29 feet to the northwest corner of that tract of land conveyed to Gordon B. Crompton, et ux, by deed recorded as Fee No. 72-8037, deed records of Clackamas County, and the true point of beginning; thence South 19°55'00" West along the westerly line of the Crompton tract, 181.31 feet to the northerly line of an easement roadway; thence South 81°29'00" East, parallel with the north line of the Klinger tract, 141.00 feet to the easterly line of the Crompton tract; thence North 19°55'00" East, along the easterly line of the Crompton tract, 181.31 feet to the northeast corner thereof; thence North 81°29'00" West along the north line of the Crompton tract, 141.00 feet to the true point of beginning. Said tract contains 25,060 square feet.

TOGETHER WITH a non-exclusive easement, to be used in common with others, for ingress and egress and utility purposes over the following described strip of land; to-witt:

A tract of land, being a part of the B.B. Jackson D.L.C. No. 41, in the Southeast one quarter of Section 7, Township 5 South, Range 2 East, Willamette Meridian described as follows:

Beginning at a point on the centerline of Old Territorial Road, now known as Oregon State Highway No. 213, which is South 19°55'00" West 533.28 feet from a railroad spike at the intersection of said centerline with the north line of the B.B. Jackson D.L.C.; thence South 81°29'00" East along the north line of that certain tract of land conveyed to Thomas E. Crowe, et ux, by deed recorded as Fee No. 86-30958, deed records of Clackamas County, 30.60 feet to the easterly right of way line of Oregon State Highway No. 213 and the true point of beginning; thence continuing South 81°29'00" East along the north line of the Crowe tract and the easterly extension thereof, 510.68 feet to the east line of that tract of land conveyed to Orville C. Klinger, et ux, by deed recorded in Book 471, Page 137, deed records of Clackamas County; thence North 19°55'00" East along the easterly line of the Klinger tract, 32.00 feet; thence North 81°29'00" West, parallel with the north line of the Crowe tract, 510.68 feet to the easterly right of way line of Oregon State Highway No. 213; thence South 19°55'00" West, along said right of way line, 32.00 feet to the true point of beginning. Said tract contains 16,019 square feet.


R.

STATE OF OREGON 98-045396
CLACKAMAS COUNTY
Received and placed in the public
records of Clackamas County
RECEIPT# AND FEE: 73111 \$40.00
DATE AND TIME: 05/26/98 09:48 AM
JOHN KAUFFMAN, COUNTY CLERK

3

277018
50 =
SP
CHICAGO

After recording, return to:
City of Molalla
City Hall Records Department/Melanie Maben
117 N Molalla Ave
Molalla, OR 97038

Clackamas County Official Records		2004-118257
Sherry Hall, County Clerk		
		\$46.00
00776706200401182570050050		12/28/2004 02:32:31 PM
D-E	Cnt=1	Stn=4 MELISSA
\$25.00	\$11.00	\$10.00

PERMANENT DRAINAGE AND UTILITY EASEMENT

KNOW ALL PERSONS BY THESE PRESENTS, that American Equities, Inc., hereinafter referred to as the Grantor, for the consideration hereinafter stated, paid by the City of Molalla, and the mutual benefit hereby gained, which consideration and benefit are hereby acknowledged and receipted by the Grantee, do hereby grant, bargain, sell and convey unto **City of Molalla,** a permanent easement and right to lay down, construct, reconstruct, replace, operate, inspect, and perpetually maintain surface water and storm drainage facilities and improvements, man-made or natural, through, under, and along the following described property in the City of Molalla, County of Clackamas and State of Oregon:

See Exhibit "A" attached hereto and incorporated by reference and made part of this document as though fully incorporated herein.

And generally shown on:

See Exhibit "B" attached hereto and incorporated by reference and made part of this document as though fully incorporated herein.

It is understood and agreed that no building shall be erected upon said easement premises without the written consent of the City of Molalla. This agreement in no way obligates the public or the City of Molalla to replace the landscaping, fencing, buildings or other structures, shrubs, or trees that may exist or be placed within this storm drainage easement. The public, through the City of Molalla, shall give adequate notice to the landowner before activities in connection with a storm drainage facility are commenced and shall limit activities to those necessary to achieve the purpose of constructing, reconstructing, enlarging, replacing, repairing, inspecting or maintaining the storm drainage facility.

Owner agrees to undertake no activity or otherwise harm or impair the easement area to prevent or impede the proper functioning of the City's system.

This instrument does not grant or convey to the City of Molalla any right or title to the surface of the soil along the route of said easement except for the purpose of laying down, constructing, reconstructing, replacing, operating, inspecting and maintaining the surface water and storm drainage facilities and improvements, whether natural or man-made. This instrument gives immediate possession of the foregoing premises.

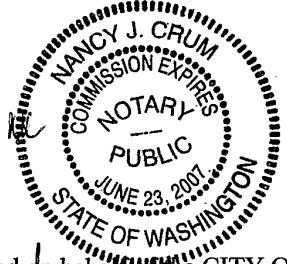
The true and actual consideration for this transfer is One Hundred and No/100 Dollars (**\$100.00**), the receipt of which is hereby acknowledged.

IN WITNESS WHEREOF, the Grantor above, **Maureen Wild**, Corporate Secretary for American Equities, Inc., hereunto set her hand and seal this 9th day of Dec. 2004.

Maureen Wild _____ SEAL
Maureen Wild wife
MTW

STATE OF WA)
County of CLARK) ss.

SUBSCRIBED AND SWORN to me this 9th day of December, 2004, by **Maureen Wild** who appeared before me and said person acknowledged that she signed this instrument and acknowledged it to be her free and voluntary act for the uses and purposes mentioned in this instrument.



Nancy J Crum
Notary Public for Washington
My Commission Expires: 6-23-07

Grantee:

Hereby accepted on behalf of the CITY OF MOLALLA, by and through its elected officials

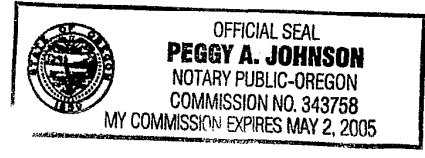
By: Mike Clarke
Mike Clarke, Mayor

By: Melanie Maben
Melanie Maben, City Recorder

Date: 12/16/04

Date: 12/16/04

STATE OF OREGON)
County of Clackamas)



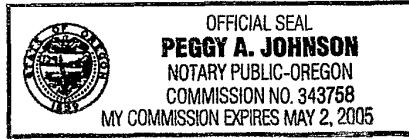
On this 16th day of December, 2004 before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named **Mike Clarke**, who on the basis of satisfactory evidence is known to be the Mayor of the City of Molalla, and acknowledged that he executed the same freely and voluntarily for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

Peggy A. Johnson
Notary Public for Oregon
My Commission Expires: MAY 2 2005

2

STATE OF OREGON)
) ss
County of Clackamas)



On this 16th day of December, 2004 before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named **Melanie Maben**, who on the basis of satisfactory evidence is known to be the City Recorder of the City of Molalla, and acknowledged that she executed the same freely and voluntarily for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

Peggy A. Johnson
Notary Public for Oregon
My Commission Expires: May 2, 2005

3

EXHIBIT A

TAX LOT 52E7D2402

Legal Description for Easement

September 29, 2003

Real Property situated in the Southeast quarter of Section 7, Township 5 South, Range 2 East of the Willamette Meridian, Clackamas County, Oregon, Described as follows:

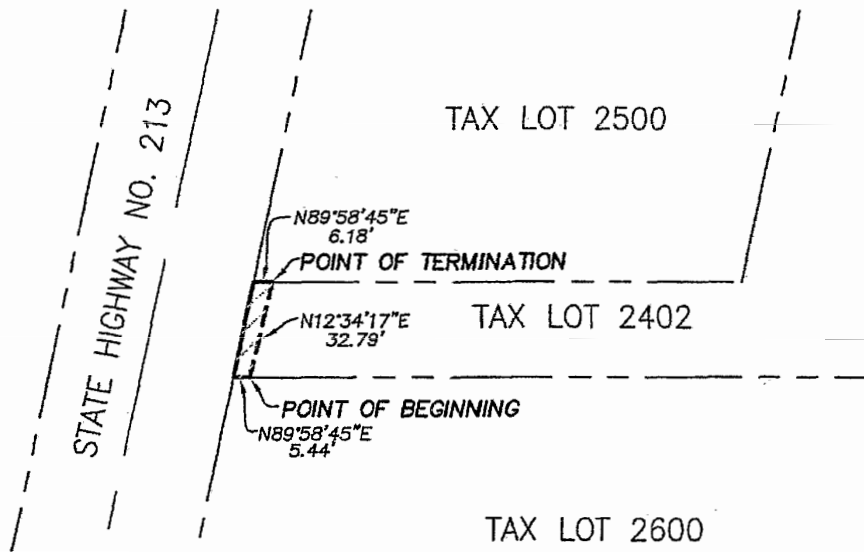
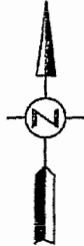
A strip of land running through that certain Real property conveyed to Perkins by deed recorded as Fee No. 2000-013298, deed records of said County, the Easterly line of said strip being More Particularly Described as follows:

Beginning on the South line of said Property North 89°58'45" East 5.44 feet from the Easterly Right of Way line of State Highway 213; Thence North 12°34'17" East 32.79 feet more or less to the North line of said Property and the point of Termination, being North 89°58'45" East 6.18 feet from said Easterly Right of Way line. Containing 185 square feet, more or less.

EXHIBIT B

EXHIBIT "E2402"
SKETCH TO ACCOMPANY
LEGAL DESCRIPTION

LOCATED IN THE SE 1/4 OF SEC. 7, T5S, R2E, W.M.
CLACKAMAS COUNTY, OREGON
DATE SEPTEMBER 29, 2003 SCALE 1" = 50'



NOTE: PROPERTY LINES SHOWN HEREON ARE APPROXIMATE AND SHOWN FOR APPROXIMATE AREA'S.

Clackamas County
Surveyors & Planners, Inc.
Surveying, Planning and
Civil Engineering
P.O. Box 955 Sandy, OR 97055
Phone: (503) 668-3151
Fax: (503) 668-4730

02-219E2402.DWG

5

93

AFTER RECORDING RETURN TO:
Beatriz Andrade Gomez
309 NE 19th Avenue
Candy, OR 97013



\$93.00

08/28/2019 09:08:28 AM

D-ER Cnt=1 Stn=9 COUNTER1
\$5.00 \$16.00 \$62.00 \$10.00

ANGEL Jimenez

Easement Termination and Release

MT & MB Holding, LLC, an Oregon limited liability company, releases, surrenders, abandons and quitclaims all right title, interest in and to the following described real property located in Clackamas County, Oregon:

That certain easement recorded as document 99-033173; recorded on March 2, 1999.

The intent is to evidence and confirm that said easements are now legally abandoned and do not affect the property.

MT & MB Holding, LLC

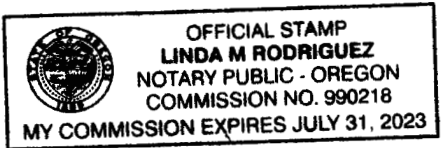
For:
MT & MB Holding, LLC
MERLE THOMAS
By:

Michael D. Bloon
By:

State of Oregon, County of Clackamas)ss

This instrument was acknowledged before me on August 19, 2019, by Merle Thomas and Michael D. Bloon as who are all the authorized signors of MT & MB Holding, LLC.

Linda M. Rodriguez
Notary Public for Oregon



11
10-208

AFTER RECORDING RETURN TO:

JANETT BURLEY
29335 S. CRAMER RD.
MOLALLA OR
97038 EASEMENT AND MAINTENANCE

Janett Burley, grantor for sufficient consideration hereby grant and convey unto Terry L Burley and Randy G. Burley, a right and easement for road and utility purposes over and across the following described real property situated in Clackamas County, Oregon, to wit:

See attached legal: THE LAND DESCRIBED AS A NON- EXCLUSIVE EASEMENT FOR INGRESS, EGRESS AND UTILITY PURPOSES IN DOCUMENTS PER FEE NO. S 72-8037, 98-045345 AND 98-045346 AS SHOWN ON

PARTITION PLAT No. 2000-007

The grantors and grantees and their successors in interest shall share in the cost of maintaining the road. Maintenance is not considered to include substantial improvement. If any excavation is done on the road for the benefit of either party for lying of pipes and underground installations, such party for whose benefit the work is done shall fully restore the road surface at their own expense.

This easement is for the benefit of and binding upon the heirs, successors and assigns of grantors and grantees.

IN WITNESS WHEREOF the parties have hereunto set their hands and seals this 12th

day of Nov., 1999.

RECORDED IN CLACKAMAS COUNTY
JOHN KNUFFMAN, COUNTY CLERK

2000-09913

Janett B. Burley
Janett B. Burley, Grantor



\$31.00

Terry Burley
Terry L. Burley, Grantee

02/16/2000 03:01:03 PM

DE - 1 - 2 ELIZABETH
\$10.00 \$11.00 \$10.00

Randy G. Burley
Randy G. Burley, Grantee

STATE OF OREGON,

County of Clackamas } ss.

FORM NO. 53 - ACKNOWLEDGMENT
STEVENS-NESS LAW PUB. CO., PORTLAND, ORE.

BE IT REMEMBERED, That on this 12th day of Nov, 1999, before me, the undersigned, a Notary Public in and for said County, and State, personally appeared the within named Janett B. Burley, Terry L. Burley & Randy G. Burley

known to me to be the identical individual(s) described in and who executed the within instrument and acknowledged to me that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.



Trisha J. Bates
Notary Public for Oregon.
My Commission expires June 21, 2002

WATER WELL AGREEMENT IS AS FOLLOWS:

Seller, (Janett B. Burley) sellers heirs and assigns shall provide water to Terry L. Burley, tax lot 2400, and Randy G. Burley, tax lot 2401, from well and pressure tank located on easement (see attached) and owned by Janett B. Burley, tax lot 2490. Above mentioned tax lots shall have an easement for access to said well for the purpose of maintenance of existing water lines to the above tax lots.

In consideration thereof, tax lots 2400 and 2401 each agree to pay the sum of \$15.00 of the monthly PGE electric bill on the meter that operates said well. The monthly amount paid of \$15.00 shall not be raised without the consent of all parties including: seller, sellers heirs and assigns and future purchasers.

Owner of tax lot 2490 has sole responsibility for any maintenance or maintenance costs of said well, pump, pressure tank, plumbing & electric controls and potability for said well.

This agreement shall attach to and run with the land in perpetually. In the event either party fails to fulfill the conditions of the agreement, the other party can enforce the agreement in a court of law and the prevailing party shall be entitled to attorney fees, plus court cost and expenses.

Janett B. Burley Jan 4, 2000
 Seller Janett B. Burley Date

Terry L. Burley 1-4-2000
 Terry L. Burley Date

Randy G. Burley 1-4-2000
 Randy G. Burley Date

STATE OF OREGON, **FORM NO. 23 - ACKNOWLEDGMENT**
 County of Clackamas } ss. **STEVENS-NESS LAW PUB. CO., PORTLAND, ORE.**

BE IT REMEMBERED, That on this 4th day of Jan, 2000
 before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within
 named Janett B. Burley, Terry L. Burley & Randy G. Burley

known to me to be the identical individualS described in and who executed the within instrument and
 acknowledged to me that they executed the same freely and voluntarily.


IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed
 my official seal the day and year last above written.



Trisha J. Bates
 Notary Public for Oregon
 My Commission expires 6/23/02

25
11
SP
277017
CHICAGO

After recording, return to:
City of Molalla
City Hall Records Department/Melanie Maben
117 N Molalla Ave
Molalla, OR 97038

Clackamas County Official Records		2005-004870
Sherry Hall, County Clerk		
		\$46.00
00784711200500048700050053		
		01/18/2005 04:01:01 PM
D-E	Cnt=1	Stn=6 BEVERLY
\$25.00	\$11.00	\$10.00

PERMANENT DRAINAGE AND UTILITY EASEMENT

KNOW ALL PERSONS BY THESE PRESENTS, that Gregory A. Sanders and Sherrie L. Sanders, hereinafter referred to as the Grantor, for the consideration hereinafter stated, paid by the City of Molalla, and the mutual benefit hereby gained, which consideration and benefit are hereby acknowledged and received by the Grantee, do hereby grant, bargain, sell and convey unto City of Molalla, a permanent easement and right to lay down, construct, reconstruct, replace, operate, inspect, and perpetually maintain surface water and storm drainage facilities and improvements, man-made or natural, thorough, under, and along the following described property in the City of Molalla, County of Clackamas and State of Oregon:

See Exhibit "A" attached hereto and incorporated by reference and made part of this document as though fully incorporated herein.

And generally shown on:

See Exhibit "B" attached hereto and incorporated by reference and made part of this document as though fully incorporated herein.

It is understood and agreed that no building shall be erected upon said easement premises without the written consent of the City of Molalla. This agreement in no way obligates the public or the City of Molalla to replace the landscaping, fencing, buildings or other structures, shrubs, or trees that may exist or be placed within this storm drainage easement. The public, through the City of Molalla, shall give adequate notice to the landowner before activities in connection with a storm drainage facility are commenced and shall limit activities to those necessary to achieve the purpose of constructing, reconstructing, enlarging, replacing, repairing, inspecting or maintaining the storm drainage facility.

Owner agrees to undertake no activity or otherwise harm or impair the easement area to prevent or impede the proper functioning of the City's system.

This instrument does not grant or convey to the City of Molalla any right or title to the surface of the soil along the route of said easement except for the purpose of laying down, constructing, reconstructing, replacing, operating, inspecting and maintaining the surface water and storm drainage facilities and improvements, whether natural or man-made. This instrument gives immediate possession of the foregoing premises.

The true and actual consideration for this transfer is \$225.00, the receipt of which is hereby acknowledged.

IN WITNESS WHEREOF, the Grantor above, **Gregory A. Sanders**, hereunto set his hand and seal this 21 day of Dec 2004.

Gregory A. Sanders SEAL
Gregory A. Sanders

STATE OF OREGON)
) ss.
County of Clackamas)

SUBSCRIBED AND SWORN to me this 21 day of Dec, 2004, by **Gregory A. Sanders** who appeared before me and said person acknowledged that he signed this instrument and acknowledged it to be his free and voluntary act for the uses and purposes mentioned in this instrument.



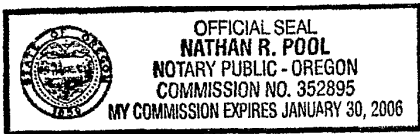
Nathan R. Pool
Notary Public for Oregon
My Commission Expires: 1/30/2006

IN WITNESS WHEREOF, the Grantor above, **Sherrie L. Sanders**, hereunto set her hand and seal this 21 day of Dec 2004.

Sherrie L. Sanders SEAL
Sherrie L. Sanders

STATE OF OREGON)
) ss.
County of Clackamas)

SUBSCRIBED AND SWORN to me this 21 day of Dec, 2004, by **Sherrie L. Sanders** who appeared before me and said person acknowledged that she signed this instrument and acknowledged it to be her free and voluntary act for the uses and purposes mentioned in this instrument.



Nathan R. Pool
Notary Public for Oregon
My Commission Expires: 1/30/2006

Grantee:

CITY OF MOLALLA, by and through its elected officials

By: Mike Clarke
Mike Clarke, Mayor

By: Melanie Maben
Melanie Maben, City Recorder

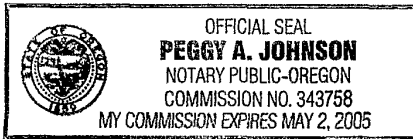
Date: 12/30/04

Date: 12/30/04

STATE OF OREGON)
) ss
County of Clackamas)

On this 30th day of December, 2004 before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named Mike Clarke, who on the basis of satisfactory evidence is known to be the Mayor of the City of Molalla, and acknowledged that he executed the same freely and voluntarily for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

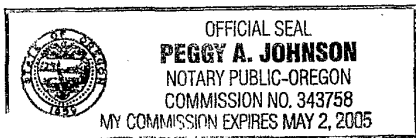


Peggy A. Johnson
Notary Public for Oregon
My Commission Expires: May 2, 2005

STATE OF OREGON)
) ss
County of Clackamas)

On this 30th day of December, 2004 before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named Melanie Maben, who on the basis of satisfactory evidence is known to be the City Recorder of the City of Molalla, and acknowledged that she executed the same freely and voluntarily for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.



Peggy A. Johnson
Notary Public for Oregon
My Commission Expires: May 2, 2005

EXHIBIT A

TAX LOT 52E7D2300

Legal Description for Easement

September 29, 2003

Real Property situated in the Southeast quarter of Section 7, Township 5 South, Range 2 East of the Willamette Meridian, Clackamas County, Oregon, Being More Particularly Described as follows:

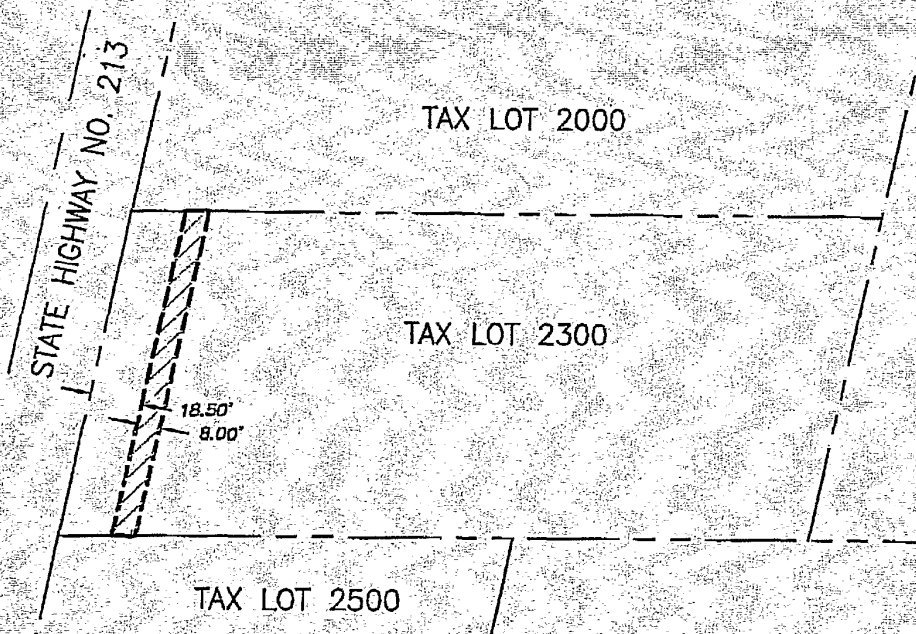
An 8.00 foot wide strip of land running through that certain Real property conveyed to Sanders by deed recorded as Fee No. 91-47521, deed records of said County, the Westerly line of said strip being 18.50 feet Easterly of and parallel with the Easterly Right of Way line of State Highway 213. Said strip of land shall begin at the Southerly line of said property and terminate at the Northerly line of said property. Containing 955 square feet, more or less.

4

EXHIBIT B

EXHIBIT "E2300"
SKETCH TO ACCOMPANY
LEGAL DESCRIPTION

LOCATED IN THE SE 1/4 OF SEC. 7, T5S, R2E, W.M.
CLACKAMAS COUNTY, OREGON
DATE SEPTEMBER 29, 2003 SCALE 1" = 50'



NOTE: PROPERTY LINES SHOWN HEREON ARE APPROXIMATE AND SHOWN FOR APPROXIMATE AREA'S.

All
County

Surveyors & Planners, Inc.
Surveying, Planning and
Civil Engineering

P.O. Box 355 Sandy, OR 97055
Phone: (503) 688-3151
Fax: (503) 688-4733

02-21052300 DWG

5

WR

PUBLIC WATER EASEMENT

Grantor – Limited Liability Company

Christie DeSantis
After recording, return to:

City Recorder
City of Molalla
PO Box 248
Molalla, OR 97038

Clackamas County Official Records
Sherry Hall, County Clerk

2021-003345



02415056202100033450060066

\$118.00

01/12/2021 10:34:53 AM

D-E Cnt=1 Stn=2 COUNTER3
\$30.00 \$16.00 \$62.00 \$10.00

KNOW ALL MEN BY THESE PRESENTS, that Colima Apartments, LLC, an Oregon Limited Liability Company, hereinafter referred to as "Grantor," for the consideration hereinafter stated, does forever grant unto the CITY OF MOLALLA, a municipal corporation, hereinafter referred to as "Grantee," a permanent right-of-way and easement over and along the full width and length of the premises described as follows, to-wit:

1. The legal description is set forth in EXHIBIT "A", attached hereto and incorporated by reference herein.
2. A map of the above legal description is set forth in EXHIBIT "B", attached hereto and incorporated by reference herein.

The true and actual consideration paid for this transfer, stated in terms of dollars, is \$-0-.

In the event the permanent right-of-way and easement shall no longer serve a public purpose, it shall revert back to the Grantor, its successors, and/or assigns.

TO HAVE AND TO HOLD the above described permanent right-of-way and easement unto said Grantee in accordance with the conditions and covenants as follows:

1. The permanent right-of-way and easement shall include the right, privilege, and authority, to the said City of Molalla, to excavate for, and to construct, build, install, lay, patrol, operate, maintain, repair, replace and remove an underground sanitary sewer, storm drain, or water pipeline or pipelines, with all appurtenances incident thereto or necessary therewith, including aboveground valve boxes, fire hydrants or manholes, for the purpose of carrying and conveying sewage wastes, surplus waters, or potable water as the case may be, and for similar uses in, under, and across the said premises, and to cut and remove from said right-of-way any trees and other obstructions which may endanger the safety or interfere with the use of said pipelines, appurtenances attached to or connected therewith; and the right of ingress and egress to and over said above described premises at any and all times for doing anything necessary, useful, or convenient for the enjoyment of the easement hereby granted. No building or structure shall be constructed over the pipeline easement right-of-way.
2. To the extent allowed by law, Grantee will indemnify and hold harmless the Grantor, its successors and/or assigns from claims for injury to person or property as a result of the negligence of the Grantee, its agents or employees in the construction, operation, or maintenance of said pipeline.

3. The City of Molalla, upon the initial installation, and upon each and every occasion that the same be repaired, replaced, renewed, added to, or removed, shall restore the premises of the Grantor, and any improvements disturbed by the City, to as good condition as they were prior to any such installation work, including, but not limited to, the restoration of any topsoil, lawn and nursery stock of like kind and quality subject to reasonable substitution as may be necessitated by obstruction or interference with the use granted herein.

4. Grantor may, at its option and expense, relocate said right-of-way, easement and associated public appurtenances and utilities, provided such relocation is accepted by the City as complying with applicable codes and standards, land use laws and regulations.

IN WITNESS WHEREOF, the undersigned grantor has executed this easement, this 19th day of November, 2020

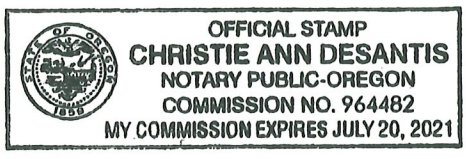
GRANTOR: Colima Apartments LLC
(Name of Limited Liability Company)

By: Angel Jimenez Alejandro
(Agent)

Angel Jimenez
(Agent)

STATE OF OREGON)
) ss.
County of Clackamas)

On this 19th day of November, 2020, before me personally appeared Angel Jimenez, whose identity is proved to me on the basis of satisfactory evidence, and affirmed that he/she is the owner of Colima Apartments, LLC., a limited liability company, and that the foregoing document was signed by him/her on behalf of and by authority of said LLC.



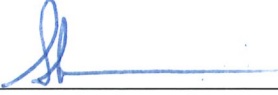
CA Desantis
Notary Public – State of Oregon

STATE OF OREGON)
) ss.
County of _____)

On this _____ day of _____, 20____, before me personally appeared _____, whose identity is proved to me on the basis of satisfactory evidence, and affirmed that he/she is the _____ of _____, a limited liability company, and that the foregoing document was signed by him/her on behalf of and by authority of said LLC.

Notary Public – State of Oregon

APPROVED AS TO LEGAL DESCRIPTION
this 19TH day of NOVEMBER, 2020.




Gerald Fisher, Public Works Director
City of Molalla, Oregon

ACCEPTED on behalf of the City of Molalla, Oregon
this 19th day of November, 2020.



Dan Huff, City Manager
City of Molalla, Oregon

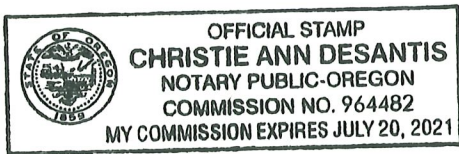
ATTESTED TO:




Christie DeSantis, City Recorder
Date: 11-19-2020

STATE OF OREGON)
) ss.
County of Clackamas)

This instrument was acknowledged before me on November 19, 2020,
by Dan Huff, as City Manager of
the City of Molalla.





Notary Public - State of Oregon



EXHIBIT A

Public Water Easement Description

A tract of land located in the Southeast One-Quarter of Section 7, Township 5 South, Range 2 East, Willamette Meridian, City of Molalla, Clackamas County, Oregon, and being more particularly described as follows:

Commencing at the southwesterly corner of Parcel 1 of Partition Plat 2000-007, Clackamas County Plat Records, also being on the easterly right-of-way line of State Highway 213 (30.00 feet from centerline); thence along said easterly right-of-way line, North 21°53'22" East 16.70 feet to a line which is parallel with and 16.37 feet northerly of, when measured at right angles to, the southerly line of said Parcel 1, and the Point of Beginning; thence continuing along said easterly right-of-way line, North 21°53'22" East 15.30 feet to the southwesterly corner of Document Number 2006-066856, Clackamas County Deed Records; thence along the southerly line of said deed and the easterly extension thereof, South 79°31'28" East 174.66 feet; thence leaving said easterly extension, North 22°08'56" East 181.34 feet to the northerly line of said Parcel 1, also being on the southerly line of Document Number 2018-035601, Clackamas County Deed Records; thence along said southerly line, North 79°31'28" West 156.63 feet to the southwesterly corner of said deed, also being on the easterly right-of-way line of State Highway 213 (48.50 feet from centerline); thence along said easterly right-of-way line, North 21°53'22" East 15.30 feet to a line which is parallel with and 15.00 feet northerly of, when measured at right angles to, said southerly line; thence along said parallel line, South 79°31'28" East 10.33 feet; thence leaving said parallel line, North 10°26'08" East 9.31 feet to a line which is parallel with and 24.31 feet northerly of, when measured at right angles to, said southerly line; thence along said parallel line, South 79°31'28" East 15.00 feet; thence leaving said parallel line, South 10°26'08" West 9.31 feet to a line which is parallel with and 15.00 feet northerly of, when measured at right angles to, said southerly line; thence along said parallel line, South 79°31'28" East 146.68 feet; thence leaving said parallel line, South 22°08'56" West 25.95 feet; thence South 68°05'48" East 44.61 feet; thence South 21°53'22" West 15.00 feet; thence North 68°05'48" West 44.68 feet; thence South 22°08'56" West 39.53 feet; thence South 68°06'38" East 23.71 feet; thence South 21°53'22" West 14.31 feet; thence South 68°06'38" East 22.10 feet; thence South 21°53'22" West 15.00 feet; thence North 68°06'38" West 45.95 feet; thence South 22°08'56" West 86.86 feet to a line which is parallel with and 31.37 feet northerly of, when measured at right angles to, said southerly line of Parcel 1; thence along said parallel line, South 79°31'28" East 179.63 feet to the easterly line of said Parcel 1; thence along said easterly line, South 21°53'22" West 15.30 feet to a line which is parallel with and 16.37 feet northerly of, when measured at right angles to, said southerly line; thence along said parallel line, North 79°31'28" West 369.60 feet to the Point of Beginning.

6/4/2020

The above described tract of land contains 12,682 square feet, more or less.

Bearings for this description are based on State Plane Grid bearing, Oregon State Plane, North Zone 3601, NAD83(2011) Epoch: 2010.0000. Distances shown are International Foot ground values.



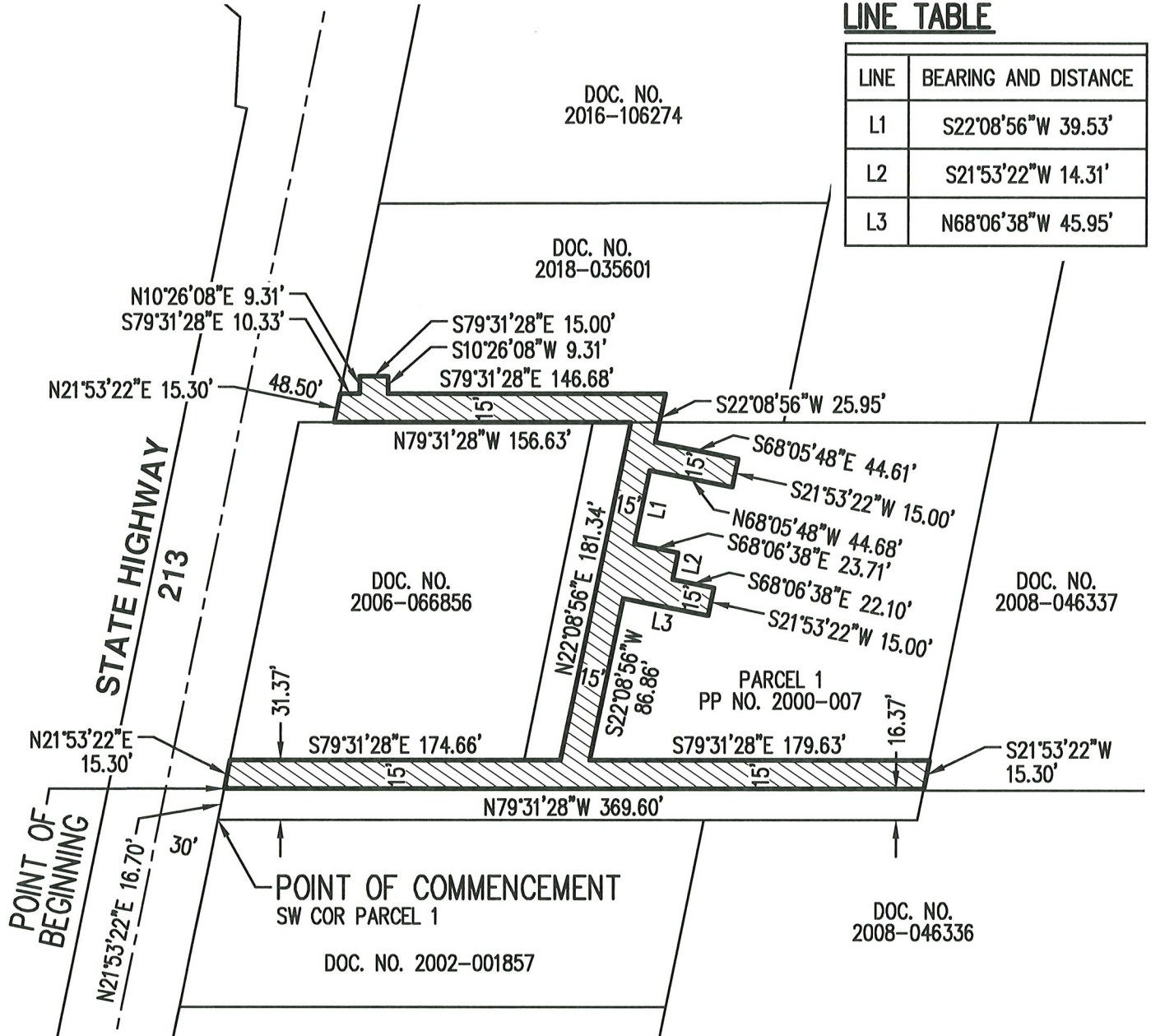
5

EXHIBIT B

A TRACT OF LAND LOCATED IN THE SOUTHEAST 1/4 OF SECTION 7,
TOWNSHIP 5 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN,
CITY OF MOLALLA, CLACKAMAS COUNTY, OREGON

LINE TABLE

LINE	BEARING AND DISTANCE
L1	S22°08'56"W 39.53'
L2	S21°53'22"W 14.31'
L3	N68°06'38"W 45.95'



6/4/2020

REGISTERED
PROFESSIONAL
LAND SURVEYOR

PREPARED FOR

GEO DEVELOPMENT, LLC
8555 SE NORTHERN HEIGHTS COURT
HAPPY VALLEY, OR 97036

Benjamin R. Huff
OREGON
MARCH 14, 2017
BENJAMIN R HUFF
84738PLS
RENEWS: 6/30/21

PUBLIC WATER EASEMENT MAP

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM

AKS

EXHIBIT
B

DRWN: WCB
CHKD: BRH
AKS JOB:
7435

GR

PUBLIC UTILITY EASEMENT

Grantor – Limited Liability Company

Christie D. Santis
After recording, return to:
City Recorder
City of Molalla
PO Box 248
Molalla, OR 97038

Clackamas County Official Records
Sherry Hall, County Clerk

2021-003344



02415055202100033440050053

\$113.00

01/12/2021 10:34:53 AM

D-E Cnt=1 Stn=2 COUNTER3
\$25.00 \$16.00 \$62.00 \$10.00

KNOW ALL MEN BY THESE PRESENTS, that Colima Apartments, LLC, an Oregon Limited Liability Company, hereinafter referred to as "Grantor", for the consideration hereinafter stated, does forever grant unto the CITY OF MOLALLA, a municipal corporation, hereinafter referred to as "Grantee", a permanent right-of-way and easement over and along the full width and length of the premises described as follows, to-wit:

1. Legal description is set forth in EXHIBIT "A" attached hereto, and incorporated by reference herein.
2. A map of the above legal description is set forth in EXHIBIT "B" and incorporated by reference herein.

The true and actual consideration paid for this transfer, stated in terms of dollars, is \$-0-.

In the event the permanent right-of-way and easement shall no longer serve a public purpose, it shall revert back to the Grantor(s), his/her/their heirs, successors and/or assigns; and

TO HAVE AND TO HOLD the above described permanent right-of-way and easement unto said Grantee in accordance with the conditions and covenants as follows:

1. The Grantee, through its officers, employees and agents, shall have the right to enter upon said lands in such a manner and at such times from this date as may be reasonably necessary for the purpose of constructing, building, patrolling, replacing and maintaining thereon a public utilities easement along said right-of-way for the conveyance of utilities, power, electric, natural gas, telephone or cable, including such renewals, repairs, replacements and removals as may be from time to time required. Said right shall be perpetual for so long as grantee shall operate or cause or enable to be operated a public utility for said purposes as herein provided.
2. Immediately after any construction or repair of said public utility the surface of the ground shall be restored equal to its original condition so that the Grantor and its successors and/or assigns shall have the free and unobstructed use thereof, subject to rights of Grantee herein provided.
3. Grantee will make no unreasonable interference with such use of the surface of said land by Grantor(s) and his/her/their heirs, successors and/or assigns.
4. Grantor(s) and his/her/their heirs, successors and/or assigns will not be responsible for damage by others to said public utilities.

5. To the extent allowed by law, Grantee will indemnify and hold harmless the Grantor(s), his/her/their heirs, successors and/or assigns from claims or injury to person or property as a result of the negligence of the Grantee, its agents or employees in the construction, operation or maintenance of said easement for sidewalk and public utilities.

IN WITNESS WHEREOF, the undersigned grantor has executed this easement, this 19th day of November, 2020.

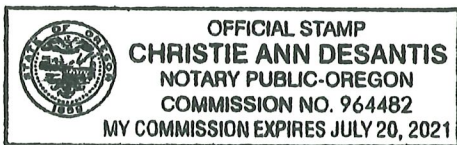
GRANTOR: Colima Apartments LLC
(Name of Limited Liability Company)

By: Angel Jimenez Alejandro
(Agent)

Angel Jimenez
(Agent)

STATE OF OREGON)
) ss.
County of Clackamas)

On this 19th day of November, 2020, before me personally appeared Angel Jimenez, whose identity is proved to me on the basis of satisfactory evidence, and affirmed that he/she is the owner of Colima Apartments, LLC, a limited liability company, and that the foregoing document was signed by him/her on behalf of and by authority of said LLC.




Christie Ann Desantis
Notary Public - State of Oregon

STATE OF OREGON)
) ss.
County of _____)

On this _____ day of _____, 20____, before me personally appeared _____, whose identity is proved to me on the basis of satisfactory evidence, and affirmed that he/she is the _____ of _____, a limited liability company, and that the foregoing document was signed by him/her on behalf of and by authority of said LLC.

Notary Public - State of Oregon

APPROVED AS TO LEGAL DESCRIPTION
this 19TH day of NOVEMBER, 2020.



Gerald Fisher, Public Works Director
City of Molalla, Oregon

ACCEPTED on behalf of the City of Molalla, Oregon
this 19th day of November, 2020.



Dan Huff, City Manager
City of Molalla, Oregon

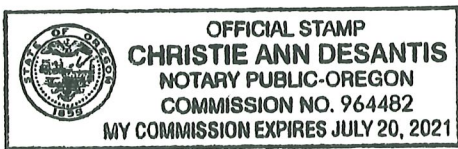
ATTESTED TO:



Christie DeSantis, City Recorder
Date: 11-19-2020

STATE OF OREGON)
) ss.
County of Clackamas)

This instrument was acknowledged before me on November 19, 2020,
by Dan Huff, as City Manager of
the City of Molalla.





Notary Public - State of Oregon



EXHIBIT A

Public Utility Easement Description

Two tracts of land located in the Southeast One-Quarter of Section 7, Township 5 South, Range 2 East, Willamette Meridian, City of Molalla, Clackamas County, Oregon, and being more particularly described as follows:

Beginning at the southwesterly corner of Parcel 1 of Partition Plat 2000-007, Clackamas County Plat Records, also being on the easterly right-of-way line of State Highway 213 (30.00 feet from centerline); thence along said easterly right-of-way line, North 21°53'22" East 32.00 feet to the southwesterly corner of Document Number 2006-066856, Clackamas County Deed Records, also being Reference Point 'A'; thence along the southerly line of said deed, South 79°31'28" East 10.20 feet to a line which is parallel with and 10.00 feet easterly of, when measured at right angles to, said easterly right-of-way line; thence along said parallel line, South 21°53'22" West 32.00 feet to the southerly line of said Parcel 1; thence along said southerly line, North 79°31'28" West 10.20 feet to the Point of Beginning.

Together with;

Beginning at aforementioned Reference Point 'A', also being on the easterly right-of-way line of State Highway 213 (30.00 feet from centerline); thence along said easterly right-of-way line, North 21°53'22" East 181.17 feet to the northwesterly corner of said Document Number 2006-066856; thence continuing along said easterly right-of-way line (variable width from centerline), South 79°31'28" East 18.87 feet to the southwesterly corner of Document Number 2018-035601, Clackamas County Deed Records, and the Point of Beginning; thence continuing along said easterly right-of-way line (48.50 feet from centerline), North 21°53'22" East 117.36 feet to the northwesterly corner of said deed; thence along the northerly line of said deed, South 79°36'01" East 10.20 feet to a line which is parallel with and 10.00 feet easterly of, when measured at right angles to, said easterly right-of-way line; thence along said parallel line, South 21°53'22" West 117.37 feet to the southerly line of said deed; thence along said southerly line, North 79°31'28" West 10.20 feet to the Point of Beginning.

The above described tracts of land contain 1,494 square feet, more or less.

Bearings for this description are based on State Plane Grid bearing, Oregon State Plane, North Zone 3601, NAD83(2011) Epoch: 2010.0000. Distances shown are International Foot ground values.

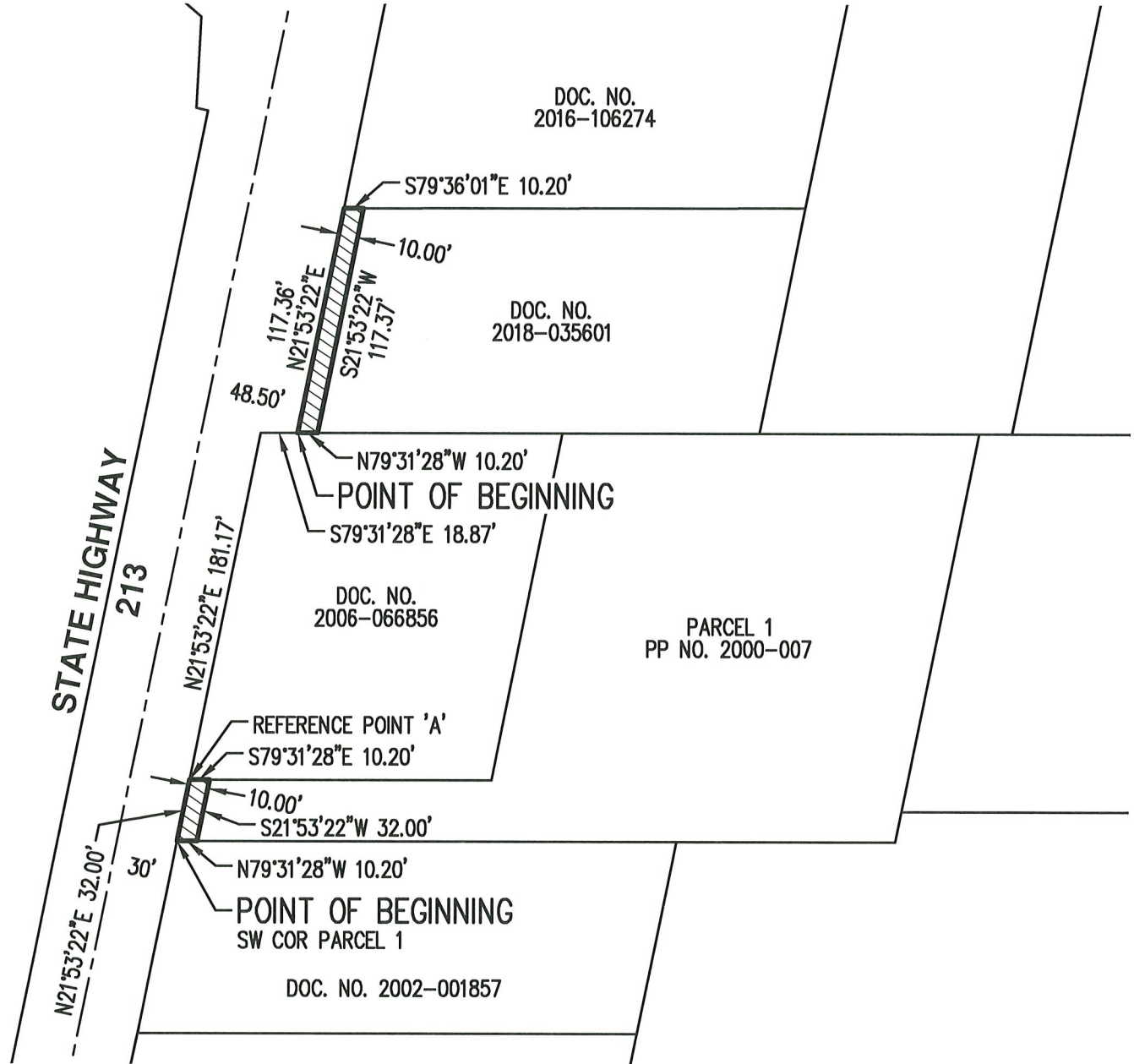
6/4/2020



RENEWS: 6/30/21

EXHIBIT B

A TRACT OF LAND LOCATED IN THE SOUTHEAST 1/4 OF SECTION 7,
TOWNSHIP 5 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN,
CITY OF MOLALLA, CLACKAMAS COUNTY, OREGON



6/4/2020

**REGISTERED
PROFESSIONAL
LAND SURVEYOR**

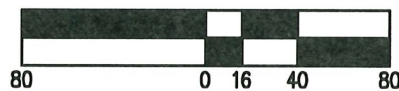
Benjamin R Huff
OREGON
MARCH 14, 2017
BENJAMIN R HUFF
84738PLS
RENEWS: 6/30/21

PREPARED FOR

GEO DEVELOPMENT, LLC
8555 SE NORTHERN HEIGHTS COURT
HAPPY VALLEY, OR 97036

TOTAL AREA=1,494 SF±

SCALE: 1" = 80 FEET



PUBLIC UTILITY EASEMENT MAP

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM



EXHIBIT
B

DRWN: WCB
CHKD: BRH
AKS JOB:
7435

CR

PUBLIC SANITARY EASEMENT

Grantor – Limited Liability Company

Christie DeSantis
After recording, return to:

City Recorder
City of Molalla
PO Box 248
Molalla, OR 97038

Clackamas County Official Records
Sherry Hall, County Clerk

2021-003343



02415054202100033430060063

\$118.00

01/12/2021 10:34:53 AM

D-E Cnt=1 Stn=2 COUNTER3
\$30.00 \$16.00 \$62.00 \$10.00

KNOW ALL MEN BY THESE PRESENTS, that Colima Apartments, LLC, an Oregon Limited Liability Company, hereinafter referred to as "Grantor," for the consideration hereinafter stated, does forever grant unto the CITY OF MOLALLA, a municipal corporation, hereinafter referred to as "Grantee," a permanent right-of-way and easement over and along the full width and length of the premises described as follows, to-wit:

1. The legal description is set forth in EXHIBIT "A", attached hereto and incorporated by reference herein.
2. A map of the above legal description is set forth in EXHIBIT "B", attached hereto and incorporated by reference herein.

The true and actual consideration paid for this transfer, stated in terms of dollars, is \$-0-.

In the event the permanent right-of-way and easement shall no longer serve a public purpose, it shall revert back to the Grantor, its successors, and/or assigns.

TO HAVE AND TO HOLD the above described permanent right-of-way and easement unto said Grantee in accordance with the conditions and covenants as follows:

1. The permanent right-of-way and easement shall include the right, privilege, and authority, to the said City of Molalla, to excavate for, and to construct, build, install, lay, patrol, operate, maintain, repair, replace and remove an underground sanitary sewer, storm drain, or water pipeline or pipelines, with all appurtenances incident thereto or necessary therewith, including aboveground valve boxes, fire hydrants or manholes, for the purpose of carrying and conveying sewage wastes, surplus waters, or potable water as the case may be, and for similar uses in, under, and across the said premises, and to cut and remove from said right-of-way any trees and other obstructions which may endanger the safety or interfere with the use of said pipelines, appurtenances attached to or connected therewith; and the right of ingress and egress to and over said above described premises at any and all times for doing anything necessary, useful, or convenient for the enjoyment of the easement hereby granted. No building or structure shall be constructed over the pipeline easement right-of-way.
2. To the extent allowed by law, Grantee will indemnify and hold harmless the Grantor, its successors and/or assigns from claims for injury to person or property as a result of the negligence of the Grantee, its agents or employees in the construction, operation, or maintenance of said pipeline.

EXHIBIT A

Public Sanitary Easement Description

A tract of land located in the Southeast One-Quarter of Section 7, Township 5 South, Range 2 East, Willamette Meridian, City of Molalla, Clackamas County, Oregon, and being more particularly described as follows:

Beginning at the southwesterly corner of Parcel 1 of Partition Plat 2000-007, Clackamas County Plat Records, also being on the easterly right-of-way line of State Highway 213 (30.00 feet from centerline); thence along said easterly right-of-way line, North 21°53'22" East 16.70 feet to a line which is parallel with and 16.37 feet northerly of, when measured at right angles to, the southerly line of said Parcel 1; thence along said parallel line, South 79°31'28" East 369.60 feet to the easterly line of said Parcel 1; thence along said easterly line, South 21°53'22" West 16.70 feet to said southerly line; thence along said southerly line, North 79°31'28" West 369.60 feet to the Point of Beginning.

The above described tract of land contains 773 square feet, more or less.

Bearings for this description are based on State Plane Grid bearing, Oregon State Plane, North Zone 3601, NAD83(2011) Epoch: 2010.0000. Distances shown are International Foot ground values.

6/4/2020

REGISTERED
PROFESSIONAL
LAND SURVEYOR

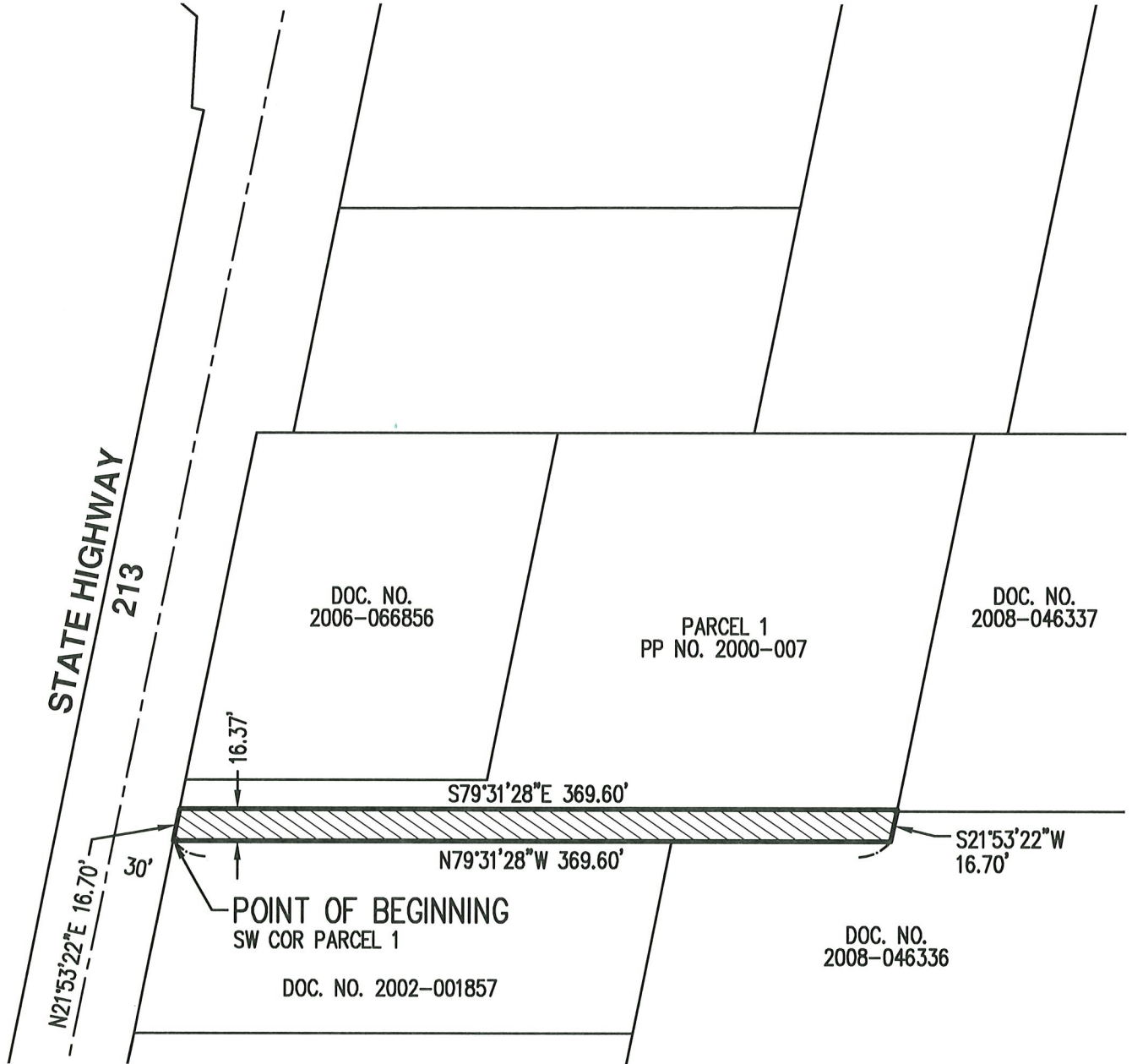
Benjamin R Huff

OREGON
MARCH 14, 2017
BENJAMIN R HUFF
84738PLS

RENEWS: 6/30/21

EXHIBIT B

A TRACT OF LAND LOCATED IN THE SOUTHEAST 1/4 OF SECTION 7,
TOWNSHIP 5 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN,
CITY OF MOLALLA, CLACKAMAS COUNTY, OREGON



6/4/2020

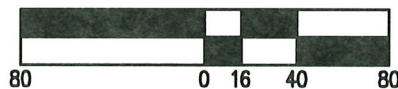
REGISTERED
PROFESSIONAL
LAND SURVEYOR

PREPARED FOR

GEO DEVELOPMENT, LLC
8555 SE NORTHERN HEIGHTS COURT
HAPPY VALLEY, OR 97036

AREA=773 SF±

SCALE: 1" = 80 FEET



Benjamin R Huff
OREGON
MARCH 14, 2017
BENJAMIN R HUFF
84738PLS
RENEWS: 6/30/21

PUBLIC SANITARY EASEMENT MAP

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM



EXHIBIT
B

DRWN: WCB
CHKD: BRH
AKS JOB:
7435

3. The City of Molalla, upon the initial installation, and upon each and every occasion that the same be repaired, replaced, renewed, added to, or removed, shall restore the premises of the Grantor, and any improvements disturbed by the City, to as good condition as they were prior to any such installation work, including, but not limited to, the restoration of any topsoil, lawn and nursery stock of like kind and quality subject to reasonable substitution as may be necessitated by obstruction or interference with the use granted herein.

4. Grantor may, at its option and expense, relocate said right-of-way, easement and associated public appurtenances and utilities, provided such relocation is accepted by the City as complying with applicable codes and standards, land use laws and regulations.

IN WITNESS WHEREOF, the undersigned grantor has executed this easement, this 19th day of November, 2020.

GRANTOR:

Colima Apartments LLC
(Name of Limited Liability Company)

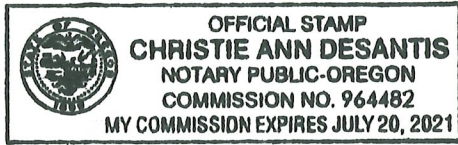
By:

Angel Jimenez Alejandeez
(Agent)

Angel Jimenez
(Agent)

STATE OF OREGON)
) ss.
County of Clackamas)

On this 19th day of November, 2020, before me personally appeared Angel Jimenez, whose identity is proved to me on the basis of satisfactory evidence, and affirmed that he/she is the owner of Colima Apartments, LLC, a limited liability company, and that the foregoing document was signed by him/her on behalf of and by authority of said LLC.



Christie Ann Desantis
Notary Public – State of Oregon

STATE OF OREGON)
) ss.
County of _____)

On this _____ day of _____, 20____, before me personally appeared _____, whose identity is proved to me on the basis of satisfactory evidence, and affirmed that he/she is the _____ of _____, a limited liability company, and that the foregoing document was signed by him/her on behalf of and by authority of said LLC.

Notary Public – State of Oregon

APPROVED AS TO LEGAL DESCRIPTION
this 19th day of NOVEMBER, 2020.

[Signature]
Gerald Fisher, Public Works Director
City of Molalla, Oregon

ACCEPTED on behalf of the City of Molalla, Oregon
this 19th day of November, 2020.

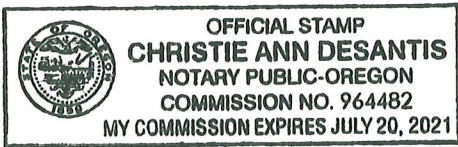
[Signature]
Dan Huff, City Manager
City of Molalla, Oregon

ATTESTED TO:

[Signature]
Christie DeSantis, City Recorder
Date: 11-19-2020

STATE OF OREGON)
) ss.
County of Clackamas)

This instrument was acknowledged before me on November 19, 2020,
by Dan Huff, as City Manager of
the City of Molalla.



[Signature]
Notary Public - State of Oregon

Exhibit C:

Molalla Public Works Comments



Public Works Department
117 N Molalla Avenue
PO Box 248
Molalla, Oregon 97038
Phone: (503) 829-6855
Fax: (503) 829-3676

March 16, 2022

TO: Mac Corthell, Planning Director
Dan Zinder, Assistant Planner
Julie Larson, Planning Specialist

FROM: Sam Miller, Sr. Engineer Tech.

RE: Colima Apartments Phase II (SDR-2021) – 12763 Crompton’s Lane

Based on a review of the materials submitted, Staff has prepared the following comments. These comments are applicable to the subject application; any subsequent modifications may require amendments and/or additions. These conditions do not include requirements already set forth in the municipal code.

CONDITIONS

1. Specific Requirements To This Site:

A. Street:

1. Phase 2 of the Colima Apartment Development will not require a traffic impact analysis update. Applicant has prepared and submitted a Transportation Impact Study for the proposed development and receives City approval with this site design review. The proposed development will add a total of 12 units (9 trips) and the threshold for a traffic impact analysis is 25 trips.
2. Access for the development is planned to be taken from an existing shared private driveway approach on S Highway 213 and does not require a new approach. Driveway access with need to comply with all planning and ODOTs requirements per DRW04-2019.
3. Transportation SDC’s – In accordance with MMC 13.14 this design review does increase the impacts to the public improvement facility and is therefore not exempt from transportation SDC charges. SDC’s shall be calculated in accordance with the SDC methodology.

B. Storm - in Accordance with MMC 17-3.6.050 Storm Drainage and Surface Water Management:

1. Applicant proposes to collect and detain all stormwater onsite and discharge into existing facilities, provided during first phase buildout. Applicant proposes to upsize and /or modify existing detention as necessary to accommodate second phase. Design engineer will be required to provide storage capacity on existing storm system for phase

ll connection. Onsite private storm system shall comply with plumbing code requirements. The onsite storm conveyance system shall be reviewed and inspected by Clackamas County Building under a plumbing permit.

2. Stormwater SDC's – In accordance with MMC 13.14 this design review does increase the impacts to the public improvement facility and is therefore not exempt from stormwater SDC charges. SDC's shall be calculated in accordance with the SDC methodology.
- C. Sanitary - in accordance with MMC 17-3.6.040 Sanitary Sewer Service Improvements:
1. An 8-inch sanitary main exists on Crompton's lane. Applicant proposes to extend the 8-inch sewer main to the east end of the site and connect proposed development by lateral connection and provide sanitary sewer cleanout per Molalla Standards. Extension of sewer main will require a Certificate of Capacity analysis. Applicant will be responsible for cost of analysis and requires DEQ's approval prior to issuance of plumbing or Public Works permit for sewer work.
 2. Applicant's engineer shall coordinate with Public Works for the extension of a public sewer line, and dedication of easements. Applicant shall comply to all Molalla Public Works Design Standards and code provisions in accordance with MMC 13.8 Sanitary Sewer.
 3. Sanitary SDC's – In accordance with MMC 13.14 this design review does increase the impacts to the public improvement facility and is therefore not exempt from sanitary SDC charges. SDC's shall be calculated in accordance with the SDC methodology.
- D. Water - in accordance with MMC 17-3.6.040 Water Service Improvements:
1. Applicant proposes to extend the water main to the east end of the project on Crompton's Lane and branch off to the north to FDC Vault. Waterline shall meet Public Works size requirements and all fire hydrant locations shall be approved by the Fire Marshall. Applicant's engineer shall coordinate with Public Works for the extension of a public water line, and dedication of easements in accordance with MMC 13.4 Water.
 2. A domestic well exists on the south side of Crompton's Lane. Well is subject to private agreement and may be used for irrigation of onsite landscaping if allowed. Use of well will require the installation of reduced pressure backflow devices on all metered connections.
 3. Should Fire Department regulations require additional fire flow that results in looping the water line through the site, then applicants engineer shall coordinate with Public Works for the extension of a public water line, and dedication of easements.
 4. Water SDC's – In accordance with MMC 13.14 this design review does increase the impacts to the public improvement facility and is therefore not exempt from water SDC charges. SDC's shall be calculated in accordance with the SDC methodology.

- E. Parks:
 - 1. Parks SDC's – In accordance with SMC 13.70.110 this residential development is not exempt from parks SDC charges. SDC's shall be calculated in accordance with the SDC methodology.
- F. Franchise Utility Services:
 - 1. All utilities to the project shall be served by underground services. No overhead crossings of public right of way shall be approved by the city.

DESIGN REQUIREMENTS & POLICIES

- 1. General Requirements:
 - A. For residential development projects, all public improvements shall be completed and accepted by the Public Works Department, or otherwise bonded in accordance with MMC 17-3.6.010 and the City of Molalla Public Works Design Standards prior to issuance of building permits. No connections to City services shall be allowed until improvements to the public system to which connection is sought are completed and accepted by City of Molalla Public Works.
 - B. From the materials submitted, it appears that the storm drain, domestic water, and sanitary sewer facilities will be obtained from main line connections and/or extensions. Separate engineering drawings reflecting the installation of these public utilities will be required.
 - C. No construction of, or connection to, any existing or proposed public utility/improvements will be permitted until all plans are approved by Staff, all fees have been paid, all necessary permits, bonding, right-of-way, and easements have been obtained and approved by staff, and Staff is notified a minimum of 24 hours in advance.
 - D. Staff reserves the right to require revisions/modifications to the public improvement construction plans and completed street improvements, if additional modifications or expansion of the sight distance onto adjacent streets is required.
 - E. All public utility/improvement plans submitted for review shall be based upon a 22"x 34" format and shall be prepared in accordance with the City of Molalla Public Work's Standards.
 - F. All survey monuments on the subject site or that may be subject to disturbance within the construction area, or the construction of any off-site improvements shall be adequately referenced and protected prior to commencement of any construction activity. If the survey monuments are disturbed, moved, relocated, or destroyed as a result of any construction, the project shall, at its cost, retain the services of a registered professional land surveyor in the State of Oregon to restore the monument to its original condition and file the necessary surveys as required by Oregon State law. A copy of any recorded survey shall be submitted to Staff.
 - G. Plans submitted for review shall meet the requirements described in Section 1 of the Molalla Standard Specifications for Public Works Construction.
 - H. The applicant shall contact the Oregon Water Resources Department and inform them of any existing wells located on the subject site. Any existing well shall be limited to irrigation purposes only. Proper separation, in conformance with applicable State standards, shall be maintained between irrigation systems, public water systems, and public sanitary systems. Should the

project abandon any existing wells, they shall be properly abandoned in conformance with State standards and supply the City with a copy of the final document.

- I. Sanitary sewer designs require review by Oregon Department of Environmental Quality. Applicant shall be responsible for submission of plans to state agency and all associated fees. Applicant's Engineer will be required to submit final report to DEQ and provide a copy of the report to the City.
- J. All utilities will be stubbed out to the far end of each street for future extension. The project shall utilize existing water, sewer, and storm water 'stub-outs' wherever possible. Water for domestic and fire protection shall be looped through the proposed site. Any 'stub-outs' determined to be not needed for the proposed development or any future development of the subject property shall be abandoned in accordance with the Molalla Standard Specifications for Public Works Construction.
- K. All public improvement designs shall meet the requirements of the Molalla Standard Specifications for Public Works Construction as amended by the Public Works Director.
- L. General Easements – A 10-foot-wide public utility easement shall be dedicated to the City adjacent to all public right-of-way and no structures are allowed to encroach into the easement. Applicant shall be required to submit a legal description and exhibit map for review and sign City easements. Once completed, applicant will be required to record easements with the County Recorder's Office and return the original document to the City prior to final occupancy.
- M. General Wetland Requirements – The applicant will be required to provide Public Works with a letter of concurrence from the Department of State Lands regarding any wetlands on the subject property.
- N. General Erosion Control – The applicant shall install, operate, and maintain adequate erosion control measures in conformance with the standards adopted by the City of Molalla and DEQ during the construction of any public/private utility and building improvements until such time as approved permanent vegetative materials have been installed. Applicant or Applicant's Contractor shall be responsible for all erosion control requirements under the 1200-C permit and shall coordinate directly with DEQ for questions related to 1200-C permit compliance.

Exhibit D:

Molalla Fire Department Comments



Molalla Rural Fire Protection District #73

P.O. Box 655 • Molalla, OR 97038
320 N Molalla Ave. Molalla, OR 97038

Telephone: 503-829-2200
Fax: 503-829-5794

Comments for Colima Apartments phase 2

The below comments are based solely on the site plan provided. Molalla Fire reserves the right to review and comment on the plans that are to be submitted for full review or revisions to plans that have already been reviewed.

Review of submitted plans is not an approval of omissions, oversights or authorization of non-compliance with any regulations of this agency or of the regulations of any other agency. This decision should not be considered a precedent setting recommendation, as we will review each project on a case-by-case basis.

On page P-09, There is a fire engine with basic measurements that show the travel turn distance/clearances into and out of this phase. I have attached the measurements for Molalla Fire District apparatus as well as mutual aid truck companies. Can you please make sure that the turning template will still work with the provided measurements?

On Page P-10, It shows the curb area directly in front of phase 2 painted as no parking. The area needs to include the turning radius on the NW side of the entrance, The area on the NE side of the entrance in front of the fire hydrant and the area in front of the FDC. In addition, the no parking area needs to extend to HWY 213. See OFC D103.6.1.

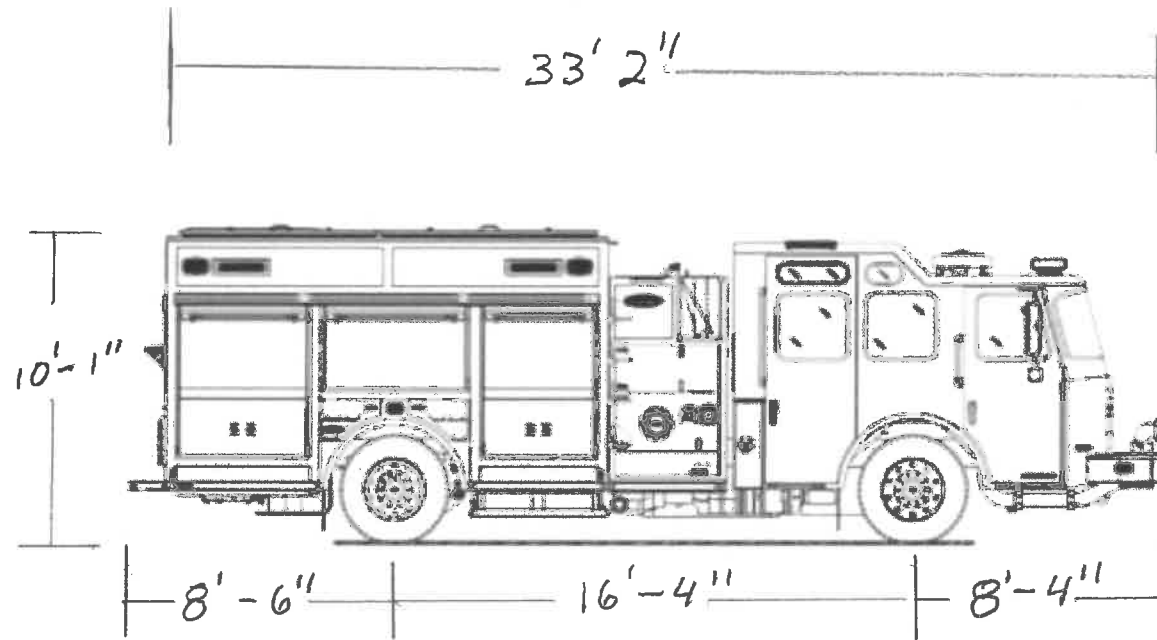
I have not seen addressing signage for this complex. Address signage on the buildings shall be similar to 1111 Meadow drive and 872 W Main St. and shall be clearly visible from the access road.

Please remember that the stortz fitting is four inch and not five for the hydrant. This is a common mistake that is made.

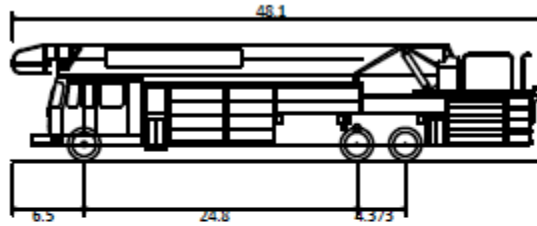
Michael C Penunuri



E382/E384 Measurements



Cramp angle is 48 degrees left and 44 degrees right. Turning radius for 20-foot-wide driving surface is 28/48. Less than 20-foot driving surface is 44/56.



Portland Fire Truck T-1	
Overall Length	48.100ft
Overall Width	9.500ft
Overall Body Height	10.489ft
Min Body Ground Clearance	0.920ft
Track Width	8.330ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	49.200ft

Exhibit E:
ODOT Comments

Dan Zinder

From: DANIELSON Marah B <Marah.B.DANIELSON@odot.oregon.gov>
Sent: Wednesday, March 23, 2022 10:26 AM
To: Dan Zinder
Cc: Christie Teets; Sam Miller; Mac Corthell
Subject: Colima Apartments Phase 2

Hi Dan,

Thanks for sending ODOT the land use notice for the Colima Apartments Phase 2 development. No ODOT requirements are triggered and it is off the highway, so I am not planning to submit formal comments.

Please let me know if you have any questions.

Hope all is well.

Marah Danielson, Senior Planner
ODOT Development Review Program
Marah.b.danielson@odot.oregon.gov
503.731.8258