Planning & Community Dev.
117 N Molalla Avenue
PO Box 248
Molalla, Oregon 97038
Phone: (503) 759-0219
communityplanner@cityofmolalla.com

AGENDA
Molalla Planning Commission
6:30 PM, March 4, 2020

Meeting Location: Molalla Adult Center

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:

V. PUBLIC HEARINGS:

- Public hearing and consideration of a Site Design Review application – DRW-04-2019 – requesting approval of the "Colima Apartments;" a 36-unit multifamily residential complex located at 31514 S. Hwy. 213 and 12745 S. Cromptons Lane.

VI. WORK SESSION:

a) Discuss draft standards for new Industrial Hemp Processing businesses.

VII. DISCUSSION ITEMS:

a) Projects Update

VIII. REPORTS AND ANNOUNCEMENTS

IX. ADJOURNMENT

Molalla Planning Commission
MINUTES
Molalla Adult Center
315 Kennel Ave., Molalla, OR
97038
January 15, 2020

The January 15, 2020 meeting of the Molalla Planning Commission was called to order by Chair Rae Lynn Botsford at 6:31pm. This was followed by the flag salute and roll call.

COMMISSIONER ATTENDANCE:
Chair Rae Lynn Botsford – Present
Commissioner Steve Deller – Present
Commissioner Doug Eaglebear – Present
Commissioner Debbie Lumb – Absent
Commissioner Jennifer Satter – Absent
Commissioner Jacob Giberson – Present
Commissioner Connie Farrens - Present

STAFF IN ATTENDANCE:
Alice Cannon, Planning Director – Present
Julie Larson, Planning Assistant - Present

PUBLIC COMMENT ON MATTERS NOT ON THE MEETING AGENDA:
No one offered public comment.

MINUTES:
Chair Botsford confirmed with the Planning Commissioners that they have received and reviewed the minutes for December 4, 2019. Chair Botsford called for a motion to approve the minutes. A motion to approve the minutes was made by Commissioner Deller, a second was received by Commissioner Eaglebear. Motion passes 5-0.

SELECTION OF PLANNING COMMISSION OFFICERS FOR 2020:
a) Chair: Rae Lynn Botsford
b) Vice Chair: Doug Eaglebear
c) Secretary: Steve Deller

PUBLIC HEARING:
- Consideration of an amendment to Molalla Municipal Code (MMC) Table 17-2.2.030 "Uses Allowed by Zoning District" to remove "self-service storage, commercial" as a permitted use in the C-2 (General Commercial) zone.

Chair Botsford called the public hearing to order and read the hearing script into the record.

CITY STAFF REPORT:

Planning Director Cannon gave the staff report which can be found in the meeting packet. The staff report includes the applicable standards and criteria for code amendments, fiscal impact, and a recommendation from staff including exhibits. Exhibit A: Findings of Fact. A letter from Dawn Johnson, a Salem real estate broker, was introduced and distributed to each Commissioner, as well as staff.

Planning Director Cannon introduced the proposed code amendment by presenting the Commissioners two city zoning maps, with and without the C-2 zone included. This was intended to highlight the specific zoning areas that would be affected should the code amendment occur. Director Cannon explained that self-service storage would still be permitted in the Light Industrial zone and is a conditional use in the Heavy Industrial zone. She went on to discuss that there have been a lot of inquiries/ requests to build storage, especially along Main St. Director Cannon pointed out that 250 new units have already been approved in Phase I of the Cascade Center Project. She stated that this proposed code amendment would help to preserve a shortage of commercial land in the city and leave scarce commercial land to better use in order to fulfill the needs and services of and for our citizens.

Planning Director Cannon stated that City Staff is encouraging the Planning Commission to approve the code amendment request to go forward to City Council.

QUESTIONS FROM PLANNING COMMISSION:

Commissioner Ferrens asked for clarification in the current zoning and noted that she had contacted several self-service storage businesses in the city and that they were currently full.

Planning Director Cannon reviewed the zoning, stating that currently self-service storage is allowed in the C-2 (pink) and Light Industrial (light purple) zones and are conditional use in Heavy Industrial (dark purple) zones. She also addressed the public outreach that Commissioner Ferrens did, pointing out that there are 250 additional units already approved in Phase I of the Cascade Center Project and that an additional application had come in for Phase II of the Cascade Center Project seeking approval for 300 additional units.

Commissioner Giberson stated his first thought upon seeing this recommendation is that “we just passed self-service storage in the C-2 zone, now we are taking it away?”

Planning Director Cannon responded that she wasn’t here when the code was re-vamped initially.

Commissioner Giberson inquired that it appears Cascade Center seems to be getting the advantage

Chair Botsford made mention that the city does in fact need more storage but not on Main St. She is concerned with problems these units can bring to the city and suggested putting them back away from retail spaces in order to avoid rat infestation and other issues etc.

Commissioner Ferrens inquired as to if the code could be amended so that self-storage units were conditional use in the C-2 zone.

Planning Director Cannon responded that because self-service storage facilities are typically low-impact uses, a conditional use permit requirement wouldn’t necessarily give the Planning Commission the

authority to deny applications. Most proposals will meet the existing conditional use criteria. Requiring self-storage to become a conditional use will not limit their placement in most locations.

PUBLIC COMMENT:

Daniel Silvey, broker from Knipe Realty, spoke in opposition of the proposed code amendment. Mr. Silvey represents the seller of the OR-211/OR-213 property that was recently annexed into the city. He presented the Commission with an example of mini-storage built within an apartment complex in Bend, Oregon. Mr. Silvey opposes the proposed code amendment. He feels that self-service storage should be allowed in the C-2 zone. He stated that should the code amendment be adopted, it should in the least include self-service storage in the C-2 zone as an "S" designation (Permitted with Special Use Standards) much like the City of Portland's "L" designation. He pointed out that with Molalla's population growth, 40-50 additional units a year will be needed. Mr. Silvey also noted that developers won't build "just because they can;" they build to meet the needs of the community.

Commissioner Deller directed a question to Planning Director Cannon asking if Dawn Johnson the realtor who submitted an email, was currently working on a local project or if there are any applications submitted by her.

Planning Director Cannon responded that she had been involved in a pre-app with no specific mention of use.

Commission Deller followed-up his question by inquiring if there were any self-service storage applications in the works?

Planning Director Cannon said that there are two. Cascade Center Phase I includes 200 units, already approved; Cascade Center Phase II proposes 300 additional units. The Phase II application has been submitted and deemed incomplete. She stated that she is also aware of two other properties interested in building self-storage units: 600 W Main and another property W of Bi-Mart.

Commissioner Giberson thanked Mr. Silvey for his comments and stated that he feels removing self-service storage from the C-2 zone is not smart.

Chair Botsford stated that she liked the "S" designation alternative that Mr. Silvey suggested.

Planning Director Cannon suggested that the Commission could table the recommendation and kick it back to staff.

Commissioner Giberson made a motion to table the issue, **Commissioner Ferrens** seconded it. The motion to table the amendment passed 5-0.

DISCUSSION ITEMS:

Girl Scout Troop #45537:

Chair Botsford introduced the Girl Scout Troop and explained they were in attendance to earn their Government badge. The troop and Commission took part in a short Q&A

Project Updates:

Planning Director Cannon shared that City Council approved the HWY213/HWY211 annexation. She

also shared that the Economic Development Plan has begun and that a Request for Quotes will be issued soon to procure a qualified consultant. Director Cannon was also thrilled to share with the Commission that the City had been awarded a $30,000 grant towards the Economic Development Plan from the Ford Family Foundation.

Hemp:

Planning Director Cannon told the Planning Commission that a nuisance hearing regarding the odor impacts emanating from the industrial hemp plant on Industrial Way will take place on February 11th at 6:00pm in the Molalla Municipal Court Room. She explained that staff would be posting a community invitation on social media as well as mailing notices to those residents that live within a half mile of the hemp processor. She asked for the Commission's help in spreading the word.

REPORTS AND ANNOUNCEMENTS:

There were no report or announcements.

ADJOURNMENT:

Motion was made by Chair Botsford to adjourn the meeting, 2nd received from Commissioner Eaglebear. Meeting was adjourned at 7:49pm.

_____ _____

Chair, Rae Lynn Botsford Date

ATTEST: _____

Alice Cannon, Planning Director

Planning & Community Dev.
117 N Molalla Avenue
PO Box 248
Molalla, Oregon 97038
Phone: (503) 759-0219
communityplanner@cityofmolalla.com

CITY OF MOLALLA STAFF REPORT
DRW04-2019 COLIMA APARTMENTS

Date: February 24, 2020

File No.: DRW04-2019

Request: Public hearing and consideration of a Site Design Review application for a 36-unit apartment complex called Colima Apartments.

Address: 31514 S Highway 213

Tax Lots: Map 5 2 E 07D, Tax Lots 2300 and 2402

Applicant: AKS Engineering & Forestry, LLC
12965 SW Herman Road, Suite 100
Tualatin, OR 97062

Property Owners: Angel Jimenez Alejandrez & Hector Manuel Jimenez Ascencio (Tax Lot 2300)
31514 S Highway 213
Molalla, OR 97038

Beatriz Gomez (Tax Lot 2402)
309 NE 19th Avenue
Canby, OR 97013

I. APPLICABLE STANDARDS AND CRITERIA:

Molalla Municipal Code, Title 17, Development Code

1. Division II, Zoning Regulations

   Chapter 17-2.2.030 Allowed Uses
   Chapter 17-2.2.040 Lot and Development Standards
   Chapter 17-2.2.060 Residential Density Standards

   Chapter 17-2.3.080 Multifamily Development

2. Division III, Community Design Standards

   Chapter 17-3.2.030 Residential Buildings
   Chapter 17-3.2.050 Civic Space and Pedestrian Amenities
   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, and

3. Chapter 18.02 Signs;

4. Division IV, Application Review Procedures and Approval Criteria

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

II. EXECUTIVE SUMMARY

Proposal:
The Applicants/Owners propose a new 36-unit apartment complex identified as Colima Apartments. Both the north and south properties maintain current access from OR-213. The proposed use would take access from OR-213 using the existing shared access near the southern property line. Access on the northern property would be abandoned. Current zoning of the properties is General Commercial (C-2). Table 17-2.2.030 shows multi-family residential projects as an allowed use in the zone and no change to the zoning designation is proposed in this application.

Site Description:
The subject property is located on the east side of OR-213, directly south of the intersection of OR-213 and OR-211/W Main Street. The project site consists of two parcels, totaling in 1.77 acres and 1.5 buildable acres in size (for a total of 3.27 acres). These lots are addressed as 31514 S HWY 213 and 12745 S Crompton's Way. 31514 S HWY 213 is the current site of a single-family home. The other property is vacant. Several trees are scattered on the property. The site has a slight slope, descending from its high point in the southeast corner to its low point in the northwest corner.

Surrounding Zoning and Land Uses:
The project site is directly surrounded by commercially zoned (C-2, General Commercial) land west and north, and industrial (M-2, Heavy Industrial) land to the south The commercial land contains a gas station to the north and convenience store and a retail cannabis store on the west side. The industrial land to the east contains a non-conforming single-family residence and vacant land. The industrial land to the south contains an industrial fabrication facility. Across OR-213 to the west, the parcel is currently vacant and recently annexed commercial land (zoned C-2).

Public Agency Responses:
Staff sent notice of the project to the City's Public Works Director, Fire Marshal, and the Oregon Department of Transportation. The City incorporated agency responses into our decision and conditions, included as Exhibits C, D, and E of this document.

Public Notice and Comments: On February 12, 2020, 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. The notice was posted on the City's website on February 12, 2020 and published in the Molalla Pioneer on February 12, 2020. Signage containing public notice information was posted on the property on February 13, 2020 2020. As of February 19, staff received two public comments; one from Terry and Randy Burley and another from Gary and Sandra Sause. Their comments are included as Exhibits F and G of this document.

III. RECOMMENDATION

Based on the application materials and findings demonstrating compliance with the applicable criteria, **staff recommends approval of Site Design Review DRW04-2019, subject to the following conditions of approval.** This approval is based on the applicant's submitted plans, written narrative, and supplemental application materials. Any modifications to the approved plans other than those required by this decision will require a new land use application and approval.

1. Conditions Requiring Resolution Prior To Submitting Building Permit Applications to the City of Molalla:

The Applicant and/or Property Owner shall:

a. Record additional agreements such as easements or a replat of the subdivision that unifies the two parcels to accommodate utility, amenity, and ingress/egress sharing between the two subject parcels. (MCC Title 17, Division II Zoning Regulations)

b. If wetlands are present on the site, Applicant shall submit an approved fill permit from the Oregon Department of State Lands and Army Corps of Engineers to the Planning Department.

c. Applicant shall receive access permits from the Oregon Department of Transportation. (MMC 17-3.3.020 (B)), (MMC 17-3.3.020 (D)(17)).

d. Design and construct two ADA accessible approaches that allow for future development of pedestrian connections on the southern property line to allow for future pedestrian connections to OR-213. ((17-3.3.040 (B) (2), 17-3.3.040 (B) (2))

e. Submit detailed engineering plans demonstrating compliance with MMC and the City of Molalla Public Works Standards. All public improvement designs – including storm drainage, domestic water and sanitary sewer facilities shall meet the requirements of the Molalla Standard Specifications for Public Works Construction as amended by the Public Works Director. All public utility/improvement plans submitted for review shall be submitted in a 22" x 34" format. 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 (Molalla Public Works Comments). The engineering plans shall also resolve these issues:

i. Extension of sewer main will require a Certificate of Capacity analysis by City's on-call engineer. 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. (MMC 17-3.6.040, Molalla Public Works Comments)

ii. Waterline shall meet Public Works size requirements and all fire hydrant locations shall be approved by the Fire Marshal. (17-3.6.040, Public Works Comments)

iii. 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.

iv. On ODOT rights of way, applicant will be required to donate sufficient right-of-way along variable width improvements and construct sidewalk widening to ODOT standards. ODOT requires donations of right-of-way to follow the requirements of Chapter 5.322. Developer Mitigation Donation in the ODOT Right-of-Way Manual. Applicant is advised that donation must be completed and recorded prior to submission of final subdivision plat or final partition plat in order for Public Works to process plat documents.

v. Dedicate a 10-foot wide Public Utility Easement across the front of 31514 Hwy 213 and across 12745 Crompton's Lane fronting OR 213 (17-3.6.020 (C) (3).) 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 (Molalla Public Works Comments).

vi. OR 213: OR 213 is an arterial street under Oregon Department of Transportation (ODOT) jurisdiction. Current right-of-way width varies from 60-75 feet and approximate pavement width varies from 52-67 feet. Frontage improvements have been completed except for an ODOT approved driveway apron at Crompton's Lane. Applicant will be required to construct a driveway apron and sidewalk to the south edge of Crompton's Lane in accordance with ODOT requirements.

vii. Resolve the location and number of needed roadway lights along OR-213. Include design and lighting specifications on or sign a waiver of remonstrance for future lighting project. (MMC 17-3.4.050)

viii. Comply with ODOT comments about OR-213 right of way width and left turn warrants. Design improvements to be consistent with ODOT requirements.

ix. Crompton's Lane: Crompton's Lane is a private drive. Applicant will be required to construct a paved driveway to the east end of the project and comply with all MMC Development Code requirements for onsite access and connectivity. See ODOT comments regarding width.

x. Discuss FDC and hydrant placement with Molalla Fire Department (Molalla Fire Department Comments) and design all required improvements.

xi. Stubbed out required utilities to the east end of Crompton's Lane for future extension.

xii. Fire hydrants shall have a 4" Stortz fitting (Molalla Fire Department Comments).

f. Design any security gates to have a clear span of not less than 16 feet. If its electronic, a separate fire department access code will need to be provided that will keep the gate open during the time the fire department is on scene. If this cannot be accomplished, a Knox override key shall be provided (Molalla Fire Department Comments).

g. Submit any required plans to state agencies 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 (Molalla Public Works Comments).

h. Dedicate right of way as necessary to accommodate the planned cross section shall be provided. The deed must be to the State of Oregon, Oregon Department of Transportation. The ODOT District contact will assist in coordinating the transfer. ODOT should provide verification to the Molalla Public Works Department that this requirement has been fulfilled. The property owner must be the signatory for the deed and will be responsible for a certified environmental assessment of the site prior to transfer of property to the Department (ODOT Comments).

i. Design all buildings to provide knox boxes for all riser rooms (Molalla Fire Department).

2. Conditions to be met During Construction:

The applicant and/or property owner shall:

a. Install mailboxes that conform to the requirements of the United States Postal Service and the State of Oregon Structural Specialty Code (17-3.6.020 (O)).

b. Restore any survey monuments disturbed during construction on the subject site. 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 (Molalla Public Works Comments).

c. 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 (Molalla Public Works Comments).

d. Construct curbs and sidewalks, consistent with local, ODOT and ADA standards (ODOT Comments).

3. Conditions to be met Prior To Occupancy:

a. All public improvements shall be completed and accepted by the Public Works Department prior to issuance of any occupancy (Molalla Public Works Comments).

b. Addressing shall meet current apartment addressing standards (Molalla Fire Department Comments).

4. Ongoing Conditions:

a. All landscaping shall be maintained in good condition or otherwise replaced by the property owner (17-3.4.030 (G)).

b. Fencing for the storage area and any fencing or walls installed at a later time shall be maintained in good condition or otherwise replaced by the property owner (17-3.4.030 (F)).

c. All outdoor lighting shall be maintained in good condition, or otherwise replaced by the property owner (17-3.4.050 (E)).

d. All stages of this project shall be in conformance with ADA parking requirements (Chapter 17-3.5 (H)).

e. The Applicant shall maintain all sidewalks and planter strips in the right of way (17-3.6.020 (L)).

f. The Applicant shall provide certification to the City that all boundary and interior monuments have been reestablished and protected (17-3.6.020 (M)).

g. No structures are allowed to encroach into the public right-of-way or utility easement (Molalla Public Works Comments).

Exhibits:

Exhibit A: CU04-2019 Application Package
(including application, narrative, and property legal description)

Exhibit B: Findings of Fact

Exhibit C: Oregon Department of Transportation Comments

Exhibit D: Molalla Public Works Comments

Exhibit E: Molalla Fire Department Comments

Exhibit F: Public Comment from Mr. Terry Burley and Mr. Randy Burley

Exhibit G: Public Comment from Mr. Gary Sause and Mrs. Sandra Sause

Exhibit A:

CU04-2019 Application Package (including application, narrative, and property legal description)

A Site Design Review Application for Colima Apartments

Date: November 2019

Submitted to:
City of Molalla
Planning Department
117 N Molalla Avenue
Molalla, OR 97038

Applicant:
Angel Jimenez
31514 S Highway 213
Molalla, OR 97038

AKS Job Number: 7435

AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151

Table of Contents

Exhibits

Exhibit A: Preliminary Plans

Exhibit B: Preliminary Architectural Plans

Exhibit C: City Land Use Application Form

Exhibit D: Transportation Impact Study

Exhibit E: Preliminary Stormwater Report

Exhibit F: Clackamas County Assessor's Map

Exhibit G: Property Ownership Information

Exhibit H: Existing Deed Restrictions

A Site Design Review Application for Colima Apartments

Submitted to:
City of Molalla
Planning Department
117 N Molalla Avenue
Molalla, OR 97038

Applicant:
Angel Jimenez
31514 S Highway 213
Molalla, OR 97038

Property Owners:
Angel Jimenez Alejandrez &
Hector Manuel Jimenez Ascencio (Tax Lot 2300)
31514 S Highway 213
Molalla, OR 97038

Beatriz Gomez (Tax Lot 2402)
309 NE 19th 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: 31514 S Highway 213 and 12745 S Crompton's Lane

Clackamas County Assessor's Map: 5 2 E 07D Tax Lots 2300 and 2402

Site Size: ±1.77 acres

Land Use District: General Commercial (C-2)

I. Executive Summary

This application involves a Type III Site Design Review for a 36-unit multifamily residential complex at 31514 S Highway 213 in Molalla. The subject property is ± 1.77 acres in size (Clackamas County Assessor's Map 5 2 E 07D, Tax Lots 2300 and 2402) and is in the General Commercial (C-2) District. The project is planned to access S Highway 213 from an existing driveway, referred to as S Crompton's Lane, at the southwestern boundary of the site. The planned project features include:

- 36 dwelling units within three separate buildings
- Off-street parking for residents and visitors
- Interconnected pedestrian circulation system
- Consolidation of access to S Highway 213
- Preservation and enhancement of access to adjacent properties
- Enclosed recycling/garbage facility
- Common open space including landscaped open space areas, benches, barbeque grill and picnic benches
- Private open space (balconies and patios) for each of the dwellings

The Colima Apartments site design review is a "needed housing" application under Oregon Revised Statute (ORS) 197.303(1)(a) as it provides multifamily housing within an urban growth boundary. ORS 197.307(4) states that a local government may apply only clear and objective standards, conditions, and procedures regulating the development of needed housing, and such standards, conditions, and procedures cannot have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay.

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 needed 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 needed housing statutes apply to this application. The exceptions in ORS 197.307(4)(a) and 197.307(5) do not apply to this application. ORS 197.307(7)(a) is controlled by ORS 197.307(4). The City has not taken an exception under 197.303(3).

This Application is also a "limited land use application" as that term is defined in ORS 197.015 (12). ORS 197.195 (1) describes how certain standards can be applied to a limited land use application.

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 ± 1.77 acres with generally flat topography gently sloping to the north. The site has an existing residential house and two existing driveways with access to S Highway 213. The site is within close proximity to Molalla Market Center.

North: The site abuts an existing commercial site and a rural single-family home and farm that are zoned C-2.

South: Two properties abut the subject site to the south that have existing residential homes and are zoned M-2.

East: The property that abuts the site to the east has a residential home and is zoned C-2.

West: The site generally abuts S Highway 213 to the west. The property located across S Highway 213 is zoned EFU and is used for agricultural purposes. The site surrounds an existing property that has a commercial use and is zoned C-2.

III. Applicable Review 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 a 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 a Site Design Review for multifamily dwellings on property that has a C-2 zoning designation. As discussed at the pre-application conference, the lot and development standards that are to be applied for this application are the standards for the R-3 Zone 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 code sections 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.

Response: The Preliminary Plans (Exhibit A) show the planned future buildings will meet the setback requirements shown below. The other applicable development standards are addressed in detail later in this application. This standard is satisfied.

Table 17-2.2.040.D – Lot and Development Standards for Residential zones	
Standard	**R-3 Zone**
Residential Density, per Section 17.2.2.060 (Dwelling Units per net acre)- Minimum and Maximum	Min 8 DU and a Max 24 DU per net buildable acre
Building or Structure Height. See also Sections 17-2.2.050 Setback Yard Exceptions, 17-2.2.080 Height Measurement, Exceptions, and Transitions, 17-3.3.030.G Vision clearance, and 17-3.4.040 Fences and Walls	45 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.)	 3.5 ft 6 ft 6 ft 6ft
Lot Coverage. Maximum Lot Coverage (foundation plane area as % of site area) Multifamily or Cottage Cluster	 80%
Minimum Landscape Area (% lot area). Landscape area may include plant areas and some non-plant areas as allowed under Section 17-3.4.030.	20%
Minimum Setbacks (feet). See also Sections 17-2.2.050 Setback Yard Exceptions, 17-2.2.080 Height Measurement, Exceptions, and Transition, 17-3.3.030.G Vision Clearance, and 17-3.4.040 Fences and Walls.	
Front and Street-Side Setback Yards Standard Setback Garage or Carport Opening Porch or Similar Open Structure (e.g., balcony, portico, patio, wall) where structure is less than 50% enclosed. Porch steps are exempt from measurement.	 10 ft 16 ft 5 ft
Interior Side Setback Yards Structure >24' height (total of 2 interior sides, with no setback yard less than 3 ft)	 10 ft
Rear Setback Yard Structure >24' height	 15 ft
Build-To Line Maximum (feet): Applies to New Buildings Only, except does not apply to detached single-family dwelling: 1) At least one primary building entrance shall be built no farther from the street right-of-way than the build-to line; except that where a greater setback is required for a Planned Street Improvement, the build-to line increases proportionately. 2) The City may also approve exceptions to the build-to line through Site Design Review where pedestrian amenities are provided between a primary building entrance and the street right-of-way. (See also Section 17-3.2.050 Civic Space and Pedestrian Amenities.)	20 ft; may be increased when pedestrian amenities are provided between a primary building entrance and street

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:

A. Residential care homes and facilities, senior housing, accessory dwellings, and subdivisions where the average slope exceeds 15 percent are exempt from the minimum density standard.

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

B. The density standards may be averaged over more than one development phase (i.e., as in a master planned development). Duplex lots used to comply with the density standard shall be so designated on the final subdivision plat. Density standards shall be listed in conditions of approval to ensure proposed density is met.

Response: This application involves Site Design Review that does not include more than one phase. Therefore, this standard is not applicable.

C. Partitions and construction of single-family homes on lots exceeding 20,000 square feet shall be located and constructed so that future division of such lots can occur and planned public facilities can be extended based on the minimum lot size and other applicable City standards.

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

D. Minimum and maximum housing densities are calculated by multiplying the total net buildable area by the applicable density standard. Net buildable area is defined as the area of a site for residential or non-residential development, excluding street rights-of-way and other publicly dedicated improvements such as parks, open space, and stormwater detention and retention facilities. "Net buildable area" is expressed either in acres or square feet.

Response: As shown in Table 17-2.2.040.D above, the minimum allowed density for this site is eight dwelling units per net buildable acre and the maximum allowed density is 24 dwelling units per net buildable acre. As shown on Density Calculations Table on the Preliminary Site Plan, the net buildable area is ±1.50 acres. Therefore, the minimum allowed density is 12 dwelling units and the maximum is 36 dwelling units. This application involves Site Design Review for 36 multifamily dwellings. Therefore, this standard is met.

E. Areas reserved for flag lot access (flag poles) are not counted for the purpose of calculating density.

Response: Th site's planned access is from an existing flag lot driveway with an existing access easement. As shown on the Preliminary Site Plan, the access easement area is not included in the net area used to calculate the allowed densities. This standard is satisfied.

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: As shown on the Preliminary Site Plan, the total building coverage is ±17.4%. As shown in Table 17-2.2.040.D above, the maximum lot coverage allowed is 80%. 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.

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 shown on the Preliminary Architectural Plans, the planned average building roof height is less than 35 feet. The maximum average roof height allowed for this type of project (measured pursuant to the State of Oregon Structural Specialty Code) is 35 feet. As depicted on the Preliminary Architectural Plans, the buildings are planned to be less than 28.5 feet in height to the eaves. This provides for typical fire engine access services for the building. 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 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, the planned common open space area exceeds 15% 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, the common open space area includes landscape improvements, open areas for outdoor play, barbeque area, and picnic tables. 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 areas have 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 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 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 Architectural Plans, the trash receptable and recycling facilities are set back at least 10 feet from the public right-of-way and adjacent properties. The trash facility is oriented away from building entrances and is planned to be screened with a 7-foot concrete masonry unit (CMU) fence. The receptacles are accessible for trash pick-up trucks. This standard is met.

Chapter 17-3.2 BUILDING ORIENTATION AND DESIGN

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.

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 shown on the Preliminary Plans, the building in the northwest portion of the site (Building 1) is oriented to S Highway 213. Due to the irregular geometric configuration of the underlying property, it is not possible to face the other two buildings toward S Highway 213. As further shown on the Preliminary Site Plan, these buildings are oriented towards a planned walkway, with open space, and amenities located between them. These criteria are 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. 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: As shown on the Preliminary Site Plan parking is not planned between a buildings primary entrance and the street. This criterion 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.

Response: As shown on the Preliminary Plans, a pedestrian walkway leading to the planned entrance for Building 1 is located within 20 feet of S Highway 213 as is allowed in Section 17-2.2.040 for buildings in the R-3 zoning district. 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 buildings include 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 three future multifamily dwellings. 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 to S Highway 213 from an existing driveway. As S Highway 213 is controlled by the Oregon Department of Transportation (ODOT), the modification will be permitted as required through ODOT. This criterion will be met.

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 D). The TIS examines the traffic impacts of the planned improvements on the transportation system in the vicinity of the site and based on the 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: The property abuts S Highway 213 and currently has two existing accesses to S Highway 213. As shown on the Preliminary Plans (Exhibit A), the site's access will be from an existing driveway at the site's southern boundary and the second existing access is planned to be abandoned as part of the project. 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 driveway, and the other existing access to S Highway 213 is planned to be abandoned as part of the project. As discussed in detail in subsections E and F below, the planned approach conforms to the spacing and sight distance standards.

> 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 driveway. This driveway 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 an existing driveway to S Highway 213. The existing second access to the subject site from S Highway 213 is planned to be abandoned as part of the project. 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 driveway that has an existing shared access easement to provide access to the property to the east. 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 access to S Highway 213. The Preliminary Plans 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, the access road approach 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 planned 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 throughout the site 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 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: This application includes a sidewalk adjacent to S Highway 213. As shown on the Preliminary Plans (Exhibit A), the driveway apron for the access to S Highway 213 is planned to be constructed of concrete and is planned to meet applicable accessibility requirements. 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.

Response: The driveway approach is being designed to City standards. This standard is met.

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, the site will take access from an existing driveway that has an approach on S Highway 213 which is regulated by ODOT. It is understood that a permit from ODOT will be required. This criterion 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.

Response: As shown on the Preliminary Plans (Exhibit A), the existing 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 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, the site's existing access consists of a gravel driveway. 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 in detail in the Preliminary Stormwater Report included with this application (Exhibit E) and further in this narrative, this 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.

Response: The property abuts S Highway 213 and currently has two existing accesses to the S Highway 213. As shown on the Preliminary Plans (Exhibit A), the site's access will be via an existing driveway at its southern boundary and the additional access is planned to be abandoned with this project. This criterion is met.

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: The property abuts S Highway 213 which an ODOT facility, and their access spacing standards supersede the City's standards. The site's two existing accesses were discussed in detail with ODOT at the pre-application conference. At the pre-application conference ODOT agreed that the site's planned access would be acceptable, and that the existing northern access would need to be abandoned. To the extent applicable, this criterion is 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 intersection of S Highway 213 and the site access is planned to be clear with visual obstructions removed onsite and with the right-of-way. 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 shown on the Preliminary Plans, this site will take access from an existing driveway which will require a Highway Approach permit from ODOT. Any exceptions to spacing standards will be addressed though their permit process. To the extent applicable, this criterion is met.

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 for adjacent properties to have access to S Highway 213. No new easements are warranted. 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 S Highway 213 and extend throughout the site. 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 walkways connect building entrances, open space areas, parking areas, and S Highway 213 in reasonably direct routes. These standards are satisfied.

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: Drive aisles within the project are generally 23 feet wide (or less). In the few instances where crossings are necessary, these areas are 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, four-foot walkways can be provided for residential use. As shown on the Preliminary Plans (Exhibit A), the private walkways included in the application are planned to be constructed of concrete and are five feet wide. 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 Landscape Plan, approximately 33% of the site is planned to be open areas that include landscaping, which exceeds the minimum standard of 20% shown in Table 17-2.2.040.D. As further illustrated on the Preliminary Landscape Plan, the areas not planned for future buildings, parking areas, or vehicle maneuvering areas are planned to be landscaped. 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, parking area landscaping is included that meets the requirement above. 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: Landscape islands meeting the above requirements are shown on the Preliminary Landscape Plan. This standard is met.

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, wheel stops or 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 Architectural Plans, this application includes a planned CMU fence around the trash enclosure. No other outdoor storage areas are 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, landscaping is planned to accompany hard surfaced area (e.g., parking) and around buildings. 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 Architectural Plans, this application includes a planned 7-foot CMU fence around the trash enclosure. This fence is outside of the site's setback areas. Additional fences are not included in the application. That said, if additional fences are desired at a later date, they can meet these standards. 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 Architectural Plans, this application includes a planned CMU fence around the trash enclosure. 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. 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: This application does not include lighting over sidewalks or walkways. This standard is not applicable.

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 entrances and security lighting. As shown on the Preliminary Site Lighting Plan, 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), 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, 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, the planned walkway lighting in private areas have an average minimum illumination of 2.5 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, the planned lighting in the active building entrances have an average minimum illumination of 3.8 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, the planned lighting in the parking area have a minimum illumination of 0.2 foot-candles, average illumination of 1.2 foot-candles, and a uniformity ratio of 18:1. 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 on the Preliminary Architectural Plans (Exhibit B), the planned outdoor lighting for this project are materials that are 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 shown on the Preliminary Architectural Plans, there are a total of six 1-bedroom units, twenty-four 2-bedroom units, and six 3-bedroom units planned. Based on Table 17-3.5.030.A, this requires a minimum of 72 parking spaces. This application includes 78 planned parking spaces. This standard is met.

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 is 72, therefore the maximum automobile parking spaces allowed would be 108. This application includes 78 planned 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.

Response: This application does not include parking for more than one use. Therefore, this standard is not applicable.

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 are two planned disability parking spaces, 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 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 36 future multifamily residential dwellings, which requires 18 bicycle parking spaces. As shown on the Preliminary Site Plan, there are 18 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.

a. Determining the Required Level of Transportation Analysis and Documentation. A Transportation Impact Analysis (TIA) is required for developments that are expected to have an impact on the transportation system. The analysis shall be based upon the latest edition of the ITE Trip Generation Manual or an agreed-upon alternative methodology where credible data is available to support the alternative methodology. When specific criteria generally associated with small developments are met, a Transportation Analysis Letter (TAL) may be substituted for the required TIA. At the discretion of the City Engineer, a TAL may satisfy the City's transportation analysis requirements, in lieu of a TIA when a development meets all the following criteria:

(…)

Response: As discussed in the pre-application conference, a Transportation Impact Study is required for this application.

(…)

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.

(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 D). 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.

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 a private driveway that has been designed to conform to the City of Molalla Public Works Design Standards. It also includes improvements within the S Highway 213 right-of-way that have been designed to conform to ODOT 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 a private driveway that has been designed to conform to the City of Molalla Public Works Design Standards. It also includes improvements within the S Highway 213 right-of-way that have been designed to conform to ODOT 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 fronts on S Highway 213. Traffic calming is not appropriate for this type of transportation facility. 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 does not include new streets. Therefore, this standard is not applicable.

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: This application includes new sidewalks in the existing S Highway 213 right-of-way. It is understood that necessary boundary monuments are to be reestablished and protected. This standard is satisfied.

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.

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 installing new water and sanitary sewer services from the existing water and sanitary sewer lines located in the S Highway 213 right-of-way. 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 into on-site stormwater catch basins designed to route stormwater to an underground detention pipe located in the northern portion of the site. The stormwater will then be routed to a flow control manhole before being released into an existing 24" stormwater line located in the S Highway 213 right-of-way.

A Preliminary Stormwater Report (Exhibit E) has been prepared that demonstrates that the planned improvements conform to the Public Works Design Standards and Stormwater Master Plan. The Preliminary Stormwater Report further discusses upstream and downstream drainage 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, water, and storm drainage for the site are planned to be provided by connecting to existing utilities located in the S Highway 213 right-of-way, which are of sufficient size to accommodate 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 the 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, there is existing utility pole at the site's northwestern boundary adjacent to S Highway 213. As discussed at the pre-application conference, the plans show that the pole will remain for use by the adjacent property, and the utility lines to serve the project will 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 at the pre-application conference and above, the existing utility pole at the site's northwestern boundary will remain for use by the adjacent property. This criterion is met.

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 B). 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 involving a property larger than one acre, it 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;

Response: This application involves Site Design Review for future multifamily dwellings. According to the ITE Manual, this type of use will exceed 100 average daily trips. 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 is for 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:

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;

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) 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 Grading and 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 deed restrictions are included with the application materials (Exhibit H). 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 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 is included with the application materials (Exhibit D). 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. As discussed at the pre-application hearing, the lot and development standards that are to be applied for this application are the standards for the R-3 Zone found in Table 17-2.2.040.D. As discussed in detail previously, this application complies with the applicable provisions of the R-3 Zone. 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 is for 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. Therefore, this criterion is not applicable.

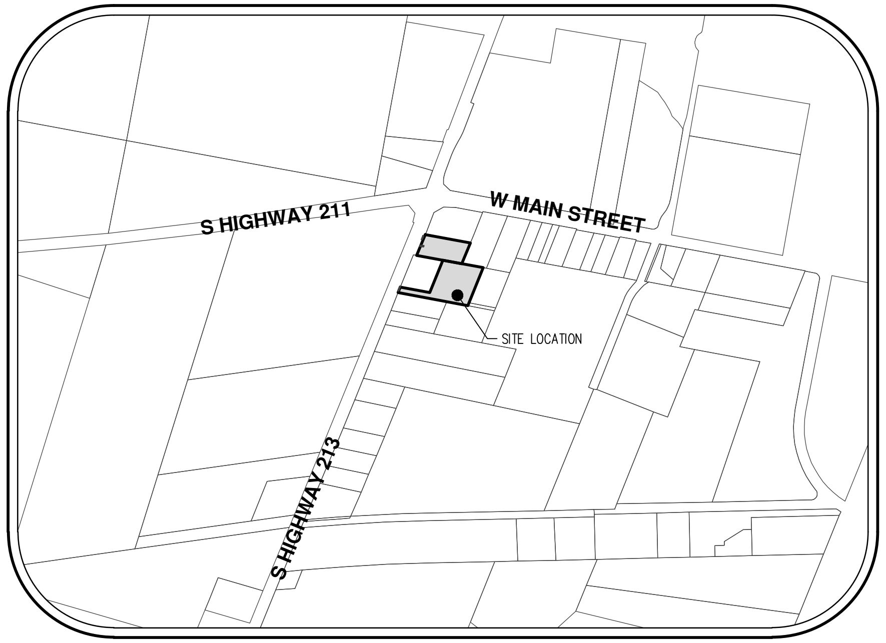
IV. Conclusion

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 is supports approval of the application.

Exhibit A: Preliminary Plans

COLIMA APARTMENTS

SITE DESIGN REVIEW PLANS

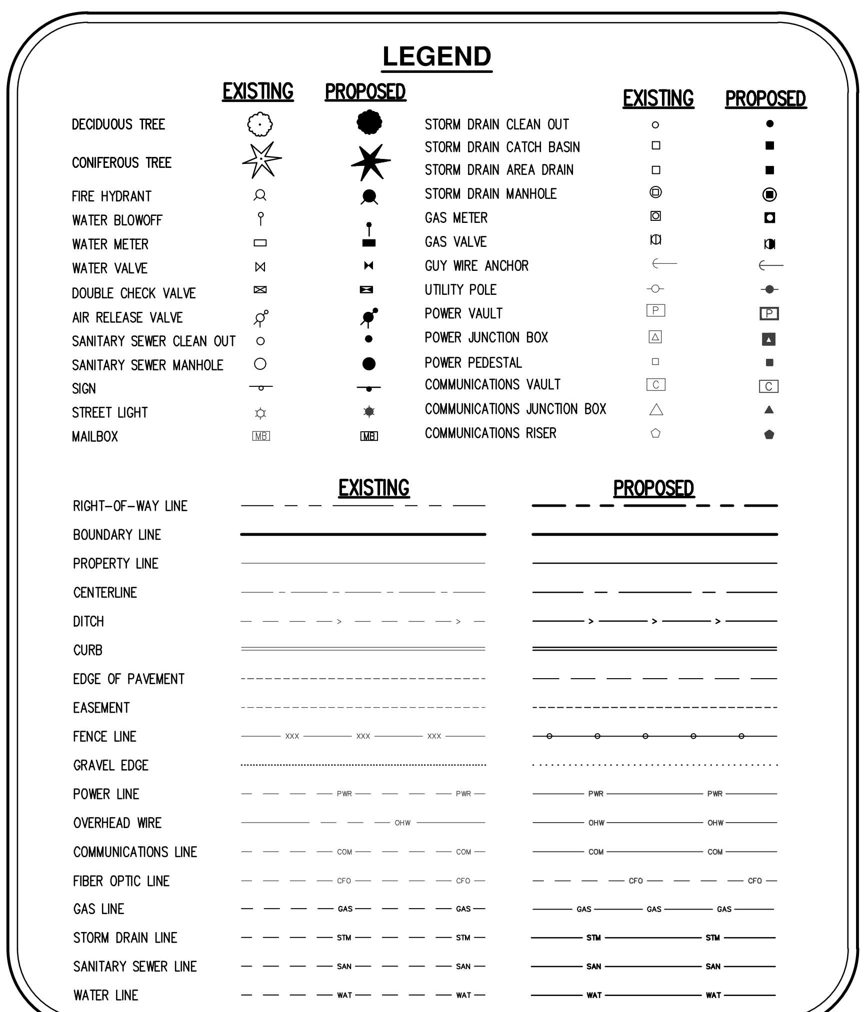


VICINITY MAP

SCALE: 1"=500'

SITE MAP

SCALE: 1"=100'



APPLICANT:	ANGEL JIMENEZ 31514 S HIGHWAY 213 MOLALLA, OR 97038
LAND USE PLANNING, CIVIL ENGINEERING, 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:	31514 S HIGHWAY 213 MOLALLA, OR 97038
PROPERTY DESCRIPTION:	TAX LOT 2300 AND 2402, CLACKAMAS COUNTY TAX MAP 5-2E-07D WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON.
SITE AREA:	± 1.77 AC.
ZONING:	GENERAL COMMERCIAL (C-2)
EXISTING LAND USE:	EXISTING SINGLE-FAMILY DWELLING AND VACANT LOT
PROJECT PURPOSE:	INSTALLATION OF A DRIVEWAY, PUBLIC AND PRIVATE UTILITIES, AND ASSOCIATED INFRASTRUCTURE. INCLUDING SITE DESIGN REVIEW FOR A NEW MULTIFAMILY RESIDENTIAL PROJECT.
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)

SHEET INDEX:

AKS
AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM
ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

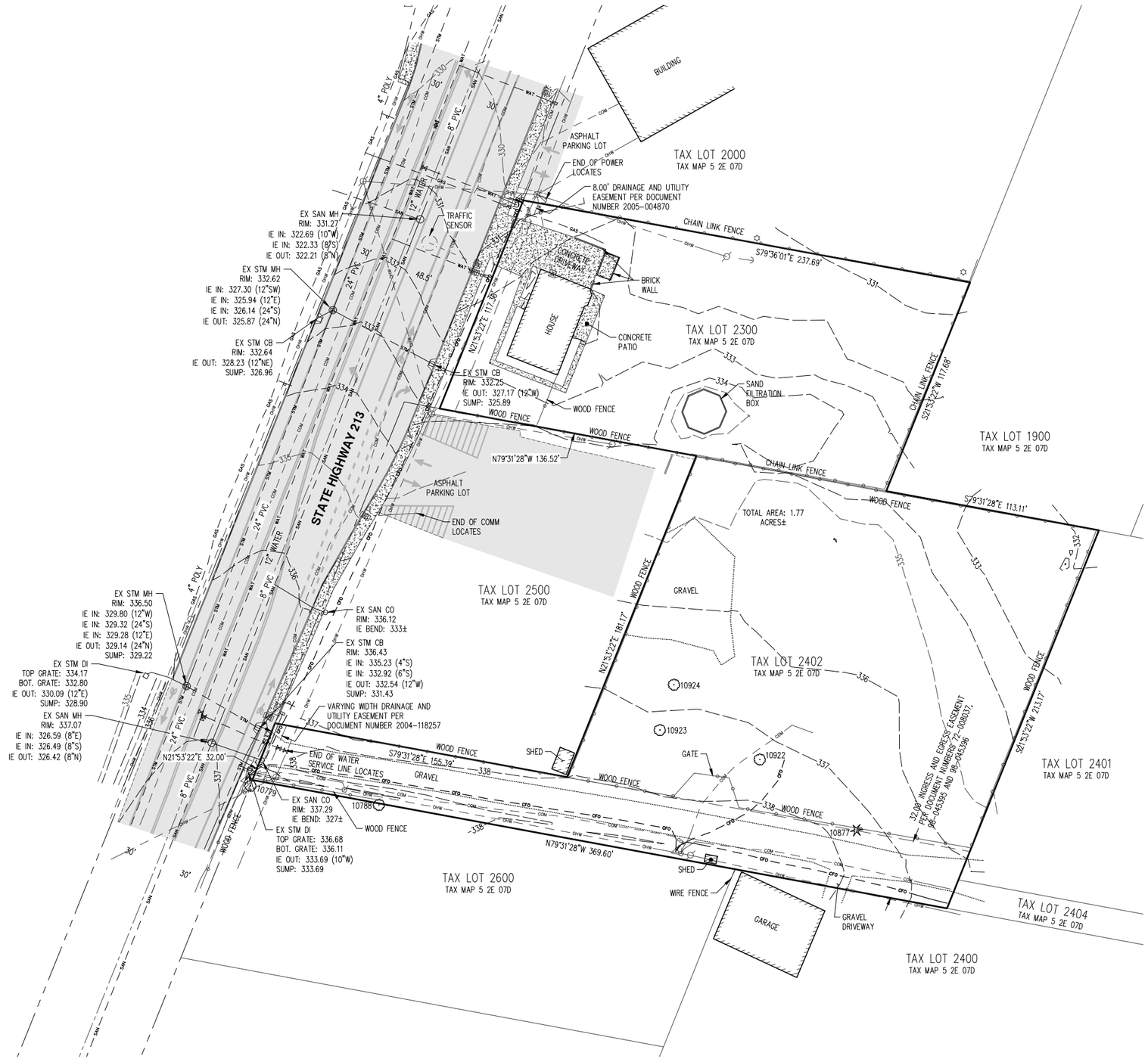
COVER SHEET WITH SITE AND VICINITY MAPS
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY NOT FOR CONSTRUCTION — OREGON — D. RAUGUST
RENEWAL DATE: 12/31/20

JOB NUMBER:	7435
DATE:	11/15/2019
DESIGNED BY:	
DRAWN BY:	KJB
CHECKED BY:	JDR

P-01

AKS DRAWING FILE: 7435 COVER.DWG | LAYOUT: P-01



NOTES:

1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBERS 19267370, 19267373 AND 19267375. 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.
2. FIELD WORK WAS CONDUCTED SEPTEMBER 30 – OCTOBER 4, 2019.
3. 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).
4. THIS IS NOT A BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY. BOUNDARIES ARE CONSIDERED PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
5. BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
6. CONTOUR INTERVAL IS 1 FOOT.
7. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE DETERMINED BY UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.

TREE TABLE		
TREE NUMBER	TYPE	DBH (IN.)
10779	DECIDUOUS	5,6,8
10788	DECIDUOUS	30
10877	CONIFEROUS	12
10922	DECIDUOUS	15
10923	DECIDUOUS	20
10924	DECIDUOUS	18

N

SCALE: 1"=30 FEET

30 0 6 15 30

ORIGINAL PAGE SIZE: 22" x 34"

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

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FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE

EXISTING CONDITIONS PLAN
COLIMA APARTMENTS
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REGISTERED PROFESSIONAL LAND SURVEYOR
PRELIMINARY
NOT FOR CONSTRUCTION
MARCH 14, 2017
BENJAMIN R HUFF
84738PLS
RENEWS: 6/30/21

JOB NUMBER:	7435
DATE:	11/15/2019
DESIGNED BY:	
DRAWN BY:	CC
CHECKED BY:	BH

P-02

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

NOTES:

1. NEW AC PAVEMENT (TYP)
2. NEW CONCRETE CURB
3. CONCRETE PAD AND STAPLE DESIGN STEEL BICYCLE RACKS
4. CONCRETE PAD FOR BARBECUE/PICNIC TABLE AREA
5. CONCRETE PAD FOR BENCH
6. CONCRETE SIDEWALK (TYP)
7. WHEEL STOP (TYP)
8. EDGE OF PAVEMENT
9. ADA ACCESSIBLE PARKING STALL (8.5'x18')
10. VEHICLE PARKING STALL (8.5'X18')
11. ADA ACCESSIBLE VAN LOADING AREA DELINEATED BY PAVEMENT STRIPING
12. GARBAGE AND RECYCLING ENCLOSURE WITH CMU EXTERIOR WALLS
13. BUILDING SETBACK LINE
14. RESTORE CONCRETE DRIVEWAY TO FULL HEIGHT SIDEWALK
15. LIGHT POLE, SEE SHEET P-09 FOR MORE INFORMATION.
16. PAVEMENT STRIPING TO DELINEATE PEDESTRIAN CROSSING IN VEHICULAR AREA
17. PEDESTRIAN ACCESS THROUGH OPEN BREEZEWAY. SEE PRELIMINARY ARCHITECTURAL PLANS FOR MORE INFORMATION.

PROJECT DETAILS:

TOTAL AREA:	±77,008 SF
STRUCTURES:	±13,394 SF (17.4%)
HARDSCAPE: (INCLUDES VEHICULAR AND PEDESTRIAN ROUTES)	±37,194 SF
COMMON / OPEN SPACE LANDSCAPING:	±9,970 SF (15.2% OF NET BUILDABLE AREA)
TOTAL LANDSCAPING:	±26,420 SF (34.3%)

DENSITY CALCULATIONS:

GROSS SITE AREA:	±77,008 SF (±1.77 AC)
EASEMENT AREA:	±11,593 SF (±0.27 AC)
NET BUILDABLE AREA:	±65,415 SF (±1.50 AC)
MINIMUM DENSITY (4 x 1.50):	12 UNITS
MAXIMUM DENSITY (24 x 1.50)	36 UNITS

SETBACK TABLE:

FRONT YARD	10'
SIDE YARD	10' TOTAL (MINIMUM 3' ON EACH SIDE)
REAR YARD	15'

PARKING COUNT:

PARKING SPACES REQUIRED:

3 BEDROOMS (2.5 SPACES PER):	15 SPACES
2 BEDROOMS (2 SPACES PER):	48 SPACES
1 BEDROOM (1.5 SPACES PER):	9 SPACES
TOTAL SPACES REQUIRED:	72 SPACES
TOTAL SPACES PROVIDED:	78 SPACES
BIKE PARKING REQUIRED/PROVIDED:	18 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.

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PRELIMINARY SITE PLAN
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 12/31/20

JOB NUMBER:	7435
DATE:	12/04/2019
DESIGNED BY:	
DRAWN BY:	KJB
CHECKED BY:	JDR

P-03

AKS DRAWING FILE: 7435SITEPLAN.DWG | LAYOUT: P-03

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

N

DESIGNED BY:
DRAWN BY: K.B.
CHECKED BY: J.R.
DATE:
JOB NUMBER: 7435

RENEWAL DATE: 12/31/20

PRELIMINARY SITE PLAN WITH AERIAL PHOTOGRAPH
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

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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' TM	RED SUNSET MAPLE	1.5" CAL. B&B	AS SHOWN
	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	1.5" CAL. B&B	AS SHOWN
	GINKGO BILOBA 'PRINCETON SENTRY	PRINCETON SENTRY GINKGO	1.5" CAL. B&B	AS SHOWN
	PICEA OMORIKA	SERBIAN SPRUCE	6'-7' HT. B&B	AS SHOWN
	ZELKOVA SERRATA 'JFS-KW1' TM	CITY SPRITE ZELKOVA	2" CAL. B&B	AS SHOWN
SHRUBS	**BOTANICAL NAME**	**COMMON NAME**	**SIZE/CONTAINER**	**SPACING**
	LIGUSTRUM JAPONICUM 'VARIEGATUM'	VARIEGATED PRIVET	2 GAL CONT.	60" o.c.
	MAHONIA AQUIFOLIUM 'COMPACTA'	COMPACT OREGON GRAPE	1 GAL CONT.	36" o.c.
	MISCANTHUS SINENSIS 'ADAGIO'	ADAGIO MAIDEN GRASS	1 GAL CONT.	60" o.c.
	NANDINA DOMESTICA 'GULF STREAM'	GULF STREAM NANDINA	1 GAL CONT.	36" o.c.
	OSMANTHUS HETEROPHYLLUS 'GOSHIKI'	GOSHIKI OSMANTHUS	2 GAL CONT.	48" o.c.
	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN DWARF FOUNTAIN GRASS	1 GAL CONT.	36" o.c.
	PINUS MUGO MUGO	DWARF MUGO PINE	2 GAL CONT.	48" o.c.
	RHODODENDRON X 'NANCY EVANS'	NANCY EVANS RHODODENDRON	2 GAL CONT.	48" o.c.
GROUND COVERS	**DESCRIPTION**			
	ARCTOSTAPHYLOS UVA-URSI 'EMERALD CARPET'	EMERALD CARPET KINNIKINNICK	1 GAL CONT	30" o.c.
	EXISTING LANDSCAPE TO REMAIN			
	LAWN			
	NO MOW NATIVE ECOTURF SEED MIX			

PRELIMINARY LANDSCAPE NOTES:

1. 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.
2. 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).
3. 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.
4. 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.
5. SOIL PREPARATION: ADEQUATE TOPSOIL SHALL BE PROVIDED AND AMENDED AS NECESSARY FOR HEALTHY PLANT ESTABLISHMENT, PER DEVELOPMENT CODE 17-3.4.030(C)(17).
6. 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.

N

SCALE: 1"=30 FEET

30 0 6 15 30

ORIGINAL PAGE SIZE: 22" x 34"

PROJECT DETAILS:

TOTAL AREA:	±77,008 SF
STRUCTURES:	±13,394 SF (17.4%)
PARKING AREA:	±31,681 SF (41.1%)
COMMON/OPEN SPACE LANDSCAPING:	±9,970 SF (15.2% OF NET BUILDABLE AREA)
TOTAL LANDSCAPING:	±26,420 SF (34.3%)

PARKING LOT:

TOTAL SPACES PROVIDED:	78 SPACES
TOTAL PARKING AREA TREES REQUIRED:	7 TREES (1 PER 12 SPACES)
TOTAL PARKING AREA TREES PROVIDED:	7 TREES
PARKING AREA LANDSCAPE REQUIRED:	2,899 (28,989 SF X 10%)
PARKING AREA LANDSCAPE PROVIDED:	5,266 (18%)

BICYCLE PARKING:

TOTAL SPACES REQUIRED:	18 SPACES
TOTAL SPACES PROVIDED:	18 SPACES

NOTES:

1. SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS.

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PRELIMINARY LANDSCAPE PLAN

COLIMA APARTMENTS

31514 S HWY 213
MOLALLA, OREGON

REGISTERED LANDSCAPE ARCHITECT 797 OREGON
PRELIMINARY NOT FOR CONSTRUCTION

JOB NUMBER:	7435
DATE:	11/15/2019
DESIGNED BY:	NKP
DRAWN BY:	NKP
CHECKED BY:	KAH

P-05

DEMOLITION KEYED NOTES:

1. REMOVE/RELOCATE EXISTING FRANCHISE UTILITY PER JURISDICTIONAL REQUIREMENTS.
2. REMOVE EXISTING FENCE. COORDINATE REMOVAL WITH PROPERTY OWNER.
3. REMOVE EXISTING HOUSE.
4. REMOVE EXISTING CONCRETE DRIVEWAY AND DRIVEWAY DROP.
5. REMOVE EXISTING SAND FILTRATION UNIT.
6. REMOVE EXISTING CONCRETE WALKWAY.
7. REMOVE EXISTING BRICK WALL.
8. REMOVE EXISTING TREE.
9. PROTECT EXISTING FENCE.
10. REMOVE EXISTING GRAVEL.
11. REMOVE/RELOCATE EXISTING MAILBOX.
12. ABANDON EXISTING WATER SERVICE AND METER.
13. PROTECT EXISTING TREE. COORDINATE ANY JURISDICTION REQUIRED TRIMMING OR REMOVAL WITH PROPERTY OWNER.
14. PROTECT EXISTING SHED.
15. PROTECT EXISTING FRANCHISE UTILITIES.
16. REMOVE EXISTING DRIVEWAY AND DRIVEWAY DROP.

NOTES:

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

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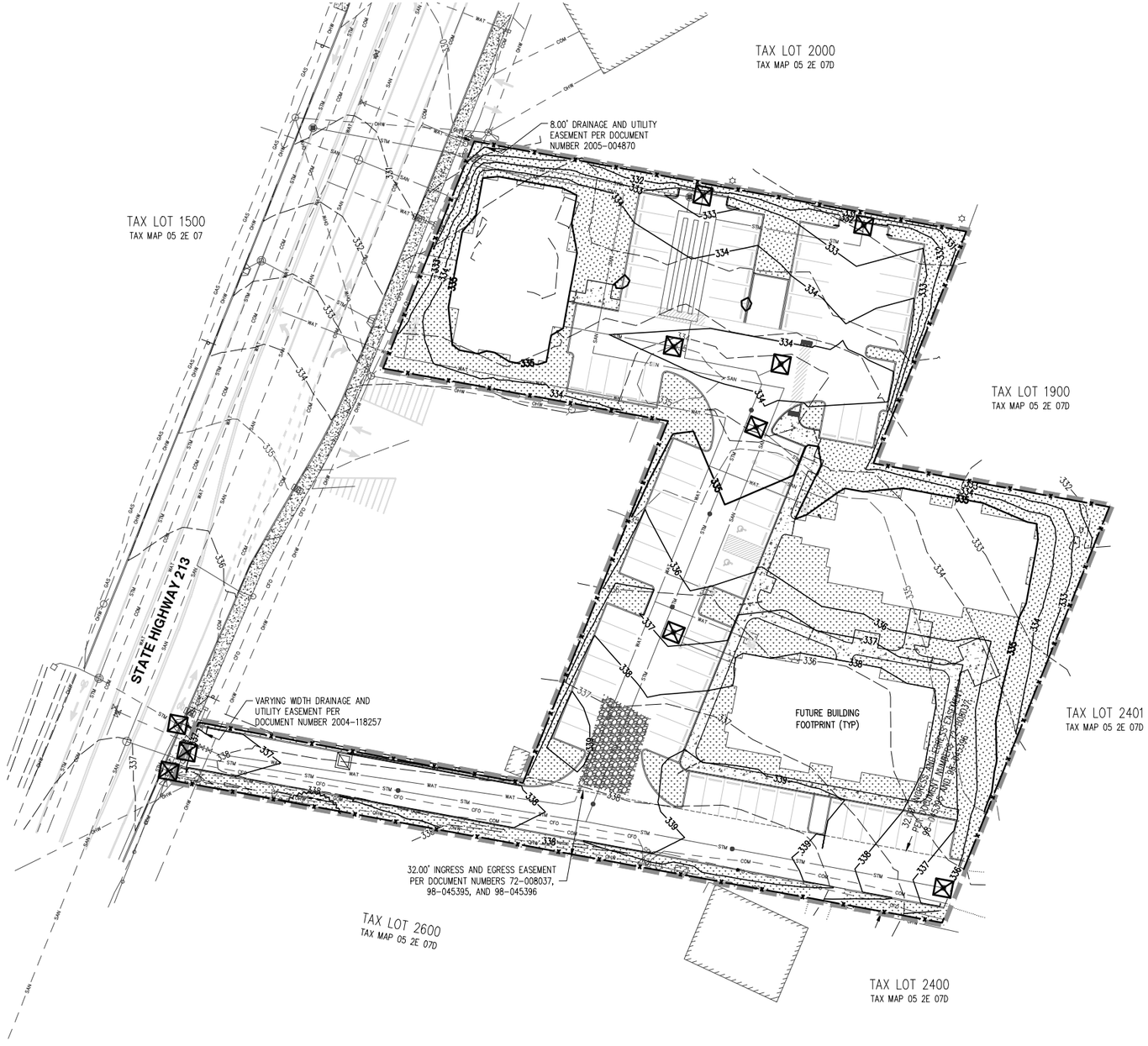
PRELIMINARY DEMOLITION PLAN
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

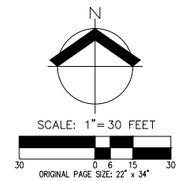
REGISTERED PROFESSIONAL ENGINEER OREGON D. RAUGUST
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 12/31/20

JOB NUMBER:	7435
DATE:	11/15/2019
DESIGNED BY:	
DRAWN BY:	KJB
CHECKED BY:	JDR

P-06

AKS DRAWING FILE: 7435DEMO.DWG | LAYOUT: P-06





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	
TREE PROTECTION FENCE	
CURB INLET PROTECTION	
CONCRETE WASHOUT AREA	
GRAVEL CONSTRUCTION ENTRANCE	
GRADING LIMITS	
OPEN SPACE/LANDSCAPING	

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PRELIMINARY GRADING AND EROSION AND SEDIMENT CONTROL PLAN

COLIMA APARTMENTS

31514 S HWY 213
MOLALLA, OREGON

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 17, 2007
CORY D. RAUGUST
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 12/31/20

JOB NUMBER:	7435
DATE:	11/15/2019
DESIGNED BY:	
DRAWN BY:	KJB
CHECKED BY:	JDR

P-07

AKS DRAWING FILE: 7435 GRADING.DWG | LAYOUT: P-07

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PRELIMINARY COMPOSITE UTILITY PLAN

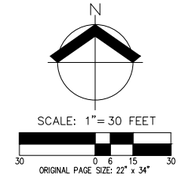
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

REGISTERED PROFESSIONAL ENGINEER
OREGON
D. RAUGUST
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 12/31/20

JOB NUMBER:	7435
DATE:	11/15/2019
DESIGNED BY:	
DRAWN BY:	KJB
CHECKED BY:	JDR

P-08

AKS DRAWING FILE: 7435COMP UTILITY.DWG | LAYOUT: P-08



LIGHT LEVEL SUMMARY

PARKING AREA AND OUTDOOR SERVICE AREAS
MINIMUM LIGHT LEVEL
- –TARGET: 0.2 fc
- –ACHIEVED: 0.2 fc

AVERAGE LIGHT LEVEL
- –TARGET: ≥0.8 fc
- –ACHIEVED: 1.2 fc

UNIFORMITY RATIO (MAX/MIN)
- –TARGET: ≤20.0
- –ACHIEVED: 18.0

WALKWAYS
AVERAGE LIGHT LEVEL
- –TARGET: ≥0.2 fc
- –ACHIEVED: 2.5 fc

BUILDING ENTRANCES
AVERAGE LIGHT LEVEL
- –TARGET: ≥2.0 fc
- –ACHIEVED: 3.8 fc

WALL MOUNTED LUMINAIRE SCHEDULE

LABEL	TAG	DESCRIPTION	MOUNTING HEIGHT (FT)	QTY	TOTAL LUMENS	LUM. WATTS	LLF
WM-1	NEW	80W PROLITE LED (PLEDWPCA80W-3K)	12	3	8,871	80	0.75
WM-2	NEW	28W PROLITE LED (PLEDWPCA30W-3K)	12	18	3,181	28	0.75
WM-3	NEW	12W PROLITE LED (PLEDWPCA30W-3K)	12	7	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	12	4,852	55	0.75

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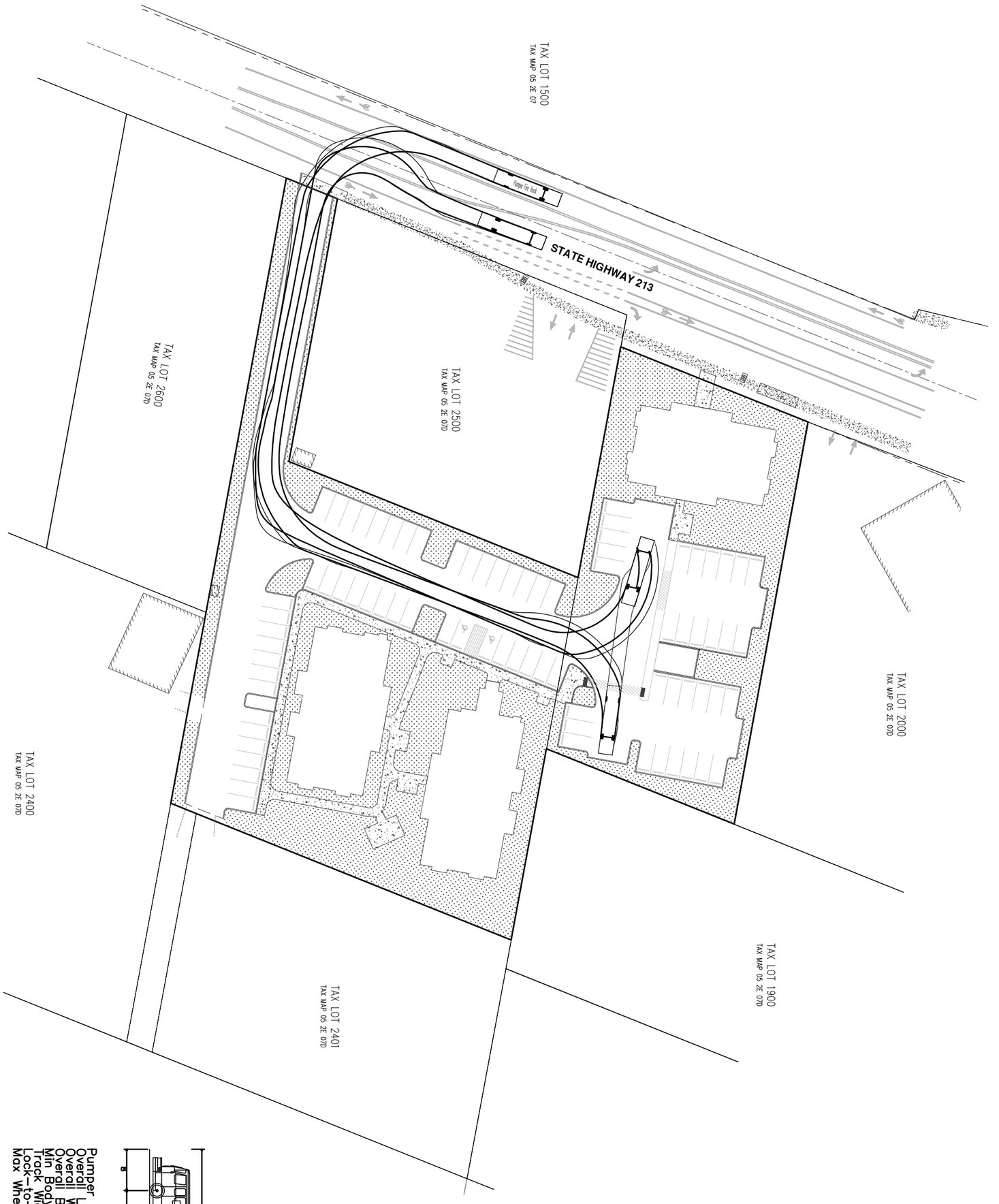
PRELIMINARY SITE LIGHTING PLAN
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

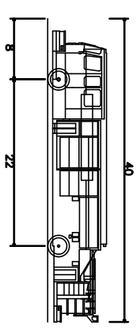
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 17, 2007
CORY D. RAUGUST
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 12/31/20

JOB NUMBER:	7435
DATE:	11/15/2019
DESIGNED BY:	
DRAWN BY:	KJB
CHECKED BY:	JDR

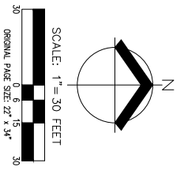
P-09

AKS DRAWING FILE: 7435 LIGHTING.DWG | LAYOUT: P-09





Pumper Fire Truck
Overall Length 40.000ft
Overall Width 8.167ft
Overall Body Height 7.455ft
Min Body Ground Clearance 0.655ft
Track Width 8.167ft
Lock-to-lock time 5.00s
Max Wheel Angle 45.00°



PRELIMINARY FIRE TRUCK TURNING MOVEMENTS PLAN
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
CHRISTOPHER D. RAUGESEN
RENEWAL DATE: 12/31/20

JOB NUMBER:	7435
DATE:	11/15/2019
DESIGNED BY:	KJB
DRAWN BY:	JSR
CHECKED BY:	

P-10

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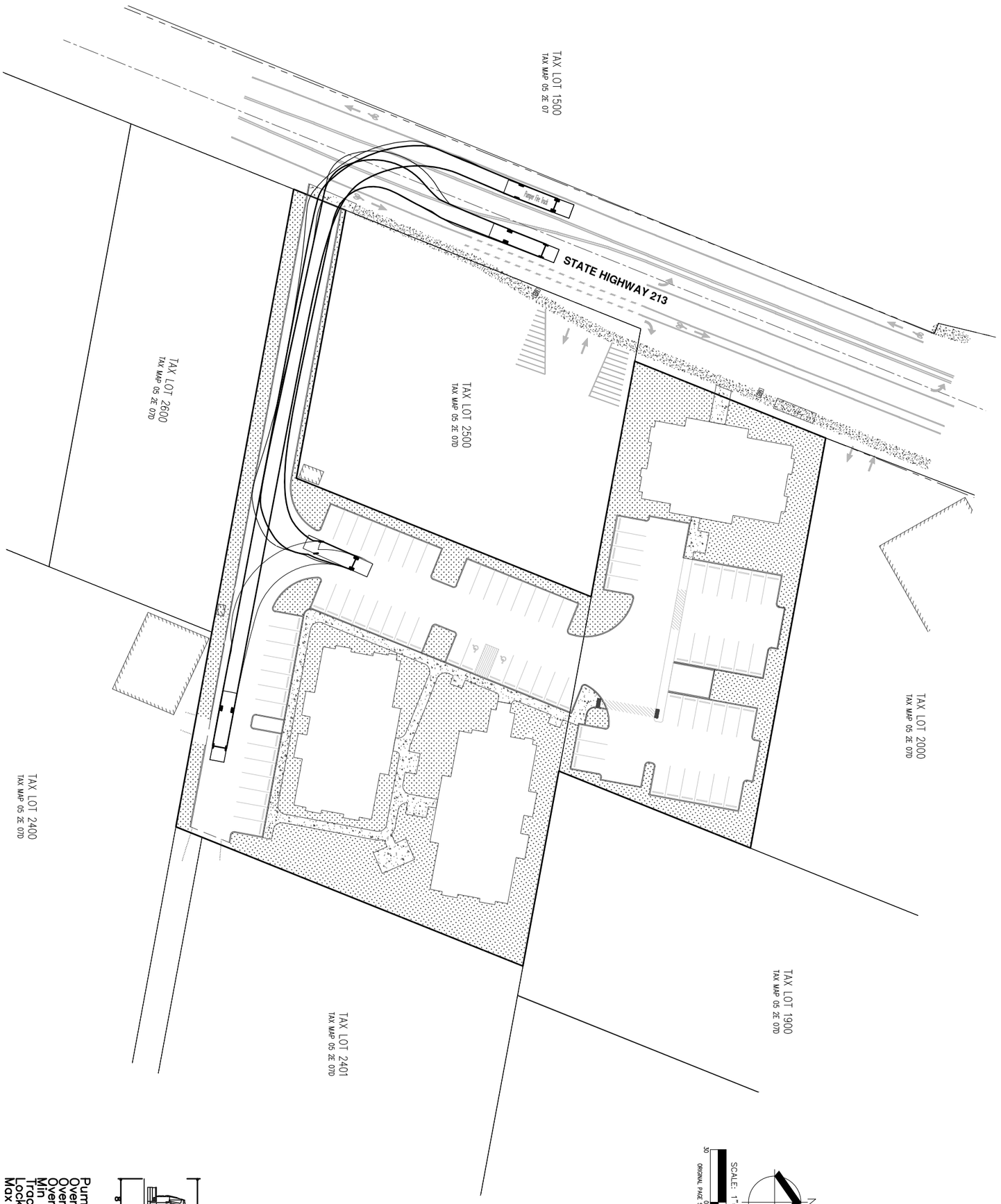

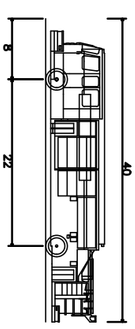

Pumper Fire Truck	
Overall Length	40.000ft
Overall Width	8.167ft
Overall Body Height	7.455ft
Min Body Ground Clearance	0.655ft
Track Width	8.167ft
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°

PRELIMINARY FIRE TRUCK TURNING MOVEMENTS PLAN
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
CHRISTOPHER D. RAUGESEN
RENEWAL DATE 12/31/20

JOB NUMBER:	7435
DATE:	11/15/2019
DESIGNED BY:	
DRAWN BY:	KJB
CHECKED BY:	JSR

P-11

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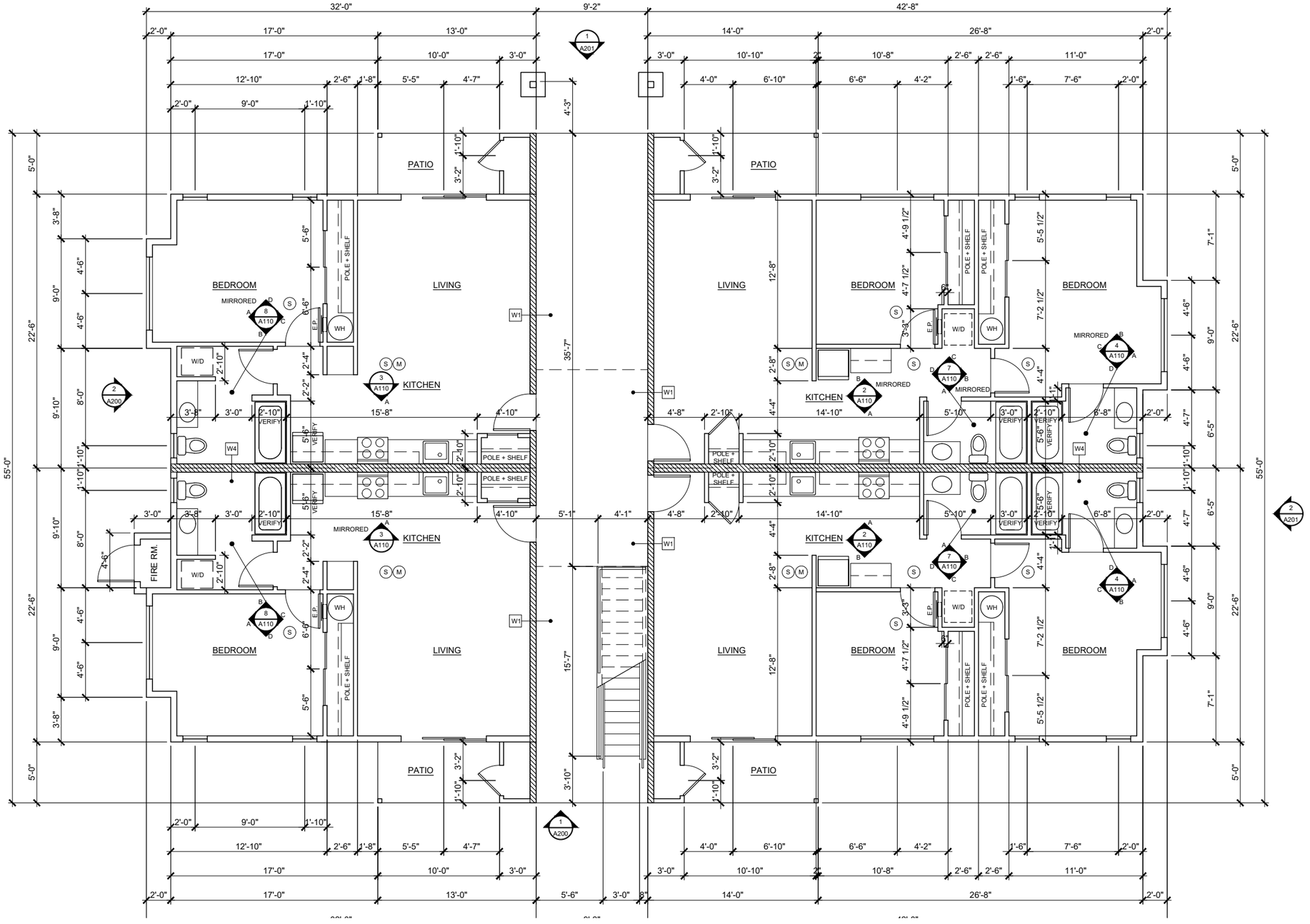
Exhibit B: Preliminary Architectural Plans



REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

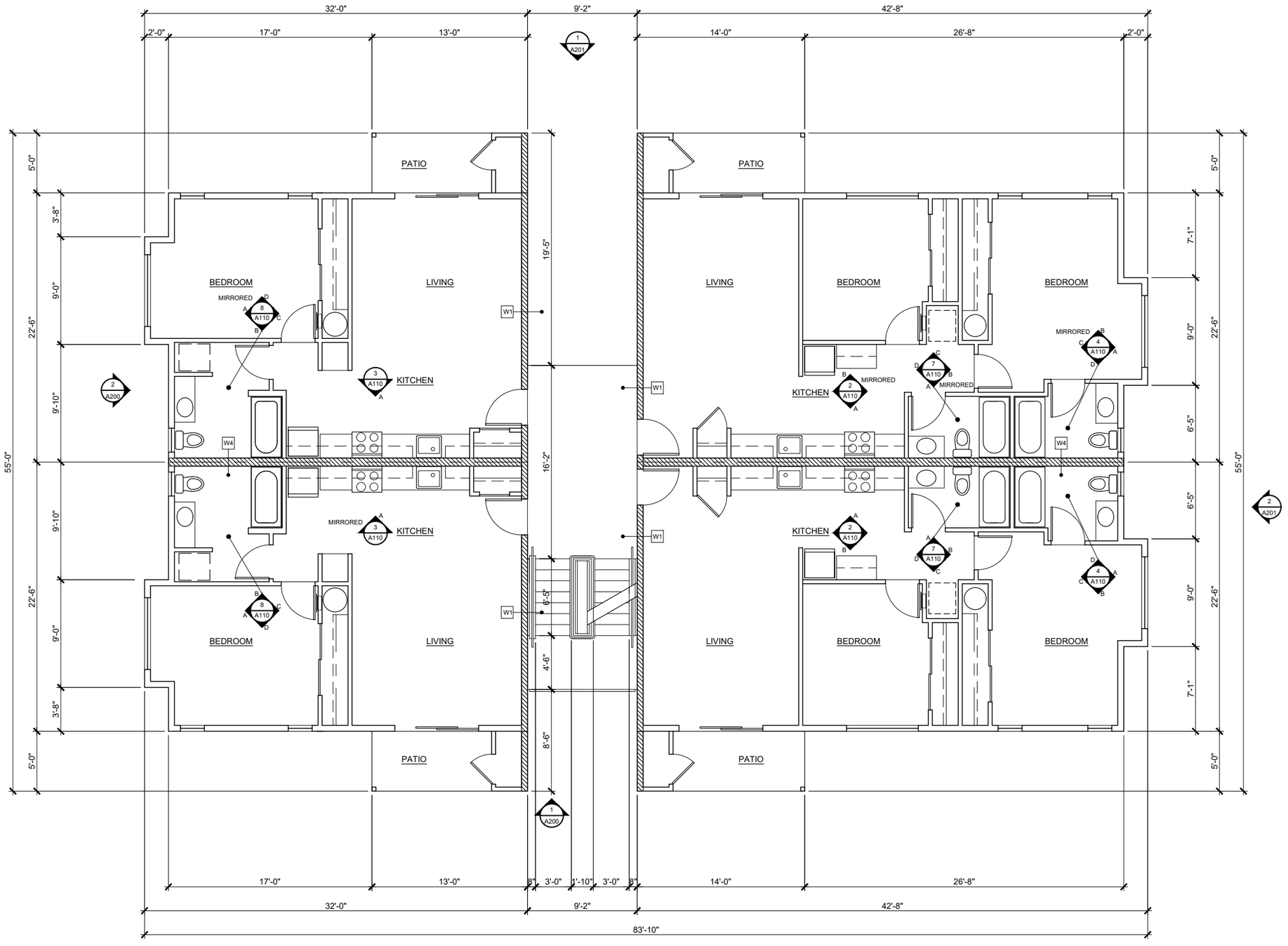
PRELIMINARY
NOT FOR CONSTRUCTION

Colima Apartments
31514 S HIGHWAY 213
AND
12745 S CROMPTONS LANE
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 1
FIRST FLOOR PLAN

A111



1 A112 BUILDING 1 SECOND FLOOR PLAN

1/4" = 1'-0"

SEE A111 FOR NOTES AND DIMENSIONS

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

503-730-6908
14670 SW Forest Drive
Beaverton, OR 97007

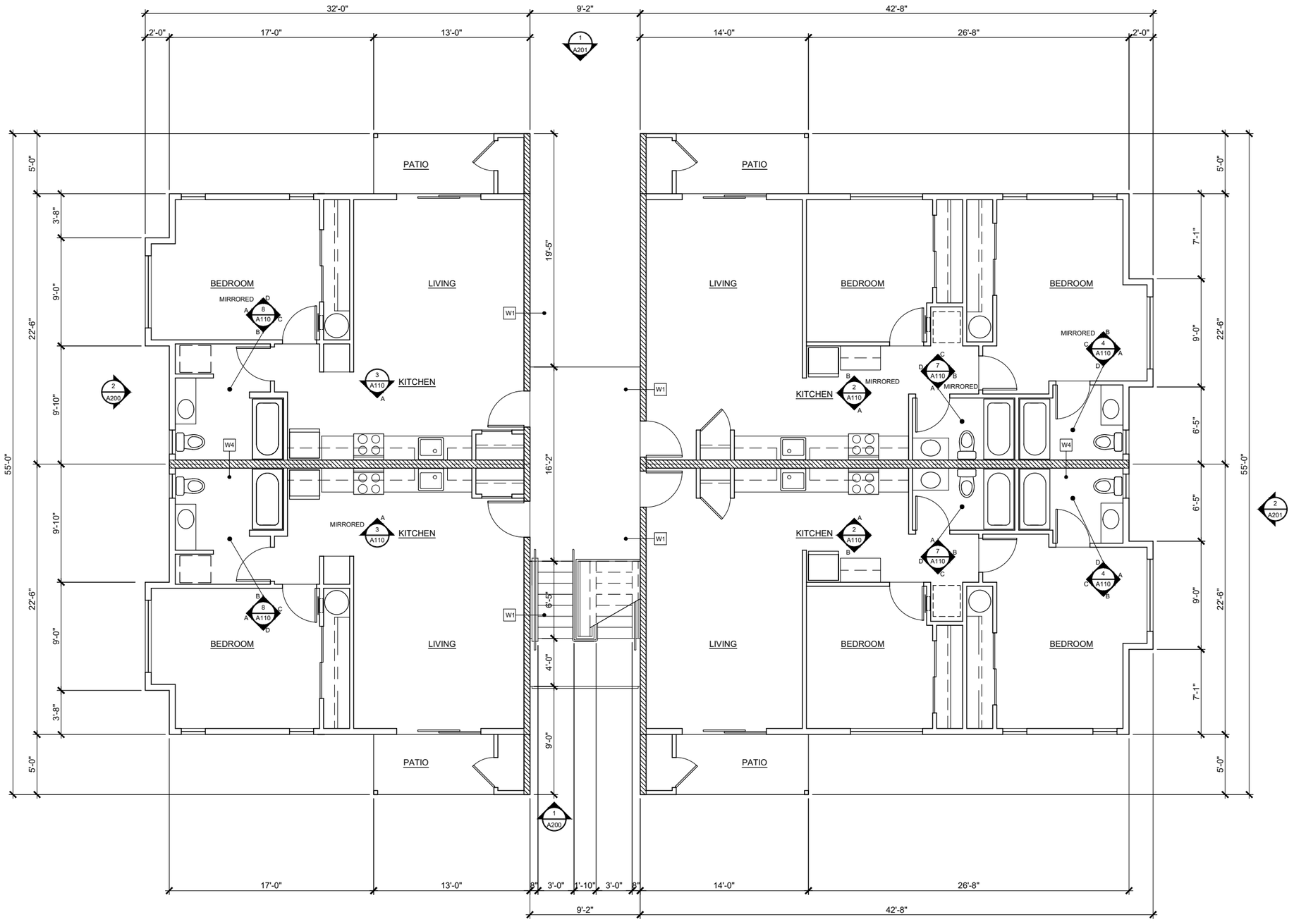
PRELIMINARY
NOT FOR CONSTRUCTION

Colima Apartments
31514 S HIGHWAY 213
AND
12745 S CROMPTONS LANE
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 1
SECOND
FLOOR PLAN

A112



1 A113 BUILDING 1 THIRD FLOOR PLAN

1/4" = 1'-0"

SEE A111 FOR NOTES AND DIMENSIONS

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

503-730-6908
14670 SW Forest Drive
Beaverton, OR 97007

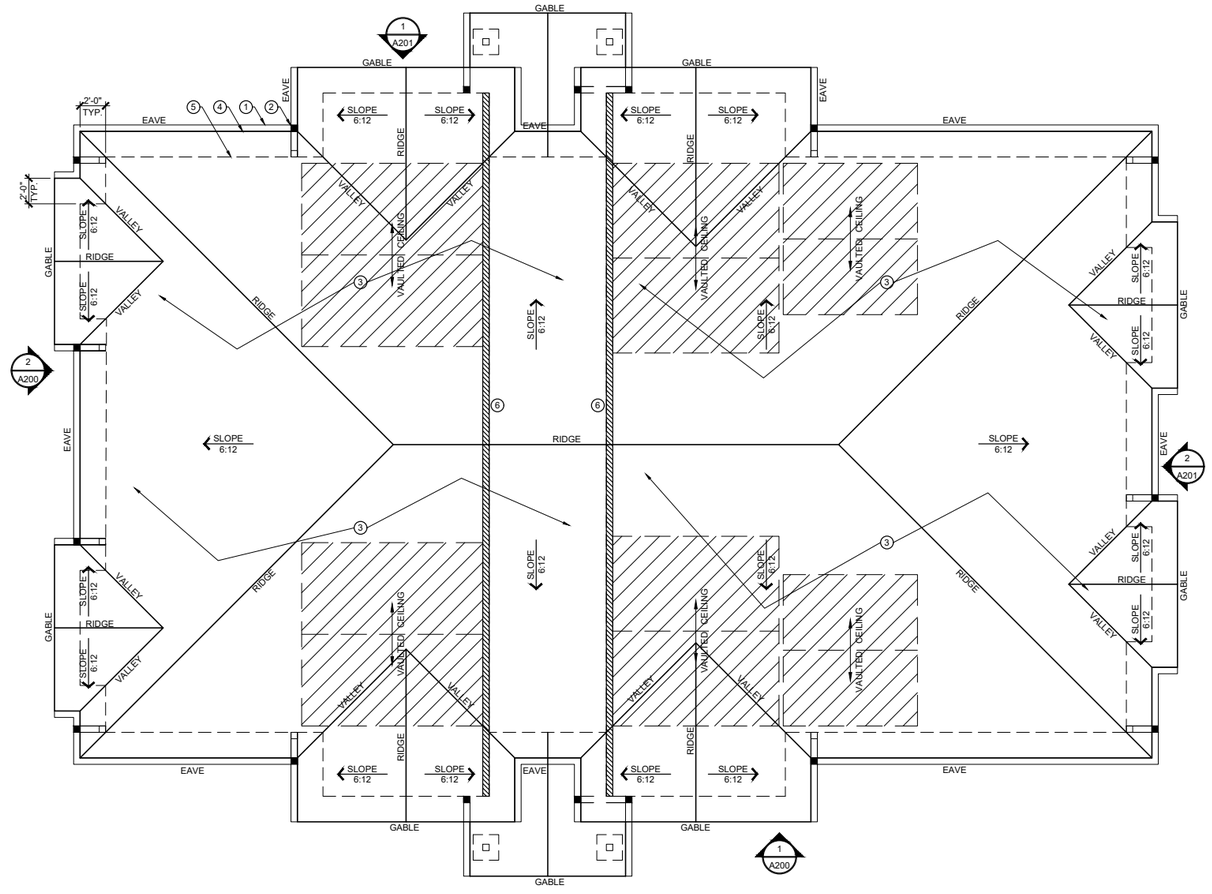
PRELIMINARY
NOT FOR CONSTRUCTION

Colima Apartments
31514 S HIGHWAY 213
AND
12745 S CROMPTONS LANE
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 1
THIRD FLOOR
PLAN

A113



1 / A114 BUILDING 1 ROOF PLAN

3/16" = 1'-0"

SEE A109 FOR NOTES

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

Doug Circosta, Architect
503-730-6908
14670 SW Forest Drive
Beaverton, OR 97007

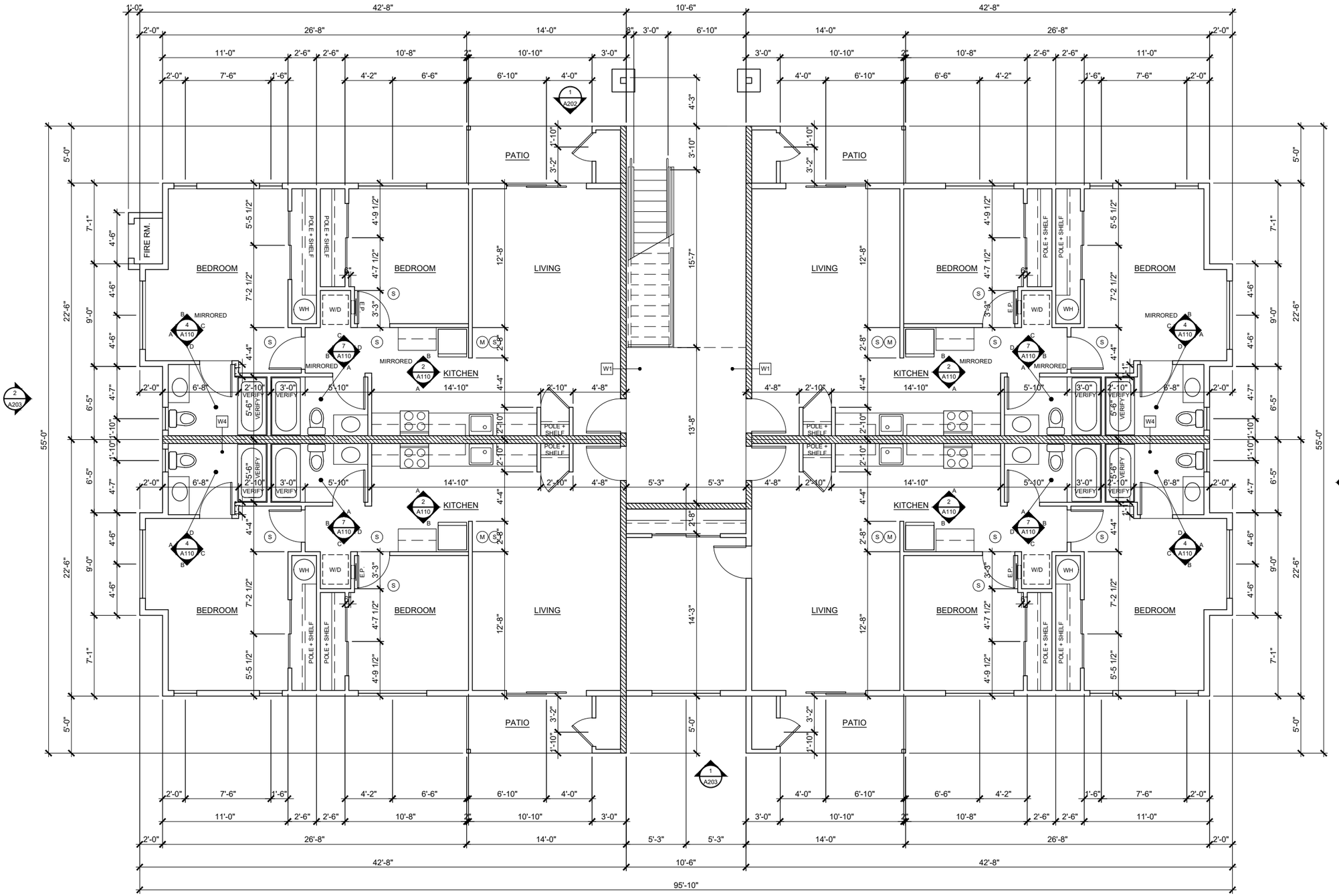
PRELIMINARY
NOT FOR CONSTRUCTION

Colima Apartments
31514 S HIGHWAY 213
AND
12745 S CROMPTONS LANE
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 1
ROOF PLAN

A114



1 A121 BUILDING 2 FIRST FLOOR PLAN

1/4" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

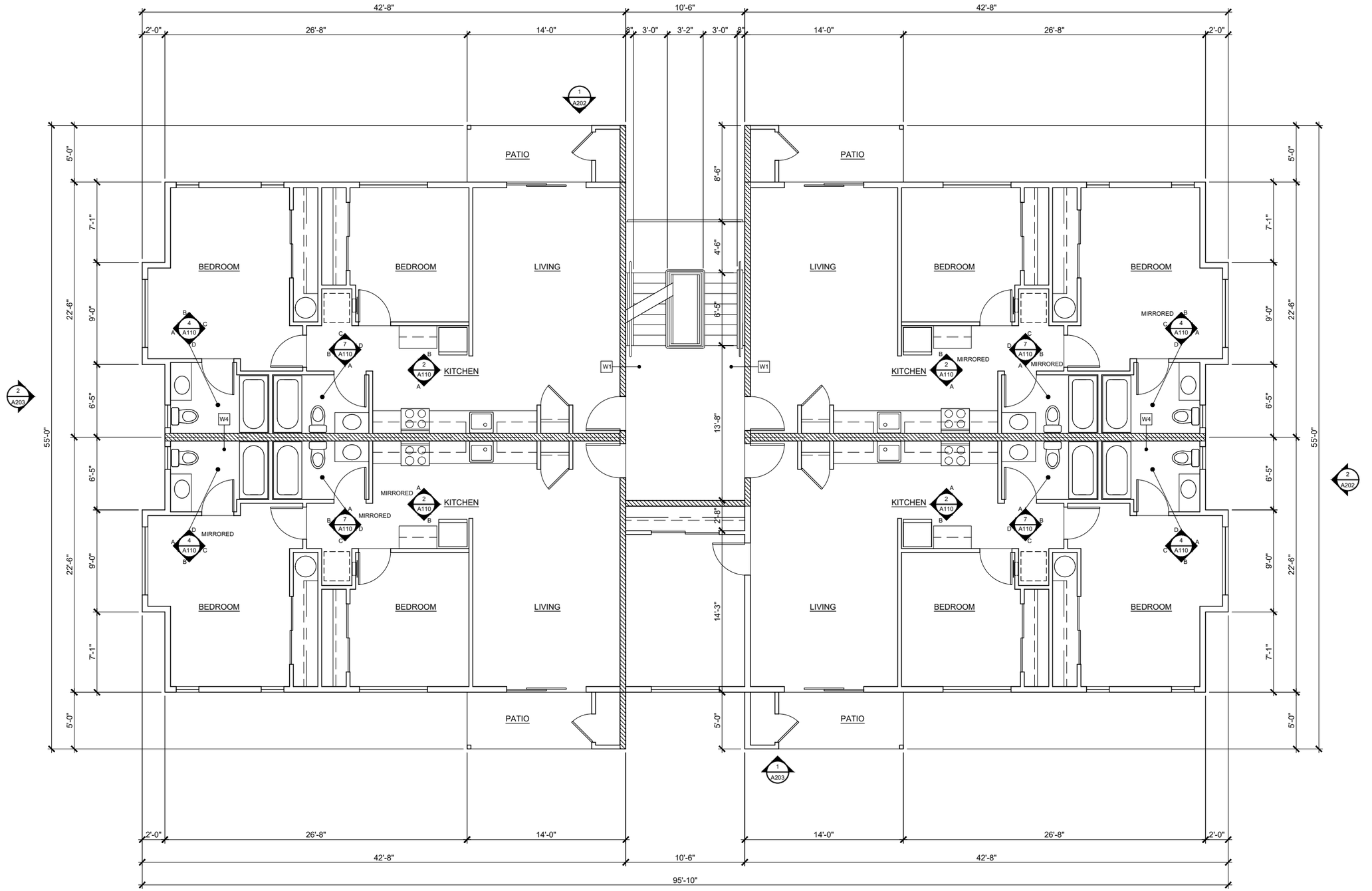
PRELIMINARY
NOT FOR CONSTRUCTION

Colima Apartments
31514 S HIGHWAY 213
AND
12745 S CROMPTONS LANE
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 2 FIRST FLOOR PLAN

A121



1 A122 BUILDING 2 SECOND FLOOR PLAN

1/4" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

503-730-6908
14670 SW Forest Drive
Beaverton, OR 97007

PRELIMINARY
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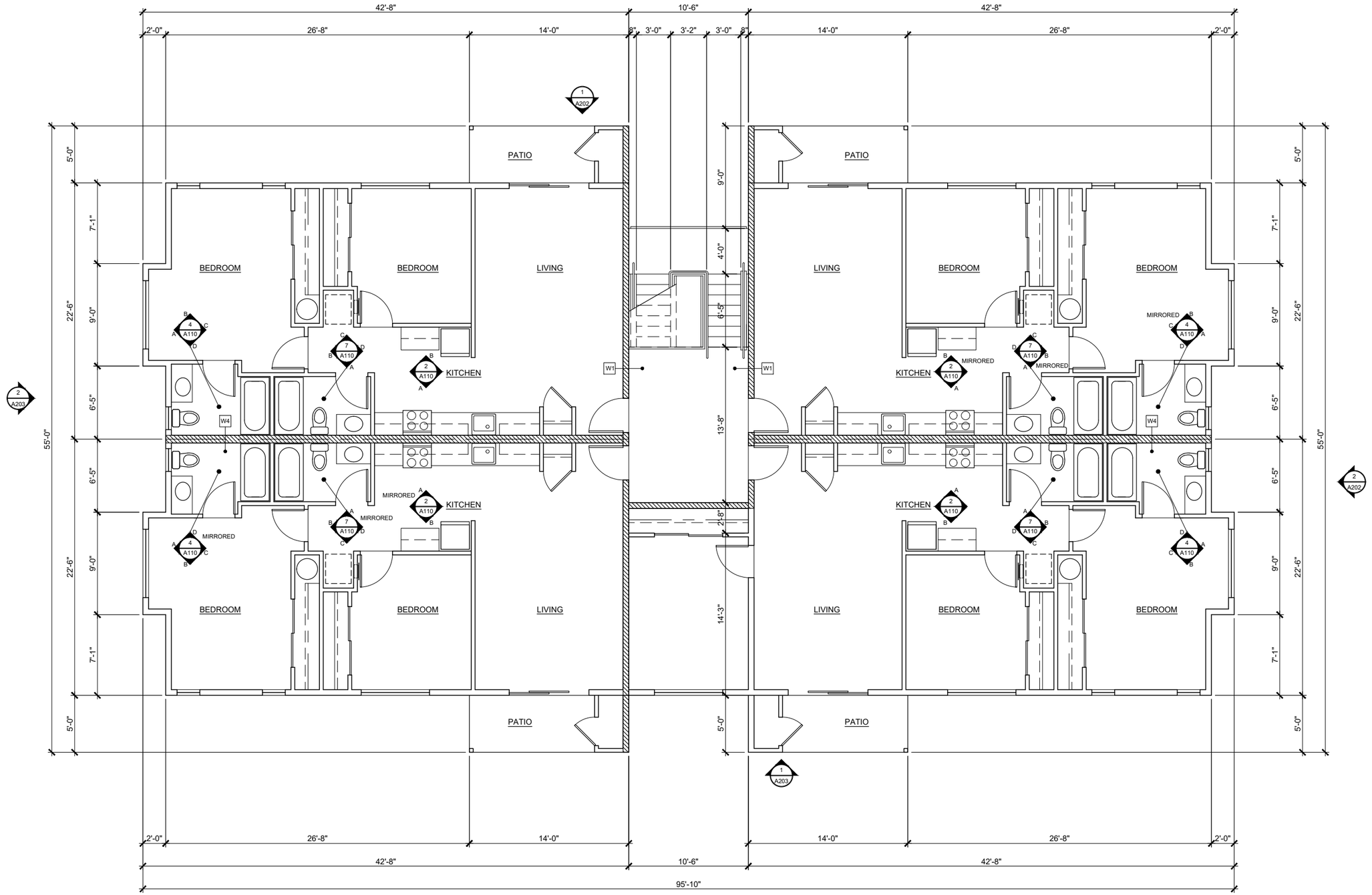
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 2
SECOND
FLOOR PLAN

A122



1 A123 BUILDING 2 THIRD FLOOR PLAN

1/4" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

503-730-6908
14670 SW Forest Drive
Beaverton, OR 97007

PRELIMINARY
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31514 S HIGHWAY 213
AND
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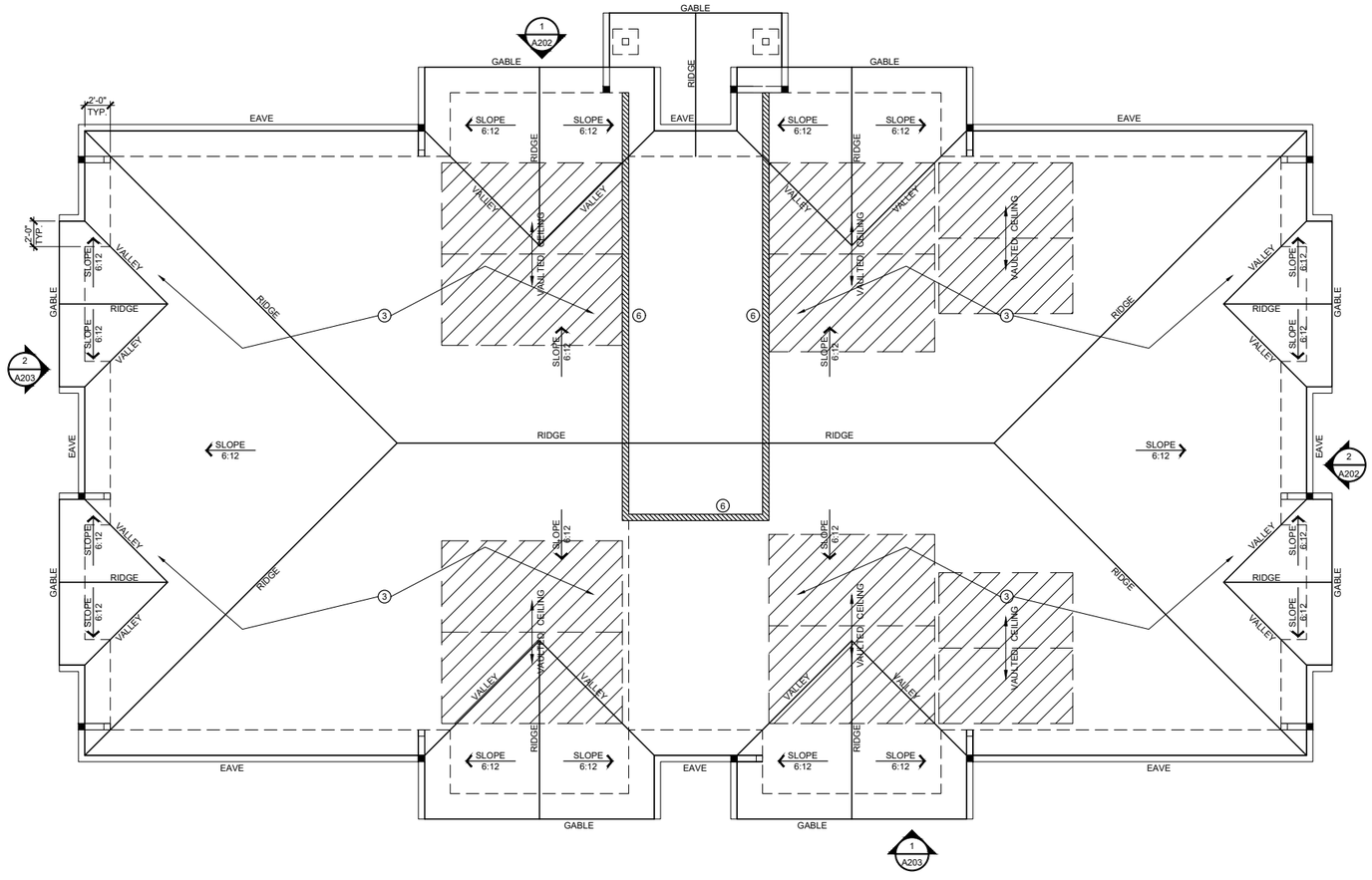
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 2 THIRD FLOOR PLAN

A123



1 A124 BUILDING 2 ROOF PLAN

3/16" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

503-730-6908
14670 SW Forest Drive
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CONSTRUCTION

Colima Apartments
31514 S HIGHWAY 213
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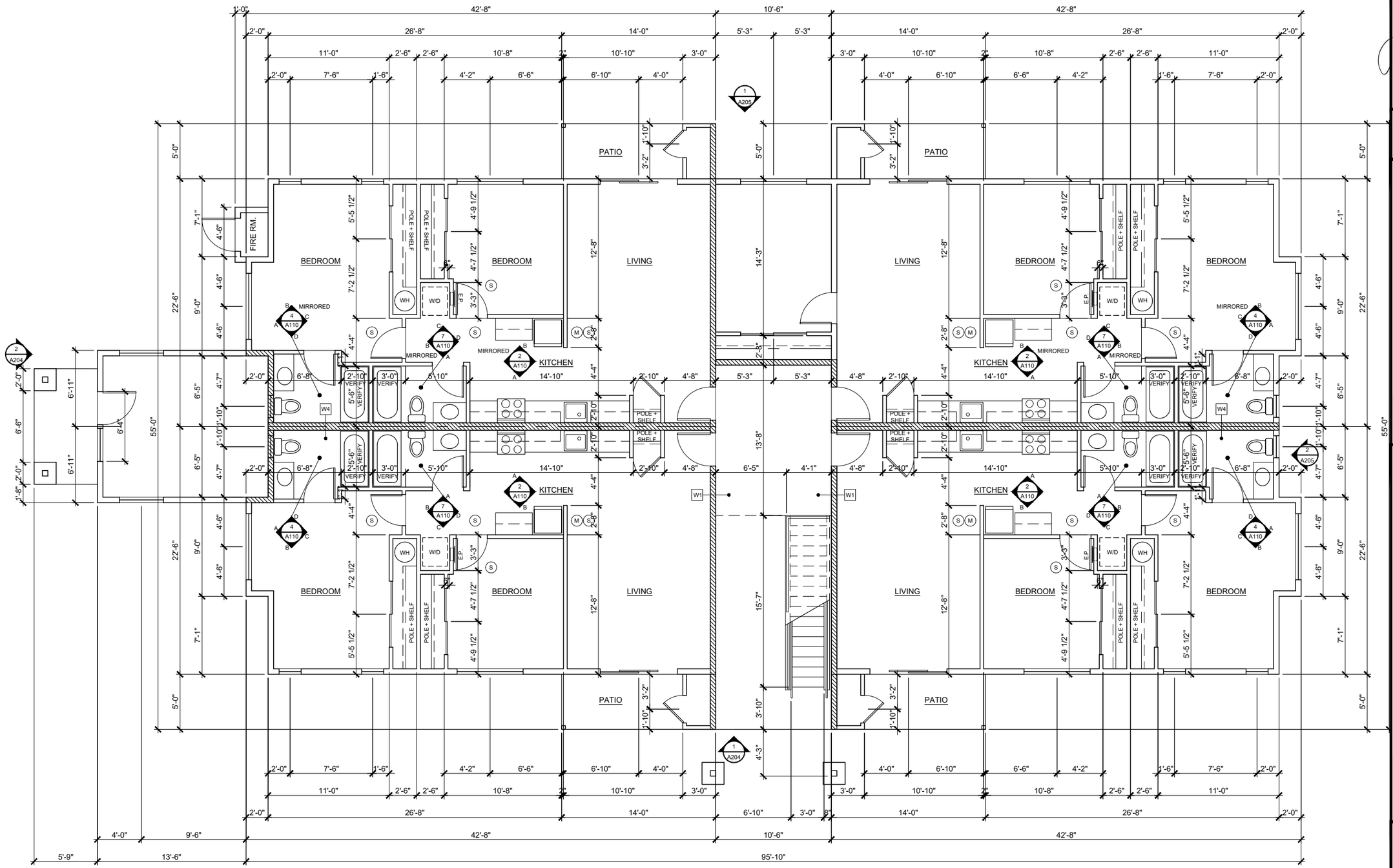
12745 S CROMPTONS LANE
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 2
ROOF PLAN

A124



1 A131 BUILDING 3 FIRST FLOOR PLAN

1/4" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

Doug Circosta, Architect
503-730-6908
14670 SW Forest Drive
Beaverton, OR 97007

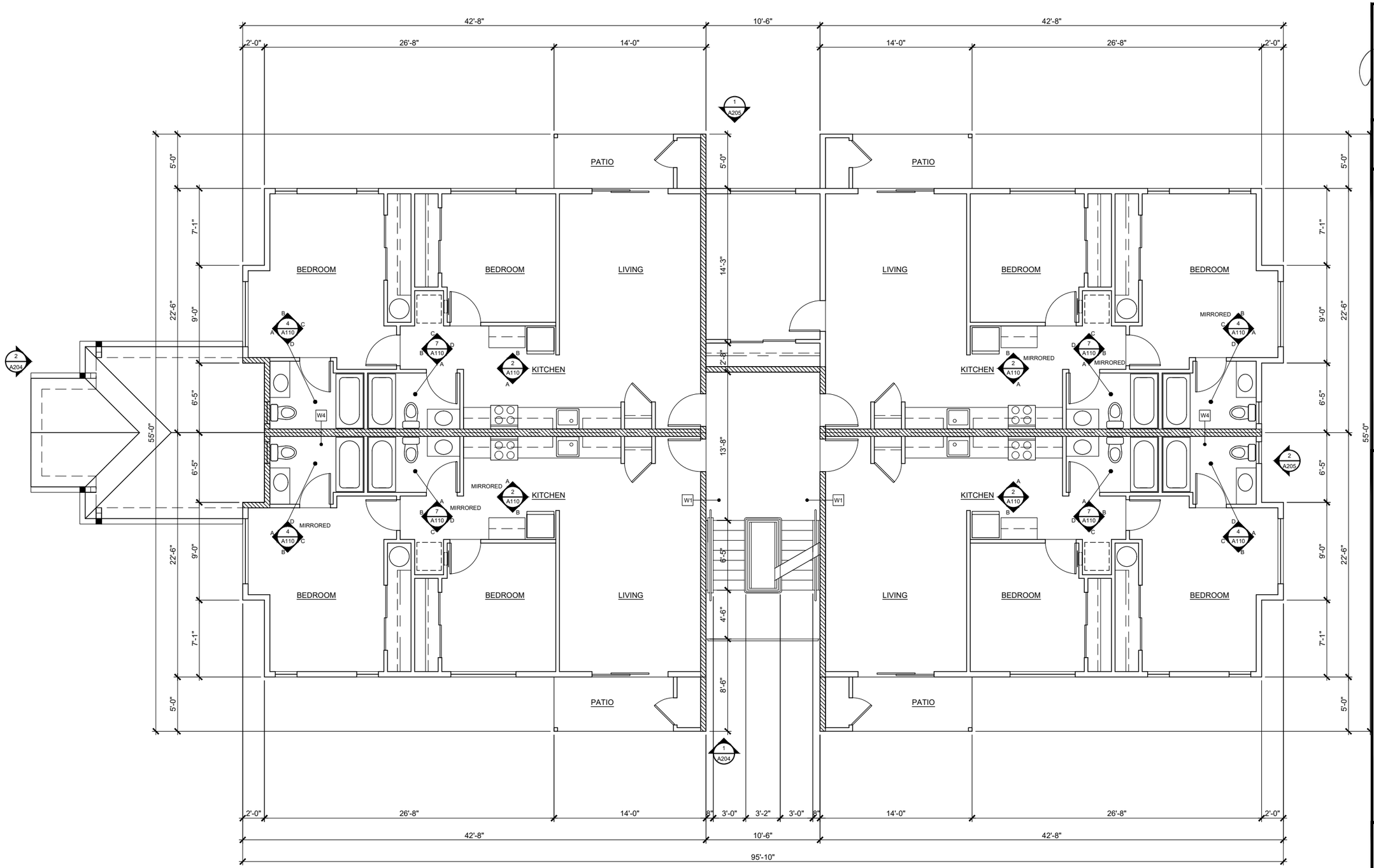
PRELIMINARY
NOT FOR CONSTRUCTION

Colima Apartments
31514 S HIGHWAY 213
AND
12745 S CROMPTONS LANE
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 3 FIRST FLOOR PLAN

A131



1 A132 BUILDING 3 SECOND FLOOR PLAN

1/4" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

503-730-6908
14670 SW Forest Drive
Beaverton, OR 97007

PRELIMINARY
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MOLALLA, OREGON

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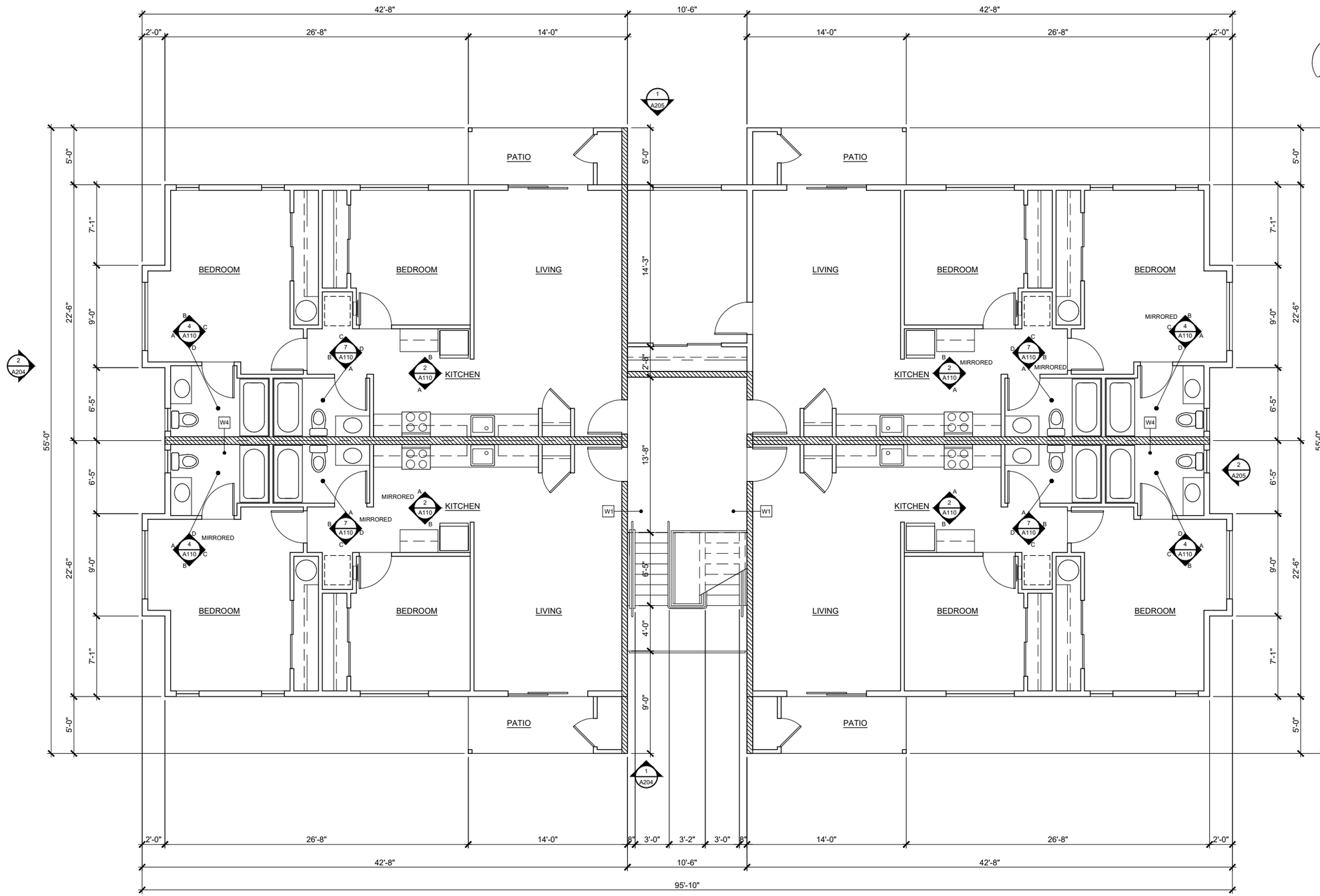
date: 11-07-2019

BUILDING 3
SECOND
FLOOR PLAN

A132



1 A133 BUILDING 3 THIRD FLOOR PLAN

1/4" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

PRELIMINARY
NOT FOR CONSTRUCTION

Colima Apartments
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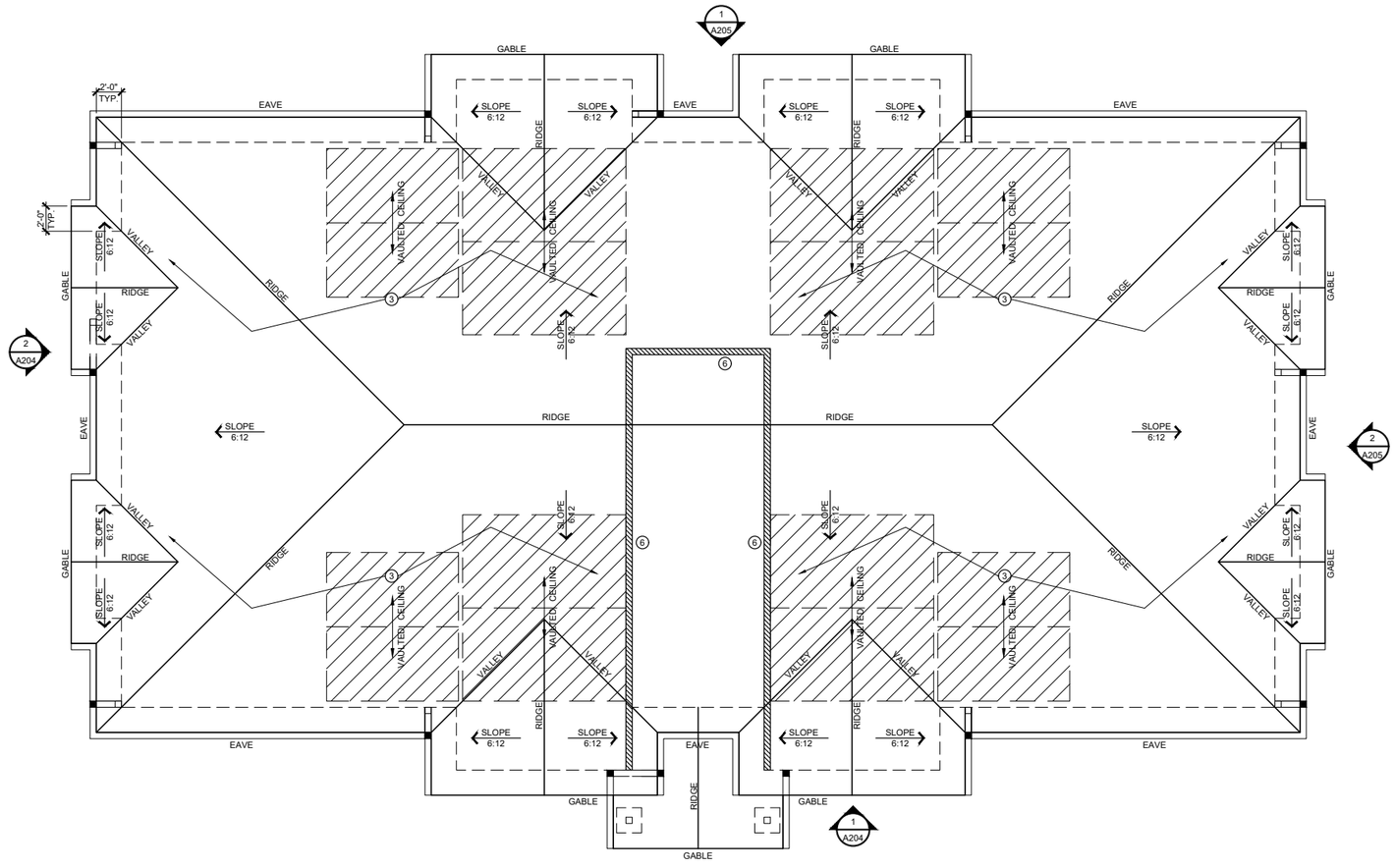
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 3 THIRD FLOOR PLAN

A133



1 A134 BUILDING 3 ROOF PLAN

3/16" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

PRELIMINARY
NOT FOR
CONSTRUCTION

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job no.: 1922
date: 11-07-2019

BUILDING 3
ROOF PLAN

A134

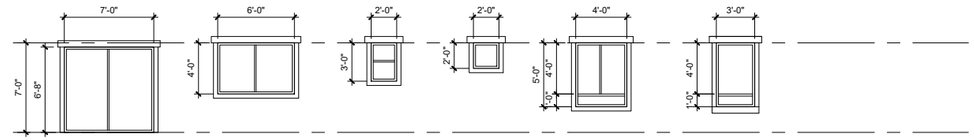
2 A200 BUILDING ELEVATION
3/16" = 1'-0"

1 A200 BUILDING ELEVATION
3/16" = 1'-0"

WINDOW TYPES

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

(T) TEMPERED SAFETY GLAZING



GENERAL NOTES

1. SEE ROOF PLAN AND BLDG. PLANS FOR GUTTER AND DOWNSPOUT LOCATIONS.
2. SEE SHEETS A60-, A60-, AND A60- FOR WINDOW AND SIDING INSTALLATION REQUIREMENTS.
3. 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.
4. ALL FASCIA AT ROOF EDGES TO BE 2 X 6 - PAINTED.
5. ALL GUTTERS TO BE PAINTED TO MATCH FASCIA. ALL DOWNSPOUTS PAINTED TO MATCH ADJACENT BODY COLOR.
6. 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 A10-SITE PLAN FOR ADDITIONAL FIXTURE LOCATIONS.

KEY NOTES

1. -
2. 5/4x6 TRIM - PAINTED (EXTEND 2" EA. SIDE AT WINDOWS AS SHOWN)
3. -
4. 5/4 x 4 TRIM - PAINTED
5. 5/4 x 8 TRIM - PAINTED
6. 2x6 FASCIA - PAINTED
7. METAL GUARDRAIL
8. -
9. BUILDING ADDRESSING PER FIRE MARSHALL WITH LIGHT FIXTURE VERIFY REQUIREMENTS AND MOUNTING HEIGHT PRIOR TO ROUGH-IN AND INSTALLATION

SYMBOL LEGEND

FIBER CEMENT LAP SIDING 7" EXPOSURE - PAINTED

CULTURED STONE VENEER

FIBER CEMENT SHINGLE SIDING

ASPHALT SHINGLE ROOFING SYSTEM

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

Doug Circosta, Architect
503-730-6908
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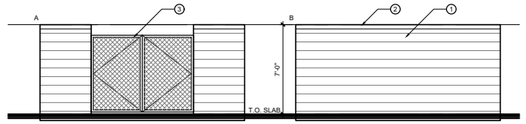
job no.: 1922
date: 11-07-2019

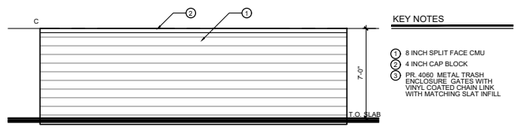
BUILDING 1

BUILDING ELEVATIONS

A200

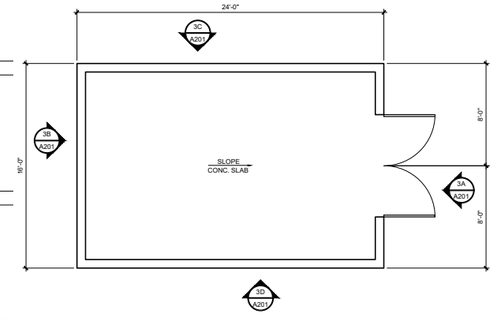
2 A201 BUILDING ELEVATION
3/16" = 1'-0"





KEY NOTES

1. 8 INCH SPLIT FACE CMU
2. 4 INCH CAP BLOCK
3. PR. 4000 METAL TRASH ENCLOSURE GATES WITH VINYL COATED CHAIN LINK WITH MATCHING SLAT INFILL



1 A201 BUILDING ELEVATION
3/16" = 1'-0"

3 A201 TRASH ENCLOSURE
3/16" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
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BUILDING 1

BUILDING ELEVATIONS

A201

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

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

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
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Beaverton, OR 97007

PRELIMINARY
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CONSTRUCTION

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MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 2
BUILDING ELEVATIONS

A202

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

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

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PORTLAND, OREGON
STATE OF OREGON

PRELIMINARY

503-730-6908
14670 SW Forest Drive
Beaverton, OR 97007

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MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 2
BUILDING ELEVATIONS

A203

2 A204 BUILDING ELEVATION
3/16" = 1'-0"

1 A204 BUILDING ELEVATION
3/16" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

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Beaverton, OR 97007

PRELIMINARY
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CONSTRUCTION

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date: 11-07-2019

BUILDING 3
BUILDING ELEVATIONS

A204

2 A205 BUILDING ELEVATION
3/16" = 1'-0"

1 A205 BUILDING ELEVATION
3/16" = 1'-0"

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PRELIMINARY
PORTLAND, OREGON
STATE OF OREGON

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14670 SW Forest Drive
Beaverton, OR 97007

PRELIMINARY
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CONSTRUCTION

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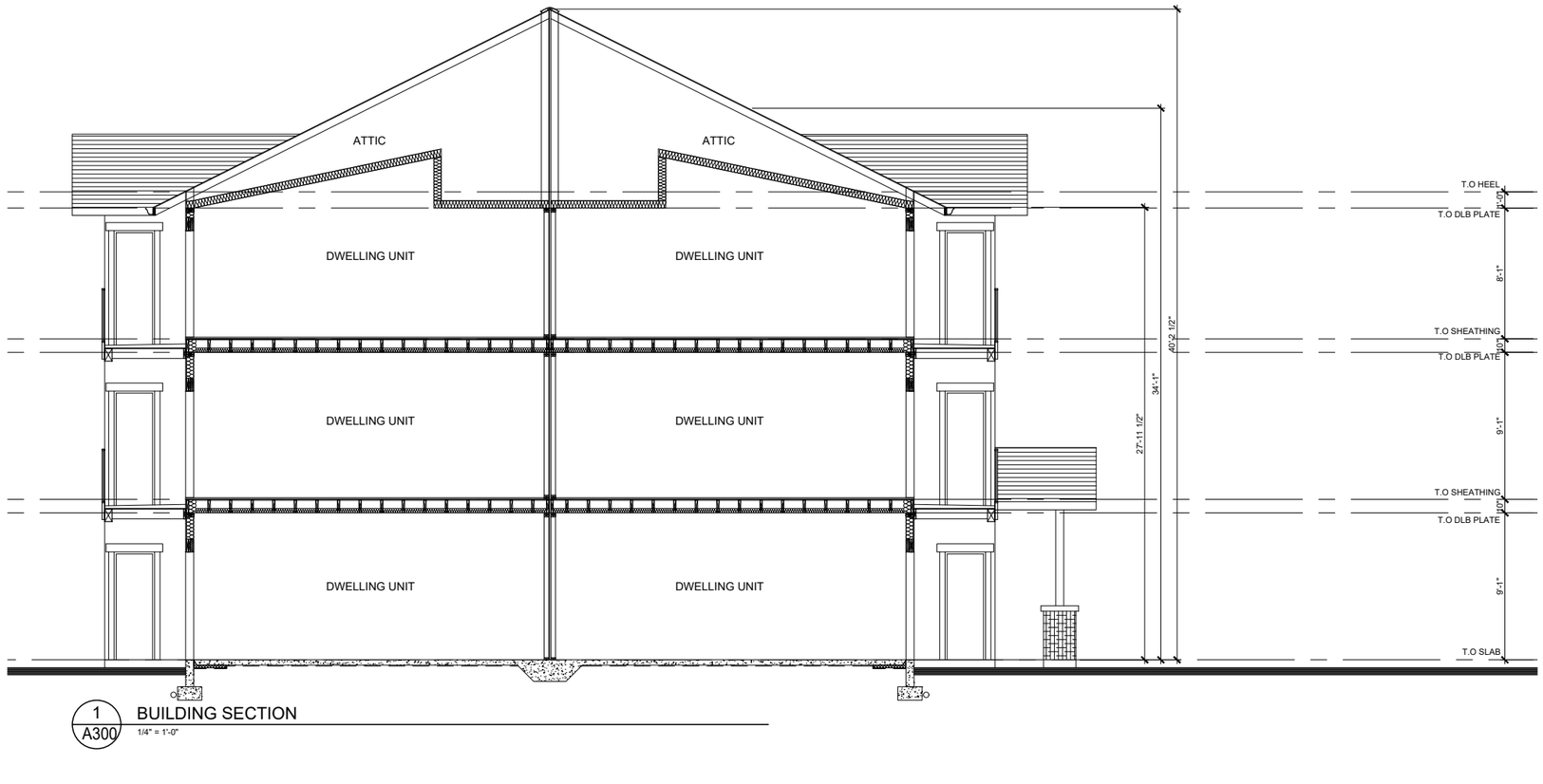
MOLALLA, OREGON

job no.: 1922
date: 11-07-2019

BUILDING 3
BUILDING ELEVATIONS

A205



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

REGISTERED ARCHITECT
DOUG C. CIRCOSTA
PORTLAND, OREGON
STATE OF OREGON

PRELIMINARY

Doug Circosta, Architect
503-730-6908
14670 SW Forest Drive
Beaverton, OR 97007

PRELIMINARY
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CONSTRUCTION

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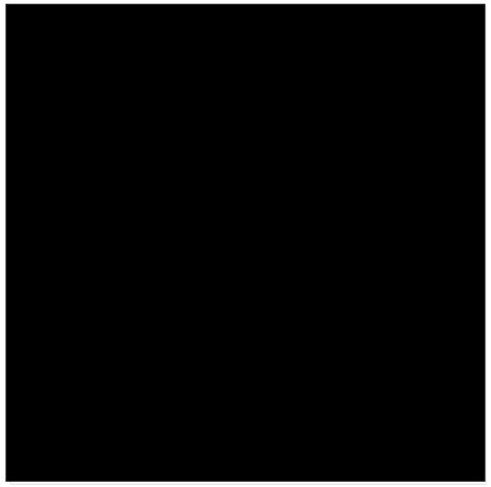
BUILDING SECTIONS

A300

P1. Rodda 0459 Body Color

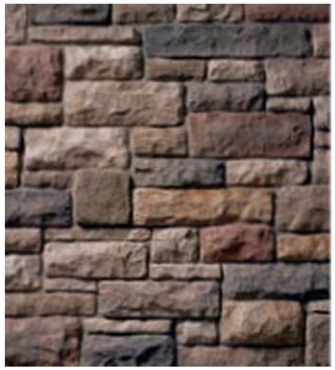
P2. Rodda CA164 Body Color

P3. Rodda CA014 Trim



P4. Black Metal Railings

Roofing. Malarkey Midnight Black



Cultured Stone Base at Entry Porch

Colima Apartments Paint Color Palette

Exterior Siding

SELECT CEDARMILL©

Woodstock Brown

SMOOTH

Countrylane Red

Exposure

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

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.

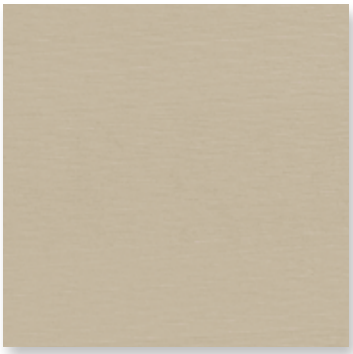
HARDIETRIM® BOARDS

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

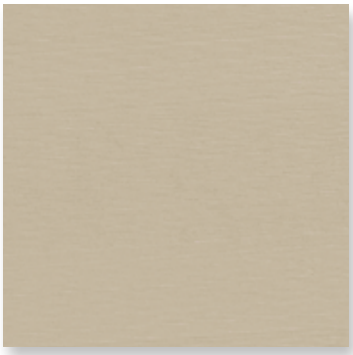
Trim

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.

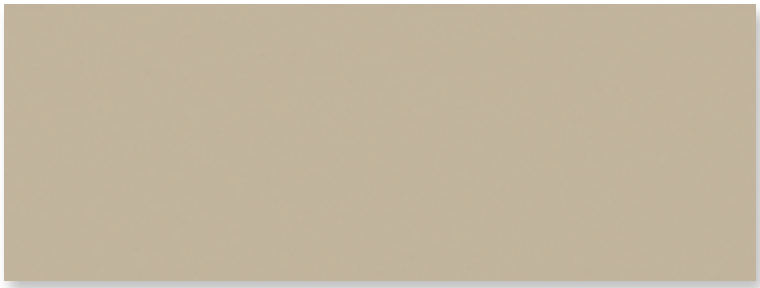
HARDIETRIM® BATTEN BOARDS

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

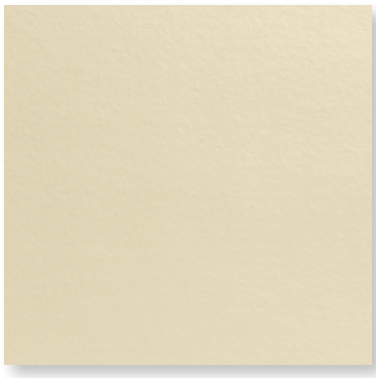
Thickness	1/4 in.		
Length	12 ft.	12 ft.	8 ft.
Width	12 in.	16 in.	24 in.
Pcs./Pallet	200	150	100

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.

Products are available primed or with ColorPlus Technology finishes. For more details, visit **jameshardiepros.com**

EUROPEAN CASTLE STONE

Bucks County European Castle Stone (CSV-573784)

LIMESTONE

Chardonnay European Castle Stone (CSV-573786)

Bucks County Limestone (CSV-2074)

Cedar Limestone (CSV-2044)

Cultured Stone Base at Entry Porch

Chardonnay Limestone (CSV-2045)

Golden Buckeye Limestone (CSV-528458)

Suede Limestone (CSV-2046)

PROlite LED Lighting™

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TYPE: _____ DATE: _____

JOB NAME: _____

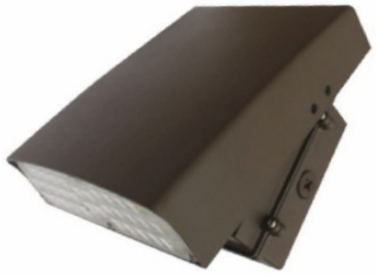
CONTRACTOR: _____

CATALOG NO: _____

NOTES: _____

PLEDWPCA80W/120W

80 & 120 Watt Adjustable & 30 Watt LED Area Light



FEATURES

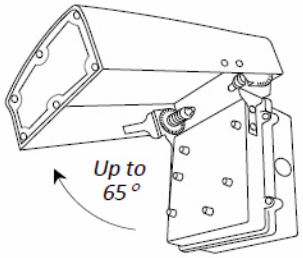
- Available in 3000k (warm white), 4000k (neutral white) and 5000k (cool white) color temperatures*
- Long-life LEDs provide 69,000 hours of operation with at least 70% of initial lumen output (L70)**
- LEDWPCA80W delivers 8,871 lumens and 110 lumens per watt (LPW) at both 3000k & 4000k, and 9,241 lumens 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 ½" 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

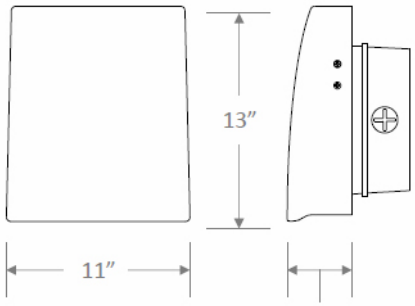
- Heavy-duty, spring-loaded hinge provides vertical adjustability of the luminaire housing up to 65
- Adjustability provides for a range of lighting effects from full-cutoff downlight to forward throw
- Knurled notches securely retain rotated position even in demanding environments.



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: 5.0 lb.

ORDERING INFORMATION

MODEL	LUMINAIRE WATTS	LUMINAIRE LUMENS	LUMENS PER WATT	COLOR TEMPERATURE	DLC OEM: DONGGUAN THAILIGHT SEMICONDCTOR 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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TYPE: _____ DATE: _____

JOB NAME: _____

CONTRACTOR: _____

CATALOG NO: _____

NOTES: _____

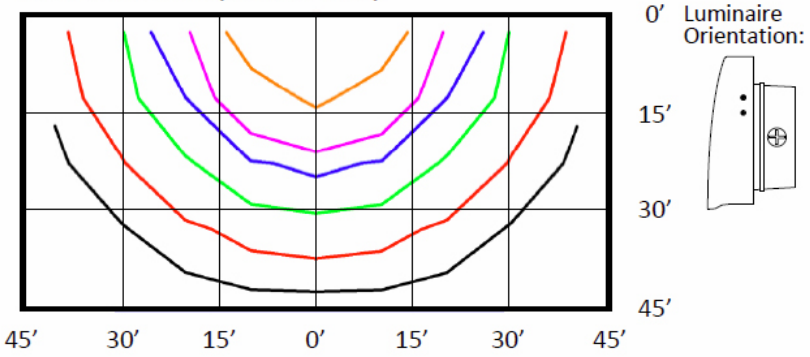
ELECTRICAL DATA

MODEL	COLOR TEMP	CRI [1]	LUMINAIRE LUMENS	LUMINAIRE WATTS	LUMENS PER WATT	INPUT VOLTAGE	INPUT CURRENT (A) 120V	240V	277V	POWER FACTOR	THD [2]	L_{70} Hours
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] L_{70} refers to the number of hours at which lumen output declines to 70% of the initial level. L_{70} hours are IES TM-21-11 calculated hours.

PHOTOMETRIC DATA

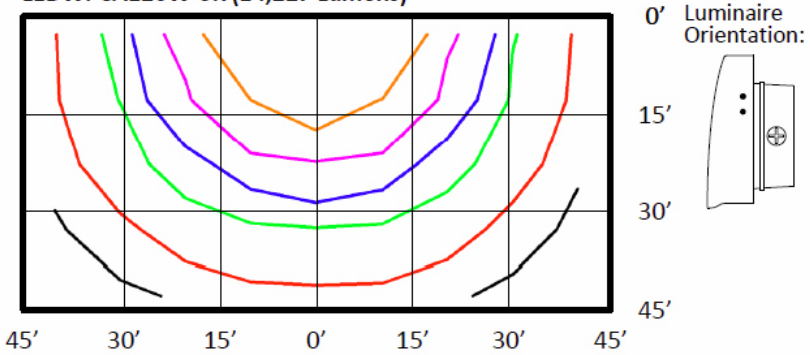
LEDWPCA80W-5K (9,241 Lumens)



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.*

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Type B Fixture - Wall mounted at landscape security areas

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TYPE: _____ DATE: _____

JOB NAME: _____

CONTRACTOR: _____

CATALOG NO: _____

NOTES: _____

PLEDWPCA30W/50W

30 & 50 Watt Adjustable & 30 Watt LED Area Light

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.

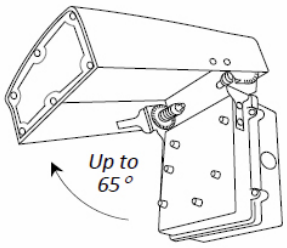
FEATURES

- 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 ½" 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.

VERTICAL ADJUSTABILITY

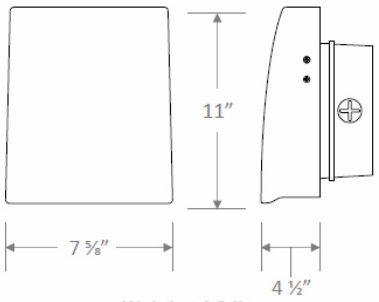
- Heavy-duty, spring-loaded hinge provides vertical adjustability of the luminaire housing up to 65
- Adjustability provides for a range of lighting effects from full-cutoff downlight to forward throw
- Knurled notches securely retain rotated position even in demanding environments.



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 SEMICONDCTOR 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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TYPE: _____ DATE: 100

JOB NAME: _____

CONTRACTOR: _____

CATALOG NO: _____

NOTES: _____

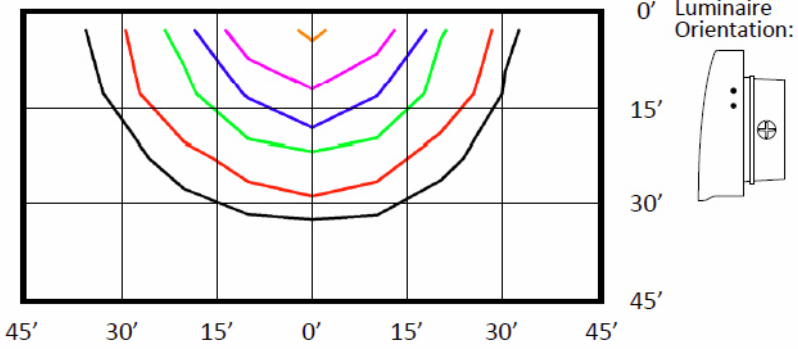
ELECTRICAL DATA

MODEL	COLOR TEMP	CRI [1]	LUMINAIRE LUMENS	LUMINAIRE WATTS	LUMENS PER WATT	INPUT VOLTAGE	INPUT CURRENT (A) 120V	240V	277V	POWER FACTOR	THD [2]	L_{70} Hours
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] L_{70} refers to the number of hours at which lumen output declines to 70% of the initial level. L_{70} hours are IES TM-21-11 calculated hours.

PHOTOMETRIC DATA

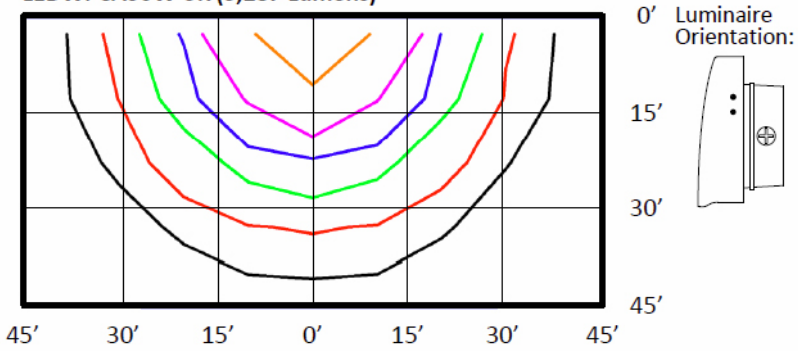
LEDWPCA30W-5K (3,298 Lumens)



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%**

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.*

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Type C Fixture - Wall mounted in Breezeways

TYPE: _____ DATE: _____
JOB NAME: _____
CONTRACTOR: _____
CATALOG NO: _____
NOTES: _____

PLEDWPCA12W

12 Watt Adjustable Full Cutoff LED Area Light

FEATURES

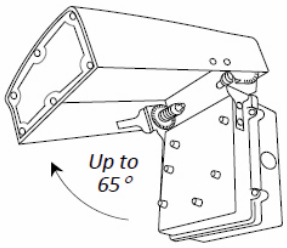
- Available in 3000k (warm white), 4000k (neutral white) and 5000k (cool white) color temperatures*
- Long-life LEDs provide 69,000 hours of operation with at least 70% of initial lumen output (L70)**
- Delivers 1,250 lumens and 106 lumens per watt (LPW) at both 3000k & 4000k, and 1,321 lumens and 111 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 ½" 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

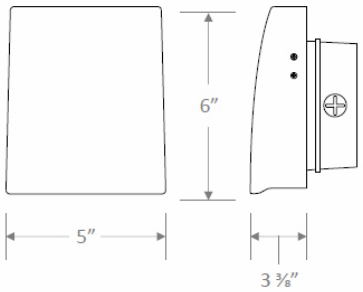
- Heavy-duty, spring-loaded hinge provides vertical adjustability of the luminaire housing up to 65
- Adjustability provides for a range of lighting effects from full-cutoff downlight to forward throw
- Knurled notches securely retain rotated position even in demanding environments.



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	
			85		

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TYPE: _____ DATE: _____

JOB NAME: _____

CONTRACTOR: _____

CATALOG NO: _____

NOTES: _____

ELECTRICAL DATA

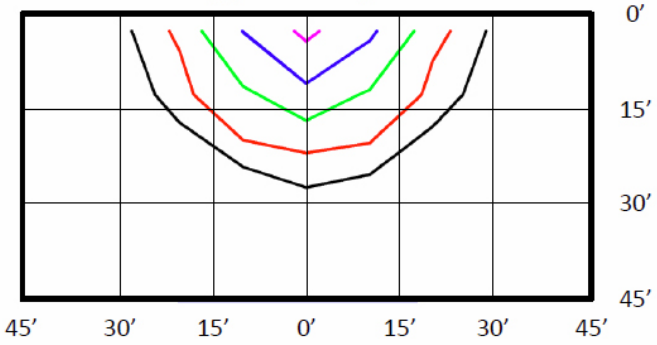
MODEL	COLOR TEMP	CRI[1]	LUMINAIRE LUMENS	LUMINAIRE WATTS	LUMENS PER WATT	INPUT VOLTAGE	INPUT CURRENT (A) 120V	240V	277V	POWER FACTOR	THD[2]	L_{70} Hours
PLEDWPCA12W-3K	3000k	> 80	1,250	12	106	120-277 (50-60Hz)	0.10	0.05	0.04	> 90%	< 20%	69,000
PLEDWPCA12W-4K	4000k	> 80	1,250	12	106	120-277 (50-60Hz)	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
						120-277 (50-60Hz)				> 90%	< 20%	

[1] Color rendering index

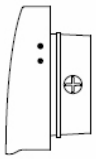
[2] Total harmonic distortion

[3] L_{70} refers to the number of hours at which lumen output declines to 70% of the initial level. L_{70} hours are IES TM-21-11 calculated hours.

PHOTOMETRIC DATA



Luminaire Orientation:



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.*

215-512-8100 • Fax 267-288-5604

Four Neshaminy Interplex, Suite 107, Trevose PA 19053

www.proliteled.com

Specifications subject to change without prior notice.

LUMARK® energy solutions

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.

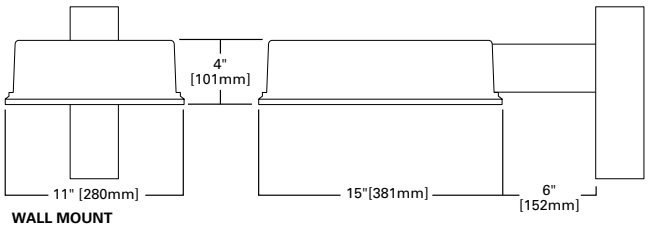
RV RIDGEVIEW

1 - 4 LightBARs
Solid State LED

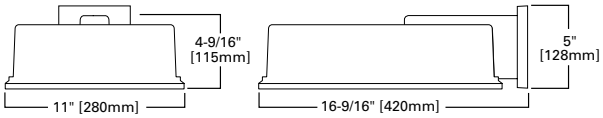
AREA LUMINAIRE

DIMENSIONS

POLE MOUNT

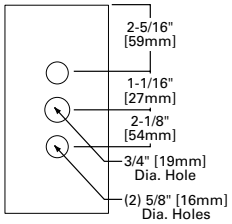


WALL MOUNT

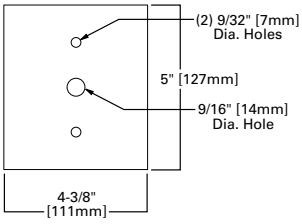


DRILLING PATTERNS

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.)

Cooper Lighting
by EATON

*www.designlights.org

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

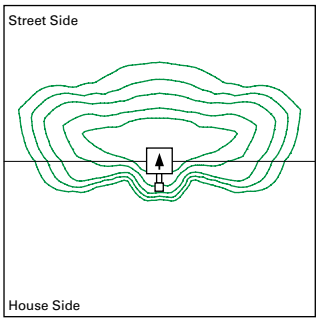
LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.04
15°C	1.03
25°C	1.00
40°C	0.96
50°C	0.92

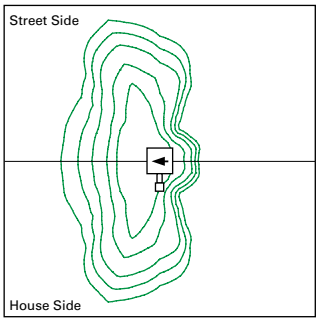
LUMEN MAINTENANCE

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

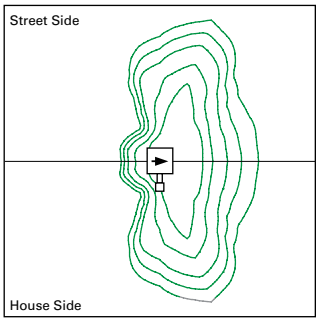
OPTIC ORIENTATION



Standard



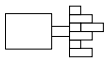
Optics Rotated Left @ 90° [L90]



Optics Rotated Right @ 90° [R90]

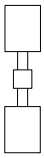
MOUNTING CONFIGURATIONS

Wall Mount

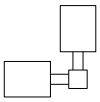


Arm Mount Single
EPA: 0.67

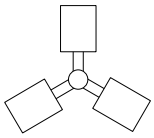
Arm Mount 2 @ 180
EPA: 1.34



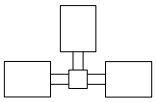
Arm Mount 2 @ 90
EPA: 1.34



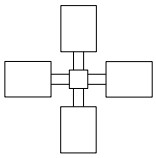
Arm Mount 3 @ 120
EPA: 1.72



Arm Mount 3 @ 90
EPA: 1.72



Arm Mount 4 @ 90
EPA: 1.94



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:

1. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
2. 6" Arm and round pole adapter included with fixture.
3. 21 LED LightBAR powered at 350mA, 7 LED LightBAR powered at 1A.
4. Lumen values based upon 4000°K CCT, 350mA drive current, 25°C ambient operating temperature.
5. Not available with Two Circuit Option.
6. HA not available with BLBLEDCLD options.
7. Wall mount arm and mounting plate included with fixture.
8. Specify voltage. Available in 120, 208, 240 or 277V. Not available with HA option.
9. Low-level output varies by bar count, consult factory. Not available with 347V or 480V.
10. Consult factory for lead time and lumen multiplier.
11. 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.
12. 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.
13. Specify 120V or 277V. Available with B01 or C01 configurations only. 25°C ambient operating temperature.
14. Replace XX with color designation.

Exhibit C: City Land Use Application Form

Planning & Community Development
117 N. Molalla Avenue
P.O. Box 248
Molalla, OR. 97038
(503) 759-0219
Fax: (503) 829-3676

FOR OFFICE USE ONLY:	
Planning File No. : _____	***City Approval:*** _____
Date Received: _____ **Fee:** _____	***Title*** _____
Land Use Type: _____	***Date:*** _____
Received by: _____	***Fee Paid:*** _____

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
- ☐ Variance (list standards to be varied in description)
- ☐ Conditional Use
- ☐ Partition (# of lots _____)
- ☐ Subdivision (# of lots_____)
- ☐ Other: _____

Owner/Applicant:

Applicant: Angel Jimenez Phone: Please Contact Applicant's Consultant

Applicant Address: 31514 S Highway 213, Molalla, OR 97038 Email: Please Contact Applicant's Consultant

Owner: Angel Jimenez Alejandrez & Hector Manuel Jimenez Ascencio Phone: Please Contact Applicant's Consultant

Owner Address: 31514 S Highway 213, Molalla, OR 97038 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: 31514 S Highway 213, Molalla, OR 97038

Assessors Map/Tax Lot: 5 2 E 07D Tax Lot 2300

Current Use of Site: Single Family Residential Zoning: General Commercial (C-2)

Intended Use: Multifamily Residential

Proposed Action:

Site Design Review for future multifamily dwellings

Proposed Use: Multifamily Residential

Proposed No. of Phases (one each year): 1

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

Signature

Hector Jimenez — Print or Type

Signature

Applicant(s) or Authorized Agent:

Angel Jimenez — Print or Type

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.

☑ **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.

Planning & Community Development
117 N. Molalla Avenue
P.O. Box 248
Molalla, OR. 97038
(503) 759-0219
Fax: (503) 829-3676

FOR OFFICE USE ONLY:	
Planning File No. : _____	***City Approval:*** _____
Date Received: _____ **Fee:** _____	***Title*** _____
Land Use Type: _____	***Date:*** _____
Received by: _____	***Fee Paid:*** _____

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
- ☐ Variance (list standards to be varied in description)
- ☐ Conditional Use
- ☐ Partition (# of lots _____)
- ☐ Subdivision (# of lots_____)
- ☐ Other: _____

Owner/Applicant:

Applicant: Angel Jimenez Phone: Please Contact Applicant's Consultant

Applicant Address: 31514 S Highway 213, Molalla, OR 97038 Email: Please Contact Applicant's Consultant

Owner: Beatriz Gomez Phone: Please Contact Applicant's Consultant

Owner Address: 309 NE 19th Avenue, Canby, OR 97013 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: 12745 S Crompton's Lane, Molalla, OR 97038

Assessors Map/Tax Lot: 5 2 E 07D Tax Lot 2402

Current Use of Site: Vacant Zoning: General Commercial (C-2)

Intended Use: Multifamily Residential

Proposed Action:

Site Design Review for future multifamily dwellings

Proposed Use: Multifamily Residential

Proposed No. of Phases (one each year): 1

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):

Beatriz Andrade	Beatriz Andrade Gómez
Print or Type	Signature
Print or Type	Signature

Applicant(s) or Authorized Agent:

Print or Type	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.

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☑ **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.

Exhibit D: Transportation Impact Study

Colima Apartments

Transportation Impact Study

Molalla, Oregon

Date:
November 11, 2019

Prepared for:
John Raugust, PE
AKS Engineering & Forestry, LLC

Prepared by:
William Farley, PE
Terrington Smith, EI

REGISTERED PROFESSIONAL ENGINEER
83582PE
OREGON
DEC. 17, 2014
WILLIAM R. FARLEY
RENEWS: 12/31/2019

LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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Executive Summary

1. Approximately 1.7 acres in Molalla, Oregon, have been proposed for the development of three apartment buildings that contain a total of 36 units.

2. The proposed development is projected to generate a net addition of 9 additional trips during the morning peak hour, 9 additional trips during the evening peak hour, and 128 daily trips.

3. Based on the minimal volumes projected on Crompton's Lane, preliminary traffic signal warrants for site access on Highway 213 are not projected to be met upon occupancy of the proposed apartments.

4. Left-turn lane warrants were not projected to be met under year 2022 buildout conditions.

5. A detailed examination of the crash history at the study intersection shows no trends that are indicative of design deficiencies and no significant safety concerns.

6. Adequate intersection sight distance is available at the site access to ensure safe operation of the intersection along Highway 213.

7. Both study intersections are expected to operate acceptably in all analysis scenarios, regardless of the proposed development.

Introduction

The property located at 31514 S Highway 213 in western Molalla, Oregon, has been proposed for development. The subject site consists of tax lots 2402 and 2300 and comprises approximately 1.7 acres. The project includes the construction of three, three-story apartment buildings that contain a total of 36 new apartment units.

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.

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. The lot is bordered to the north by a Chevron gas station, the east and south by residential houses, and the west by Highway 213. There is an existing house onsite which is planned to be removed during development..

Based on the location of the subject property and preliminary calculations of trip generation for the development, the following intersections have been identitifed for analysis:

- Highway 213 at Highway 211
- Highway 213 at Crompton's Lane (site access)

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.

Table 1: Vicinity Roadways

Roadway	Jurisdiction	Functional Classification	Cross-Section	Speed	On-street Parking	Bicycle Lanes	Curbs	Sidewalks
Oregon Hwy 213	ODOT	Urban Minor Arterial	2 to 4 Lanes	40 mph Posted	Not Permitted	Both Sides	Partial Both Sides	Partial East Side
Oregon Hwy 211	ODOT	Urban Minor Arterial	2 to 4 Lanes	40 mph Posted	Not Permitted	Both Sides	Partial Both Sides	North Side
Crompton's Lane	N/A	Private Street	2 Lanes	25 mph Statutory	Permitted	None	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.

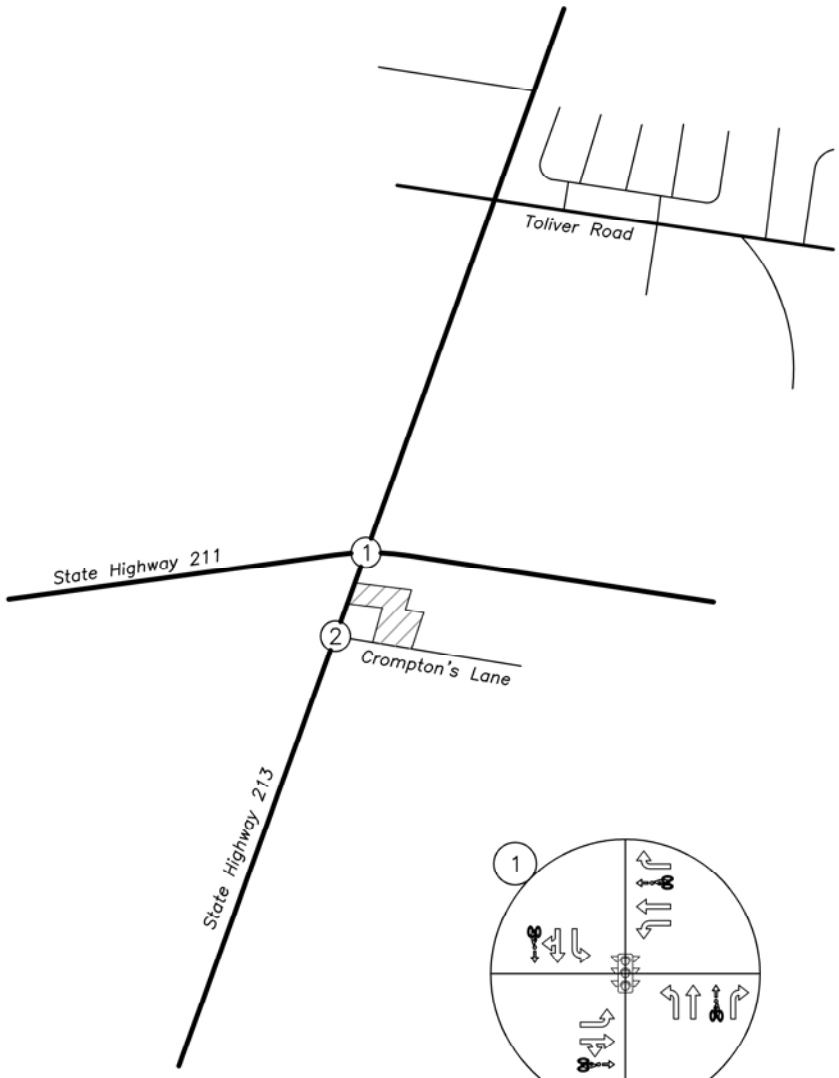
Table 2: Study Intersections

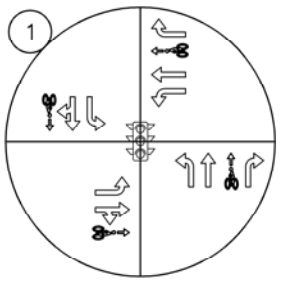
Number	Name	Geometry	Traffic Control	Phasing/Stopped Approaches
1	Hwy 213 at Hwy 211	Four-Legged	Signalized	Permitted Left Turns
2	Hwy 213 at Crompton's Lane	Three-Legged	Stop-Controlled	WB Stop-Controlled Approaches

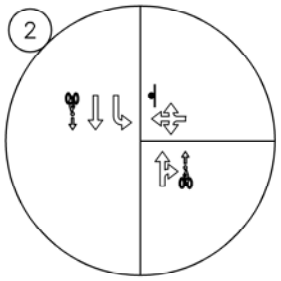
A vicinity map showing the project site, vicinity streets, and intersection configurations is shown in Figure 1 on page 4.

LEGEND

- STUDY INTERSECTION
- STOP SIGN
- TRAFFIC SIGNAL
- BIKE LANE
- PROJECT SITE
- ARTERIAL
- MAJOR COLLECTOR
- LOCAL ROADWAY







VICINITY MAP

no scale

FIGURE 1

PAGE 4

Site Trips

Trip Generation

The proposed development includes the construction of three, three-story apartment buildings, with a total of 36 dwelling units. To estimate the number of trips that could be generated by the proposed development of the apartments, trip rates from the *Trip Generation Manual* [1] were used. Specifically, data corresponding to Land-Use Code 221, *Multifamily Housing (Mid-Rise)*, was referenced based on the number of apartment dwellings.

The trip generation calculations show that the proposed development of 36 apartment dwellings is projected to generate a net addition of 9 additional trips during the morning peak hour, with 3 trips entering the site and 6 exiting. During the evening peak hour, a net addition of 9 additional trips is projected to be generated, with 5 entering the site and 4 exiting. During a typical weekday, the proposed development is anticipated to generate a total of 128 additional daily trips.

Trip generation estimates are summarized in Table 3 below. Detailed trip generation calculations are included in the appendix to this report.

Table 3: Trip Generation Summary

	ITE Code	Units	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Existing Conditions									
Single-Family Detached Housing	210	1	0	1	1	1	0	1	10
Proposed Development									
Multifamily Housing (Mid-Rise)	221	36	3	7	10	6	4	10	138
Net New Site Trips			**3**	**6**	**9**	**5**	**4**	**9**	**128**

[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.

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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:

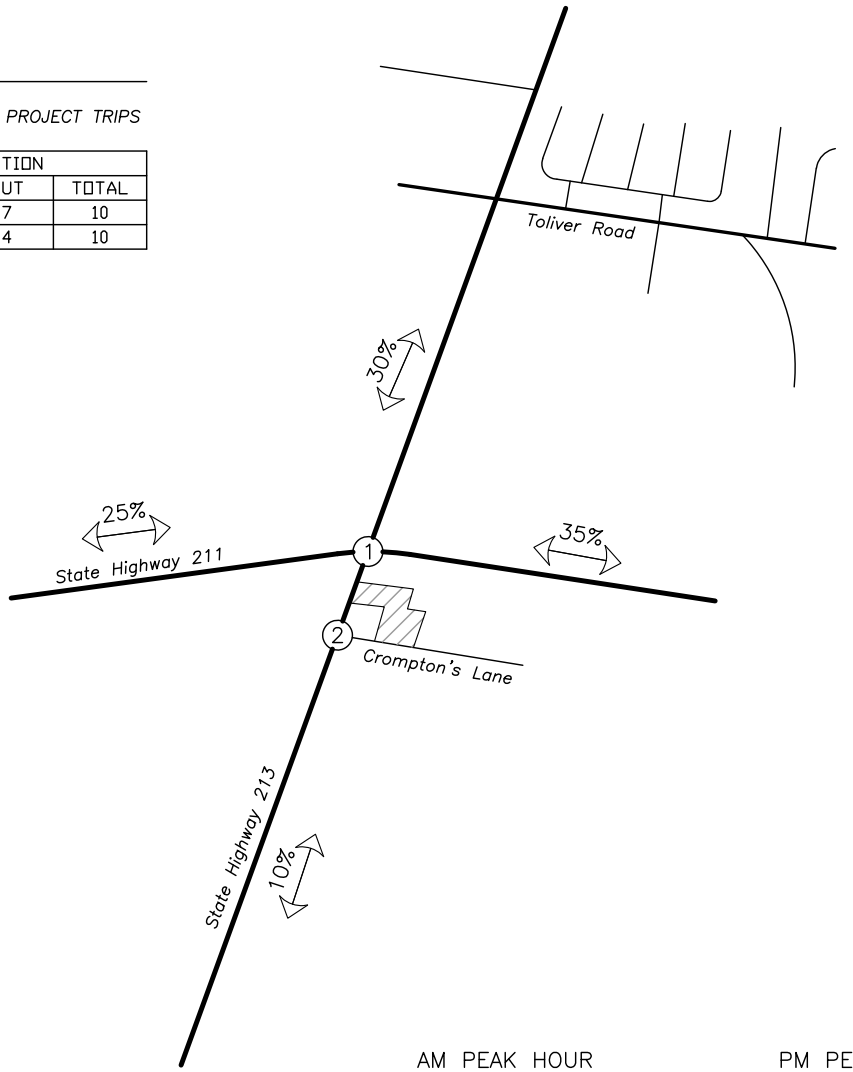
- 30 percent of trips will travel to/from the north along Highway 213
- 10 percent of trips will travel to/from the south along Highway 213
- 35 percent of trips will travel to/from the east along Highway 211
- 25 percent of trips will travel to/from the west along Highway 211

The trip distribution and assignment for the proposed development are shown in Figure 2 on page 7.

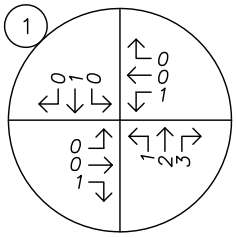
LEGEND

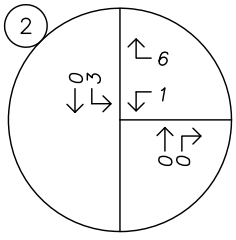
XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	3	7	10
PM	6	4	10

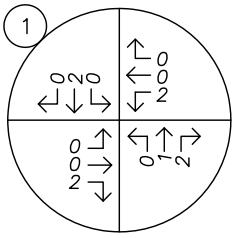


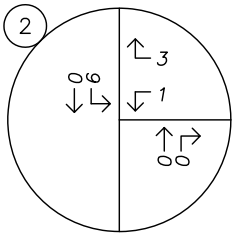
AM PEAK HOUR





PM PEAK HOUR





SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
AM & PM Peak Hours

no scale

FIGURE 2

PAGE 7

Traffic Volumes

Existing Conditions

To identify existing conditions, traffic counts were conducted at the intersections of Highway 213 at Highway 211 and Highway 213 at Crompton's Lane from 7:00am to 9:00am and 4:00pm to 6:00pm on Tuesday, October 15th, 2019. Turning movement volumes corresponding to each intersection's individual peak hour were used for analysis.

Since Highway 213 and Highway 211 are under the jurisdiction of the Oregon Department of Transportation (ODOT), traffic volumes were seasonally adjusted to reflect the 30th highest hour of traffic, as per procedures described in ODOT's *Analysis Procedures Manual*. Using the ODOT's Seasonal Trend Table [2], a seasonal adjustment factor of 1.03 was calculated based on the Commuter seasonal trend and applied to the existing traffic volumes. The adjustment factor was applied to through volumes on Highway 213 at its intersection with Crompton's Lane, and to all turning movement volumes at the intersection of Highway 213 at Highway 211.

Figure 3 on page 10 shown the existing traffic volumes for the study intersection during the morning and evening peak hours. Detailed count data is provided in the appendix to this report.

Background Volumes

To provide analysis of the impact of the proposed development on the existing transportation facilities, an estimation of future traffic volumes is required. In order to calculate future traffic volumes, a growth rate must be applied to the collected traffic volumes.

Growth rates for traffic traveling through the intersection of Highway 213 at Highway 211 were derived using ODOT's 2037 Future Volume Table, in accordance with ODOT's *Analysis Procedures Manual*. Using data corresponding to mileposts 16.08 and 16.12 of ODOT highway number 160 (Highway 213), a linear growth factor of 1.05 for the 3-year build-out scenario was calculated. For highway number 161 (Highway 211), a linear growth factor of 1.06 for the 3-year build-out scenario was calculated using data corresponding to mileposts 11.26 and 11.36.

The growth rate for the traffic along Highway 213 at the intersection with Crompton's Lane was derived in the same manner, using data corresponding to mileposts 16.08 and 16.12 of ODOT highway number 160. A linear growth factor of 1.05 for the 3-year build-out scenario was calculated.

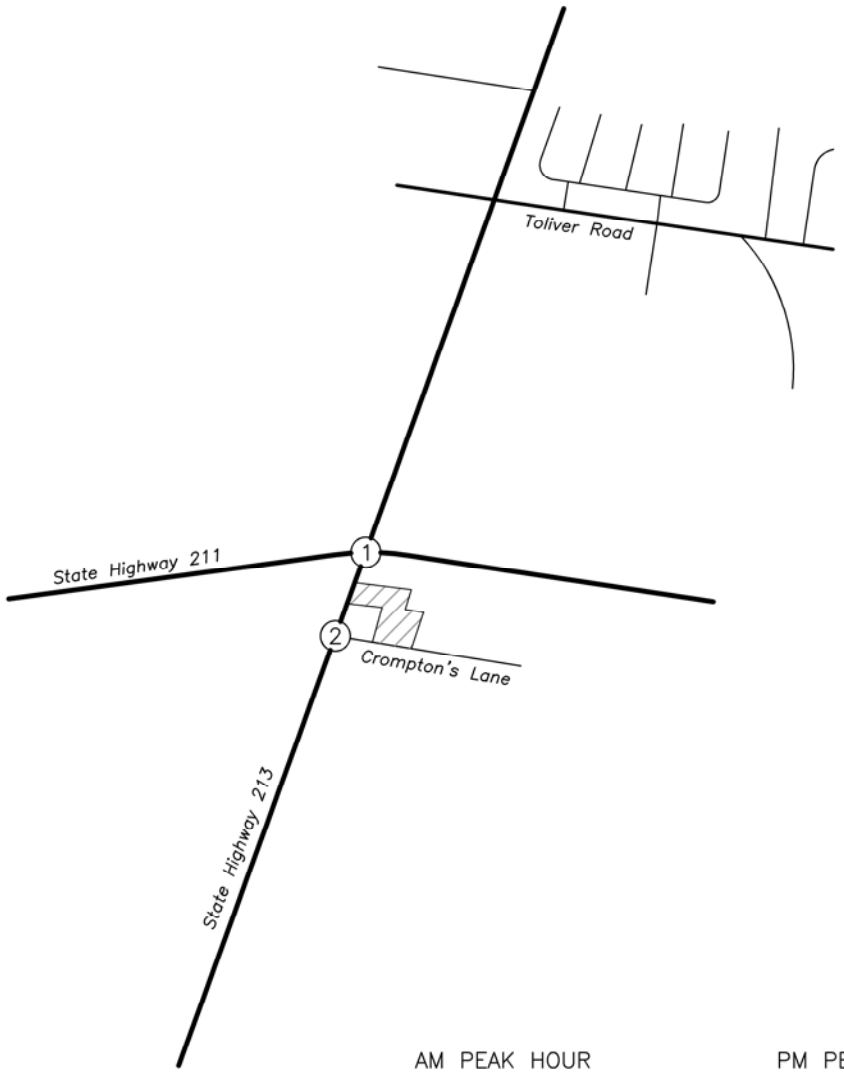
The growth factors were applied to the study intersections to determine year 2022 volumes. Figure 4 on page 11 shows the projected year 2022 background traffic volumes during the morning and evening peak hours, with no development assumed on the subject site.

[2] ODOT Seasonal Trend Table (Updated 6/26/19)

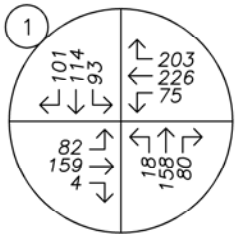
Build-out Conditions

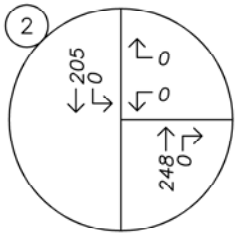
Peak hour trips calculated to be generated by the proposed development of 36 apartment units, as described earlier within the *Site Trips* section, were added to the year 2022 background volumes to obtain the anticipated traffic volumes following the build-out and occupancy of the subject site.

Figure 5 on page 12 shows year 2022 background traffic volumes plus trips generated by development of the proposed apartments, as described in the *Trip Generation* section.

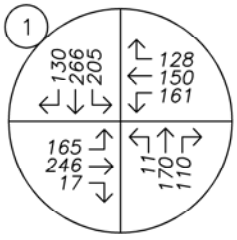


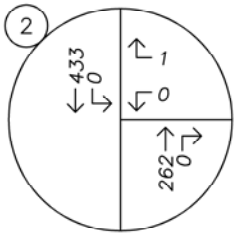
AM PEAK HOUR





PM PEAK HOUR

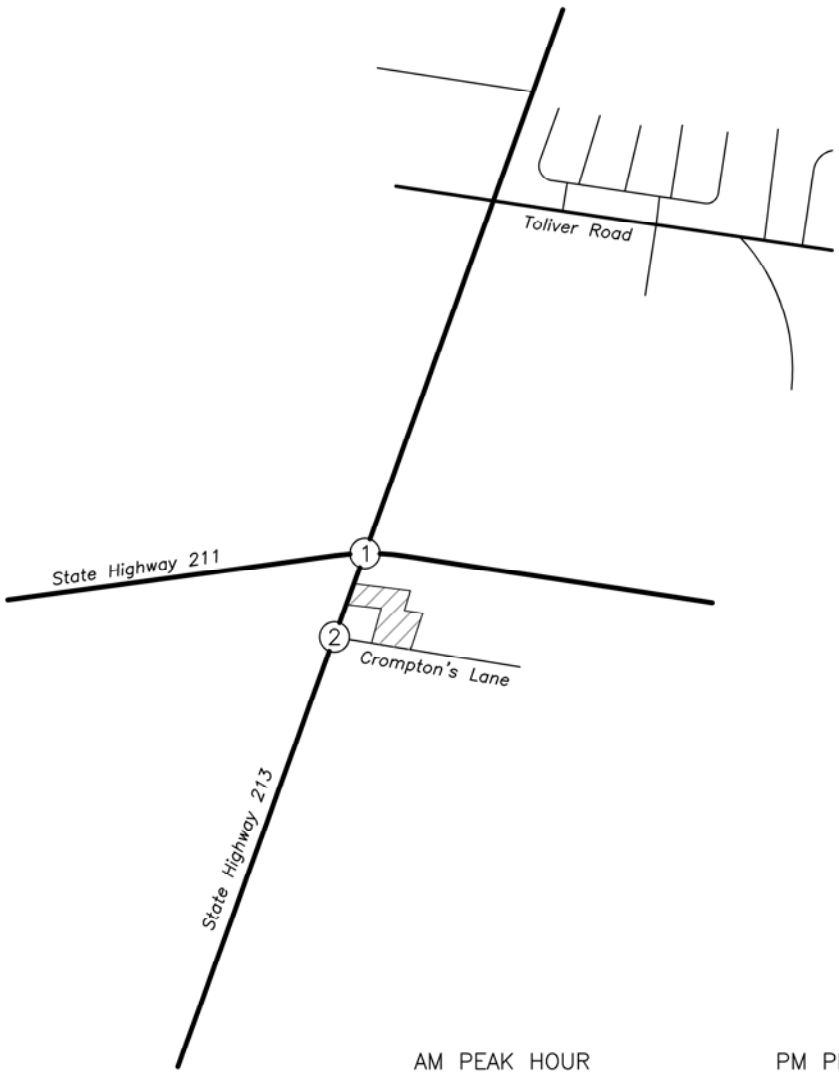




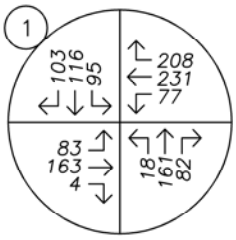
TRAFFIC VOLUMES
Year 2019 Existing Conditions
AM & PM Peak Hours

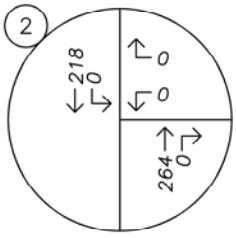
no scale

FIGURE 3

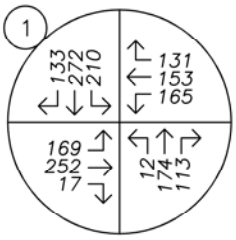


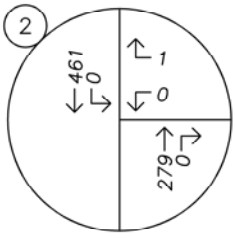
AM PEAK HOUR





PM PEAK HOUR



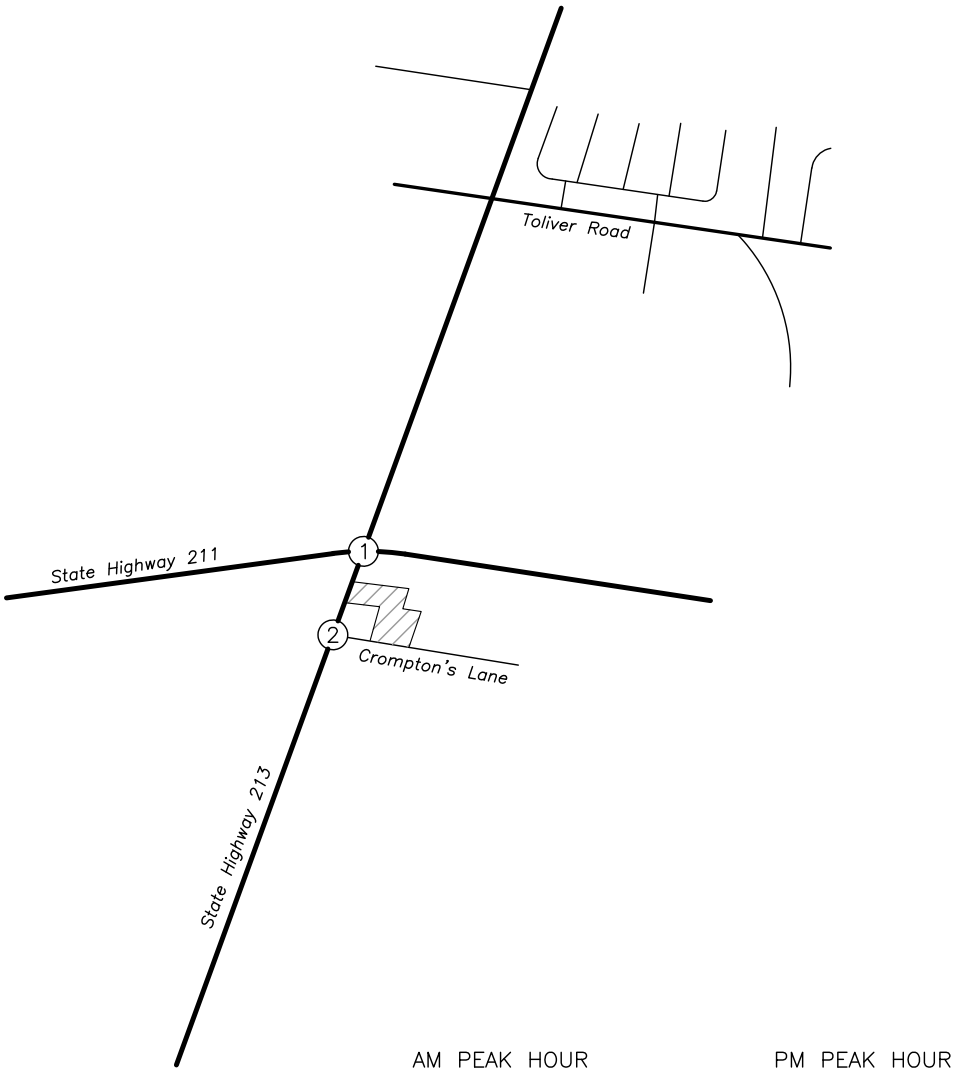


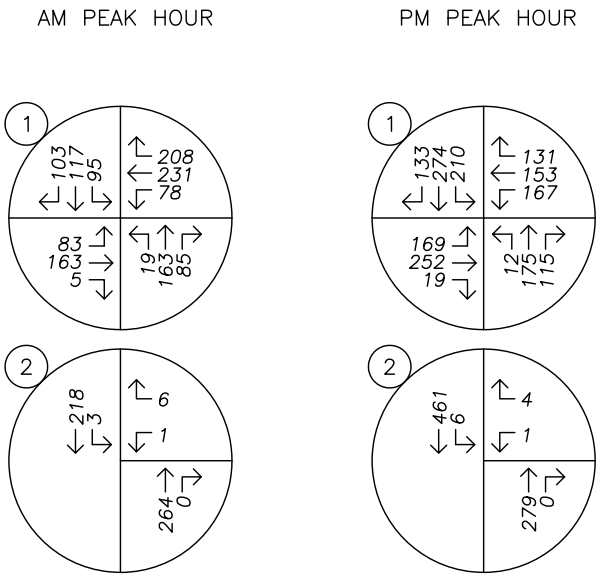
TRAFFIC VOLUMES
2022 Background Conditions
AM & PM Peak Hours

no scale

FIGURE 4

PAGE 11





TRAFFIC VOLUMES
Year 2022 Background Plus Site Trips
AM & PM Peak Hours

no scale

FIGURE 5

Safety Analysis

Crash Data Analysis

Using data obtained from ODOT, a review was performed of the most recent five years of available crash data (January 2013 through December 2017). Crash rates were calculated under the common assumption that traffic counted during the evening peak hour represents ten percent of annual average daily traffic (AADT) at each intersection. Crash rates for each intersection were reported as crashes per million entering vehicles (CMEV) and were compared against the average and 90th percentile crash rates for intersections with similar approach configurations and traffic control types in order to determine whether safety mitigation is necessary or appropriate. For a signalized four-legged intersection in an urban area, ODOT reports an average crash rate of 0.477 CMEV and a 90th percentile crash rate of 0.860 CMEV[3]. Intersections with a crash rate higher than the 90th percentile crash rate of similar intersections should be flagged for further analysis.

With regard to crash severity, ODOT classifies crashes in the following categories:

- Property Damage Only (PDO);
- Possible Injury – Complaint of Pain (Injury C);
- Non-Incapacitating Injury (Injury B);
- Incapacitating Injury – Bleeding, Broken Bones (Injury A); and
- Fatality or Fatal Injury.

Table 4 provides a summary of crash types while Table 5 on page 14 summarizes crash severities and rates for each of the study intersections. Detailed crash reports are included in the technical appendix to this report.

Table 4: Crash Type Summary

	Intersection	Crash Type									Total Crashes
		Rear End	Turn	Angle	Fixed Object	Side Swipe	Head On	Other	Ped	Bike	
1	Highway 213 at Highway 211	4	8	4	0	0	0	1	0	0	17
2	Highwy 213 at Crompton's Lane	0	0	0	0	0	0	0	0	0	0

[3] Oregon Department of Transportation, *Analysis Procedures Manual Version 2*. September, 2019.

Table 5: Crash Severity and Rate Summary

	Intersection	Crash Severity					Total Crashes	AADT	Crash Rate
		PDO	C	B	A	Fatal			
1	Highway 213 at Highway 211	9	7	1	0	0	17	17,590	0.53
2	Highway 213 at Crompton's Lane	0	0	0	0	0	0	6,960	0.00

BOLDED text indicates a crash rate in excess of either 1.0 CMEV.

Based on the detailed review of the crash data, the crash rate of intersection of Highway 213 at Highway 211 does not exceed the 90th percentile crash rate of urban four-legged signalized intersections. Furthermore, no significant patterns or design concerns were identified at the study intersections. No other safety improvements are recommended in conjunction with the proposed development.

Warrant Analysis

Traffic Signal Warrants

Preliminary traffic signal warrants were examined for the unsignalized study intersection of Highway 213 at Crompton's Lane. Using 70 percent of standard traffic signal warrants due to the location of the intersection in a community with a population less than 10,000, and after reducing right-turn volumes on the minor-street approach by 85 percent of the capacity, traffic signal warrants were not projected to be met for the intersection of Highway 213 at Crompton's Lane under any of the analysis scenarios.

Left-turn Lane Warrants

Left-turn lane warrants were examined for southbound traffic at the intersection of Highway 213 and Crompton's Lane. A left-turn refuge is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The warrants examined implement the design curves developed by the Texas Transportation Institute (TTI), as adopted by ODOT in its *Analysis Procedures Manual*. These warrants are evaluated based on the number of left-turning vehicles, the number of advancing and opposing vehicles, the number of lanes, and the roadway travel speed.

Due to the southbound left-turn movement experiencing less than 10 left-turning vehicles during an hour, left-turn lane warrants were not found to be met for the intersection of Highway 213 at Crompton's Lane during year 2022 conditions with the proposed development fully occupied. However, since there is a high sum of opposing and advancing volumes, the providing of a left-turn lane could reduce the risk of collisions in the through lanes. Accordingly, further analysis was conducted.

Based on the crash data review, no collisions were reported at the intersection of Highway 213 at Crompton's Lane. Since the intersection does not have a history of right-turn collisions or angle/turning movement crashes, it is not expected that left-turning traffic will cause a safety concern for through traffic.

It should be noted that there is an existing striped median on Highway 213 with 75 feet of storage at this intersection that can provide left-turning southbound vehicles space to remove themselves from the through lane. The existing median can provide an opportunity for southbound left-turning vehicles to avoid impeding the southbound traffic flow.

Installation of a new left turn lane at the intersection of Highway 213 at Crompton's Lane is not recommended. Detailed warrant calculations are provided in the technical appendix of this report.

Sight Distance Analysis

Sight distance was measured at the intersection of Crompton's Lane at Highway 213 and evaluated in accordance with the standards established in *A Policy of Geometric Design of Highways and Streets*[4]. 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 (actual measurement is taken 15 feet from pavement edge) 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 40 mph on Highway 213, the minimum recommended intersection sight distance is 445 feet.

At the intersection of Highway 213 and Crompton's Lane, sight distance was measured to be 106 feet to the south while sight distance to the north extended beyond the intersection of Highway 213 and Highway 211. Sight distance to the south was obstructed by a fence and vegetation on the neighboring property as shown in Figure 6 on page 17.

Since the vegetation and fence are on the neighboring property and may not be able to be adjusted to meet sight distance requirements, sight distance was further evaluated to the south of Crompton's Lane by assuming a vehicle would pull closer to the traveled way to obtain an adequate view of oncoming traffic. The AASHTO manual states that "Measurements of passenger cars indicate that the distance from the front of the vehicle to the driver's eye for the current US Passenger car population is always 2.4 m [8 ft] or less" (p9-36).

From a position measured 10 feet from the edge of the traveled way, sight distance was measured to be 576 feet to the south, still limited by the fence and vegetation, but sufficient distance to enter the roadway without impeding through traffic. In this case, the front of a standard passenger car would be at least 2 feet behind the edge of the travel lane, giving clearance between the passenger car and vehicular traffic on Highway 213. This result shows that a driver can safely approach Highway 213 from the site and have adequate sight distance in

[4] American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.

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both directions without impeding the flow of vehicular traffic on Highway 213. Figure 7 on page 17 shows the line of sight to the south when located 10 feet behind the edge of the traveled way.

Based on the above measurements, adequate sight distance is available at the site access to ensure safe operation of the intersection along Highway 213 should the vegetation and fence line not be able to be altered.

Figure 6: Site Access Looking South - 15' From Edge of Travel Lane

Figure 7: Site Access Looking South - 10' From Edge of Travel Lane

Operational Analysis

Intersection Capacity Analysis

To determine the operational impacts of the proposed 36-unit apartment complex, a capacity analysis was conducted for the morning and evening peak hours. The analysis was conducted according to the intersection analysis methodology given in the *Highway Capacity Manual* (HCM), published by the Transportation Research Board. An intersection's level of service (LOS) can range from LOS A, which indicates very little or no delay, to LOS F, which indicates a high degree of congestion and delay.

Since the study intersections are under the jurisdiction of the Oregon Department of Transportation, the applicable minimum operational standards for these facilities are established under the Oregon Highway Plan and are based on the volume-to-capacity (v/c) ratio of the intersection. The v/c ratio compares the actual traffic demand to the potential capacity of the intersection to determine the proportion that is utilized by traffic. Since Highway 213 and Highway 211 are District Highways located in the City's Urban Growth Boundary with speed limits between 35 and 45 mph, the Oregon Highway Plan requires the highway intersections have a maximum allowable v/c ratio of 0.90.[5] Results of the analysis are shown in Table 6. Detailed reports are provided in the appendix.

Table 6: Capacity Analysis Summary

	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1 Highway 213 at Highway 211						
2019 Existing Conditions	D	38	0.49	D	45	0.66
2022 Background Conditions	D	38	0.50	D	45	0.67
2022 Buildout Conditions	D	38	0.50	D	46	0.68
2 Highway 213 at Crompton's Lane						
2019 Existing Conditions	A	0	0.00	A	10	0.00
2022 Background Conditions	A	0	0.00	A	10	0.00
2022 Buildout Conditions	B	12	0.01	C	16	0.01

BOLDED results indicate operation above acceptable jurisdictional standards.

Both intersections are expected to operate acceptably in all analysis scenarios, regardless of the proposed development.

[5] Oregon Department of Transportation, *1999 Oregon Highway Plan, Including amendments November 1999 through May 2015*, 1999.

Queueing Analysis

Since vehicles may choose to use the median as a left-turn refuge, a queuing analysis was conducted for the study intersections to ensure the southbound left turn onto Crompton's Lane would not interfere with the northbound left-turn approach for the Highway 211/Highway 213 intersection. The queue lengths were projected 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 five feet. Detailed queuing analysis worksheets are included in the technical appendix to this report.

Table 7: Queueing Analysis Summary

	Available Storage (Feet)	2022 Buildout Conditions	
		AM	PM
1. Highway 213 at Highway 211			
NB LT Lane	275	30	35
2. Highway 213 at Crompton's Lane			
SB LT Lane	75	10	15

BOLDED text indicates queue extends beyond available lane storage.

Based on the queuing analysis results, left-turning queues between the intersections of Highway 213 at Highway 211 and Highway 213 at Crompton's Lane are not expected to exceed the available storage length within their respective areas. This assumes the median within Highway 213 will be used as a left-turn lane as discussed in the *Warrant Analysis* section. Queues are not expected to interfere with the traffic flows along Highway 213 and there are no safety concerns related to the queueing between the study intersections.

Conclusions

The intersections of Highway 213 at Highway 211 and Highway 213 at Crompton's Lane are expected to operate acceptably in all analysis scenarios, regardless of the Colima Apartments development.

Adequate sight distance is available at the site access to ensure safe operation of the intersection along Highway 213.

An examination of the crash history at the study intersection shows no trends that are indicative of design deficiencies and no significant safety concerns.

Left-turn lane warrants at the intersection of Highway 213 at Crompton's Lane were not projected to be met under year 2022 buildout conditions.

Preliminary traffic signal warrants were not projected to be met upon occupancy of the proposed apartments.

Based on the detailed analysis, the surrounding transportation system can safely support the proposed development of a 36-unit apartment complex at 31514 S Highway 213 in Molalla, Oregon.

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Appendix

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TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Setting/Location General Urban/Suburban
Variable: Dwelling Units
Variable Value: 1

AM PEAK HOUR

Trip Rate: 0.74

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**0**	**1**	**1**

PM PEAK HOUR

Trip Rate: 0.99

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**1**	**0**	**1**

WEEKDAY

Trip Rate: 9.44

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**5**	**5**	**10**

SATURDAY

Trip Rate: 9.54

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**5**	**5**	**10**

Source: Trip Generation Manual, Tenth Edition

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TRIP GENERATION CALCULATIONS

Land Use: Multifamily Housing (Mid-Rise)
Land Use Code: 221
Setting/Location Dense Multi-Use Urban
Variable: Occupied Dwelling Units
Variable Value: 36

AM PEAK HOUR

Trip Rate: 0.29

	Enter	Exit	Total
Directional Distribution	27%	73%	
Trip Ends	**3**	**7**	**10**

PM PEAK HOUR

Trip Rate: 0.27

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**6**	**4**	**10**

WEEKDAY

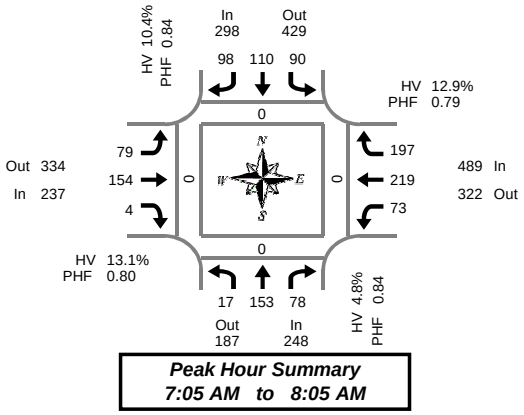
Trip Rate: 3.83

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**69**	**69**	**138**

Source: TRIP GENERATION, Tenth Edition

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Hwy 213 & Hwy 211

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 Hwy 211				Westbound Hwy 211				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	1	15	7	0	5	5	3	0	5	7	0	0	9	8	18	0	83	0	0	0	0
7:05 AM	2	14	5	0	7	15	11	0	7	15	0	0	6	18	17	0	117	0	0	0	0
7:10 AM	0	18	9	0	5	8	4	0	8	14	0	0	5	17	17	0	105	0	0	0	0
7:15 AM	1	8	5	0	7	7	8	0	8	18	0	0	3	24	24	0	113	0	0	0	0
7:20 AM	3	15	7	0	4	9	4	0	12	14	0	0	9	17	24	0	118	0	0	0	0
7:25 AM	3	11	5	0	11	15	5	0	4	10	0	0	8	20	26	0	118	0	0	0	0
7:30 AM	1	19	4	0	10	1	11	0	7	12	1	0	7	23	14	0	110	0	0	0	0
7:35 AM	4	10	9	0	9	12	11	0	4	17	0	0	8	29	17	0	130	0	0	0	0
7:40 AM	0	19	8	0	12	9	11	0	6	9	1	0	11	20	9	0	115	0	0	0	0
7:45 AM	1	7	8	0	6	9	10	0	6	14	0	0	1	12	18	0	92	0	0	0	0
7:50 AM	2	9	9	0	7	7	9	0	6	10	0	0	5	14	11	0	89	0	0	0	0
7:55 AM	0	9	1	0	6	9	8	0	6	11	1	0	7	15	6	0	79	0	0	0	0
8:00 AM	0	14	8	0	6	9	6	0	5	10	1	0	3	10	14	0	86	0	0	0	0
8:05 AM	1	11	6	0	4	6	1	0	4	10	0	0	6	11	15	0	75	0	0	0	0
8:10 AM	0	9	7	0	13	13	11	0	3	7	0	0	5	13	9	0	90	0	0	0	0
8:15 AM	1	22	10	0	5	14	6	0	2	8	0	0	5	7	8	0	88	0	0	0	0
8:20 AM	0	13	5	0	11	5	10	0	8	14	2	0	3	13	11	0	95	0	0	0	0
8:25 AM	2	14	5	0	7	5	4	0	5	6	0	0	6	15	13	0	82	0	0	0	0
8:30 AM	4	9	4	0	6	8	9	0	6	8	1	0	4	18	6	0	83	0	0	0	0
8:35 AM	0	10	2	0	4	9	16	0	11	13	1	0	3	17	16	0	102	0	0	0	0
8:40 AM	4	20	7	0	8	6	13	0	2	13	1	0	4	23	12	0	113	0	0	0	0
8:45 AM	1	13	4	0	10	8	10	0	6	15	0	0	1	17	9	0	94	0	0	0	0
8:50 AM	1	14	8	0	6	9	9	0	3	12	3	0	4	14	7	0	90	0	0	0	0
8:55 AM	1	9	1	0	7	12	2	0	16	18	1	0	9	10	11	0	97	0	0	0	0
Total Survey	33	312	144	0	176	210	192	0	150	285	13	0	132	385	332	0	2,364	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 Hwy 211				Westbound Hwy 211				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	3	47	21	0	17	28	18	0	20	36	0	0	20	43	52	0	305	0	0	0	0
7:15 AM	7	34	17	0	22	31	17	0	24	42	0	0	20	61	74	0	349	0	0	0	0
7:30 AM	5	48	21	0	31	22	33	0	17	38	2	0	26	72	40	0	355	0	0	0	0
7:45 AM	3	25	18	0	19	25	27	0	18	35	1	0	13	41	35	0	260	0	0	0	0
8:00 AM	1	34	21	0	23	28	18	0	12	27	1	0	14	34	38	0	251	0	0	0	0
8:15 AM	3	49	20	0	23	24	20	0	15	28	2	0	14	35	32	0	265	0	0	0	0
8:30 AM	8	39	13	0	18	23	38	0	19	34	3	0	11	58	34	0	298	0	0	0	0
8:45 AM	3	36	13	0	23	29	21	0	25	45	4	0	14	41	27	0	281	0	0	0	0
Total Survey	33	312	144	0	176	210	192	0	150	285	13	0	132	385	332	0	2,364	0	0	0	0

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	248	187	435	0	298	429	727	0	237	334	571	0	489	322	811	0	1,272	0	0	0	0
%HV	4.8%				10.4%				13.1%				12.9%				10.8%				
PHF	0.84				0.84				0.80				0.79				0.89				

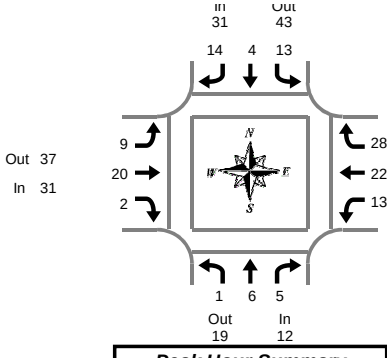
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	17	153	78	248	90	110	98	298	79	154	4	237	73	219	197	489	1,272
%HV	5.9%	3.9%	6.4%	4.8%	14.4%	3.6%	14.3%	10.4%	11.4%	13.0%	50.0%	13.1%	17.8%	10.0%	14.2%	12.9%	10.8%
PHF	0.53	0.80	0.78	0.84	0.73	0.89	0.74	0.84	0.71	0.82	0.50	0.80	0.70	0.76	0.67	0.79	0.89

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				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	18	154	77	0	89	106	95	0	79	151	3	0	79	217	201	0	1,269	0	0	0	0
7:15 AM	16	141	77	0	95	106	95	0	71	142	4	0	73	208	187	0	1,215	0	0	0	0
7:30 AM	12	156	80	0	96	99	98	0	62	128	6	0	67	182	145	0	1,131	0	0	0	0
7:45 AM	15	147	72	0	83	100	103	0	64	124	7	0	52	168	139	0	1,074	0	0	0	0
8:00 AM	15	158	67	0	87	104	97	0	71	134	10	0	53	168	131	0	1,095	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 213 & Hwy 211

Tuesday, October 15, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				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	1	2	1	4	1	2	0	3	0	0	1	1	9
7:05 AM	0	1	0	1	1	0	0	1	0	1	0	1	1	1	5	7	10
7:10 AM	0	0	0	0	0	1	1	2	1	2	0	3	1	0	1	2	7
7:15 AM	0	1	0	1	1	0	1	2	0	2	0	2	0	2	5	7	12
7:20 AM	0	1	1	2	1	1	3	5	1	0	0	1	0	2	3	5	13
7:25 AM	0	0	1	1	1	0	1	2	0	5	0	5	0	1	3	4	12
7:30 AM	0	1	0	1	2	0	2	4	2	1	0	3	3	2	1	6	14
7:35 AM	1	1	1	3	1	0	1	2	0	4	0	4	1	2	2	5	14
7:40 AM	0	0	1	1	2	1	1	4	1	0	1	2	3	3	2	8	15
7:45 AM	0	0	0	0	0	0	2	2	1	3	0	4	1	4	0	5	11
7:50 AM	0	0	0	0	1	1	1	3	1	1	0	2	2	3	4	9	14
7:55 AM	0	0	0	0	1	0	1	2	2	0	0	2	1	2	0	3	7
8:00 AM	0	1	1	2	2	0	0	2	0	1	1	2	0	0	2	2	8
8:05 AM	1	0	1	2	1	0	0	1	0	0	0	0	0	2	1	3	6
8:10 AM	0	0	1	1	0	1	2	3	0	0	0	0	1	1	2	4	8
8:15 AM	0	3	2	5	1	0	1	2	0	3	0	3	0	1	0	1	11
8:20 AM	0	0	1	1	2	0	2	4	1	7	1	9	0	1	2	3	17
8:25 AM	0	0	0	0	1	1	0	2	1	2	0	3	1	3	0	4	9
8:30 AM	2	1	1	4	2	0	1	3	2	1	0	3	2	4	2	8	18
8:35 AM	0	0	0	0	0	0	1	1	2	1	1	4	0	3	1	4	9
8:40 AM	1	3	2	6	2	1	2	5	0	3	0	3	0	0	2	2	16
8:45 AM	0	2	0	2	3	0	1	4	1	4	0	5	0	2	0	2	13
8:50 AM	0	0	2	2	1	2	0	3	0	3	1	4	2	0	0	2	11
8:55 AM	0	0	0	0	0	0	0	0	4	1	0	5	1	1	2	4	9
Total Survey	5	16	15	36	27	11	25	63	21	47	5	73	20	40	41	101	273

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	0	2	2	3	2	7	2	5	0	7	2	1	7	10	26
7:15 AM	0	2	2	4	3	1	5	9	1	7	0	8	0	5	11	16	37
7:30 AM	1	2	2	5	5	1	4	10	3	5	1	9	7	7	5	19	43
7:45 AM	0	0	0	0	2	1	4	7	4	4	0	8	4	9	4	17	32
8:00 AM	1	1	3	5	3	1	2	6	0	1	1	2	1	3	5	9	22
8:15 AM	0	3	3	6	4	1	3	8	2	12	1	15	1	5	2	8	37
8:30 AM	3	4	3	10	4	1	4	9	4	5	1	10	2	7	5	14	43
8:45 AM	0	2	2	4	4	2	1	7	5	8	1	14	3	3	2	8	33
Total Survey	5	16	15	36	27	11	25	63	21	47	5	73	20	40	41	101	273

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Hwy 211			Westbound Hwy 211			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	12	19	31	31	43	74	31	37	68	63	38	101	137
PHF	0.60			0.70			0.65			0.72			0.80

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	6	5	12	13	4	14	31	9	20	2	31	13	22	28	63	137
PHF	0.25	0.75	0.63	0.60	0.65	0.50	0.58	0.70	0.56	0.50	0.50	0.65	0.46	0.55	0.64	0.72	0.80

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

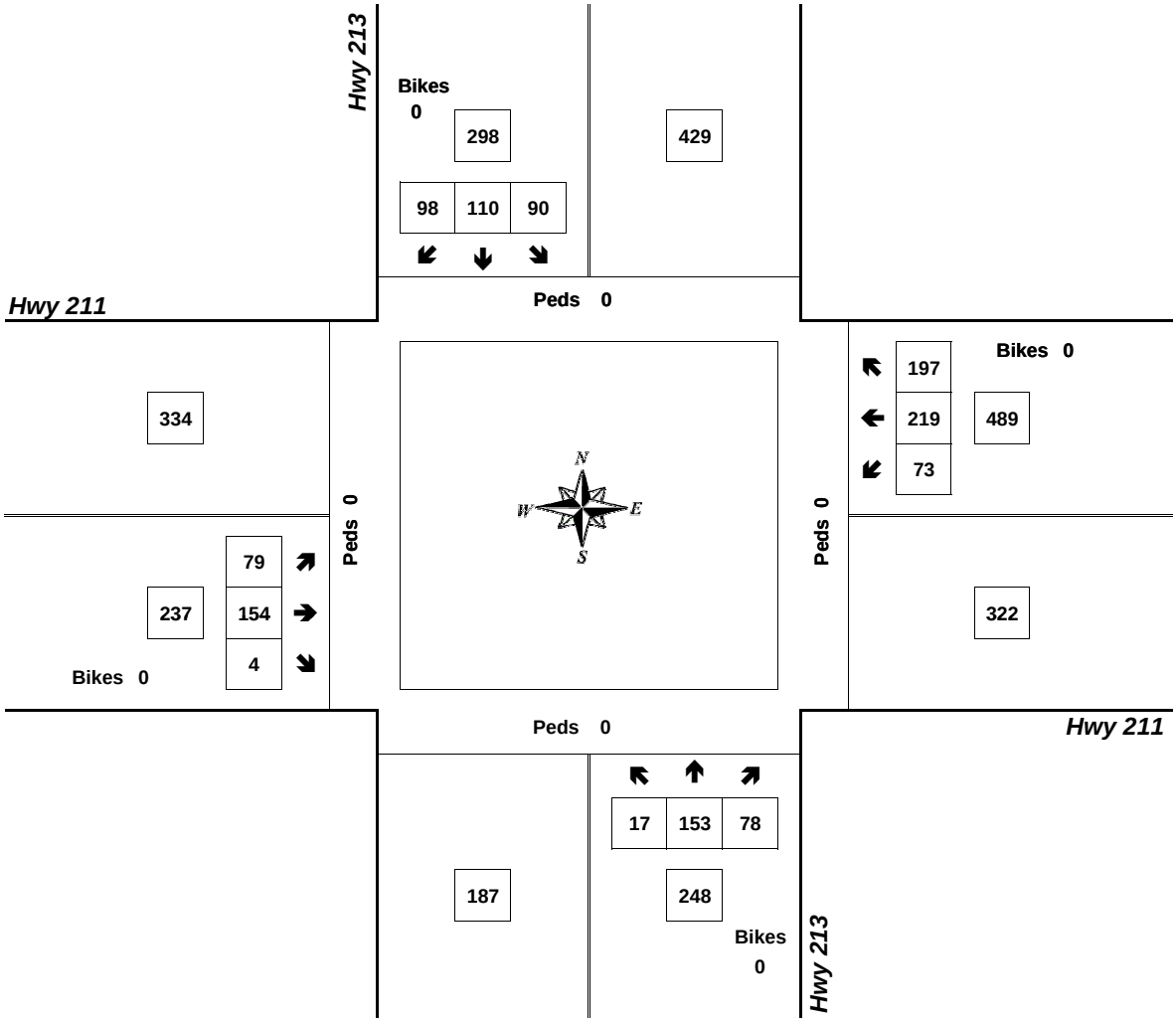
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	6	4	11	12	6	15	33	10	21	1	32	13	22	27	62	138
7:15 AM	2	5	7	14	13	4	15	32	8	17	2	27	12	24	25	61	134
7:30 AM	2	6	8	16	14	4	13	31	9	22	3	34	13	24	16	53	134
7:45 AM	4	8	9	21	13	4	13	30	10	22	3	35	8	24	16	48	134
8:00 AM	4	10	11	25	15	5	10	30	11	26	4	41	7	18	14	39	135

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Hwy 213 & Hwy 211

7:05 AM to 8:05 AM
Tuesday, October 15, 2019

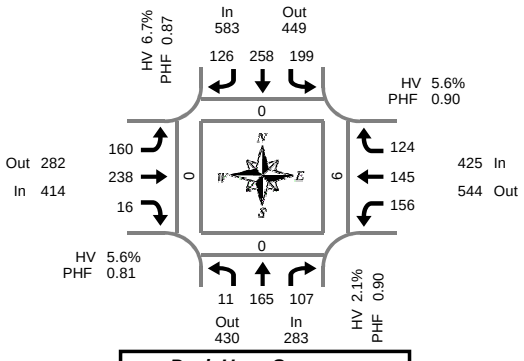


Approach	PHF	HV%	Volume
EB	0.80	13.1%	237
WB	0.79	12.9%	489
NB	0.84	4.8%	248
SB	0.84	10.4%	298
Intersection	0.89	10.8%	1,272

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 213 & Hwy 211

Tuesday, October 15, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:40 PM to 5:40 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				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	17	10	0	20	11	7	0	0	0	0	0	19	8	11	0	103	0	0	0	0
4:05 PM	2	10	10	0	19	17	7	0	0	9	1	0	9	12	15	0	111	0	0	0	0
4:10 PM	1	13	11	0	14	7	5	0	10	25	1	0	16	16	8	0	127	0	0	0	0
4:15 PM	8	18	10	0	18	17	12	0	21	49	2	0	9	14	6	0	184	0	0	0	0
4:20 PM	2	15	8	0	11	12	5	0	13	21	2	0	14	19	4	0	126	0	0	0	0
4:25 PM	0	13	5	0	24	23	13	0	3	10	2	0	7	15	6	0	121	0	0	0	0
4:30 PM	1	13	5	0	22	14	15	0	9	15	2	0	8	12	14	0	130	0	0	0	0
4:35 PM	3	18	7	0	15	22	11	0	0	1	0	0	13	9	11	0	110	0	0	0	0
4:40 PM	0	14	6	0	18	26	17	0	0	4	0	0	17	15	4	0	121	0	0	0	0
4:45 PM	0	10	11	0	11	12	9	0	10	23	0	0	13	17	11	0	127	0	0	2	0
4:50 PM	4	15	14	0	19	15	12	0	26	36	2	0	13	11	6	0	173	0	0	0	0
4:55 PM	1	14	10	0	18	32	9	0	11	17	2	0	10	14	13	0	151	0	0	2	0
5:00 PM	1	10	7	0	16	16	9	0	15	15	4	0	20	20	9	0	142	0	0	0	0
5:05 PM	0	19	11	0	22	32	13	0	15	22	2	0	10	5	17	0	168	0	0	0	0
5:10 PM	0	10	3	0	17	22	13	0	11	23	1	0	9	10	15	0	134	0	0	0	0
5:15 PM	3	15	10	0	14	18	7	0	13	25	1	0	14	9	11	0	140	0	0	0	0
5:20 PM	1	12	7	0	11	18	11	0	10	27	1	0	16	10	10	0	134	0	0	0	0
5:25 PM	0	11	6	0	16	21	7	0	21	12	1	0	11	11	12	0	129	0	0	0	0
5:30 PM	0	21	7	0	18	22	10	0	9	24	2	0	8	13	7	0	141	0	0	1	0
5:35 PM	1	14	15	0	19	24	9	0	19	10	0	0	15	10	9	0	145	0	0	1	0
5:40 PM	1	13	6	0	14	7	2	0	11	9	0	0	11	11	11	0	96	0	0	0	0
5:45 PM	2	12	8	0	16	24	9	0	15	14	3	0	5	8	11	0	127	0	0	0	0
5:50 PM	0	30	12	0	15	20	17	0	10	20	0	0	9	16	14	0	163	0	0	0	0
5:55 PM	3	17	9	0	15	29	6	0	7	13	1	0	10	6	4	0	120	0	0	0	0
Total Survey	34	354	208	0	402	461	235	0	259	424	30	0	286	291	239	0	3,223	0	0	6	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				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	3	40	31	0	53	35	19	0	10	34	2	0	44	36	34	0	341	0	0	0	0
4:15 PM	10	46	23	0	53	52	30	0	37	80	6	0	30	48	16	0	431	0	0	0	0
4:30 PM	4	45	18	0	55	62	43	0	9	20	2	0	38	36	29	0	361	0	0	0	0
4:45 PM	5	39	35	0	48	59	30	0	47	76	4	0	36	42	30	0	451	0	0	4	0
5:00 PM	1	39	21	0	55	70	35	0	41	60	7	0	39	35	41	0	444	0	0	0	0
5:15 PM	4	38	23	0	41	57	25	0	44	64	3	0	41	30	33	0	403	0	0	0	0
5:30 PM	2	48	28	0	51	53	21	0	39	43	2	0	34	34	27	0	382	0	0	2	0
5:45 PM	5	59	29	0	46	73	32	0	32	47	4	0	24	30	29	0	410	0	0	0	0
Total Survey	34	354	208	0	402	461	235	0	259	424	30	0	286	291	239	0	3,223	0	0	6	0

Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	283	430	713	0	583	449	1,032	0	414	282	696	0	425	544	969	0	1,705	0	0	6	0
%HV	2.1%				6.7%				5.6%				5.6%				5.4%				
PHF	0.90				0.87				0.81				0.90				0.91				

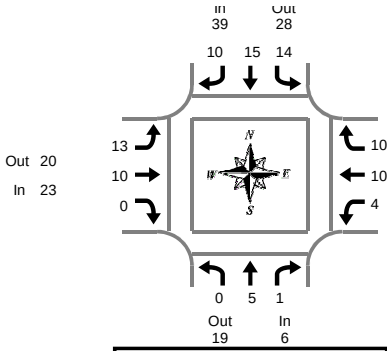
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	11	165	107	283	199	258	126	583	160	238	16	414	156	145	124	425	1,705
%HV	0.0%	3.0%	0.9%	2.1%	7.0%	5.8%	7.9%	6.7%	8.1%	4.2%	0.0%	5.6%	2.6%	6.9%	8.1%	5.6%	5.4%
PHF	0.46	0.90	0.76	0.90	0.89	0.81	0.83	0.87	0.77	0.78	0.50	0.81	0.91	0.81	0.72	0.90	0.91

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				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	22	170	107	0	209	208	122	0	103	210	14	0	148	162	109	0	1,584	0	0	4	0
4:15 PM	20	169	97	0	211	243	138	0	134	236	19	0	143	161	116	0	1,687	0	0	4	0
4:30 PM	14	161	97	0	199	248	133	0	141	220	16	0	154	143	133	0	1,659	0	0	4	0
4:45 PM	12	164	107	0	195	239	111	0	171	243	16	0	150	141	131	0	1,680	0	0	6	0
5:00 PM	12	184	101	0	193	253	113	0	156	214	16	0	138	129	130	0	1,639	0	0	2	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 213 & Hwy 211

Tuesday, October 15, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:40 PM to 5:40 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	2	3	2	0	0	2	0	0	0	0	0	0	2	2	7
4:05 PM	0	1	1	2	2	2	0	4	0	1	0	1	0	2	2	4	11
4:10 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	2	1	3	6
4:15 PM	1	2	2	5	3	0	0	3	1	1	0	2	0	2	2	4	14
4:20 PM	0	2	0	2	0	0	0	0	3	2	1	6	2	0	0	2	10
4:25 PM	0	0	0	0	2	0	0	2	0	1	1	2	0	1	1	2	6
4:30 PM	0	1	1	2	2	0	1	3	3	0	0	3	0	1	1	2	10
4:35 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
4:40 PM	0	1	0	1	2	1	1	4	0	0	0	0	2	1	1	4	9
4:45 PM	0	1	1	2	1	0	1	2	0	3	0	3	0	1	2	3	10
4:50 PM	0	0	0	0	4	2	1	7	2	2	0	4	0	0	0	0	11
4:55 PM	0	0	0	0	0	2	0	2	0	0	0	0	1	2	0	3	5
5:00 PM	0	0	0	0	0	0	1	1	2	1	0	3	1	3	1	5	9
5:05 PM	0	0	0	0	1	0	0	1	3	0	0	3	0	0	1	1	5
5:10 PM	0	1	0	1	1	3	1	5	2	0	0	2	0	0	1	1	9
5:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
5:20 PM	0	0	0	0	2	0	1	3	2	3	0	5	0	1	1	2	10
5:25 PM	0	2	0	2	1	2	1	4	1	0	0	1	0	0	2	2	9
5:30 PM	0	0	0	0	2	2	2	6	0	0	0	0	0	0	1	1	7
5:35 PM	0	0	0	0	0	2	1	3	1	1	0	2	0	1	0	1	6
5:40 PM	1	0	0	1	0	1	1	2	3	0	0	3	1	0	1	2	8
5:45 PM	0	1	0	1	1	0	2	3	2	0	0	2	0	0	0	0	6
5:50 PM	0	1	0	1	1	0	1	2	1	0	0	1	0	1	1	2	6
5:55 PM	1	0	0	1	1	2	3	6	0	0	0	0	0	1	0	1	8
Total Survey	3	14	9	26	28	20	18	66	26	18	2	46	7	20	21	48	186

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	2	3	5	4	2	0	6	0	4	0	4	0	4	5	9	24
4:15 PM	1	4	2	7	5	0	0	5	4	4	2	10	2	3	3	8	30
4:30 PM	0	2	3	5	4	1	2	7	3	0	0	3	2	2	2	6	21
4:45 PM	0	1	1	2	5	4	2	11	2	5	0	7	1	3	2	6	26
5:00 PM	0	1	0	1	2	3	2	7	7	1	0	8	1	3	3	7	23
5:15 PM	0	2	0	2	3	3	2	8	3	3	0	6	0	2	3	5	21
5:30 PM	1	0	0	1	2	5	4	11	4	1	0	5	1	1	2	4	21
5:45 PM	1	2	0	3	3	2	6	11	3	0	0	3	0	2	1	3	20
Total Survey	3	14	9	26	28	20	18	66	26	18	2	46	7	20	21	48	186

Heavy Vehicle Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Hwy 211			Westbound Hwy 211			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	6	19	25	39	28	67	23	20	43	24	25	49	92
PHF	0.50			0.75			0.72			0.67			0.77

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	5	1	6	14	15	10	39	13	10	0	23	4	10	10	24	92
PHF	0.00	0.63	0.25	0.50	0.50	0.63	0.63	0.75	0.46	0.50	0.00	0.72	0.50	0.50	0.63	0.67	0.77

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

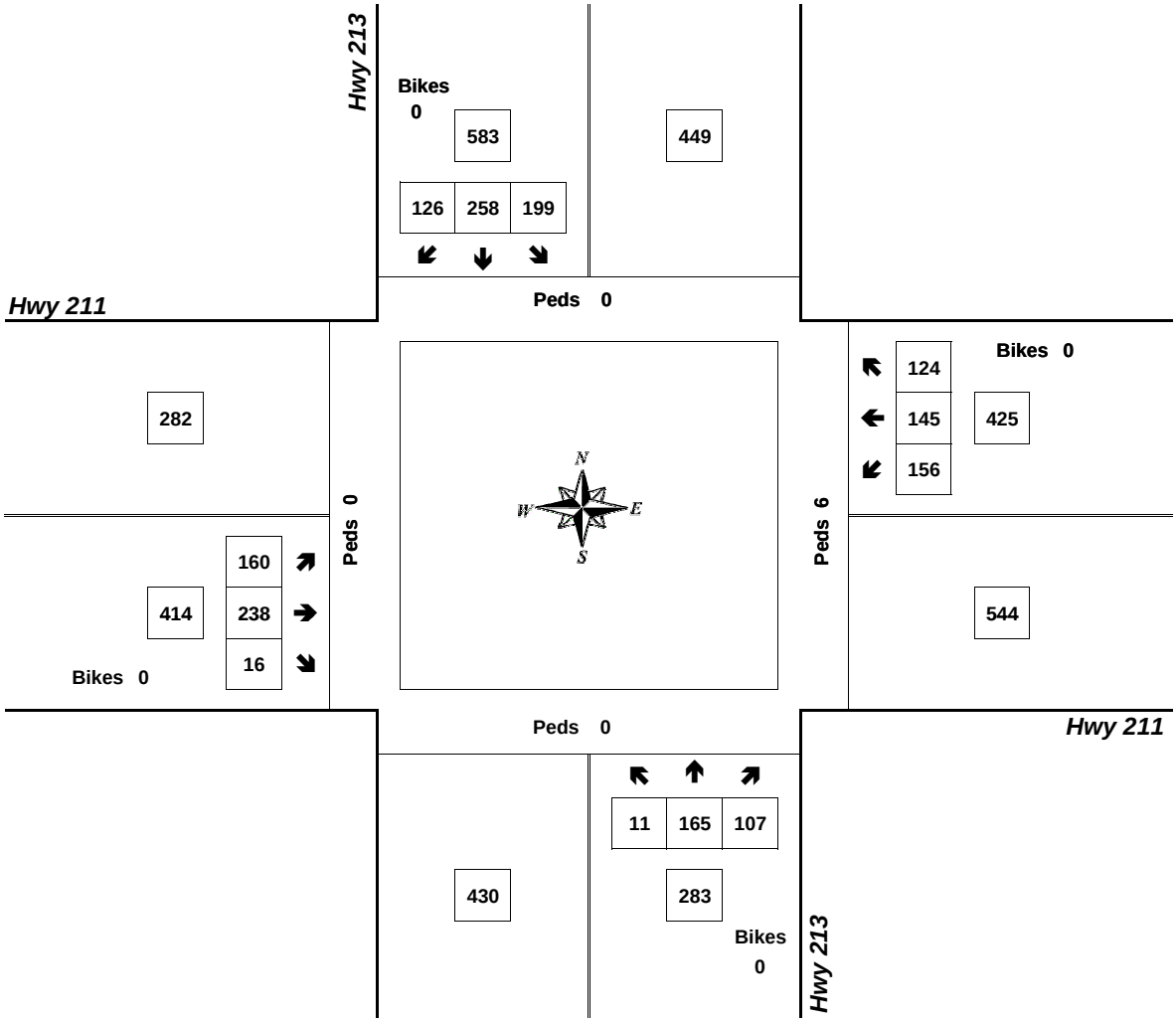
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Hwy 211				Westbound Hwy 211				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	9	9	19	18	7	4	29	9	13	2	24	5	12	12	29	101
4:15 PM	1	8	6	15	16	8	6	30	16	10	2	28	6	11	10	27	100
4:30 PM	0	6	4	10	14	11	8	33	15	9	0	24	4	10	10	24	91
4:45 PM	1	4	1	6	12	15	10	37	16	10	0	26	3	9	10	22	91
5:00 PM	2	5	0	7	10	13	14	37	17	5	0	22	2	8	9	19	85

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Hwy 213 & Hwy 211

4:40 PM to 5:40 PM
Tuesday, October 15, 2019

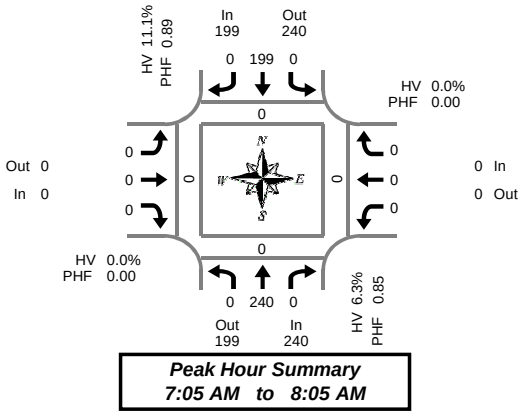


Approach	PHF	HV%	Volume
EB	0.81	5.6%	414
WB	0.90	5.6%	425
NB	0.90	2.1%	283
SB	0.87	6.7%	583
Intersection	0.91	5.4%	1,705

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 213 & S Crompton Ln

Tuesday, October 15, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 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	28	0	0	0	0
7:05 AM	0	21	0	0	0	15	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0
7:10 AM	0	27	0	0	0	19	0	0	0	0	0	0	0	0	0	0	46	0	0	0	0
7:15 AM	0	23	0	0	0	16	0	0	0	0	0	0	0	0	0	0	39	0	0	0	0
7:20 AM	0	16	0	0	0	12	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0
7:25 AM	0	20	0	0	0	18	0	0	0	0	0	0	0	0	0	0	38	0	0	0	0
7:30 AM	0	23	0	0	0	22	0	0	0	0	0	0	0	0	0	0	45	0	0	0	0
7:35 AM	0	19	0	0	0	14	0	0	0	0	0	0	0	0	0	0	33	0	0	0	0
7:40 AM	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	40	0	0	0	0
7:45 AM	0	17	0	0	0	18	0	0	0	0	0	0	0	0	0	0	35	0	0	0	0
7:50 AM	0	24	0	0	0	13	0	0	0	0	0	0	0	0	0	0	37	0	0	0	0
7:55 AM	0	17	0	0	0	11	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0
8:00 AM	0	13	0	0	0	21	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0
8:05 AM	0	16	0	0	0	12	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0
8:10 AM	0	17	0	0	0	13	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0
8:15 AM	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	40	0	0	0	0
8:20 AM	0	30	0	0	0	17	0	0	0	0	0	0	0	0	0	0	47	0	0	0	0
8:25 AM	0	11	0	0	0	12	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
8:30 AM	0	10	0	0	0	11	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0
8:35 AM	0	22	0	0	0	17	0	0	0	0	0	0	0	0	0	0	39	0	0	0	0
8:40 AM	0	25	0	0	0	9	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0
8:45 AM	0	24	0	0	0	14	0	0	0	0	0	0	0	0	0	0	38	0	0	0	0
8:50 AM	0	16	0	0	0	9	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0
8:55 AM	0	17	0	0	0	23	0	0	0	0	0	0	0	0	0	0	40	0	0	0	0
Total Survey	0	466	0	0	0	366	0	0	0	0	0	0	0	0	0	0	832	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	110	0	0	0	0
7:15 AM	0	59	0	0	0	46	0	0	0	0	0	0	0	0	0	0	105	0	0	0	0
7:30 AM	0	62	0	0	0	56	0	0	0	0	0	0	0	0	0	0	118	0	0	0	0
7:45 AM	0	58	0	0	0	42	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
8:00 AM	0	46	0	0	0	46	0	0	0	0	0	0	0	0	0	0	92	0	0	0	0
8:15 AM	0	61	0	0	0	49	0	0	0	0	0	0	0	0	0	0	110	0	0	0	0
8:30 AM	0	57	0	0	0	37	0	0	0	0	0	0	0	0	0	0	94	0	0	0	0
8:45 AM	0	57	0	0	0	46	0	0	0	0	0	0	0	0	0	0	103	0	0	0	0
Total Survey	0	466	0	0	0	366	0	0	0	0	0	0	0	0	0	0	832	0	0	0	0

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	439	0	0	0	0
%HV	6.3%				11.1%				0.0%				0.0%				8.4%				
PHF	0.85				0.89				0.00				0.00				0.91				

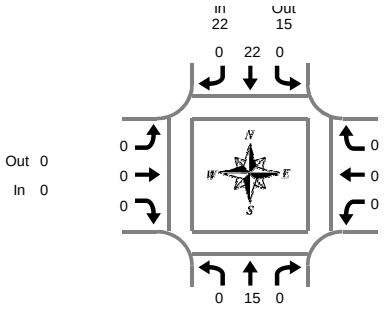
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	240	0	240	0	199	0	199	0	0	0	0	0	0	0	0	439
%HV	0.0%	6.3%	0.0%	6.3%	0.0%	11.1%	0.0%	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	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	0.91

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	433	0	0	0	0
7:15 AM	0	225	0	0	0	190	0	0	0	0	0	0	0	0	0	0	415	0	0	0	0
7:30 AM	0	227	0	0	0	193	0	0	0	0	0	0	0	0	0	0	420	0	0	0	0
7:45 AM	0	222	0	0	0	174	0	0	0	0	0	0	0	0	0	0	396	0	0	0	0
8:00 AM	0	221	0	0	0	178	0	0	0	0	0	0	0	0	0	0	399	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 213 & S Crompton Ln

Tuesday, October 15, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 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	2
7:05 AM	0	2	0	2	0	2	0	2	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	2
7:15 AM	0	0	0	0	0	2	0	2	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	5
7:25 AM	0	1	0	1	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	2
7:35 AM	0	1	0	1	0	3	0	3	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	3
7:45 AM	0	0	0	0	0	5	0	5	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	2
7:55 AM	0	2	0	2	0	2	0	2	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	3
8:05 AM	0	0	0	0	0	1	0	1	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	2
8:15 AM	0	1	0	1	0	4	0	4	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	3
8:25 AM	0	0	0	0	0	1	0	1	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	3
8:35 AM	0	6	0	6	0	3	0	3	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	5
8:45 AM	0	1	0	1	0	1	0	1	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	4
8:55 AM	0	1	0	1	0	6	0	6	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	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	8
7:15 AM	0	5	0	5	0	3	0	3	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	9
7:45 AM	0	2	0	2	0	9	0	9	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	6
8:15 AM	0	4	0	4	0	5	0	5	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	17
8:45 AM	0	5	0	5	0	8	0	8	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	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	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	0.77

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

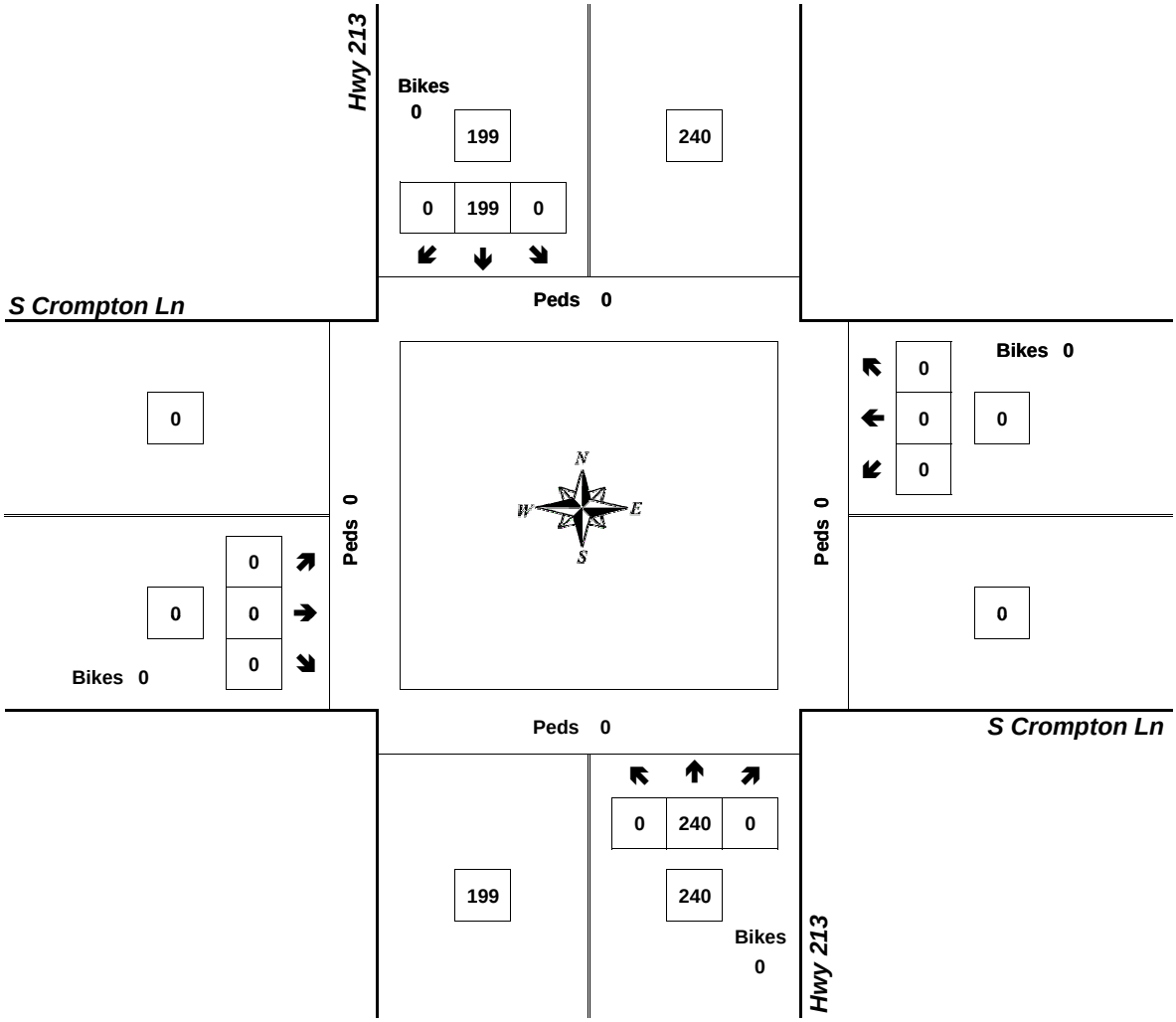
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	15	0	15	0	21	0	21	0	0	0	0	0	0	0	0	36
7:15 AM	0	13	0	13	0	21	0	21	0	0	0	0	0	0	0	0	34
7:30 AM	0	12	0	12	0	23	0	23	0	0	0	0	0	0	0	0	35
7:45 AM	0	19	0	19	0	24	0	24	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	45

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Hwy 213 & S Crompton Ln

7:05 AM to 8:05 AM
Tuesday, October 15, 2019

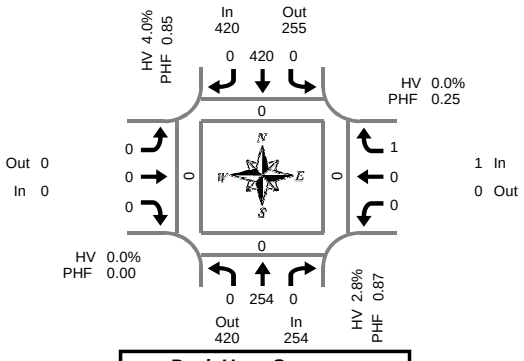


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.00	0.0%	0
NB	0.85	6.3%	240
SB	0.89	11.1%	199
Intersection	0.91	8.4%	439

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
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

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	67	0	0	0	0
4:05 PM	0	18	0	0	0	33	0	0	0	0	0	0	0	0	0	0	51	0	0	0	0
4:10 PM	0	23	0	0	0	31	0	0	0	0	0	0	0	0	0	0	54	0	0	0	0
4:15 PM	0	36	0	0	0	25	0	0	0	0	0	0	0	0	0	0	61	0	0	0	0
4:20 PM	0	19	0	0	0	23	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0
4:25 PM	0	18	0	0	0	31	0	0	0	0	0	0	0	0	0	0	49	0	0	0	0
4:30 PM	0	19	0	0	0	28	0	0	0	0	0	0	0	0	0	0	47	0	0	0	0
4:35 PM	0	11	0	0	0	25	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0
4:40 PM	0	31	0	0	0	34	0	0	0	0	0	0	0	0	0	0	65	0	0	0	0
4:45 PM	0	16	0	0	0	45	0	0	0	0	0	0	0	0	0	0	61	0	0	0	0
4:50 PM	0	22	0	0	0	24	0	0	0	0	0	0	0	0	0	0	46	0	0	0	0
4:55 PM	0	24	0	0	0	32	0	0	0	0	0	0	0	0	0	0	56	0	0	0	0
5:00 PM	0	27	0	0	0	41	0	0	0	0	0	0	0	0	0	0	68	0	0	0	0
5:05 PM	0	17	0	0	0	37	0	0	0	0	0	0	0	0	0	0	54	0	0	0	0
5:10 PM	0	18	0	0	0	46	0	0	0	0	0	0	0	0	0	0	64	0	0	0	0
5:15 PM	0	14	0	0	0	28	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0
5:20 PM	0	23	0	0	0	37	0	0	0	0	0	0	0	0	1	0	61	0	0	0	0
5:25 PM	0	20	0	0	0	37	0	0	0	0	0	0	0	0	0	0	57	0	0	0	0
5:30 PM	0	15	0	0	0	33	0	0	0	0	0	0	0	0	0	0	48	0	0	0	0
5:35 PM	0	27	0	0	0	26	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0
5:40 PM	0	24	0	0	0	41	0	0	0	0	0	0	0	0	0	0	65	0	0	0	0
5:45 PM	0	20	0	0	0	16	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0
5:50 PM	0	28	0	0	0	30	0	0	0	0	0	0	0	0	0	0	58	0	0	0	0
5:55 PM	0	32	0	0	0	26	0	0	0	0	0	0	0	0	0	0	58	0	0	0	0
Total Survey	0	533	0	0	0	765	0	0	0	0	0	0	0	0	1	0	1,299	0	0	0	0

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	172	0	0	0	0
4:15 PM	0	73	0	0	0	79	0	0	0	0	0	0	0	0	0	0	152	0	0	0	0
4:30 PM	0	61	0	0	0	87	0	0	0	0	0	0	0	0	0	0	148	0	0	0	0
4:45 PM	0	62	0	0	0	101	0	0	0	0	0	0	0	0	0	0	163	0	0	0	0
5:00 PM	0	62	0	0	0	124	0	0	0	0	0	0	0	0	0	0	186	0	0	0	0
5:15 PM	0	57	0	0	0	102	0	0	0	0	0	0	0	0	1	0	160	0	0	0	0
5:30 PM	0	66	0	0	0	100	0	0	0	0	0	0	0	0	0	0	166	0	0	0	0
5:45 PM	0	80	0	0	0	72	0	0	0	0	0	0	0	0	0	0	152	0	0	0	0
Total Survey	0	533	0	0	0	765	0	0	0	0	0	0	0	0	1	0	1,299	0	0	0	0

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				

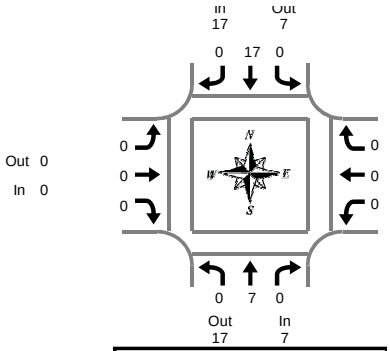
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	254	0	254	0	420	0	420	0	0	0	0	0	0	1	1	675
%HV	0.0%	2.8%	0.0%	2.8%	0.0%	4.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	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	635	0	0	0	0
4:15 PM	0	258	0	0	0	391	0	0	0	0	0	0	0	0	0	0	649	0	0	0	0
4:30 PM	0	242	0	0	0	414	0	0	0	0	0	0	0	0	1	0	657	0	0	0	0
4:45 PM	0	247	0	0	0	427	0	0	0	0	0	0	0	0	1	0	675	0	0	0	0
5:00 PM	0	265	0	0	0	398	0	0	0	0	0	0	0	0	1	0	664	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 213 & S Crompton Ln

Tuesday, October 15, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:40 PM to 5:40 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

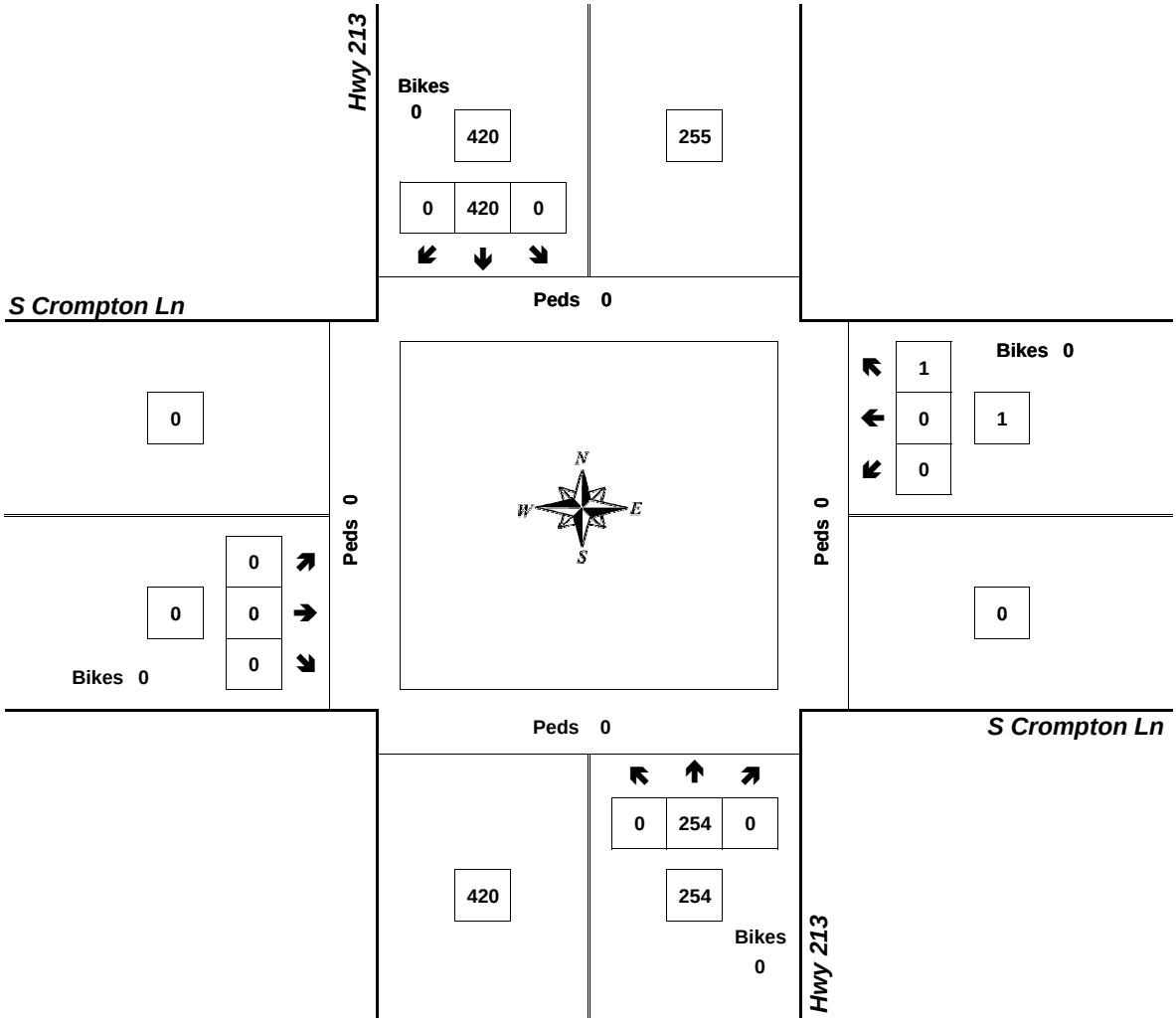
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound S Crompton Ln				Westbound S Crompton Ln				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	17	0	17	0	14	0	14	0	0	0	0	0	0	0	0	31
4:15 PM	0	14	0	14	0	14	0	14	0	0	0	0	0	0	0	0	28
4:30 PM	0	8	0	8	0	13	0	13	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

All Traffic Data Services Inc.
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

1 - 6 of 17 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	R U G S	J N H V	S I C L	M C O K	W	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# / COMPNT / MLG / MILEPNT	FC / TYP	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A GE	S EX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03429	N	N	N	N				09/14/2013	CLACKAMAS	1	16		STRGHT		Y	N	CLR	O-1STOP	01	NONE 0	BACK										10
NONE								SA		MN 0			UN	(NONE)	L-TURN REF	N	DRY	BACK		PRVTE	S -N								000		00
N								12P	MOLALLA UA	16.09			03			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		011	000		10
N								45 9 3.0121199	-122 36 22.6750679			016000100S00		(03)													OR<25					
																			02	NONE 0	STOP										
																				PRVTE	N -S								012		00
																				PSNGR CAR		01	DRVR	NONE	24	M	OR-Y		000	000		00
																											OR<25					
02061	N	N	N	N	N	N		06/11/2013	CLACKAMAS	1	16		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
COUNTY								TU		MN 0			N		L-GRN-SIG	N	DRY	REAR		PRVTE	N -S								000		00
N								11A	MOLALLA UA	16.10			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	23	M	OR-Y		043,026	000		07
N								45 9 2.5294679	-122 36 22.9248359			016000100S00															OR<25					
																			02	NONE 0	STOP										
																				PRVTE	N -S								012		00
																				PSNGR CAR		01	DRVR	INJC	61	F	OR-Y		000	000		00
																											OR<25					
05335	N	N	N	N				12/31/2014	CLACKAMAS	1	16		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE								WE		MN 0			N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S								000		00
N								5P	MOLALLA UA	16.10			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	51	F	OR-Y		026	000		29
N								45 9 2.53	-122 36 22.92			016000100S00															OR<25					
																			02	NONE 0	STOP										
																				UNKN	N -S								011		00
																				PSNGR CAR		01	DRVR	NONE	00	M	UNK		000	000		00
																											UNK					
03062	N	N	N	N				07/27/2017	CLACKAMAS	1	16		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT										29
NONE								TH		MN 0			N		TRF SIGNAL	N	DRY	REAR		N/A	N -S								000		00
N								12P	MOLALLA UA	16.10			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								45 9 2.53	-122 36 22.92			016000100S00															UNK					
																			02	NONE 9	STOP										
																				N/A	N -S								011		00
																				PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																											UNK					
03184	N	N	N	N	N	N		07/15/2016	CLACKAMAS	1	16		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
CITY								FR		MN 0			W		TRF SIGNAL	N	DRY	REAR		RENTL	W -E								000		00
N								3P	MOLALLA UA	16.10			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	51	M	OR-Y		043	000		07
N								45 9 2.53	-122 36 22.92			016000100S00															OR>25					
																			02	NONE 0	STOP										
																				PRVTE	W -E								011		00
																				PSNGR CAR		01	DRVR	INJC	17	F	OR-Y		000	000		00
																											OR<25					
04148	N	N	N	N	N	N		09/09/2016	CLACKAMAS	1	16		INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE 9	TURN-L										08,32
CITY								FR		MN 0			W		TRF SIGNAL	N	DRY	TURN		N/A	S -W								000		00
N								6P	MOLALLA UA	16.10			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								45 9 2.53	-122 36 22.92			016000100S00															UNK					
																			02	NONE 9	STOP										
																				N/A	W -E								011		00
																				PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																											UNK					

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R G S	M J U N V	S I H L	C N O R K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02238	N	N	N	N	N	N	06/11/2014	CLACKAMAS	1 16		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
CITY			WE						MN 0		CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	E -W								000		00
N			1P					MOLALLA UA	16.10		01	9		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	63	M	OR-Y		097	000		00
N			45 9 2.53					-122 36 22.92		016000100S00															OR<25					
																	02	NONE 0	STRGHT										
																		PRVTE	N -S									000		00
																		PSNGR CAR		01	DRVR	NONE	53	M	OTH-Y		097	000		00
																									N-RES					
04924	N	N	N	N	N	N	12/05/2014	CLACKAMAS	1 16		INTER	CROSS	N	N	FOG	O-1 L-TURN	01	NONE 0	STRGHT										02,08
CITY			FR						MN 0		CN		TRF SIGNAL	N	WET	TURN		PRVTE	N -S								000		00
N			5P					MOLALLA UA	16.10		01	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	29	M	OR-Y		000	000		00
N			45 9 2.53					-122 36 22.92		016000100S00															OR<25					
																	02	NONE 0	TURN-L										
																		PRVTE	S -W									000		00
																		PSNGR CAR		01	DRVR	INJC	24	F	OR-Y		028,004	000		02,08
																									OR<25					
																	02	NONE 0	TURN-L										
																		PRVTE	S -W									000		00
																		PSNGR CAR		02	PSNG	INJC	07	M			000	000		00
04937	N	N	N	N			12/05/2014	CLACKAMAS	1 16		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE			FR						MN 0		CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S								000		00
N			5P					MOLALLA UA	16.10		01	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	24	M	UNK		000	000		00
N			45 9 2.53					-122 36 22.92		016000100S00															OR<25					
																	02	NONE 0	TURN-L										
																		PRVTE	S -W									000		00
																		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y		028,004	000		02
																									OR<25					
02137	N	N	N	N	N	N	06/01/2017	CLACKAMAS	1 16		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT										02,13
CITY			TH						MN 0		CN		TRF SIGNAL	N	DRY	TURN		N/A	S -N								000		00
N			3P					MOLALLA UA	16.10		02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 9 2.53					-122 36 22.92		016000100S00															UNK					
																	02	NONE 9	TURN-R										
																		N/A	E -N									016		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																									UNK					
00851	N	N	N	N			02/28/2014	CLACKAMAS	1 16		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE			FR						MN 0		CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W -E								000		00
N			3P					MOLALLA UA	16.10		03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	25	M	OR-Y		000	000		00
N			45 9 2.53062					-122 36 22.924296		016000100S00															OR<25					
																	02	NONE 0	TURN-L										
																		PRVTE	E -S									000		00
																		PSNGR CAR		01	DRVR	NONE	72	M	OR-Y		028,004	000		02
																									OR<25					
02542	N	N	N	N			06/30/2014	CLACKAMAS	1 16		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
CITY			MO						MN 0		CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	N -S								000		00
N			2P					MOLALLA UA	16.10		03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y		020	000		04
N			45 9 2.53					-122 36 22.92		016000100S00															OR<25					

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R G S	M J N V	S I H L	C N R K	W O	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# / COMPNT / MLG TYP / MILEPNT	FC	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A GE	S EX	LICNS RES / OR-Y / OR>25 / OR<25	PED LOC	ERROR	ACT	EVENT	CAUSE
																			01	NONE 0	STRGHT										
																				PRVTE	N -S								000		00
																				PSNGR CAR		02	PSNG	INJC	36	F		000	000		00
																			01	NONE 0	STRGHT										
																				PRVTE	N -S								000		00
																				PSNGR CAR		03	PSNG	NONE	05	M		000	000		00
																			02	NONE 0	STRGHT										
																				PRVTE	W -E								000		00
																				PSNGR CAR		01	DRVR	NONE	24	M	OR-Y / OR>25		000	000		00
05191	N	N	N	N	N	N		12/06/2015	CLACKAMAS	1 16			INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
CITY								SU		MN 0			CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	W -E								000		00
N								10A	MOLALLA UA	16.10			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y / OR<25		020	000		04
N								45 9 2.53	-122 36 22.92			016000100S00																				
																			02	NONE 0	STRGHT										
																				PRVTE	N -S								000		00
																				PSNGR CAR		01	DRVR	NONE	62	F	OR-Y / OR<25		000	000		00
01405	N	N	N	N	N	N		03/27/2016	CLACKAMAS	1 16			INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT										02
CITY								SU		MN 0			CN		TRF SIGNAL	N	WET	TURN		PRVTE	W -E								000		00
N								8P	MOLALLA UA	16.10			03	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJC	20	F	OR-Y / OR<25		000	000		00
N								45 9 2.53	-122 36 22.92			016000100S00																				
																			02	NONE 0	TURN-L										
																				PRVTE	E -S								000		00
																				PSNGR CAR		01	DRVR	INJC	54	F	OR-Y / OR<25	028,004	000		02
																			02	NONE 0	TURN-L										
																				PRVTE	E -S								000		00
																				PSNGR CAR		02	PSNG	INJC	22	F		000	000		00
04052	N	N	N	N	N	N		08/30/2016	CLACKAMAS	1 16			INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
CITY								TU		MN 0			CN		L-GRN-SIG	N	DRY	TURN		PRVTE	N -S								000		00
N								6P	MOLALLA UA	16.10			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	64	M	OR-Y / OR<25		020	000		04
N								45 9 2.53	-122 36 22.92			016000100S00																				
																			02	NONE 0	TURN-L										
																				PRVTE	W -N								000		00
																				PSNGR CAR		01	DRVR	NONE	61	M	OR-Y / OR<25		000	000		00
																			02	NONE 0	TURN-L										
																				PRVTE	W -N								000		00
																				PSNGR CAR		02	PSNG	INJB	61	F		000	000		00
02329	N	N	N	N				05/23/2016	CLACKAMAS	1 16			INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT										04
NONE								MO		MN 0			CN		TRF SIGNAL	N	DRY	ANGL		N/A	N -S								000		00
N								4A	MOLALLA UA	16.10			03	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								45 9 2.53	-122 36 22.92			016000100S00																				

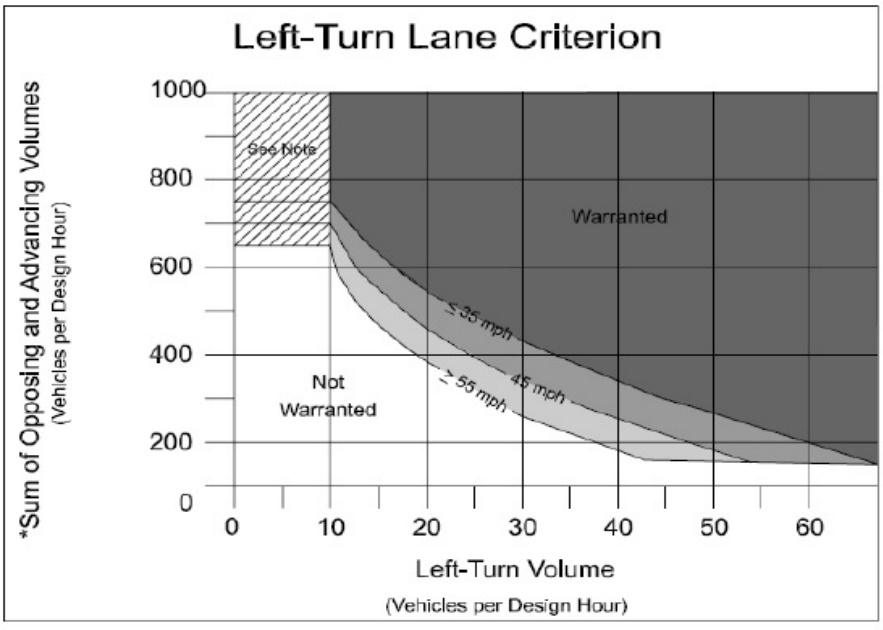
16 - 17 of 17 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R U G	M J I N	S C H V	W O R L	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																	02	NONE 9 N/A PSNGR CAR	STRGHT E -W	01	DRVR	NONE	00	Unk	UNK UNK		000 000		00 00
05284 CITY N N	N	N	N	N			11/14/2016 MO 11A 45 9 2.53	CLACKAMAS MOLALLA UA -122 36 22.92	1 16 MN 0 16.10	 016000100S00	INTER CN 04	CROSS 0	N TRF SIGNAL	N N N	RAIN WET DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	20	F	OR-Y OR<25		000			02 00 00
																	02	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	28	M	OR-Y OR<25		028,004			00 02

Project: 19155 - Colima Apartments
Intersection: Highway 213 at Crompton's Lane
Date: 11/5/2019
Scenario: Year 2022 Buildout

Speed? 40 mph

AM Peak Hour		**PM Peak Hour**	
Left-Turn Volume	3	Left-Turn Volume	6
Approaching DHV	221	Approaching DHV	467
# of Advancing Through Lanes	1	# of Advancing Through Lanes	1
Opposing DHV	264	Opposing DHV	279
# of Opposing Through Lanes	1	# of Opposing Through Lanes	1
O+A DHV	**485**	**O+A DHV**	**746**
Lane Needed?	**No**	Lane Needed?	**Yes**



Source: Oregon DOT Analysis Procedures Manual 2008

*(Advancing Vol/ # of Advancing Through Lanes)+
(Opposing Vol/ # of Opposing Through Lanes)

Note: The criterion is not met from zero to ten left turn vehicles per hour, but careful consideration should be given to installing a left turn lane due to the increased potential for accidents in the through lanes. While the turn volumes are low, the adverse safety and operational impacts may require installation of a left turn. The final determination will be based on a field study.

Traffic Signal Warrant Analysis

Project: 19155 - Colima Apartments
Date: 11/5/2019
Scenario: 2022 Buildout Conditions

Major Street:	Highway 213	Minor Street:	Crompton's Lane
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	467	PM Peak Hour Volumes:	2

Warrant Used:

_____	100 percent of standard warrants used
X	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)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
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
WARRANT 1, CONDITION B					
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?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	4,670	6,200	
Minor Street*	20	1,850	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	4,670	9,300	
Minor Street*	20	950	**No**
Combination Warrant			
Major Street	4,670	7,440	
Minor Street*	20	1,480	**No**

* Minor street right-turning traffic volumes reduced by 25%

LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.

1e

LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

Vistro File: \...\Colima AM.vistro Scenario 1 2019 Existing AM
Report File: \...\AM Report.pdf 11/6/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	NB Thru	0.491	37.7	D
2	Highway 213 at Crompton's Lane	Two-way stop	HCM 6th Edition	NB Thru	0.003	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Hwy 213 @ Hwy 211

Control Type:	Signalized	Delay (sec / veh):	37.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	1
Pocket Length [ft]	275.00	100.00	260.00	205.00	100.00	100.00	275.00	100.00	100.00	340.00	100.00	227.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	18	158	80	93	114	101	82	159	4	75	226	203
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.80	4.80	4.80	10.40	10.40	10.40	13.10	13.10	13.10	12.90	12.90	12.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	158	80	93	114	101	82	159	4	75	226	203
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	44	22	26	32	28	23	45	1	21	63	57
Total Analysis Volume [veh/h]	20	178	90	104	128	113	92	179	4	84	254	228
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	6	1	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	49	28	0	20	41	0	9	34	0	17	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	65	24	24	65	37	47	30	47	38	38
g / C, Green / Cycle	0.54	0.20	0.20	0.54	0.31	0.39	0.25	0.39	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.02	0.11	0.06	0.08	0.17	0.09	0.12	0.07	0.17	0.17
s, saturation flow rate [veh/h]	1228	1645	1398	1331	1450	1003	1527	1138	1536	1305
c, Capacity [veh/h]	613	329	280	641	447	352	382	429	486	413
d1, Uniform Delay [s]	13.93	43.06	41.04	21.88	34.43	24.92	38.34	24.24	33.57	33.95
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	6.26	3.02	0.54	4.61	1.80	4.26	1.02	3.97	5.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.54	0.32	0.16	0.54	0.26	0.48	0.20	0.52	0.55
d, Delay for Lane Group [s/veh]	14.03	49.32	44.07	22.43	39.04	26.72	42.61	25.26	37.54	39.17
Lane Group LOS	B	D	D	C	D	C	D	C	D	D
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.27	5.32	2.52	1.48	6.40	1.88	5.05	1.67	6.59	6.10
50th-Percentile Queue Length [ft/ln]	6.70	132.97	63.06	37.05	160.08	47.09	126.26	41.78	164.78	152.38
95th-Percentile Queue Length [veh/ln]	0.48	9.10	4.54	2.67	10.55	3.39	8.74	3.01	10.80	10.14
95th-Percentile Queue Length [ft/ln]	12.06	227.53	113.52	66.69	263.82	84.77	218.40	75.21	270.04	253.60

Movement, Approach, & Intersection Results

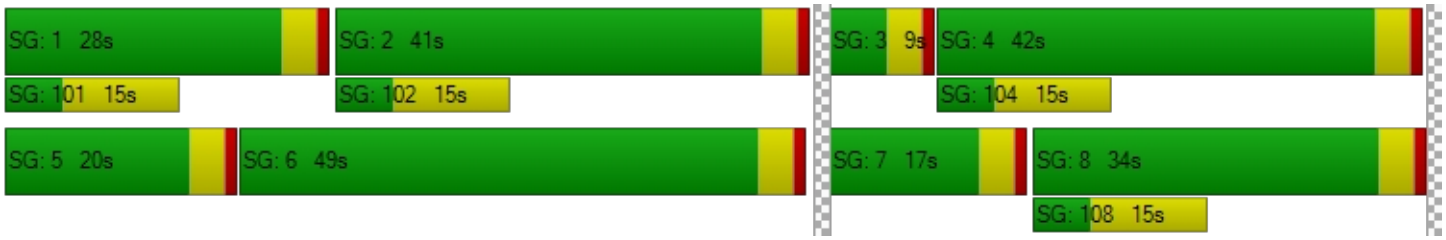
d_M, Delay for Movement [s/veh]	14.03	49.32	44.07	22.43	39.04	39.04	26.72	42.61	42.61	25.26	37.54	39.17
Movement LOS	B	D	D	C	D	D	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	45.23			34.03			37.29			36.37		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	37.73											
Intersection LOS	D											
Intersection V/C	0.491											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.301	2.273	2.180	2.470
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	617	500	633
d_b, Bicycle Delay [s]	38.40	28.70	33.75	28.02
l_b,int, Bicycle LOS Score for Intersection	2.035	2.129	2.013	2.494
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: Highway 213 at Crompton's Lane

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	80.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	248	0	0	205	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	6.30	11.10	11.10	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	248	0	0	205	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	0	0	56	0	0
Total Analysis Volume [veh/h]	273	0	0	225	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.90	0.00	11.77	9.70
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.74	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Report File: \...\AM Report.pdf 11/6/2019

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	18	158	80	93	114	101	82	159	4	75	226	203	1313

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
2	Highway 213 at Crompton's Lane	248	0	0	205	0	0	453

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Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	Final Base	18	158	80	93	114	101	82	159	4	75	226	203	1313
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**18**	**158**	**80**	**93**	**114**	**101**	**82**	**159**	**4**	**75**	**226**	**203**	**1313**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
2	Highway 213 at Crompton's Lane	Final Base	248	0	0	205	0	0	453
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**248**	**0**	**0**	**205**	**0**	**0**	**453**

Signal Warrants Report For Intersection 2: Highway 213 at Crompton's Lane

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	E
1	205	248	0
2	197	238	0
3	193	233	0
4	164	198	0
5	156	188	0
6	139	169	0
7	129	156	0
8	123	149	0
9	98	119	0
10	92	112	0
11	92	112	0
12	88	107	0
13	80	97	0
14	74	89	0
15	74	89	0
16	72	87	0
17	41	50	0
18	23	27	0
19	21	25	0
20	8	10	0
21	6	7	0
22	6	7	0
23	4	5	0
24	4	5	0

Warrant Analysis by Hour

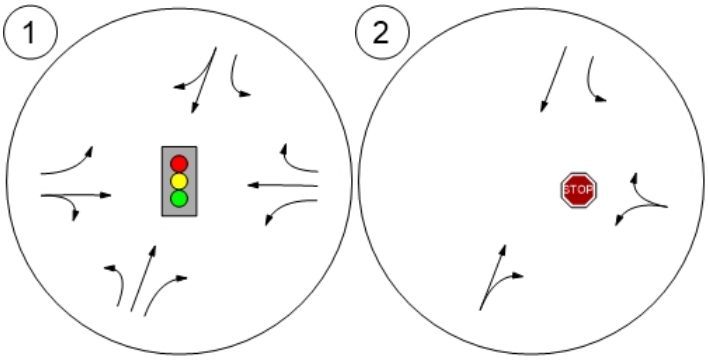
Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	453	1	0	No	No	No	No	No	No	No	No	No	No
2	3	435	1	0	No	No	No	No	No	No	No	No	No	No
3	3	426	1	0	No	No	No	No	No	No	No	No	No	No
4	3	362	1	0	No	No	No	No	No	No	No	No	No	No
5	3	344	1	0	No	No	No	No	No	No	No	No	No	No
6	3	308	1	0	No	No	No	No	No	No	No	No	No	No
7	3	285	1	0	No	No	No	No	No	No	No	No	No	No
8	3	272	1	0	No	No	No	No	No	No	No	No	No	No
9	3	217	1	0	No	No	No	No	No	No	No	No	No	No
10	3	204	1	0	No	No	No	No	No	No	No	No	No	No
11	3	204	1	0	No	No	No	No	No	No	No	No	No	No
12	3	195	1	0	No	No	No	No	No	No	No	No	No	No
13	3	177	1	0	No	No	No	No	No	No	No	No	No	No
14	3	163	1	0	No	No	No	No	No	No	No	No	No	No
15	3	163	1	0	No	No	No	No	No	No	No	No	No	No
16	3	159	1	0	No	No	No	No	No	No	No	No	No	No
17	3	91	1	0	No	No	No	No	No	No	No	No	No	No
18	3	50	1	0	No	No	No	No	No	No	No	No	No	No
19	3	46	1	0	No	No	No	No	No	No	No	No	No	No
20	3	18	1	0	No	No	No	No	No	No	No	No	No	No
21	3	13	1	0	No	No	No	No	No	No	No	No	No	No
22	3	13	1	0	No	No	No	No	No	No	No	No	No	No
23	3	9	1	0	No	No	No	No	No	No	No	No	No	No
24	3	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

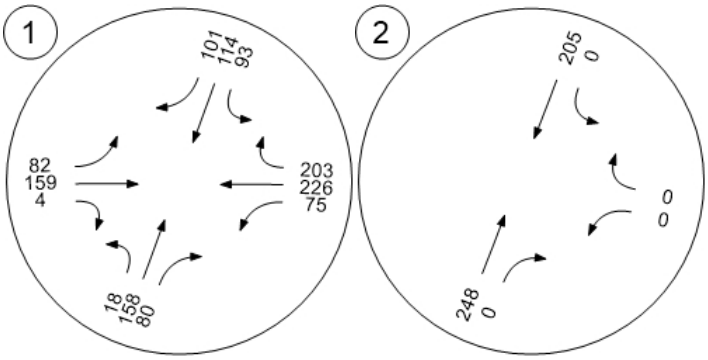
Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	453
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Study Intersections

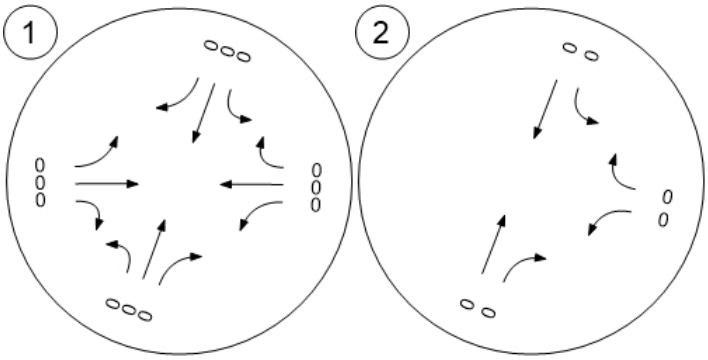
Lane Configuration and Traffic Control



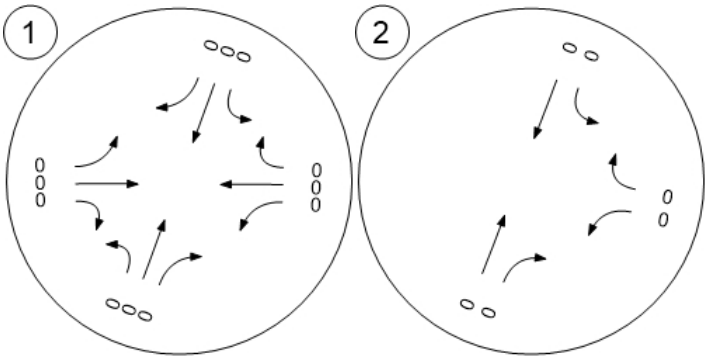
Traffic Volume - Base Volume



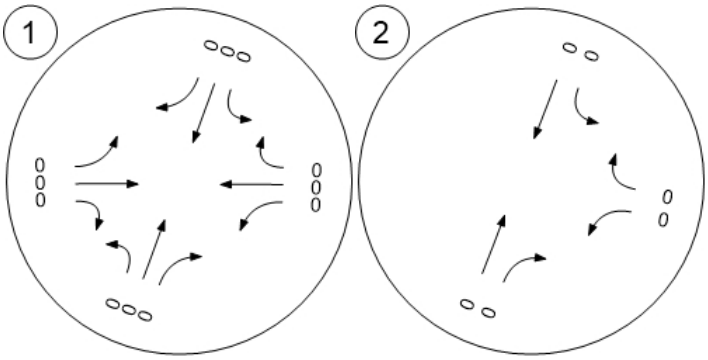
Traffic Volume - In-Process Volume



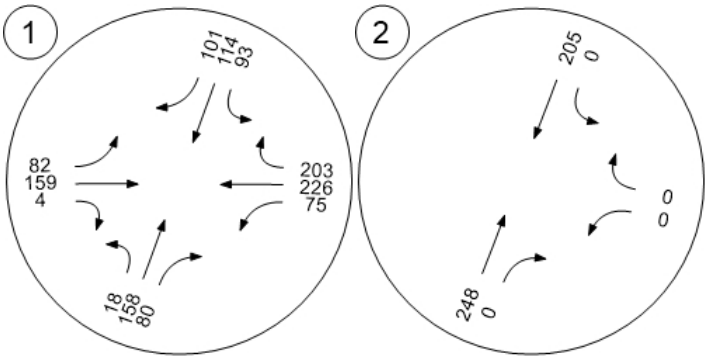
Traffic Volume - Net New Site Trips



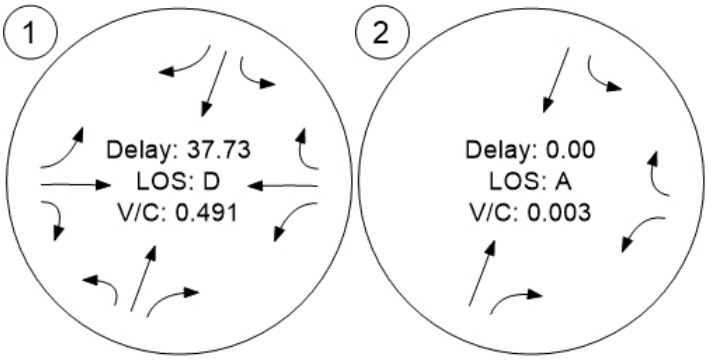
Traffic Volume - Other Volume



Traffic Volume - Future Total Volume



Traffic Conditions



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Report File: \...\PM report.pdf

Scenario 1 2019 Existing PM
11/6/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	WB Right	0.657	44.6	D
2	Highway 213 @ Crompton's Lane	Two-way stop	HCM 6th Edition	WB Right	0.001	9.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Hwy 213 @ Hwy 211

Control Type:	Signalized	Delay (sec / veh):	44.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	1
Pocket Length [ft]	275.00	100.00	260.00	205.00	100.00	100.00	275.00	100.00	100.00	340.00	100.00	227.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	11	170	110	205	266	130	165	246	17	161	150	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.10	2.10	2.10	6.70	6.70	6.70	5.60	5.60	5.60	5.60	5.60	5.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	170	110	205	266	130	165	246	17	161	150	128
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	47	30	56	73	36	45	68	5	44	41	35
Total Analysis Volume [veh/h]	12	187	121	225	292	143	181	270	19	177	165	141
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	6	1	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	46	23	0	29	52	0	23	35	0	10	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	71	19	19	71	48	41	31	41	18	18
g / C, Green / Cycle	0.59	0.16	0.16	0.59	0.40	0.34	0.26	0.34	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.11	0.08	0.16	0.28	0.14	0.18	0.17	0.10	0.10
s, saturation flow rate [veh/h]	1077	1682	1429	1421	1531	1318	1616	1070	1634	1389
c, Capacity [veh/h]	520	266	226	749	612	434	417	298	245	208
d1, Uniform Delay [s]	13.53	47.82	46.43	18.42	30.18	30.08	40.19	34.68	48.22	48.25
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	14.40	8.77	1.03	6.85	2.93	9.11	8.47	13.82	16.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.02	0.70	0.53	0.30	0.71	0.42	0.69	0.59	0.67	0.68
d, Delay for Lane Group [s/veh]	13.61	62.22	55.21	19.45	37.03	33.01	49.30	43.15	62.04	64.51
Lane Group LOS	B	E	E	B	D	C	D	D	E	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.14	6.36	3.88	3.04	11.57	4.26	8.74	4.51	5.61	4.93
50th-Percentile Queue Length [ft/ln]	3.54	159.03	96.97	76.00	289.17	106.43	218.56	112.67	140.29	123.37
95th-Percentile Queue Length [veh/ln]	0.25	10.50	6.98	5.47	17.14	7.64	13.59	7.99	9.50	8.58
95th-Percentile Queue Length [ft/ln]	6.37	262.44	174.54	136.79	428.61	191.03	339.78	199.71	237.41	214.45

Movement, Approach, & Intersection Results

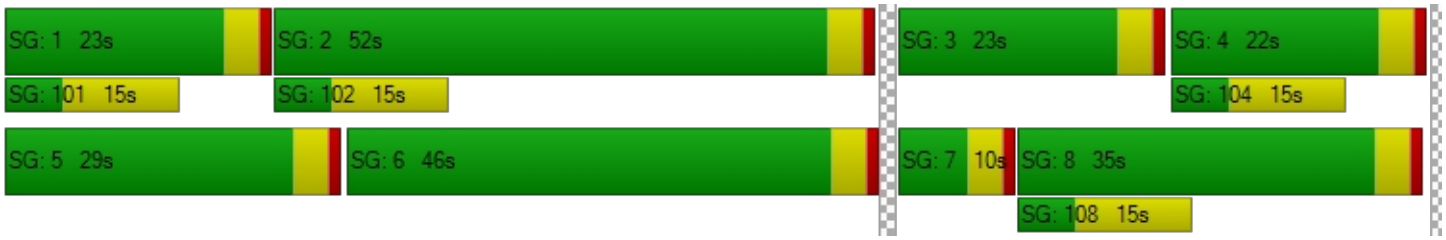
d_M, Delay for Movement [s/veh]	13.61	62.22	55.21	19.45	37.03	37.03	33.01	49.30	49.30	43.15	62.04	64.51
Movement LOS	B	E	E	B	D	D	C	D	D	D	E	E
d_A, Approach Delay [s/veh]	57.75			31.04			43.03			55.84		
Approach LOS	E			C			D			E		
d_I, Intersection Delay [s/veh]	44.57											
Intersection LOS	D											
Intersection V/C	0.657											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.413	2.378	2.219	2.529
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	317	800	517	300
d_b, Bicycle Delay [s]	42.50	21.60	33.00	43.35
l_b,int, Bicycle LOS Score for Intersection	2.088	2.649	2.335	2.357
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: Highway 213 @ Crompton's Lane

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	80.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	262	0	0	433	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.80	2.80	4.00	4.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	262	0	0	433	0	1
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	0	0	119	0	0
Total Analysis Volume [veh/h]	288	0	0	476	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.85	0.00	14.61	9.77
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.10	0.10
d_A, Approach Delay [s/veh]	0.00		0.00		9.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	A					

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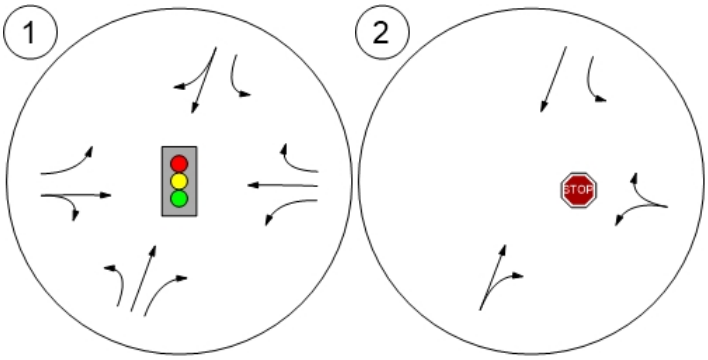
Scenario 1 2019 Existing PM
11/6/2019

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	11	170	110	205	266	130	165	246	17	161	150	128	1759

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
2	Highway 213 @ Crompton's Lane	262	0	0	433	0	1	696

Lane Configuration and Traffic Control



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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	NB Thru	0.501	37.7	D
2	Highway 213 at Crompton's Lane	Two-way stop	HCM 6th Edition	NB Thru	0.003	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Hwy 213 @ Hwy 211

Control Type:	Signalized	Delay (sec / veh):	37.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	1
Pocket Length [ft]	275.00	100.00	260.00	205.00	100.00	100.00	275.00	100.00	100.00	340.00	100.00	227.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	18	161	82	95	116	103	83	163	4	77	231	208
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.80	4.80	4.80	10.40	10.40	10.40	13.10	13.10	13.10	12.90	12.90	12.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	161	82	95	116	103	83	163	4	77	231	208
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	45	23	27	33	29	23	46	1	22	65	58
Total Analysis Volume [veh/h]	20	181	92	107	130	116	93	183	4	87	260	234
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	6	1	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	48	28	0	20	40	0	9	35	0	17	43	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	64	24	24	64	36	48	31	48	39	39
g / C, Green / Cycle	0.53	0.20	0.20	0.53	0.30	0.40	0.26	0.40	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.02	0.11	0.07	0.08	0.17	0.09	0.12	0.08	0.17	0.18
s, saturation flow rate [veh/h]	1229	1645	1398	1328	1449	997	1527	1132	1536	1305
c, Capacity [veh/h]	599	329	280	627	435	357	395	436	499	424
d1, Uniform Delay [s]	14.49	43.15	41.10	22.75	35.41	24.33	37.61	23.67	32.91	33.31
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	6.48	3.12	0.59	5.26	1.77	4.04	1.03	3.85	5.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.55	0.33	0.17	0.57	0.26	0.47	0.20	0.52	0.55
d, Delay for Lane Group [s/veh]	14.59	49.63	44.23	23.34	40.67	26.10	41.65	24.70	36.76	38.40
Lane Group LOS	B	D	D	C	D	C	D	C	D	D
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.27	5.43	2.58	1.56	6.69	1.88	5.10	1.71	6.67	6.19
50th-Percentile Queue Length [ft/ln]	6.85	135.73	64.62	39.08	167.35	46.89	127.41	42.69	166.84	154.81
95th-Percentile Queue Length [veh/ln]	0.49	9.25	4.65	2.81	10.94	3.38	8.80	3.07	10.91	10.27
95th-Percentile Queue Length [ft/ln]	12.33	231.26	116.31	70.34	273.43	84.39	219.97	76.84	272.76	256.84

Movement, Approach, & Intersection Results

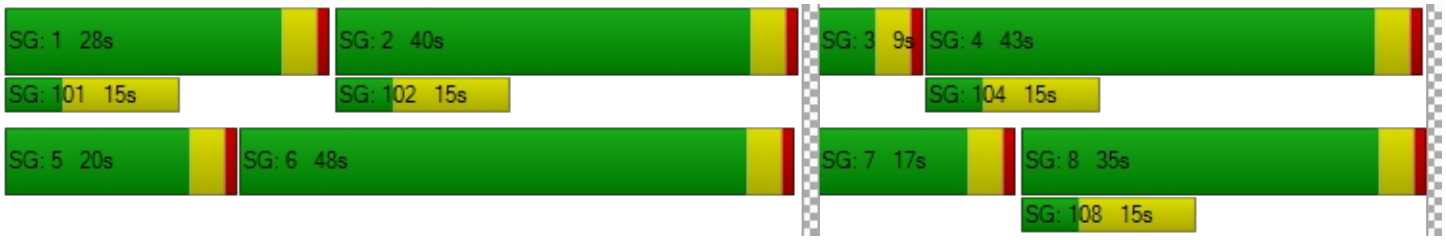
d_M, Delay for Movement [s/veh]	14.59	49.63	44.23	23.34	40.67	40.67	26.10	41.65	41.65	24.70	36.76	38.40
Movement LOS	B	D	D	C	D	D	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	45.54			35.42			36.49			35.61		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	37.66											
Intersection LOS	D											
Intersection V/C	0.501											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.306	2.280	2.184	2.480
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	600	517	650
d_b, Bicycle Delay [s]	38.40	29.40	33.00	27.34
l_b,int, Bicycle LOS Score for Intersection	2.043	2.142	2.022	2.518
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: Highway 213 at Crompton's Lane

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	80.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	264	0	0	218	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	6.30	11.10	11.10	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	264	0	0	218	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	0	0	60	0	0
Total Analysis Volume [veh/h]	290	0	0	240	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.95	0.00	12.07	9.81
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.94	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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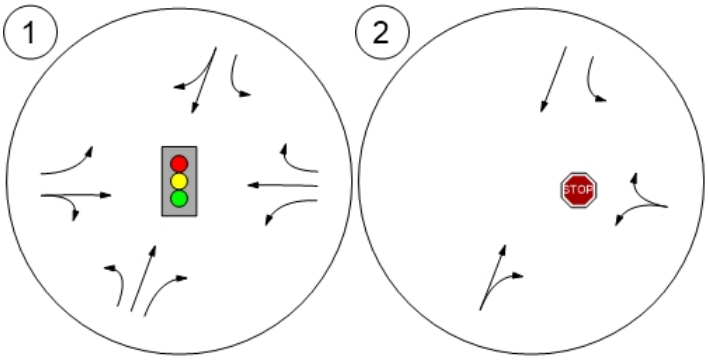
Scenario 2 2022 Background AM
11/6/2019

Turning Movement Volume: Summary

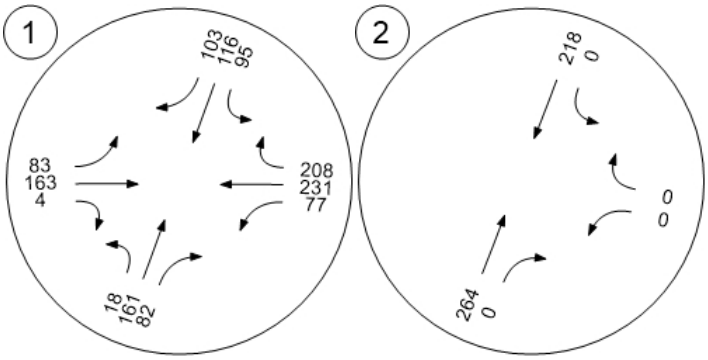
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	18	161	82	95	116	103	83	163	4	77	231	208	1341

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
2	Highway 213 at Crompton's Lane	264	0	0	218	0	0	482

Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



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Scenario 2 2022 Background PM
11/6/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	WB Right	0.671	45.3	D
2	Highway 213 @ Crompton's Lane	Two-way stop	HCM 6th Edition	WB Right	0.001	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Hwy 213 @ Hwy 211

Control Type:	Signalized	Delay (sec / veh):	45.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.671

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	1
Pocket Length [ft]	275.00	100.00	260.00	205.00	100.00	100.00	275.00	100.00	100.00	340.00	100.00	227.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	12	174	113	210	272	133	169	252	17	165	153	131
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.10	2.10	2.10	6.70	6.70	6.70	5.60	5.60	5.60	5.60	5.60	5.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	174	113	210	272	133	169	252	17	165	153	131
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	48	31	58	75	37	46	69	5	45	42	36
Total Analysis Volume [veh/h]	13	191	124	231	299	146	186	277	19	181	168	144
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	6	1	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	46	23	0	29	52	0	23	35	0	10	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	71	19	19	71	48	41	31	41	18	18
g / C, Green / Cycle	0.59	0.16	0.16	0.59	0.40	0.34	0.26	0.34	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.11	0.09	0.16	0.29	0.14	0.18	0.17	0.10	0.10
s, saturation flow rate [veh/h]	1072	1682	1429	1420	1531	1316	1616	1066	1634	1389
c, Capacity [veh/h]	512	266	226	746	612	432	417	293	245	208
d1, Uniform Delay [s]	13.77	47.95	46.54	18.55	30.45	30.22	40.40	35.37	48.32	48.36
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.09	15.31	9.22	1.08	7.37	3.11	9.78	9.46	14.50	17.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.72	0.55	0.31	0.73	0.43	0.71	0.62	0.69	0.69
d, Delay for Lane Group [s/veh]	13.86	63.26	55.76	19.63	37.83	33.33	50.18	44.82	62.82	65.56
Lane Group LOS	B	E	E	B	D	C	D	D	E	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.15	6.56	4.00	3.14	11.99	4.40	9.05	4.67	5.75	5.08
50th-Percentile Queue Length [ft/ln]	3.84	163.91	99.94	78.45	299.81	110.00	226.18	116.81	143.82	127.09
95th-Percentile Queue Length [veh/ln]	0.28	10.76	7.20	5.65	17.67	7.84	13.98	8.22	9.69	8.78
95th-Percentile Queue Length [ft/ln]	6.91	268.89	179.88	141.20	441.79	196.00	349.50	205.44	242.16	219.54

Movement, Approach, & Intersection Results

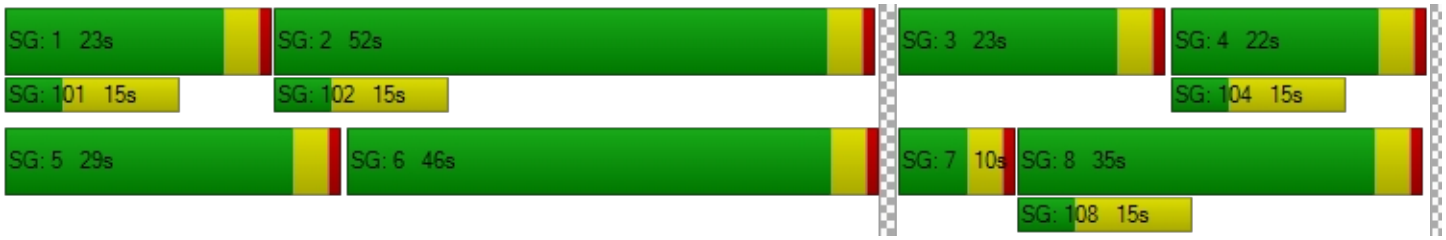
d_M, Delay for Movement [s/veh]	13.86	63.26	55.76	19.63	37.83	37.83	33.33	50.18	50.18	44.82	62.82	65.56
Movement LOS	B	E	E	B	D	D	C	D	D	D	E	E
d_A, Approach Delay [s/veh]	58.47			31.61			43.68			57.01		
Approach LOS	E			C			D			E		
d_I, Intersection Delay [s/veh]	45.33											
Intersection LOS	D											
Intersection V/C	0.671											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.421	2.389	2.226	2.531
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	317	800	517	300
d_b, Bicycle Delay [s]	42.50	21.60	33.00	43.35
l_b,int, Bicycle LOS Score for Intersection	2.101	2.675	2.355	2.373
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: Highway 213 @ Crompton's Lane

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	80.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	279	0	0	461	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.80	2.80	4.00	4.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	279	0	0	461	0	1
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	0	0	127	0	0
Total Analysis Volume [veh/h]	307	0	0	507	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.90	0.00	15.29	9.89
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.10	0.10
d_A, Approach Delay [s/veh]	0.00		0.00		9.89	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	A					

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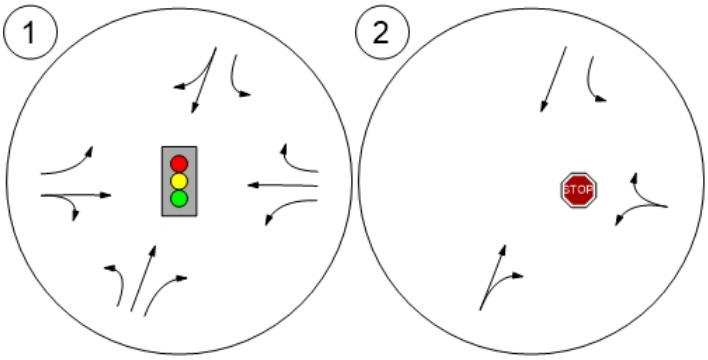
Scenario 2 2022 Background PM
11/6/2019

Turning Movement Volume: Summary

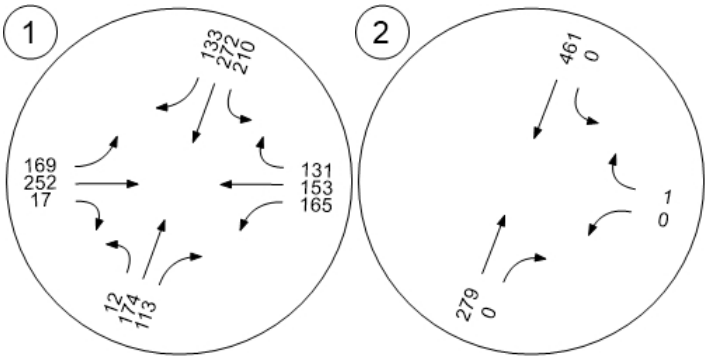
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	12	174	113	210	272	133	169	252	17	165	153	131	1801

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
2	Highway 213 @ Crompton's Lane	279	0	0	461	0	1	741

Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



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Scenario 3 2022 Buildout AM
11/6/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	NB Thru	0.503	38.1	D
2	Highway 213 at Crompton's Lane	Two-way stop	HCM 6th Edition	WB Left	0.002	12.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Hwy 213 @ Hwy 211

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.503

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	1
Pocket Length [ft]	275.00	100.00	260.00	205.00	100.00	100.00	275.00	100.00	100.00	340.00	100.00	227.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	18	161	82	95	116	103	83	163	4	77	231	208
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.80	4.80	4.80	10.40	10.40	10.40	13.10	13.10	13.10	12.90	12.90	12.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	1	2	3	0	1	0	0	0	1	1	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	163	85	95	117	103	83	163	5	78	231	208
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	46	24	27	33	29	23	46	1	22	65	58
Total Analysis Volume [veh/h]	21	183	96	107	131	116	93	183	6	88	260	234
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	6	1	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	49	28	0	20	41	0	9	34	0	17	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	65	24	24	65	37	47	30	47	38	38
g / C, Green / Cycle	0.54	0.20	0.20	0.54	0.31	0.39	0.25	0.39	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.02	0.11	0.07	0.08	0.17	0.09	0.12	0.08	0.17	0.18
s, saturation flow rate [veh/h]	1225	1645	1398	1330	1449	998	1524	1134	1536	1305
c, Capacity [veh/h]	608	329	280	638	447	348	381	425	486	413
d1, Uniform Delay [s]	14.01	43.21	41.23	22.20	34.60	25.01	38.53	24.37	33.73	34.14
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.11	6.64	3.33	0.57	4.86	1.88	4.55	1.10	4.17	5.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.56	0.34	0.17	0.55	0.27	0.50	0.21	0.53	0.57
d, Delay for Lane Group [s/veh]	14.12	49.84	44.56	22.77	39.46	26.89	43.08	25.47	37.90	39.66
Lane Group LOS	B	D	D	C	D	C	D	C	D	D
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.28	5.50	2.71	1.53	6.61	1.91	5.25	1.76	6.79	6.31
50th-Percentile Queue Length [ft/ln]	7.04	137.58	67.75	38.23	165.23	47.73	131.34	43.97	169.74	157.65
95th-Percentile Queue Length [veh/ln]	0.51	9.35	4.88	2.75	10.83	3.44	9.01	3.17	11.06	10.42
95th-Percentile Queue Length [ft/ln]	12.68	233.77	121.94	68.81	270.63	85.92	225.32	79.15	276.58	260.61

Movement, Approach, & Intersection Results

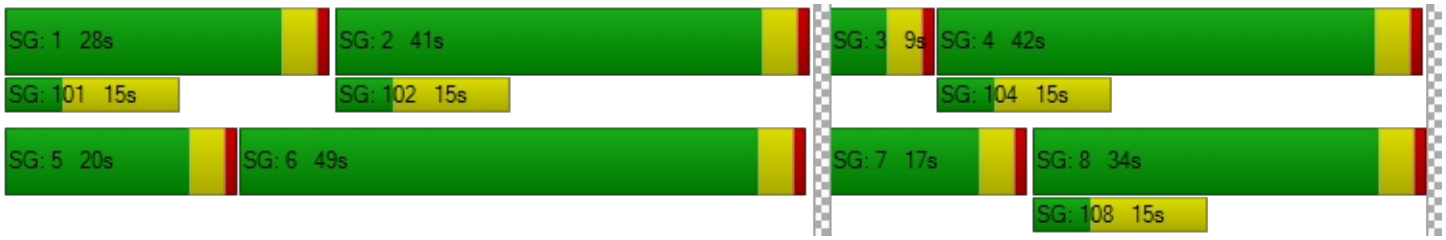
d_M, Delay for Movement [s/veh]	14.12	49.84	44.56	22.77	39.46	39.46	26.89	43.08	43.08	25.47	37.90	39.66
Movement LOS	B	D	D	C	D	D	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	45.65			34.42			37.74			36.73		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	38.14											
Intersection LOS	D											
Intersection V/C	0.503											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.308	2.280	2.186	2.480
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	617	500	633
d_b, Bicycle Delay [s]	38.40	28.70	33.75	28.02
l_b,int, Bicycle LOS Score for Intersection	2.055	2.144	2.025	2.520
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: Highway 213 at Crompton's Lane

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	80.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	264	0	0	218	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	6.30	11.10	11.10	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	3	0	1	6
Total Hourly Volume [veh/h]	264	0	3	218	1	6
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	0	1	60	0	2
Total Analysis Volume [veh/h]	290	0	3	240	1	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.95	0.00	12.20	9.86
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.18	0.00	0.86	0.86
d_A, Approach Delay [s/veh]	0.00		0.10		10.16	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

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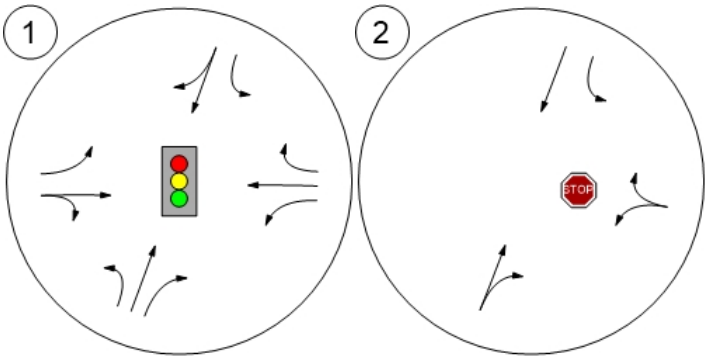
Report File: \...\AM Report 3.pdf 11/6/2019

Turning Movement Volume: Summary

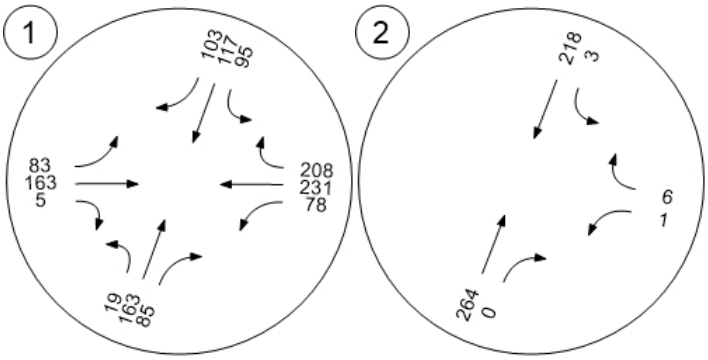
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	19	163	85	95	117	103	83	163	5	78	231	208	1350

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
2	Highway 213 at Crompton's Lane	264	0	3	218	1	6	492

Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	NB Thru	0.679	46.0	D
2	Highway 213 @ Crompton's Lane	Two-way stop	HCM 6th Edition	WB Left	0.003	15.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Hwy 213 @ Hwy 211

Control Type:	Signalized	Delay (sec / veh):	46.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.679

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	1
Pocket Length [ft]	275.00	100.00	260.00	205.00	100.00	100.00	275.00	100.00	100.00	340.00	100.00	227.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	12	174	113	210	272	133	169	252	17	165	153	131
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.10	2.10	2.10	6.70	6.70	6.70	5.60	5.60	5.60	5.60	5.60	5.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	1	2	0	2	0	0	0	2	2	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	175	115	210	274	133	169	252	19	167	153	131
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	48	32	58	75	37	46	69	5	46	42	36
Total Analysis Volume [veh/h]	13	192	126	231	301	146	186	277	21	184	168	144
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	6	1	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	40	21	0	28	47	0	22	32	0	20	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	64	17	17	64	43	48	28	48	26	26
g / C, Green / Cycle	0.53	0.14	0.14	0.53	0.36	0.40	0.23	0.40	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.01	0.11	0.09	0.20	0.29	0.15	0.18	0.16	0.10	0.10
s, saturation flow rate [veh/h]	1072	1682	1429	1181	1531	1269	1614	1174	1634	1389
c, Capacity [veh/h]	434	238	202	664	549	498	377	392	354	301
d1, Uniform Delay [s]	17.44	49.90	48.48	22.17	34.89	25.12	43.25	26.74	41.03	41.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.13	24.50	13.56	1.44	12.54	2.14	15.54	4.01	4.50	5.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.81	0.62	0.35	0.81	0.37	0.79	0.47	0.47	0.48
d, Delay for Lane Group [s/veh]	17.57	74.41	62.04	23.61	47.42	27.25	58.79	30.75	45.54	46.44
Lane Group LOS	B	E	E	C	D	C	E	C	D	D
Critical Lane Group	No	Yes	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.18	7.20	4.32	3.71	13.59	3.91	9.91	4.01	4.79	4.18
50th-Percentile Queue Length [ft/ln]	4.54	179.94	107.94	92.70	339.81	97.78	247.78	100.18	119.80	104.50
95th-Percentile Queue Length [veh/ln]	0.33	11.60	7.73	6.67	19.64	7.04	15.07	7.21	8.38	7.52
95th-Percentile Queue Length [ft/ln]	8.17	289.94	193.14	166.86	490.97	176.01	376.85	180.33	209.56	188.09

Movement, Approach, & Intersection Results

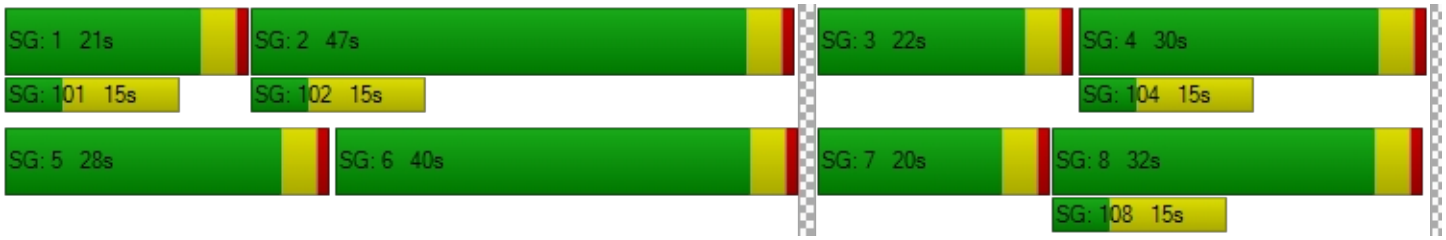
d_M, Delay for Movement [s/veh]	17.57	74.41	62.04	23.61	47.42	47.42	27.25	58.79	58.79	30.75	45.54	46.44
Movement LOS	B	E	E	C	D	D	C	E	E	C	D	D
d_A, Approach Delay [s/veh]	67.46			39.31			46.67			40.31		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	46.04											
Intersection LOS	D											
Intersection V/C	0.679											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.416	2.407	2.226	2.507
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	283	717	467	433
d_b, Bicycle Delay [s]	44.20	24.70	35.27	36.82
l_b,int, Bicycle LOS Score for Intersection	2.106	2.678	2.358	2.378
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: Highway 213 @ Crompton's Lane

Control Type:	Two-way stop	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	80.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	279	0	0	461	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.80	2.80	4.00	4.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	6	0	1	3
Total Hourly Volume [veh/h]	279	0	6	461	1	4
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	0	2	127	0	1
Total Analysis Volume [veh/h]	307	0	7	507	1	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.91	0.00	15.59	9.93
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.42	0.00	0.63	0.63
d_A, Approach Delay [s/veh]	0.00		0.11		11.06	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	C					

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Report File: \...\PM report 3.pdf

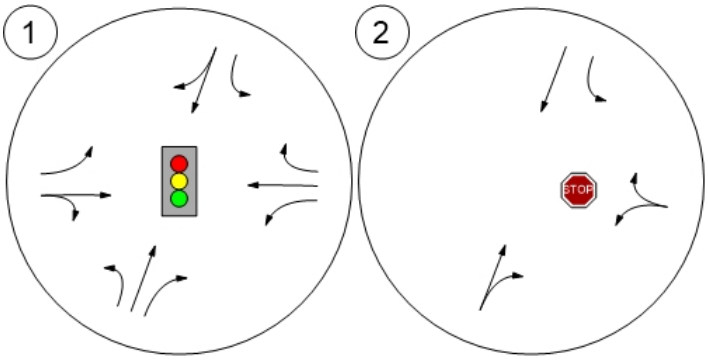
Scenario 3 2022 Buildout PM
11/6/2019

Turning Movement Volume: Summary

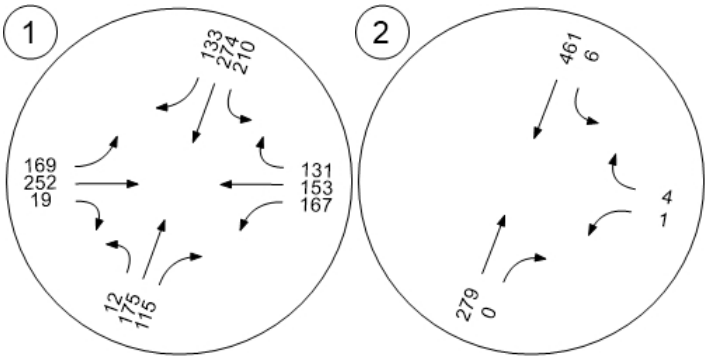
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	12	175	115	210	274	133	169	252	19	167	153	131	1810

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
2	Highway 213 @ Crompton's Lane	279	0	6	461	1	4	751

Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Intersection: 3: Highway 213 & Highway 211

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)	108	199	132	265	229	35	160	62	102	161
Average Queue (ft)	49	96	53	147	72	9	57	19	43	61
95th Queue (ft)	95	172	104	247	161	30	117	45	86	126
Link Distance (ft)		361		417			423			360
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275		325		225	275		250	300	
Storage Blk Time (%)				1	0		0			
Queuing Penalty (veh)				4	0		0			

Intersection: 9: Highway 213 & Crompton's Lane

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	30	12
Average Queue (ft)	4	1
95th Queue (ft)	20	8
Link Distance (ft)	240	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		75
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 4

Intersection: 3: Highway 213 & Highway 211

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)	246	344	185	180	128	40	180	85	227	316
Average Queue (ft)	91	168	94	99	47	10	77	30	86	135
95th Queue (ft)	171	285	161	170	93	31	144	61	167	258
Link Distance (ft)		361		417			423			360
Upstream Blk Time (%)		1								0
Queuing Penalty (veh)		0								0
Storage Bay Dist (ft)	275		325		225	275		250	300	
Storage Blk Time (%)	0	1			0					0
Queuing Penalty (veh)	0	2			0					1

Intersection: 9: Highway 213 & Crompton's Lane

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	30	24
Average Queue (ft)	5	2
95th Queue (ft)	23	14
Link Distance (ft)	240	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		75
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 3

lancaster mobley
321 SW 4th Ave., Suite 400
Portland, OR 97204
503.248.0313
lancastermobley.com

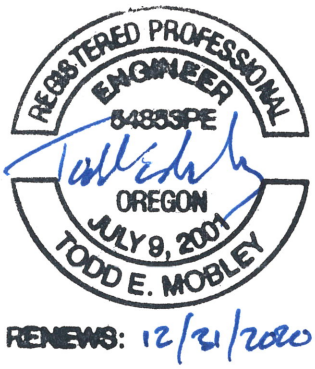
Memorandum

To: Gerald Fisher, PE

From: Todd E. Mobley, PE
Terrington Smith, EI

Date: January 31, 2020

Subject: Colima Apartments – Transportation Impact Study Addendum #1



Introduction

This memorandum is written to address comments received from the City of Molalla regarding the Transportation Impact Study (TIS) prepared for the subject project[1] and serves as an addendum to the TIS. There are three primary areas of concern that are each addressed in the sections below. They are 1) the trip generation calculations for the apartments, 2) the inclusion of trips from developments that are approved but not yet constructed, and 3) the operation of the intersection of Highway 211 at Leroy Avenue.

Trip Generation

In the TIS, trip generation was done using data from the 10th Edition of the Trip Generation Manual, published by the Institute of Transportation Engineers (ITE). The study used land-use code 221, *Multifamily Housing (Mid-Rise)*. This is the correct land-use code, although the TIS used the subcategory of "Dense Multi-Use Urban", which is one of three subcategories. After consultation with the Oregon Department of Transportation (ODOT), it was requested that we use the subcategory "General Urban/Suburban" for the calculation.

Table 1 below shows a summary of the new trip generation results and detailed calculations are included in the attached technical appendix. An updated Figure 2 showing the site trips is attached in the Technical Appendix.

Table 1: Trip Generation Summary

	ITE Code	Units	Morning Peak Hour			Evening Peak Hour			Weekday Total
			In	Out	Total	In	Out	Total	
Existing Conditions									
Single-Family Detached Housing	210	1	0	1	1	1	0	1	10
Proposed Development									
Multifamily Housing (Mid-Rise)	221	36	3	10	13	10	6	16	196
Net New Site Trips			3	9	12	9	6	15	186

[1] *Colima Apartments, Transportation Impact Study* dated November 11, 2019

The assignment of the project-generated trips to the study area intersection, including the intersection of Highway 211 at Leroy Avenue, is shown in an updated version of Figure 2 in the attached technical appendix.

In-Process Trips

Trips from developments that are approved but not yet constructed are referred to as "in-process" trips. Comments from the City of Molalla also requested that trips from the following developments be specifically included in this addendum.

1. Twin Meadows Subdivision
2. Bear Creek Subdivision
3. McEachran Subdivision
4. Hezzie Lane Subdivision
5. Tractor Supply Company
6. Cascade Center

Trips from projects 2, 5, and 6 were taken directly from the Transportation Impact Studies prepared for those projects. According to City staff, projects 1, 3, and 4 were not required to prepare a TIS. For these projects trip generation was calculated using the ITE manual. For the four subdivisions above, the number of unbuilt or unoccupied homes were inventoried in the field and used to assess in-process trips.

In-process trips were added to the 2022 background traffic volumes. An updated version of Figure 4 showing the background traffic volumes that include the in-process development as well as an updated version of Figure 5 showing the sum of background traffic plus site trips from the proposed Colima Apartments are in the attached technical appendix.

Updated Capacity Analysis

The capacity analysis from the original study intersections was updated to include the in-process trips and updated trip generation of the site. As mentioned in the original TIS, ODOT's operational standard for the study intersections is a maximum volume to capacity (v/c) ratio of 0.90.

The results of the analysis are shown in Table 2 on the following page. Detailed reports of the capacity analysis are attached in the technical appendix.

Table 2: Capacity Analysis Summary

	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v / c	LOS	Delay (s)	v / c
Highway 213 at Highway 211						
2019 Existing Conditions	D	38	0.49	D	45	0.66
2022 Background Conditions	D	39	0.53	D	49	0.69
2022 Buildout Conditions	D	39	0.53	D	49	0.71
Highway 213 at Crompton's Lane						
2019 Existing Conditions	A	0	0.00	A	10	0.00
2022 Background Conditions	A	0	0.00	B	10	0.00
2022 Buildout Conditions	B	13	0.00	B	10	0.01

The capacity analysis shows that the study intersections are projected to operate acceptably through buildout of the proposed development with the updated trip generation and in-process volumes included. In general, the intersection operation is largely the same as what was reported in the original TIS.

Highway 211 at Leroy Avenue

Of particular concern in the comments received is the intersection of Highway 211 at Leroy Avenue and when a traffic signal will be warranted at the intersection. It is our understanding that the Cascade Center project will construct the south leg of the intersection, but signalizing the intersection is not a requirement of Cascade Center.

As part of this addendum, the intersection was re-examined to determine if signal warrants are met upon completion of the Colima Apartments. A warrant analysis was done using the year 2020 total traffic volumes found in Figure 7 of the Cascade Center transportation impact analysis along with the project-generated trips associated with the Colima Apartments. Figure 2 in the attached technical appendix shows an updated version the site trip distribution and assignment through the intersection for the morning and evening peak hours.

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 the northbound traffic on Leroy Avenue will not meet the thresholds. This is due primarily to ODOT requirements that dictate the northbound right-turning trips not be included in the analysis.

Table 3 below shows the northbound traffic on Leroy Avenue with all in-process trips accounted for (including Cascade Center) and the Colima Apartments.

Table 3: Leroy Avenue Traffic Volumes

	Northbound PM Peak Hour Volume
Threshold to Meet Signal Warrants	95
2022 Buildout Conditions	53
Trips Remaining	**42**

As shown in the table above, the volumes on Leroy Avenue will not be sufficient to meet traffic signal warrants with the Colima Apartments project in place. It is also important to note that the apartments are not expected to add additional trips to Leroy Avenue (see Figure 2 in the attached technical appendix).

Summary & Conclusions

Updated trip generation calculations show the development is projected to generate a net increase of 12 trips in the morning peak hour and 15 trips in the evening peak hour. In-process trips from surrounding developments within the City of Molalla were quantified and included in the 2022 background traffic volumes.

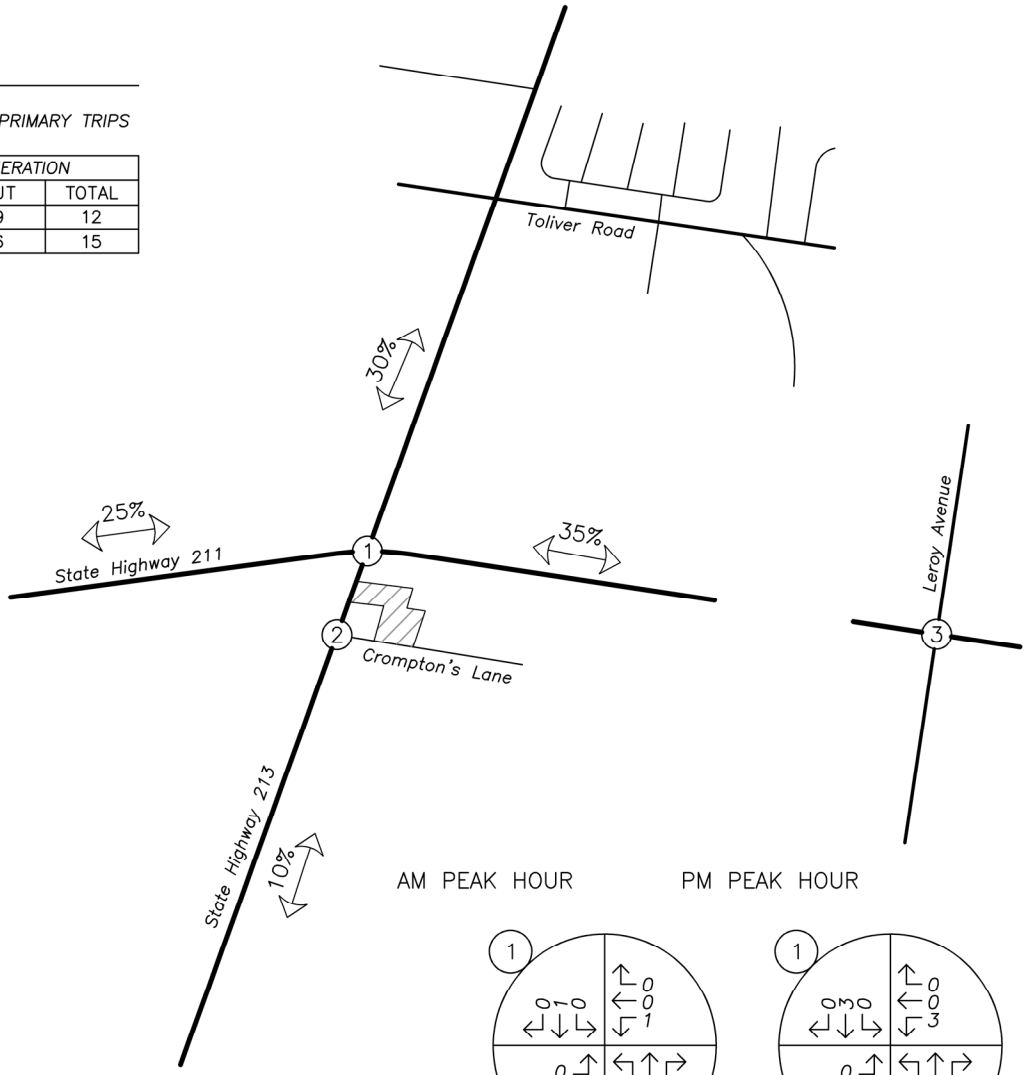
The original study intersections (Highway 213 at Highway 211 and Highway 213 at Crompton's Lane) were re-analyzed with the increased trip generation and in-process trips included. The operational analysis shows that both intersections are expected to operate acceptably upon completion and occupancy of the Colima Apartments.

Signal warrants were examined at the intersection of Highway 211 at Leroy Avenue. Due to insufficient traffic volumes on Leroy Avenue, signal warrants at the intersection were not met regardless of the Colima Apartments. A signal would be warranted at this intersection once 42 PM peak hour trips are added to the northbound approach of Leroy Avenue, but the trips generated by the Colima Apartments will not contribute to the northbound approach and therefore do not contribute toward the need for a traffic signal at the intersection.

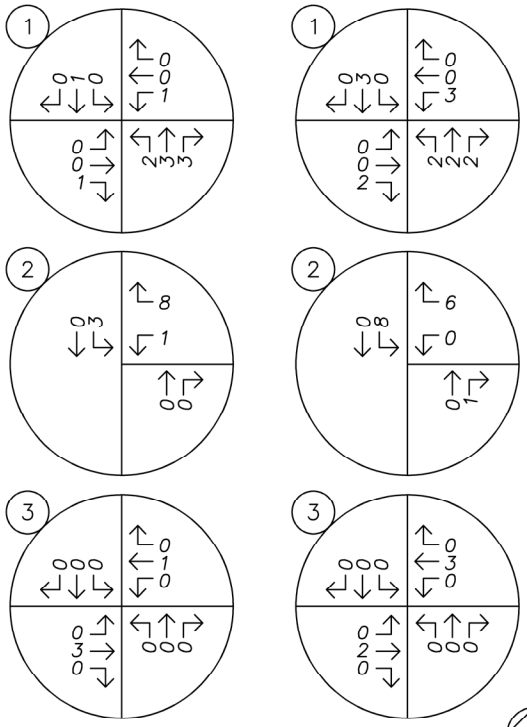
LEGEND

XX% PERCENT OF PRIMARY TRIPS

PRIMARY TRIP GENERATION			
	IN	OUT	TOTAL
AM	3	9	12
PM	9	6	15



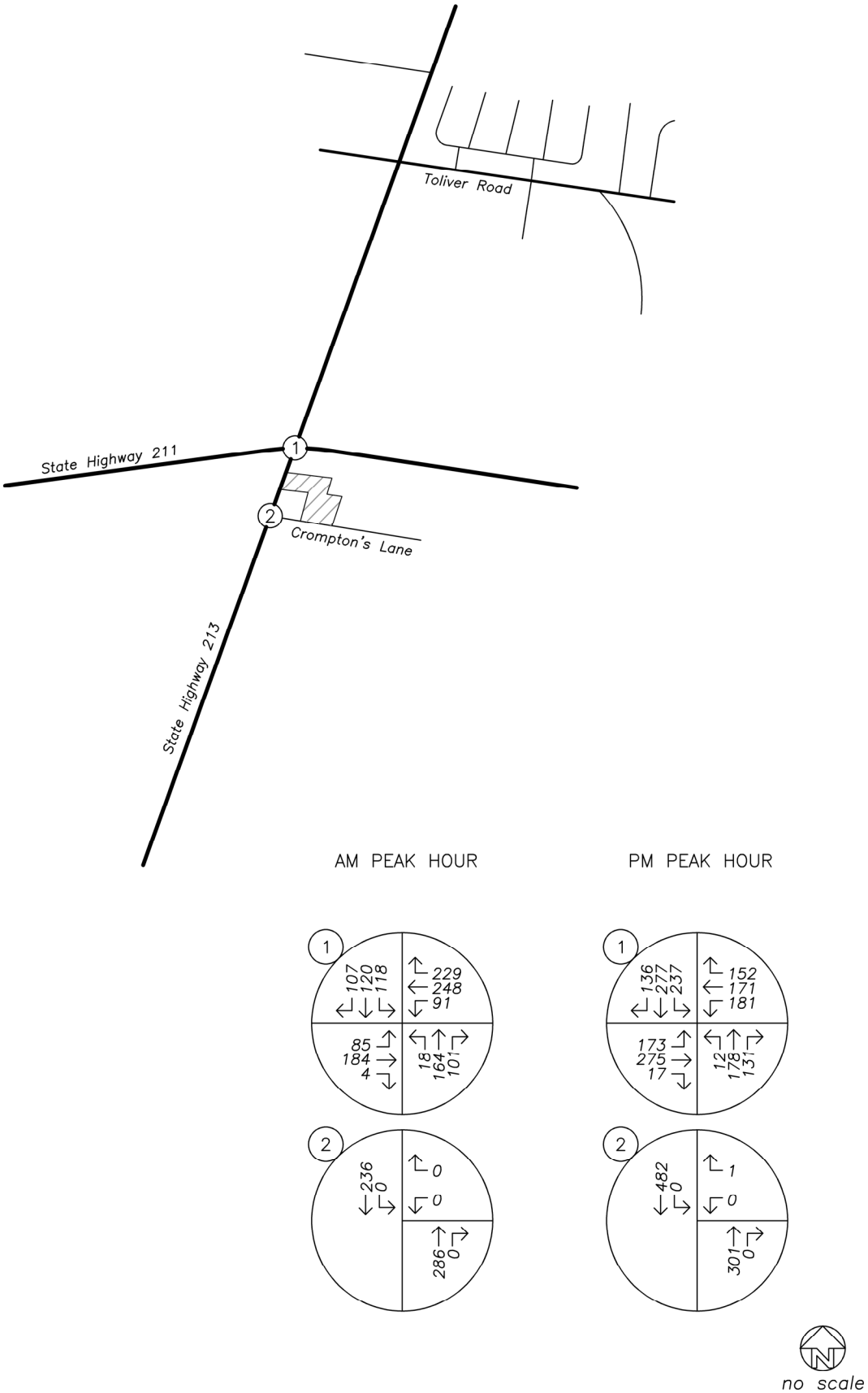
AM PEAK HOUR PM PEAK HOUR



no scale

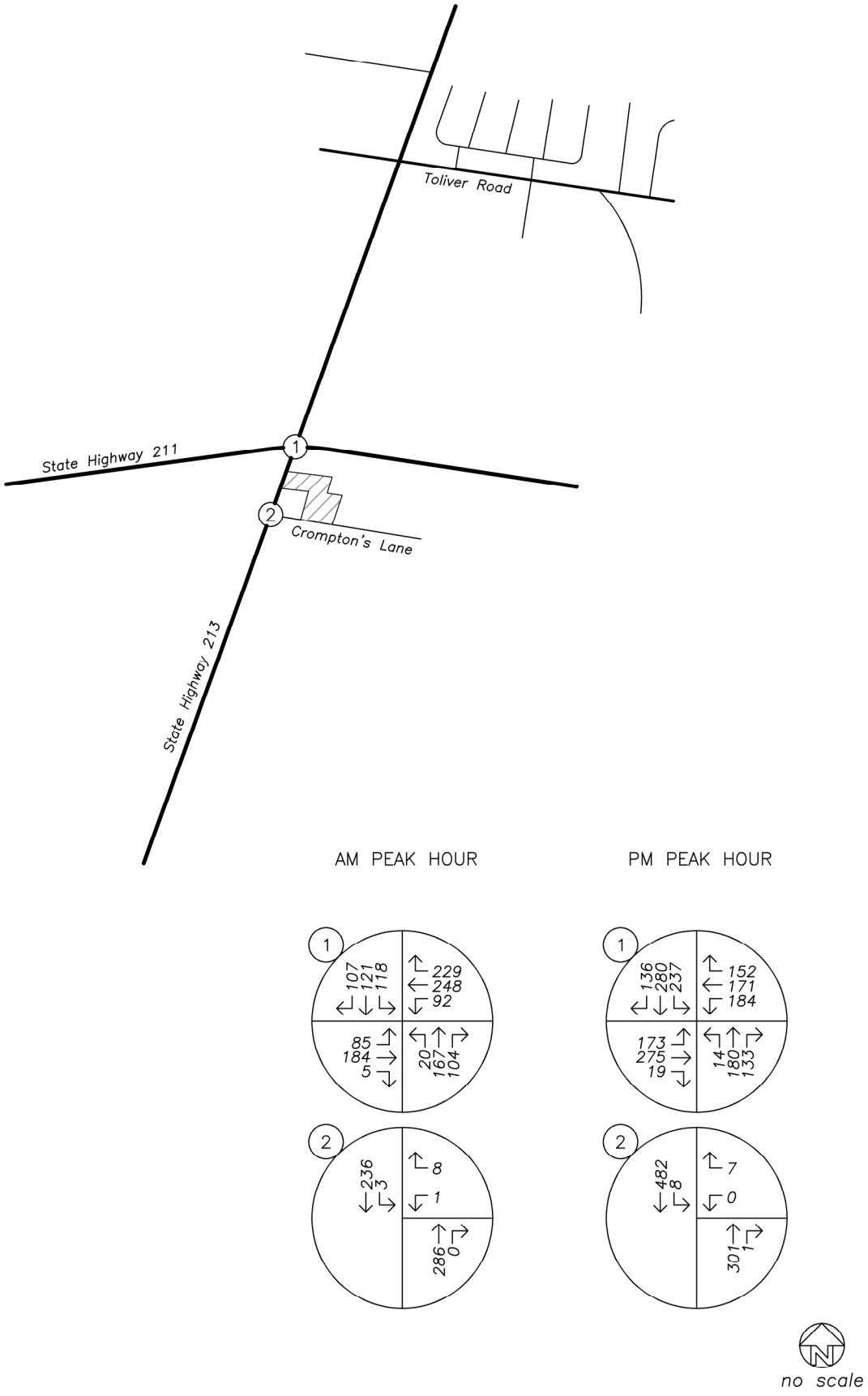
TRAFFIC VOLUMES
Trip Distribution & Assignment
AM & PM Peak Hours

Figure 2
Colima Apartments Addendum
1/30/2020



TRAFFIC VOLUMES
2022 Background Conditions
AM & PM Peak Hours

Figure 4
Colima Apartments Addendum
1/30/2020



TRAFFIC VOLUMES
2022 Buildout Conditions
AM & PM Peak Hours

Figure 5
Colima Apartments Addendum
1/30/2020

Colima Apartments Addendum

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Report File: \...\Addendum EXAM.pdf

Scenario 1 2019 Existing AM
1/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	NB Thru	0.491	37.7	D
2	Highway 213 at Crompton's Lane	Two-way stop	HCM 6th Edition	NB Thru	0.003	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Colima Apartments Addendum

Vistro File: \...\Addendum Colima AM.vistro
Report File: \...\Addendum EXAM.pdf

Scenario 1 2019 Existing AM
1/30/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	Final Base	18	158	80	93	114	101	82	159	4	75	226	203	1313
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**18**	**158**	**80**	**93**	**114**	**101**	**82**	**159**	**4**	**75**	**226**	**203**	**1313**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
2	Highway 213 at Crompton's Lane	Final Base	248	0	0	205	0	0	453
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**248**	**0**	**0**	**205**	**0**	**0**	**453**

Colima Apartments Addendum

Vistro File: \...\Addendum Colima PM.vistro
Report File: \...\Addendum EXPM.pdf

Scenario 1 2019 Existing PM
1/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	WB Right	0.657	44.6	D
2	Highway 213 @ Crompton's Lane	Two-way stop	HCM 6th Edition	WB Right	0.001	9.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Colima Apartments Addendum

Vistro File: \...\Addendum Colima PM.vistro
Report File: \...\Addendum EXPM.pdf

Scenario 1 2019 Existing PM
1/30/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	Final Base	11	170	110	205	266	130	165	246	17	161	150	128	1759
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**11**	**170**	**110**	**205**	**266**	**130**	**165**	**246**	**17**	**161**	**150**	**128**	**1759**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
2	Highway 213 @ Crompton's Lane	Final Base	262	0	0	433	0	1	696
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**262**	**0**	**0**	**433**	**0**	**1**	**696**

Colima Apartments Addendum

Vistro File: \...\Addendum Colima AM.vistro
Report File: \...\Addendum BGAM.pdf

Scenario 2 2022 Background AM
1/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	NB Thru	0.528	38.6	D
2	Highway 213 at Crompton's Lane	Two-way stop	HCM 6th Edition	NB Thru	0.003	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Colima Apartments Addendum

Vistro File: \...\Addendum Colima AM.vistro
Report File: \...\Addendum BGAM.pdf

Scenario 2 2022 Background AM
1/30/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	Final Base	18	161	82	95	116	103	83	163	4	77	231	208	1341
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	3	19	23	4	4	2	21	0	14	17	21	128
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**18**	**164**	**101**	**118**	**120**	**107**	**85**	**184**	**4**	**91**	**248**	**229**	**1469**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
2	Highway 213 at Crompton's Lane	Final Base	264	0	0	218	0	0	482
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	22	0	0	18	0	0	40
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**286**	**0**	**0**	**236**	**0**	**0**	**522**

Colima Apartments Addendum

Vistro File: \...\Addendum Colima PM.vistro
Report File: \...\Addendum BGPM.pdf

Scenario 2 2022 Background PM
1/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	WB Right	0.694	49.0	D
2	Highway 213 @ Crompton's Lane	Two-way stop	HCM 6th Edition	WB Right	0.001	10.0	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Colima Apartments Addendum

Vistro File: \...\Addendum Colima PM.vistro
Report File: \...\Addendum BGPM.pdf

Scenario 2 2022 Background PM
1/30/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	Final Base	12	174	113	210	272	133	169	252	17	165	153	131	1801
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	4	18	27	5	3	4	23	0	16	18	21	139
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**12**	**178**	**131**	**237**	**277**	**136**	**173**	**275**	**17**	**181**	**171**	**152**	**1940**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
2	Highway 213 @ Crompton's Lane	Final Base	279	0	0	461	0	1	741
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	22	0	0	21	0	0	43
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**301**	**0**	**0**	**482**	**0**	**1**	**784**

Colima Apartments Addendum

Vistro File: \...\Addendum Colima AM.vistro
Report File: \...\Addendum BOAM.pdf

Scenario 3 2022 Buildout AM
1/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	NB Thru	0.532	39.2	D
2	Highway 213 at Crompton's Lane	Two-way stop	HCM 6th Edition	WB Left	0.002	12.6	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Colima Apartments Addendum

Vistro File: \...\Addendum Colima AM.vistro
Report File: \...\Addendum BOAM.pdf

Scenario 3 2022 Buildout AM
1/30/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	Final Base	18	161	82	95	116	103	83	163	4	77	231	208	1341
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	3	19	23	4	4	2	21	0	14	17	21	128
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	2	3	3	0	1	0	0	0	1	1	0	0	11
		Future Total	**20**	**167**	**104**	**118**	**121**	**107**	**85**	**184**	**5**	**92**	**248**	**229**	**1480**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
2	Highway 213 at Crompton's Lane	Final Base	264	0	0	218	0	0	482
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	22	0	0	18	0	0	40
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	3	0	1	8	12
		Future Total	**286**	**0**	**3**	**236**	**1**	**8**	**534**

Colima Apartments Addendum

Vistro File: \...\Addendum Colima PM.vistro
Report File: \...\Addendum BOPM.pdf

Scenario 3 2022 Buildout PM
1/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Hwy 213 @ Hwy 211	Signalized	HCM 6th Edition	NB Thru	0.713	48.7	D
2	Highway 213 @ Crompton's Lane	Two-way stop	HCM 6th Edition	WB Right	0.011	10.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Colima Apartments Addendum

Vistro File: \...\Addendum Colima PM.vistro
Report File: \...\Addendum BOPM.pdf

Scenario 3 2022 Buildout PM
1/30/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Hwy 213 @ Hwy 211	Final Base	12	174	113	210	272	133	169	252	17	165	153	131	1801
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	4	18	27	5	3	4	23	0	16	18	21	139
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	2	2	2	0	3	0	0	0	2	3	0	0	14
		Future Total	**14**	**180**	**133**	**237**	**280**	**136**	**173**	**275**	**19**	**184**	**171**	**152**	**1954**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
2	Highway 213 @ Crompton's Lane	Final Base	279	0	0	461	0	1	741
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	22	0	0	21	0	0	43
		Net New Trips	0	0	0	0	0	0	0
		Other	0	1	8	0	0	6	15
		Future Total	**301**	**1**	**8**	**482**	**0**	**7**	**799**

Exhibit E: Preliminary Stormwater Report

Colima Apartments
Molalla, Oregon
Preliminary Stormwater Report

Date:	November 2019
Client:	Angel Jimenez
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

AKS ENGINEERING & FORESTRY

Contents

Tables

Appendices

Preliminary Stormwater Report

COLIMA APARTMENTS, 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 2300 and 2402 of Clackamas County Assessor's Map 5 2E 07D. The project site is located east of S Highway 213 and south of S Main Street in Molalla, Oregon. Currently, most of the site area drains to the north. The stormwater runoff from the developed site will be routed to Storm filter Catch basins located throughout the subject site for treatment and then routed to the underground stormwater facility system for detention. The developed area of the subject site will consist of ±1.77 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 per the more restrictive regulation, between the City of Molalla and Oregon Department of Transportation (ODOT). Due to the City being the more restrictive, the site will provide stormwater quantity management per City of Molalla requirements, including:

- Detaining the peak flow from the post-developed site for the 25-year storm to less than the peak flow from the predeveloped site for the 10-year 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.

The underground stormwater facility for the subject site was designed to meet the above criteria for detention, conveyance, and overflow.

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 being the 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 (2.7 inches) to be treated. The water quality design storm depth is 1.35 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, as

defined by the King County, Washington, *Surface Water Design Manual* (2016). HydroCAD computer software aided in the analysis. Representative runoff curve numbers (CN) were obtained from the *Surface Water Design Manual* 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 will be placed at locations that will adequately control stormwater runoff from streets. The on-site stormwater pipes will be sized using Manning's equation, based on peak flows for the 25-year, 24-hour storm event.

5.1.2 Upstream Basin

Stormwater runoff from the off-site upstream basin along the southerly property line of the site will continue to flow to the existing ditch inlet that is located southeast of the current private driveway, in the Highway 213 right-of-way.

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. There is an existing single-family residence on site that will be removed.

5.2.2 Land Use

Currently, the land is being used for a single-family residence.

5.3 Soil Type

The soil for this site is classified as Aloha 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, multi-family residential buildings, concrete sidewalks, and other associated infrastructures and features.

5.4.2 Land Use

The post-developed land use will consist of three multi-family residential apartment buildings (±36-units).

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. Catch basins will be placed at locations to adequately convey stormwater runoff from the parking lots.

6.2 Proposed Stormwater Quantity Control Facility Design

The underground stormwater system will consist of 200 linear feet of 36-inch-diameter pipe, or approved equivalent. The system was designed 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).

6.3 Proposed Stormwater Quality Facility Design

The Storm filter catch basins were sized to treat stormwater runoff from impervious area generated by the 1.35-inch storm. The design flow rate for treatment is 0.35 cubic feet per second (cfs). Storm filter catch basins with a total of 11 cartridges (each cartridge can treat up to 0.03 cubic feet per second) will be used to accommodate flows generated by developed areas of the subject property in compliance with ODOT water quality requirements (described in Section 3.2).

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 flow downstream.

6.5 Downstream Analysis

The underground stormwater facility was designed such that the duration and rate of stormwater peak flow from the post-developed site for the 25-year storm will be less than the duration and rate of peak flow from the predeveloped site for the 10-year storm. The stormwater discharge from the underground stormwater facility will flow to 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 predeveloped 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 10-year Storm Event

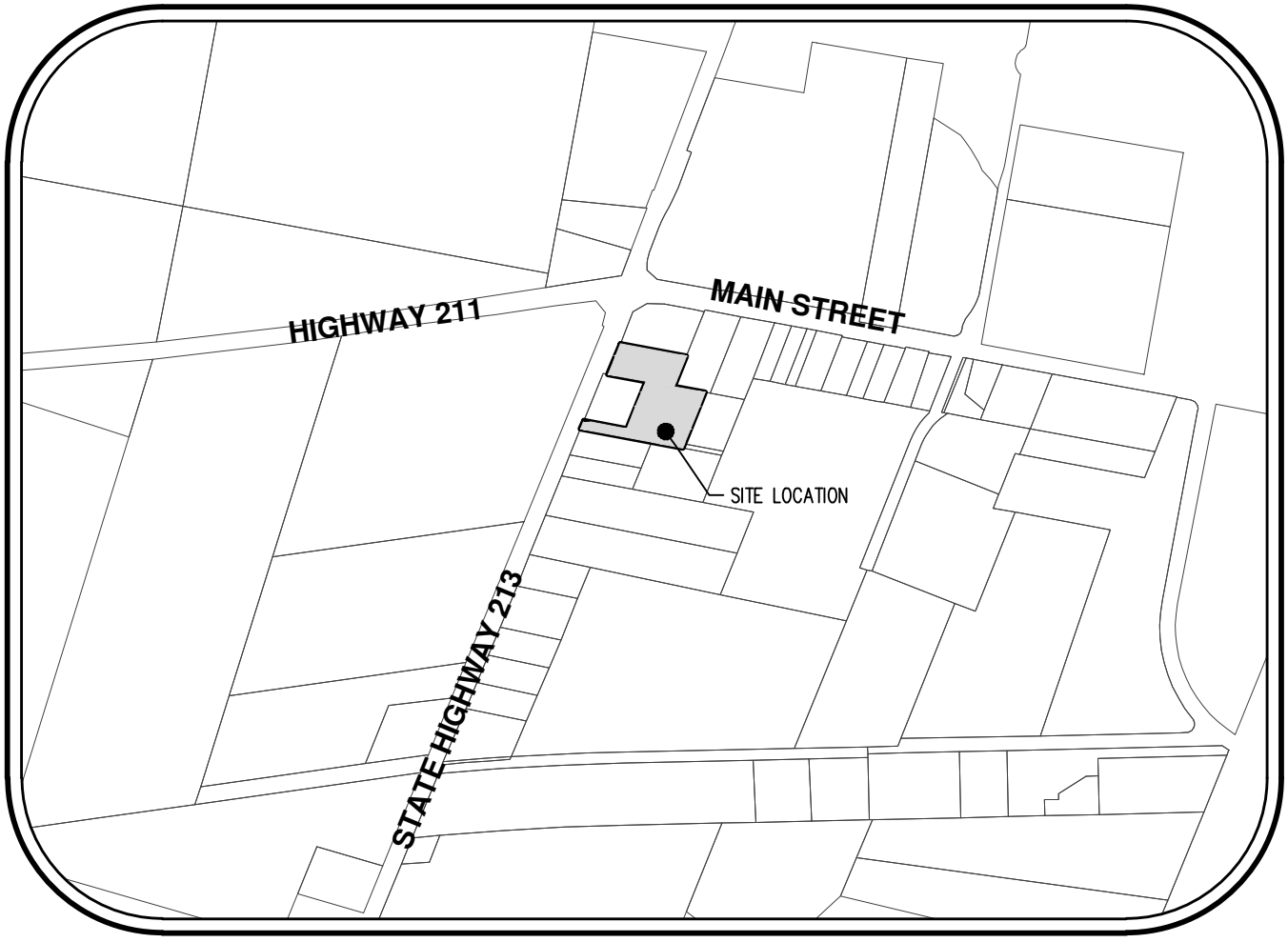
	Peak Flows (CFS)
Catchment	10-YR
1S (Pre-Developed)	1.10

Table 7.2 Post-Developed Peak Flow for 25-year Storm Event

	Peak Flows (CFS)
	25-YR
1S (Post-Developed)	1.52
Allowable Release Rate*	1.10
Design Release Rate	1.07

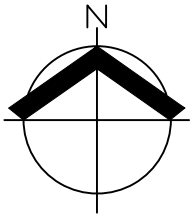
*The allowable release rate for the post-developed 25-year storm event per City of Molalla standards is equal to the pre-developed peak runoff rate for the 10-year storm from Catchments 1S.

Appendix A:
Vicinity Map



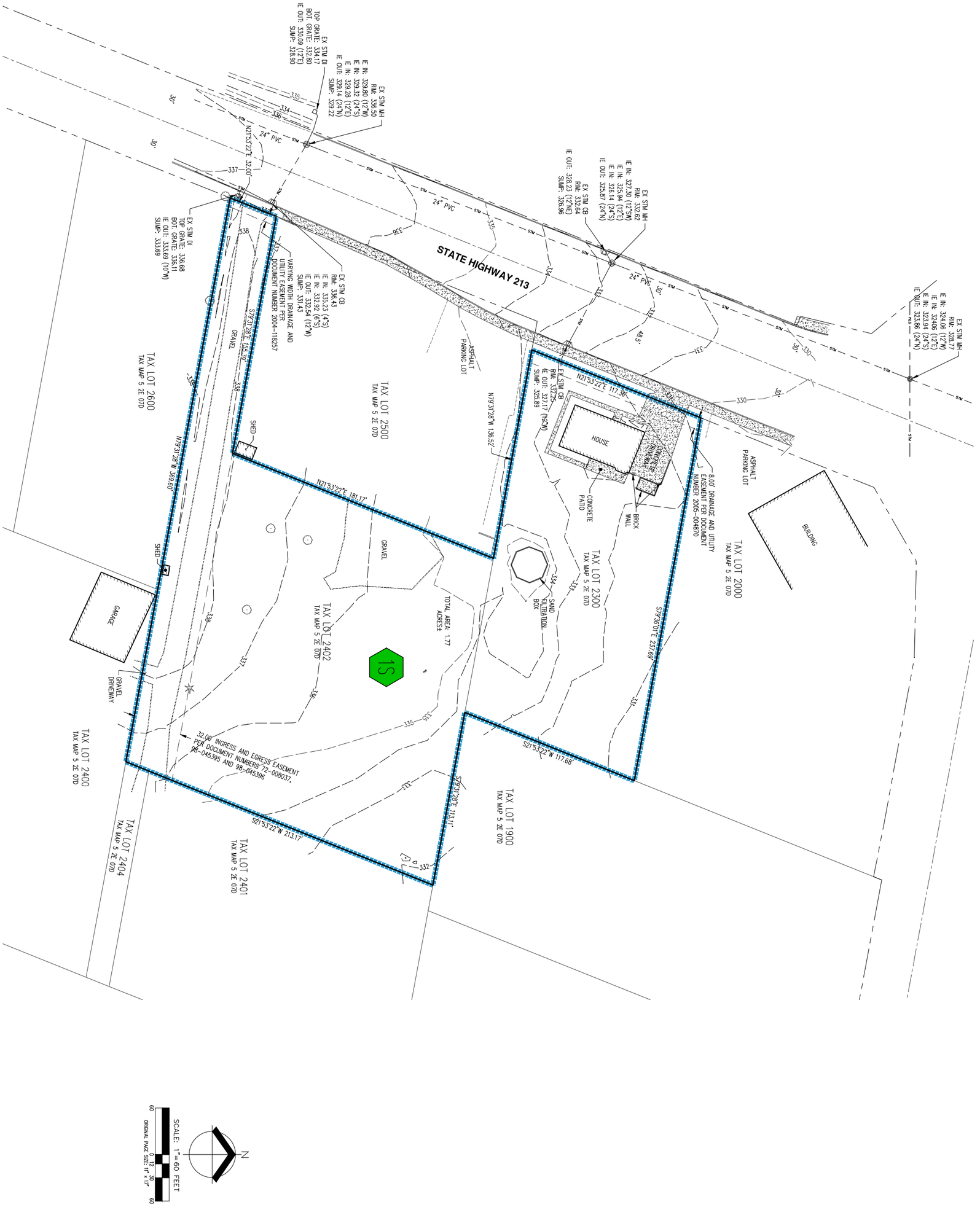
VICINITY MAP

SCALE: N.T.S.



Appendix B.1:
Pre-Developed Catchment Map and Detail

AKS DRAWING FILE: 7435 PRE-MAP.DWG | LAYOUT: 1



1

PRELIMINARY NOT FOR CONSTRUCTION

JOB NUMBER: 7435
DATE: 11/12/2019
DESIGNED BY: CC
DRAWN BY: BH
CHECKED BY: BH

PRE-DEVELOPED BASIN MAP
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

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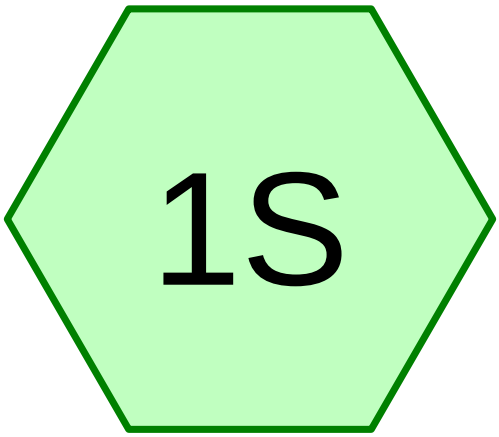
Appendix B.2: Pre-Developed Hydrograph and Flow Information 10-Year Storm Event



PRE-DEVELOPMENT

Subcat Reach Pond Link

Routing Diagram for 7435 HydroCAD Pre
Prepared by AKS Engineering & Forestry, LLC, Printed 11/11/2019

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,800	98	Existing Concrete (1S)
73,808	92	Existing Grass - Fair Condition (1S)
1,400	98	Existing Roofs (1S)
77,008	92	TOTAL AREA

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 4.16% Impervious Runoff Depth>3.12"
Flow Length=290' Slope=0.0250 '/' Tc=23.3 min CN=92/98 Runoff=1.10 cfs 19,992 cf

Total Runoff Area = 77,008 sf Runoff Volume = 19,992 cf Average Runoff Depth = 3.12"
95.84% Pervious = 73,808 sf 4.16% Impervious = 3,200 sf

Summary for Subcatchment 1S: PRE-DEVELOPMENT

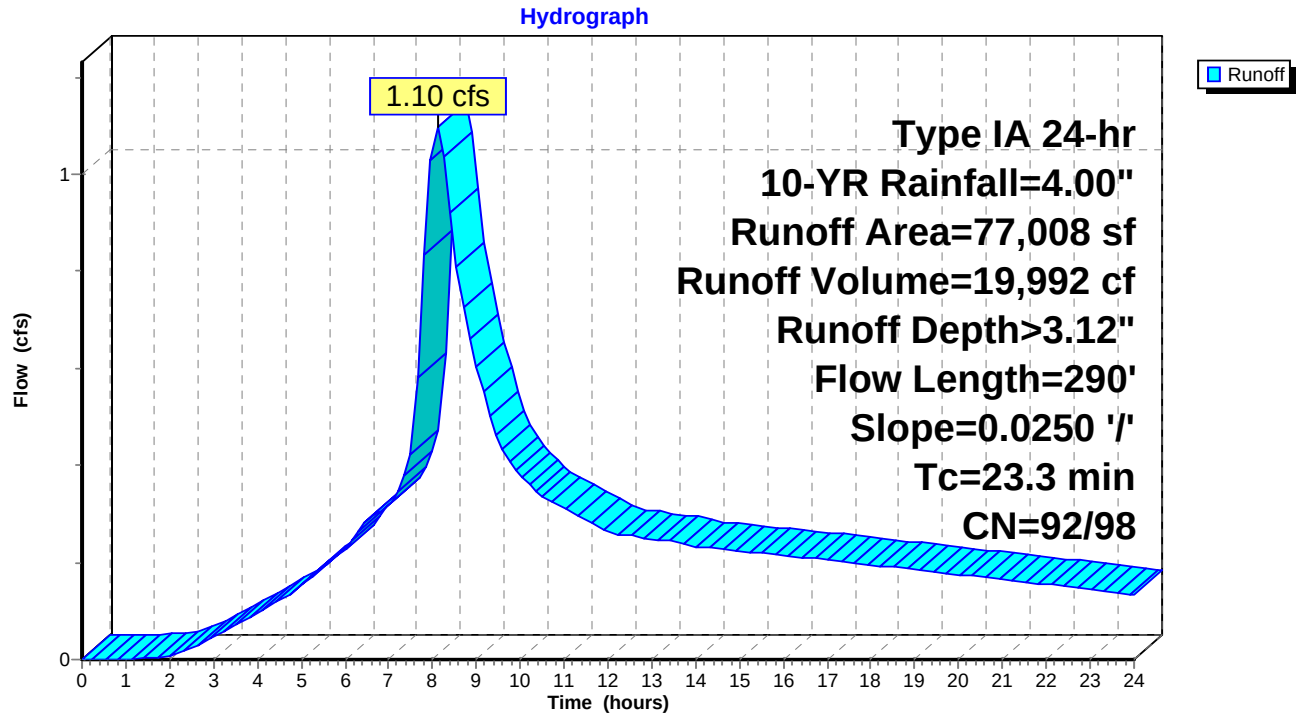
Runoff = 1.10 cfs @ 8.10 hrs, Volume= 19,992 cf, Depth> 3.12"

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=4.00"

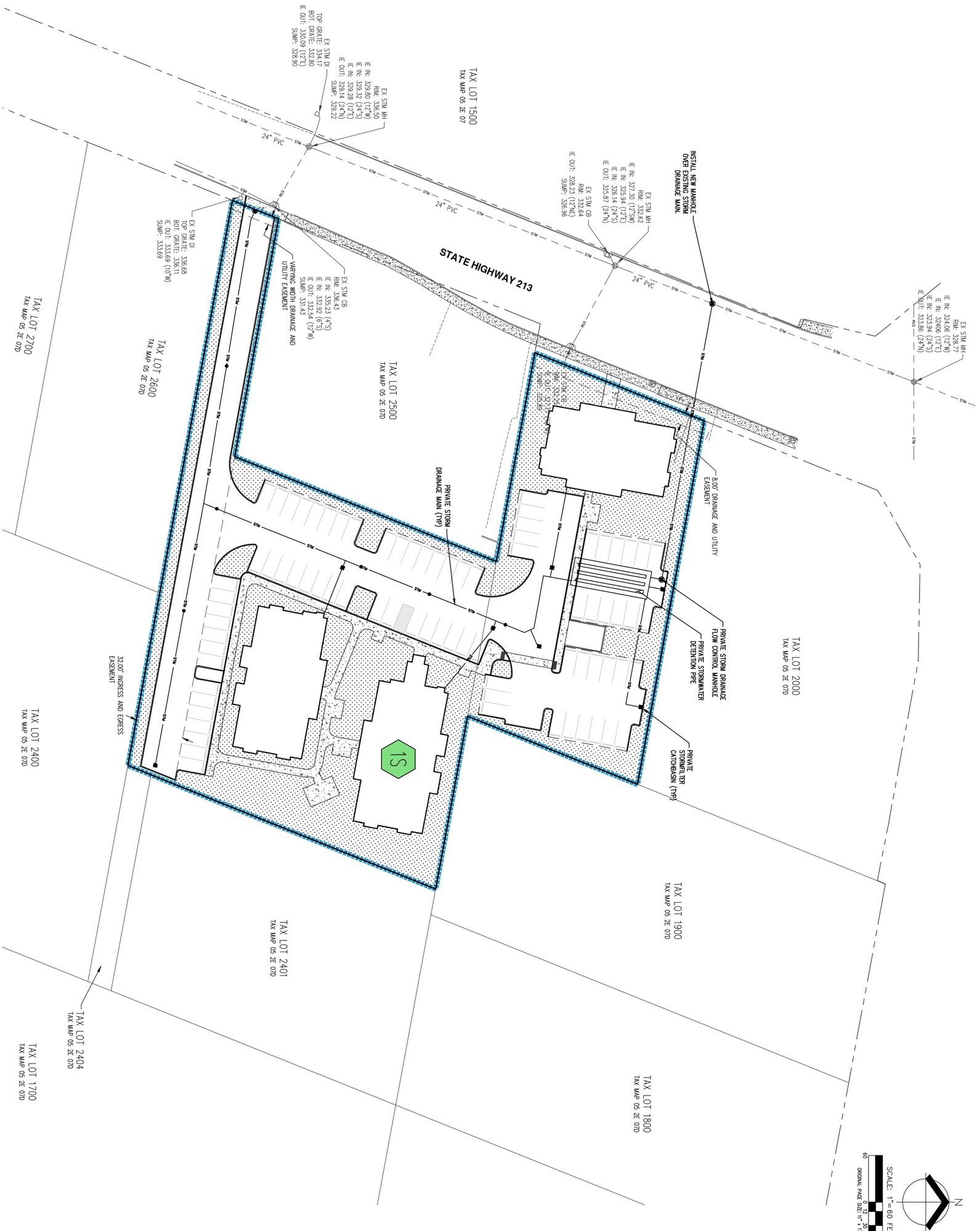
	Area (sf)	CN	Description
*	1,400	98	Existing Roofs
*	1,800	98	Existing Concrete
*	73,808	92	Existing Grass - Fair Condition
	77,008	92	Weighted Average
	73,808		95.84% Pervious Area
	3,200		4.16% Impervious Area

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



Appendix C.1:
Post-Developed Catchment Map and Detail



POST-DEVELOPED BASIN MAP
COLIMA APARTMENTS
31514 S HWY 213
MOLALLA, OREGON

PRELIMINARY NOT FOR CONSTRUCTION

JOB NUMBER:	7435
DATE:	11/12/2019
DESIGNED BY:	KJB
DRAWN BY:	KJB
CHECKED BY:	JDR

1

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

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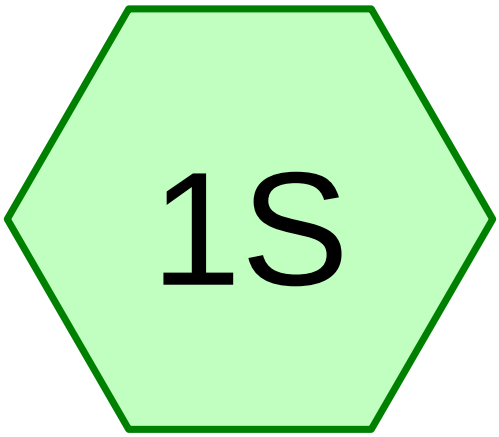
Appendix C.2: Post-Developed Hydrograph and Flow Information Water Quality Storm Event



POST-DEVELOPED IMPERVIOUS AREA

Subcat Reach Pond Link

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
38,000	98	AC Pavements & Sidewalk (1S)
14,000	98	Roofs (1S)
52,000	98	TOTAL AREA

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 1S: POST-DEVELOPED IMPERVIOUS AREA — Runoff Area=52,000 sf 100.00% Impervious Runoff Depth>1.13"
Tc=5.0 min CN=98 Runoff=0.35 cfs 4,899 cf

Total Runoff Area = 52,000 sf Runoff Volume = 4,899 cf Average Runoff Depth = 1.13"
0.00% Pervious = 0 sf 100.00% Impervious = 52,000 sf

Summary for Subcatchment 1S: POST-DEVELOPED IMPERVIOUS AREA

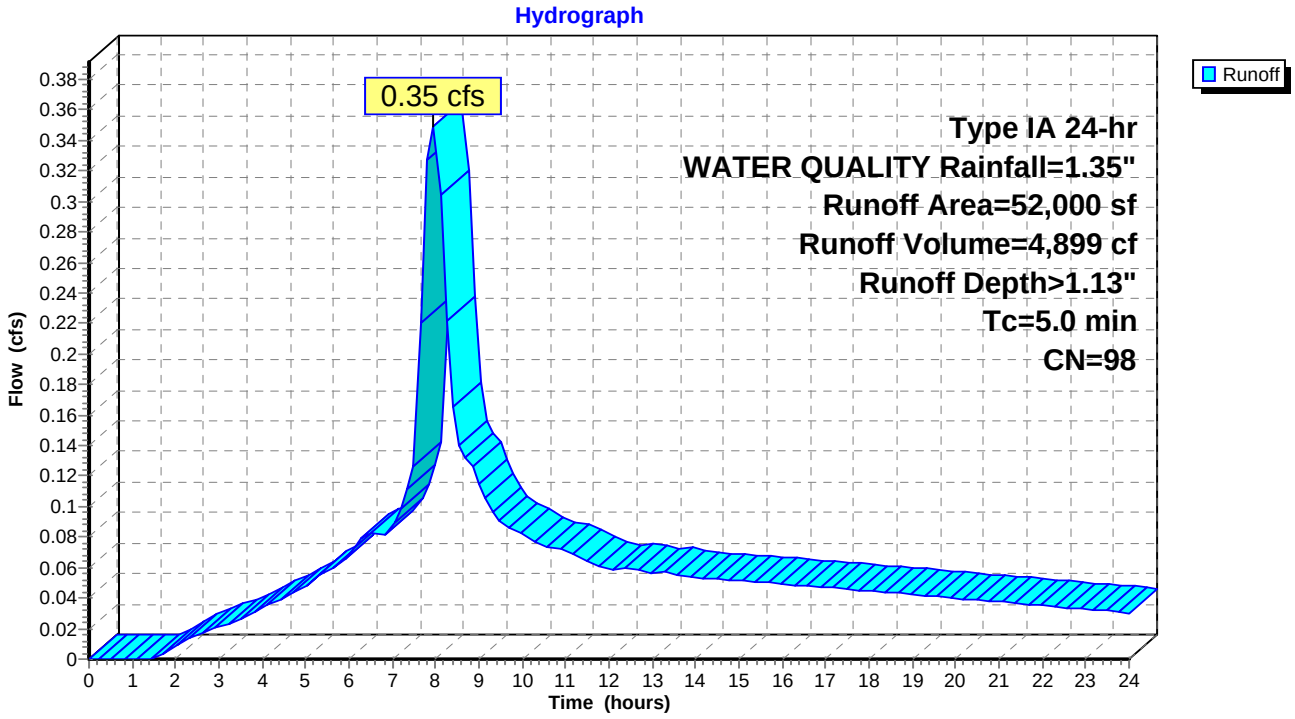
Runoff = 0.35 cfs @ 7.92 hrs, Volume= 4,899 cf, Depth> 1.13"

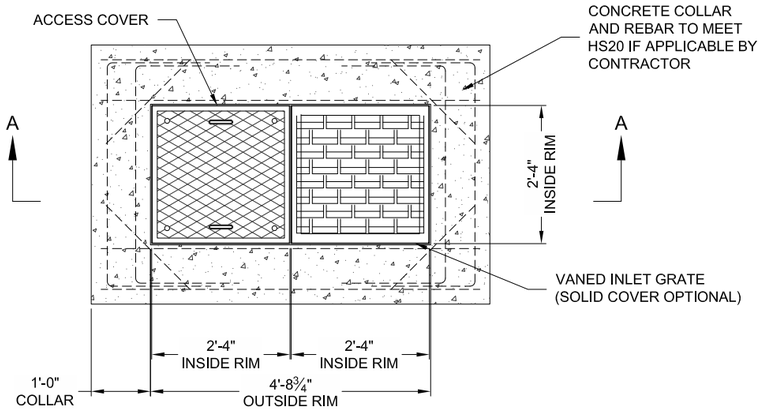
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
Type IA 24-hr WATER QUALITY Rainfall=1.35"

	Area (sf)	CN	Description
*	38,000	98	AC Pavements & Sidewalk
*	14,000	98	Roofs
	52,000	98	Weighted Average
	52,000		100.00% Impervious Area

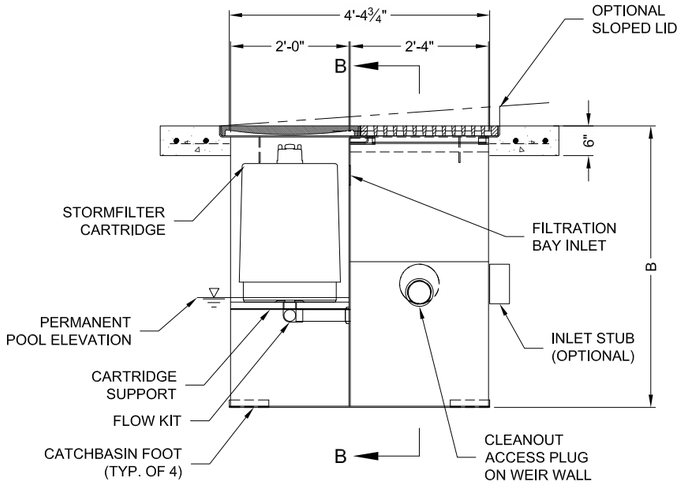
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1S: POST-DEVELOPED IMPERVIOUS AREA

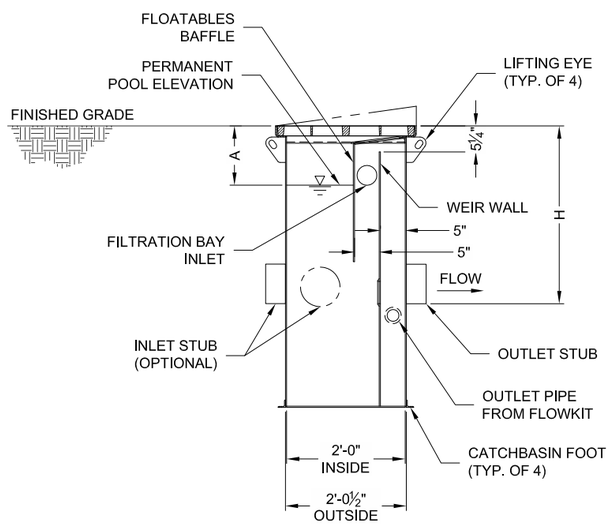




PLAN VIEW



SECTION A-A



SECTION B-B

STORMFILTER STEEL CATCHBASIN DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 1 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF ONE CARTRIDGE. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL.
PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27"			18"			18" DEEP		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			3.3'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	15	12.53	7.5
PEAK HYDRAULIC CAPACITY	1.0			1.0			1.8		
INLET PERMANENT POOL LEVEL (A)	1'-0"			1'-0"			2'-0"		
OVERALL STRUCTURE HEIGHT (B)	4'-9"			3'-9"			4'-9"		

* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
3. STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
4. INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
5. MANUFACTURER TO APPLY A SURFACE BEAD WELD IN THE SHAPE OF THE LETTER "O" ABOVE THE OUTLET PIPE STUB ON THE EXTERIOR SURFACE OF THE STEEL SFCB.
6. STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
7. STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
8. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
9. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

1-CARTRIDGE CATCHBASIN STORMFILTER DATA

STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (cfs)	X.XX
PEAK FLOW RATE (<1 cfs)	X.XX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
CARTRIDGE HEIGHT (27", 18", 18" DEEP)	XX
CARTRIDGE FLOW RATE (gpm)	XX
MEDIA TYPE (PERLITE, ZPG, PSORB)	XXXXX
RIM ELEVATION	XXX.XX'

PIPE DATA:	I.E.	DIAMETER
INLET STUB	XXX.XX'	XX"
OUTLET STUB	XXX.XX'	XX"

CONFIGURATION

OUTLET / INLET / INLET — OUTLET / INLET / INLET

SLOPED LID	YES\NO
SOLID COVER	YES\NO

NOTES/SPECIAL REQUIREMENTS:

The Stormwater Management StormFilter®
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,322,629; 5,524,370; 5,707,527; 5,985,157; 6,027,639; 6,649,048; RELATED FOREIGN PATENTS; OR OTHER PATENTS PENDING.

CONTECH® ENGINEERED SOLUTIONS LLC
www.contechES.com
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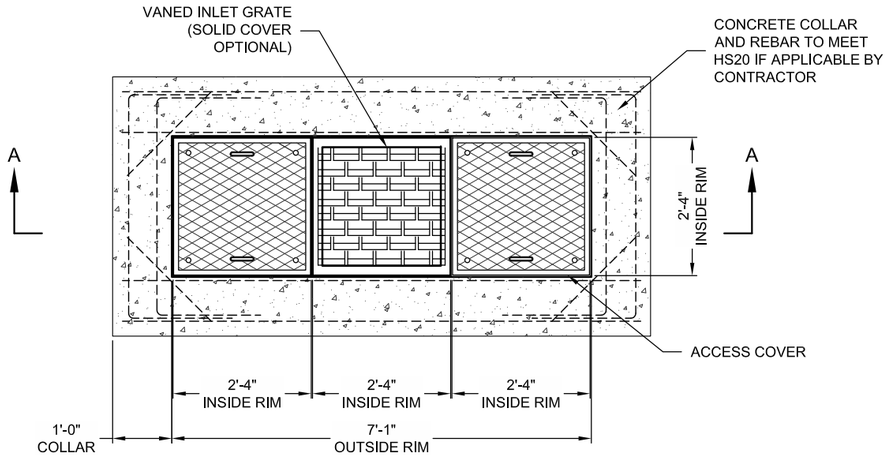
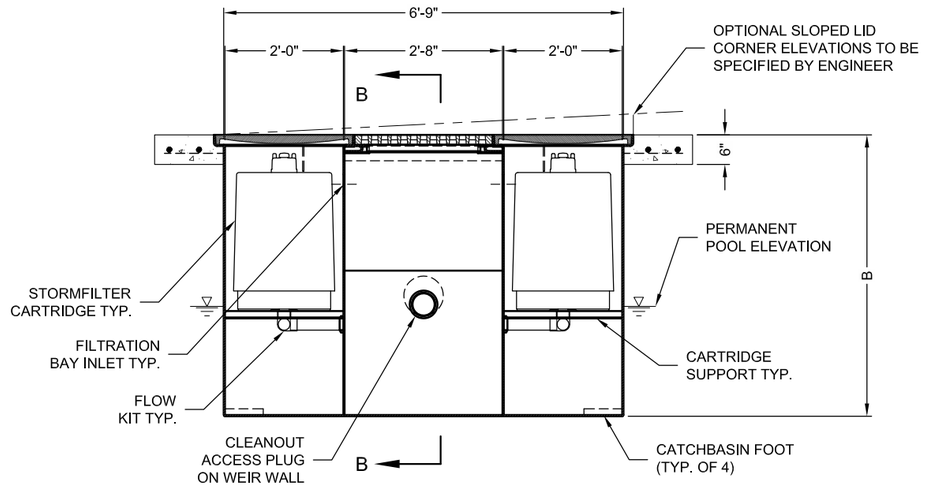
800-526-3999 513-645-7000 513-645-7993 FAX

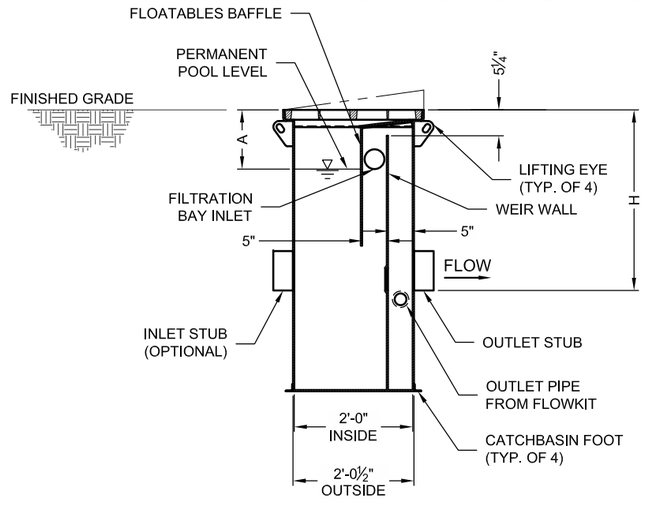
1 CARTRIDGE CATCHBASIN STORMFILTER STANDARD DETAIL



PLAN VIEW



SECTION A-A



SECTION B-B

STORMFILTER STEEL CATCHBASIN DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 2 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF TWO CARTRIDGES. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL.
PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27"			18"			18" DEEP		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			3.3'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	15	12.53	7.5
PEAK HYDRAULIC CAPACITY	1.0			1.0			1.8		
INLET PERMANENT POOL LEVEL (A)	1'-0"			1'-0"			2'-0"		
OVERALL STRUCTURE HEIGHT (B)	4'-9"			3'-9"			4'-9"		

* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. WWW.CONTECHES.COM
3. STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
4. INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
5. MANUFACTURER TO APPLY A SURFACE BEAD WELD IN THE SHAPE OF THE LETTER "O" ABOVE THE OUTLET PIPE STUB ON THE EXTERIOR SURFACE OF THE STEEL SFCB.
6. STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
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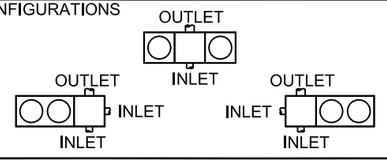
8. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
9. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

2-CARTRIDGE DEEP CATCHBASIN STORMFILTER DATA	
STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (cfs)	X.XX
PEAK FLOW RATE (<1.8 cfs)	X.XX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
CARTRIDGE FLOW RATE (gpm)	XX
MEDIA TYPE (PERLITE, ZPG, PSORB)	XXXXX
RIM ELEVATION	XXX.XX'

PIPE DATA:	I.E.	DIAMETER
INLET STUB	XXX.XX'	XX"
OUTLET STUB	XXX.XX'	XX"

CONFIGURATIONS



SLOPED LID	YES\NO
SOLID COVER	YES\NO
NOTES/SPECIAL REQUIREMENTS:	

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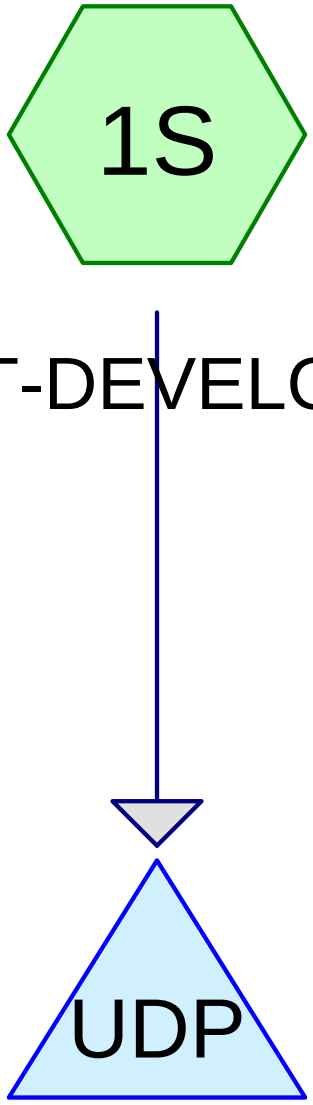
800-526-3999 513-645-7000 513-645-7993 FAX

2 CARTRIDGE CATCHBASIN STORMFILTER STANDARD DETAIL

Appendix C.3: Post-Developed Hydrograph and Flow Information 25-Year Storm Event



36-INCH UNDERGROUND DETENTION PIPE

Subcat Reach Pond Link

Routing Diagram for 7435 HydroCAD Post
Prepared by AKS Engineering & Forestry, LLC, Printed 11/11/2019

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
38,000	98	AC Pavements & Sidewalk (1S)
25,008	90	Grass - Good Condition (1S)
14,000	98	Roofs (1S)
77,008	95	TOTAL AREA

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 67.53% Impervious Runoff Depth>3.67"
Tc=10.0 min CN=90/98 Runoff=1.52 cfs 23,576 cf

Pond UDP: 36-INCH UNDERGROUND DETENTION PIPE
Peak Elev=330.15' Storage=1,322 cf Inflow=1.52 cfs 23,576 cf
Outflow=1.07 cfs 23,570 cf

Total Runoff Area = 77,008 sf Runoff Volume = 23,576 cf Average Runoff Depth = 3.67"
32.47% Pervious = 25,008 sf 67.53% Impervious = 52,000 sf

Summary for Subcatchment 1S: POST-DEVELOPED

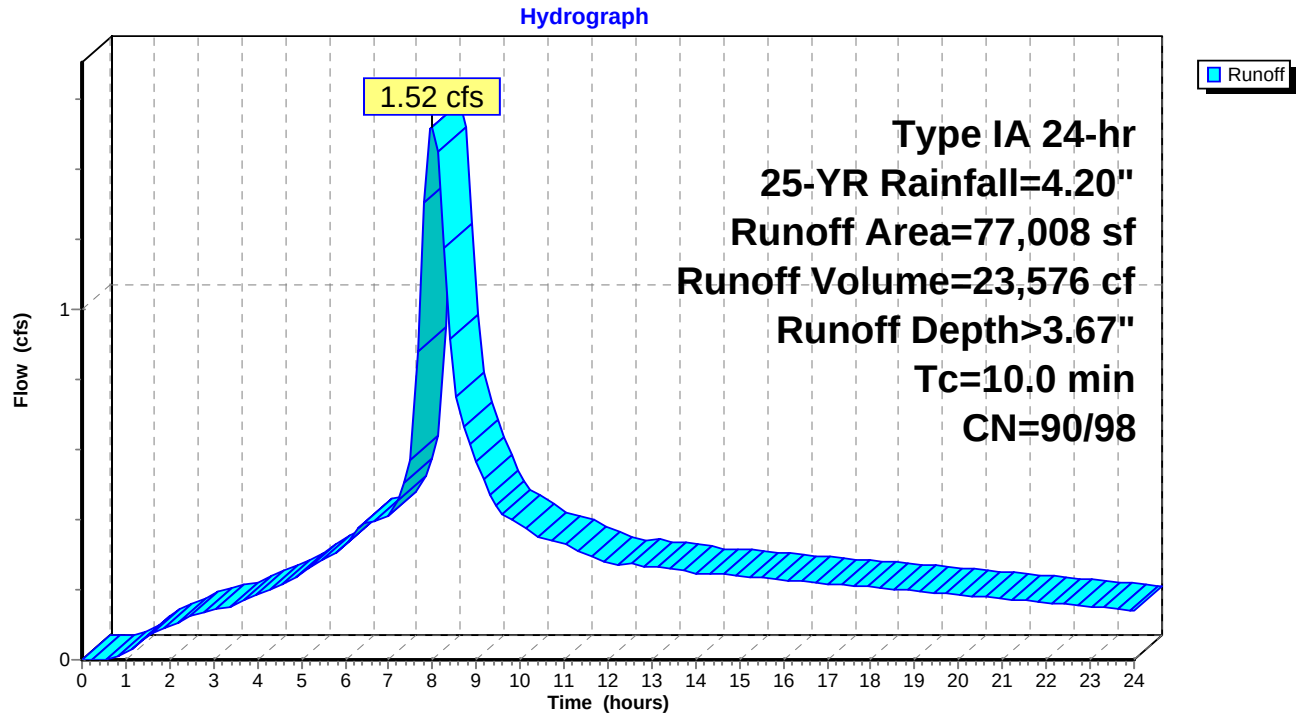
Runoff = 1.52 cfs @ 7.99 hrs, Volume= 23,576 cf, Depth> 3.67"

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=4.20"

	Area (sf)	CN	Description
*	38,000	98	AC Pavements & Sidewalk
*	14,000	98	Roofs
*	25,008	90	Grass - Good Condition
	77,008	95	Weighted Average
	25,008		32.47% Pervious Area
	52,000		67.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1S: POST-DEVELOPED



Summary for Pond UDP: 36-INCH UNDERGROUND DETENTION PIPE

Inflow Area = 77,008 sf, 67.53% Impervious, Inflow Depth > 3.67" for 25-YR event
Inflow = 1.52 cfs @ 7.99 hrs, Volume= 23,576 cf
Outflow = 1.07 cfs @ 8.32 hrs, Volume= 23,570 cf, Atten= 30%, Lag= 19.6 min
Primary = 1.07 cfs @ 8.32 hrs, Volume= 23,570 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs / 4
Peak Elev= 330.15' @ 8.32 hrs Surf.Area= 384 sf Storage= 1,322 cf

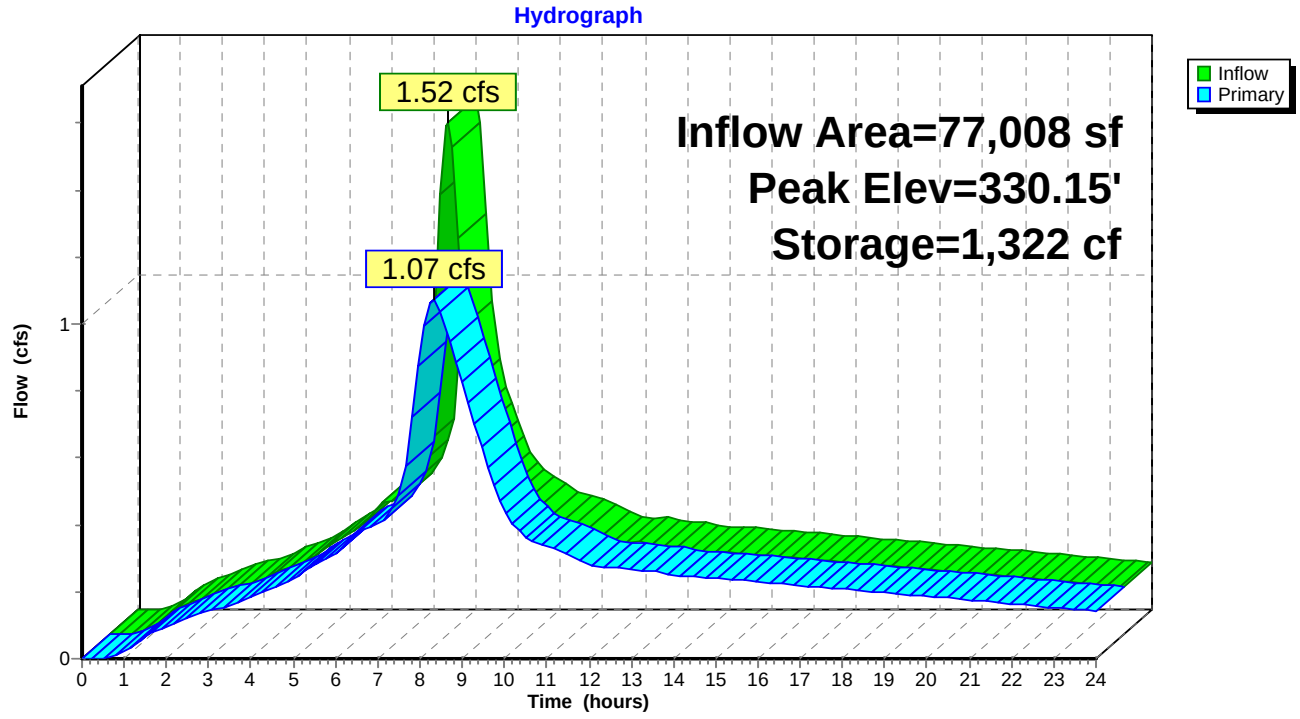
Plug-Flow detention time= 5.8 min calculated for 23,570 cf (100% of inflow)
Center-of-Mass det. time= 5.6 min (689.6 - 684.0)

Volume	Invert	Avail.Storage	Storage Description
#1	327.50'	1,414 cf	36.0" Round Pipe Storage L= 200.0'

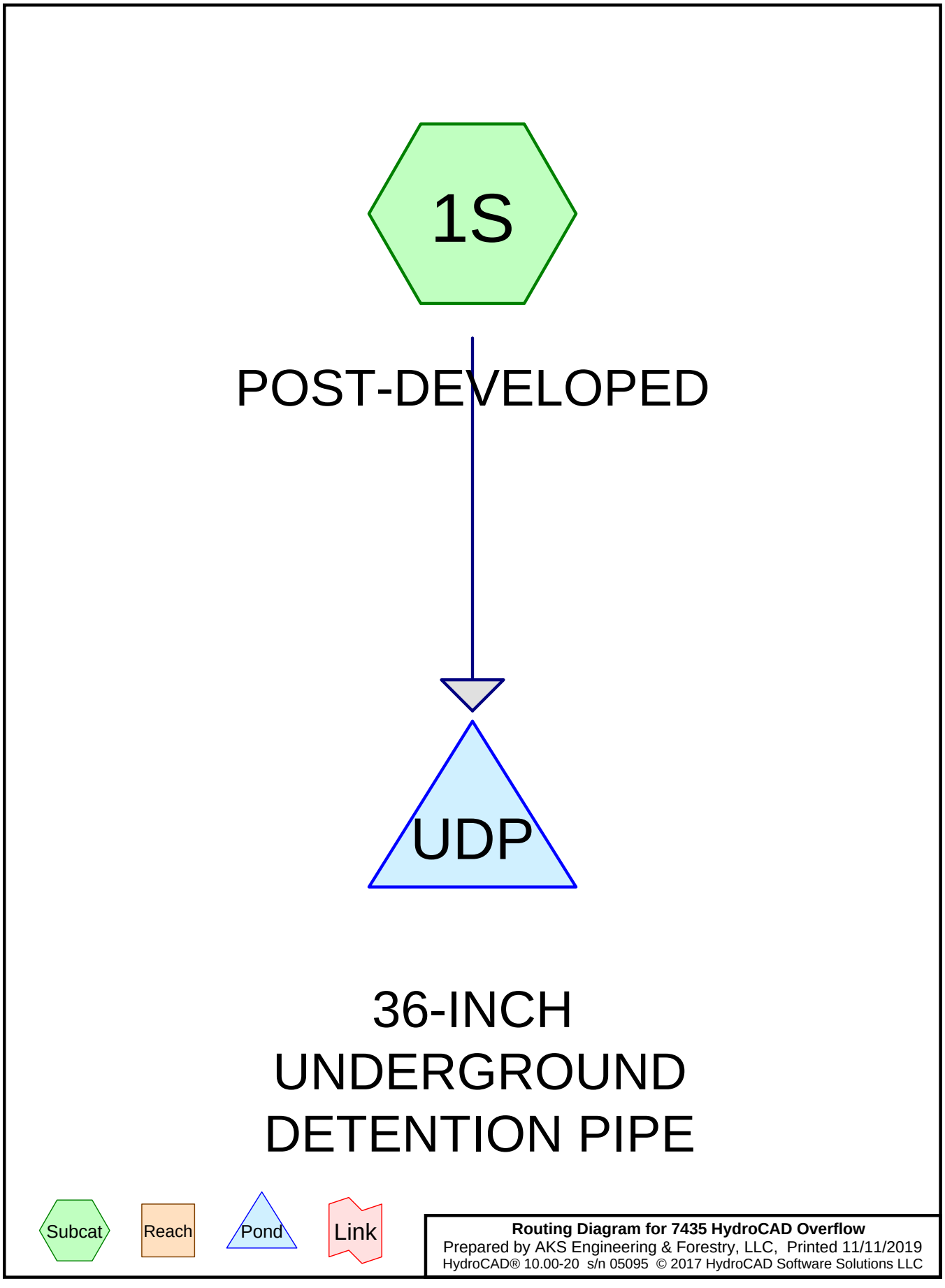
Device	Routing	Invert	Outlet Devices
#1	Primary	327.50'	5.0" Horiz. Orifice C= 0.600
#2	Primary	330.50'	12.0" Horiz. Overflow Riser C= 0.600

Primary OutFlow Max=1.06 cfs @ 8.32 hrs HW=330.11' (Free Discharge)
└1=Orifice (Orifice Controls 1.06 cfs @ 7.78 fps)
└2=Overflow Riser (Controls 0.00 cfs)

Pond UDP: 36-INCH UNDERGROUND DETENTION PIPE



Appendix D:
Emergency Overflow Calculations



Routing Diagram for 7435 HydroCAD Overflow
Prepared by AKS Engineering & Forestry, LLC, Printed 11/11/2019

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
38,000	98	AC Pavements & Sidewalk (1S)
25,008	90	Grass - Good Condition (1S)
14,000	98	Roofs (1S)
77,008	95	TOTAL AREA

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 67.53% Impervious Runoff Depth>4.46"
Tc=10.0 min CN=90/98 Runoff=1.85 cfs 28,618 cf

Pond UDP: 36-INCH UNDERGROUND DETENTION PIPE
Peak Elev=330.73' Storage=1,414 cf Inflow=1.85 cfs 28,618 cf
Outflow=1.83 cfs 26,004 cf

Total Runoff Area = 77,008 sf Runoff Volume = 28,618 cf Average Runoff Depth = 4.46"
32.47% Pervious = 25,008 sf 67.53% Impervious = 52,000 sf

Summary for Subcatchment 1S: POST-DEVELOPED

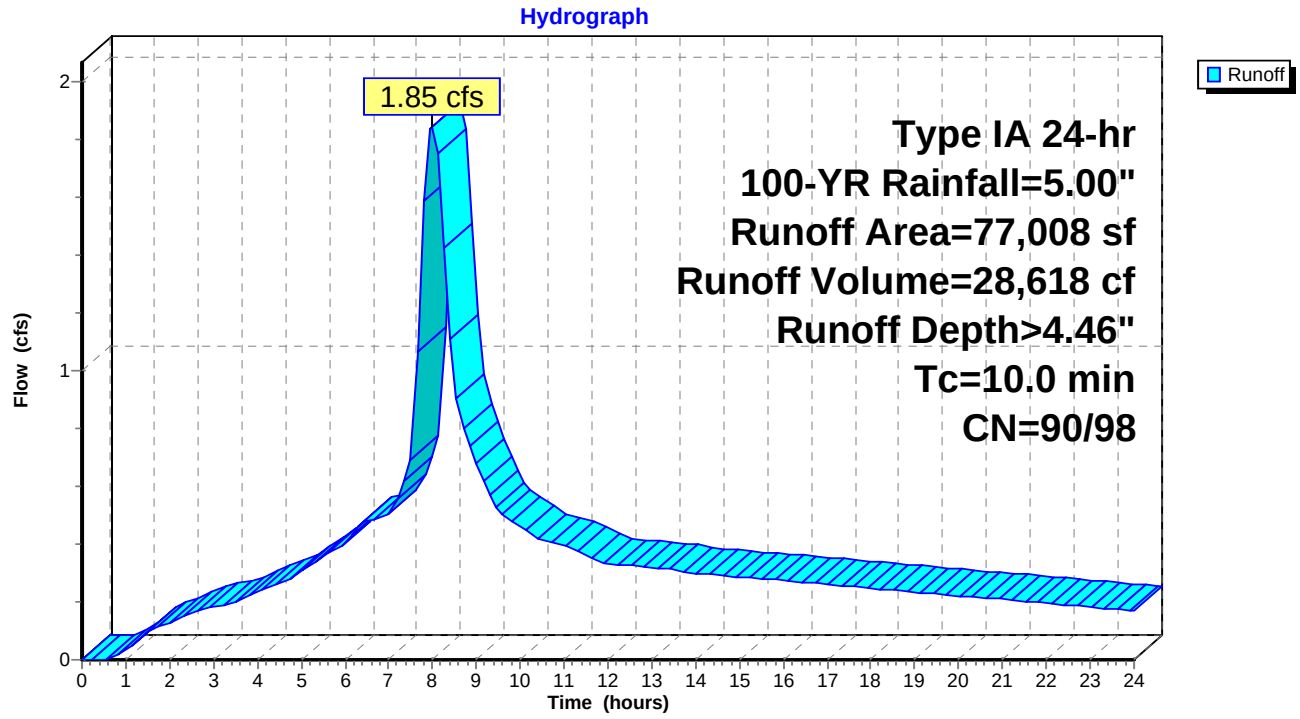
Runoff = 1.85 cfs @ 7.99 hrs, Volume= 28,618 cf, Depth> 4.46"

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=5.00"

	Area (sf)	CN	Description
*	38,000	98	AC Pavements & Sidewalk
*	14,000	98	Roofs
*	25,008	90	Grass - Good Condition
	77,008	95	Weighted Average
	25,008		32.47% Pervious Area
	52,000		67.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1S: POST-DEVELOPED



Summary for Pond UDP: 36-INCH UNDERGROUND DETENTION PIPE

Inflow Area = 77,008 sf, 67.53% Impervious, Inflow Depth > 4.46" for 100-YR event
Inflow = 1.85 cfs @ 7.99 hrs, Volume= 28,618 cf
Outflow = 1.83 cfs @ 7.99 hrs, Volume= 26,004 cf, Atten= 1%, Lag= 0.0 min
Primary = 1.83 cfs @ 7.99 hrs, Volume= 26,004 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs / 4
Peak Elev= 330.73' @ 7.99 hrs Surf.Area= 0 sf Storage= 1,414 cf

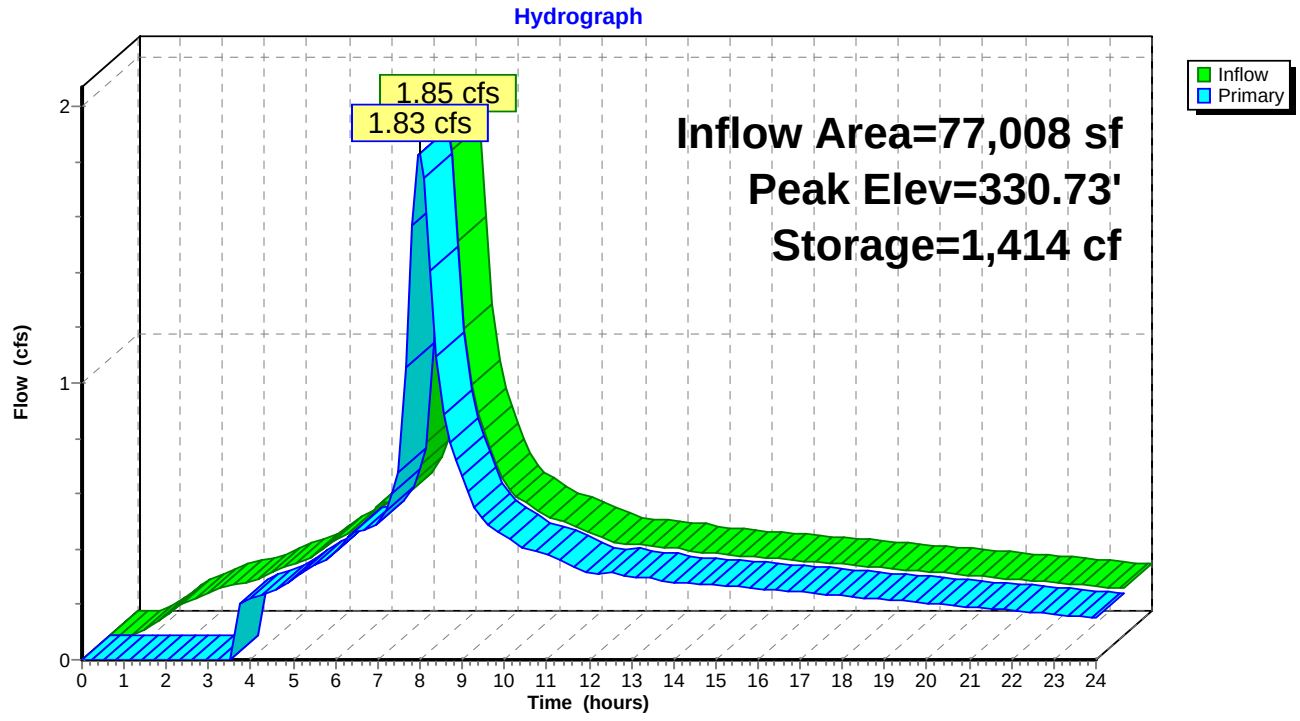
Plug-Flow detention time= 84.8 min calculated for 25,843 cf (90% of inflow)
Center-of-Mass det. time= 21.1 min (700.0 - 678.9)

Volume	Invert	Avail.Storage	Storage Description
#1	327.50'	1,414 cf	36.0" Round Pipe Storage L= 200.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	330.50'	12.0" Horiz. Overflow Riser C= 0.600

Primary OutFlow Max=1.80 cfs @ 7.99 hrs HW=330.73' (Free Discharge)
└1=Overflow Riser (Orifice Controls 1.80 cfs @ 2.29 fps)

Pond UDP: 36-INCH UNDERGROUND DETENTION PIPE



Appendix E:
Soils Information from the USDA Soil Survey of Clackamas County, Oregon

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Clackamas County Area, Oregon

July 22, 2019

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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Contents

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

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: 1:941 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 45 90 180 270

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 14, Sep 18, 2018

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	1.7	99.4%
3	Amity silt loam	0.0	0.6%
Totals for Area of Interest		**1.8**	**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: 223l
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
Natural 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 storage in profile: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Forage suitability group: Somewhat Poorly Drained (G002XY005OR)
Hydric soil rating: No

Minor Components

Huberly

Percent of map unit: 3 percent
Landform: Swales on terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear

Across-slope shape: Linear
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
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
Natural 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
Frequency of ponding: None
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Forage suitability group: 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
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
Hydric soil rating: Yes

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

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

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

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

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

KING COUNTY, WASHINGTON

SURFACE WATER DESIGN MANUAL

King County
Department of Natural Resources and Parks

April 24, 2016

TABLE 6.4.1.1.A RUNOFF CURVE NUMBERS FOR SELECTED AGRICULTURAL, SUBURBAN, AND URBAN AREAS

(Sources: TR 55, 1986, and Stormwater Management Manual (SWMMWW), 1992. See SWMMWW Section 2.1.1 for explanation)

Cover type and hydrologic condition.	CNs for hydrologic soil group A	B	C	D
Curve Numbers for Pre-Development Conditions				
Pasture, grassland, or range-continuous forage for grazing:				
Fair condition (ground cover 50% to 75% and not heavily grazed)	49	69	79	84
Good condition (ground cover >75% and lightly or only occasionally grazed)	39	61	74	80
Woods:				
Fair (Woods are grazed but not burned, and some forest litter covers the soil)	36	60	73	79
Good (Woods are protected from grazing, and litter and brush adequately cover the soil)	30	55	70	77
Curve Numbers for Post-Development Conditions				
Open space (lawns, parks, golf courses, cemeteries, landscaping, etc.):[1]				
Fair condition (grass cover on 50% - 75% of the area)	77	85	90	92
Good condition (grass cover on >75% of the area)	68	80	86	90
Impervious areas:				
Open water bodies: lakes, wetlands, ponds etc.	100	100	100	100
Paved parking lots, roofs[2], driveways, etc. (excluding right-of-way)	98	98	98	98
Permeable Pavement (See SWDM 5.2.2 and Appendix C to decide which condition to use):				
Landscaped area	77	85	90	92
50% landscaped area/50% impervious	87	91	94	96
100% impervious area	98	98	98	98
Paved	98	98	98	98
Gravel (including right-of-way)	76	85	89	91
Dirt (including right-of-way)	72	82	87	89
Pasture, grassland, or range-continuous forage for grazing:				
Poor condition (ground cover <50% or heavily grazed with no mulch)	68	79	86	89
Fair condition (ground cover 50% to 75% and not heavily grazed)	49	69	79	84
Good condition (ground cover >75% and lightly or only occasionally grazed)	39	61	74	80
Woods:				
Poor (Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning)	45	66	77	83
Fair (Woods are grazed but not burned, and some forest litter covers the soil)	36	60	73	79
Good (Woods are protected from grazing, and litter and brush adequately cover the soil)	30	55	70	77

Single family residential[3]: Dwelling Unit/Gross Acre	Should only be used for subdivisions > 50 acres	Average Percent impervious area[3,4]	
1.0 DU/GA		15	Separate curve number shall be selected for pervious & impervious portions of the site or basin
1.5 DU/GA		20	
2.0 DU/GA		25	
2.5 DU/GA		30	
3.0 DU/GA		34	
3.5 DU/GA		38	
4.0 DU/GA		42	
4.5 DU/GA		46	
5.0 DU/GA		48	
5.5 DU/GA		50	
6.0 DU/GA		52	
6.5 DU/GA		54	
7.0 DU/GA		56	
7.5 DU/GA		58	

PUD's, condos, apartments, commercial businesses, industrial areas and subdivisions < 50 acres	% impervious must be computed[5]	Separate curve numbers shall be selected for pervious and impervious portions of the site

For a more detailed and complete description of land use curve numbers refer to Chapter 2, NRCS Technical Release No. 55 (June 1986)

[1] Composite CN's may be computed for other combinations of open space cover type.

[2] Where roof runoff and driveway runoff are infiltrated or dispersed according to the requirements in Chapter 5 and Appendix C, the average percent impervious area may be adjusted in accordance with the procedure described under Section 5.2.2.

[3] Assumes roof and driveway runoff is directed into street/storm system.

[4] All the remaining pervious areas (lawn) are considered to be in good condition for these curve numbers.

[5] See Section 5.2 and Table 3.2.2.E for application of effective impervious area in percentage calculation.

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 runnoff, such as stormwater treatment wetlands, wet ponds, extended dry detention ponds, bioretention facilities, and infiltration facilities are sized using this design volume.

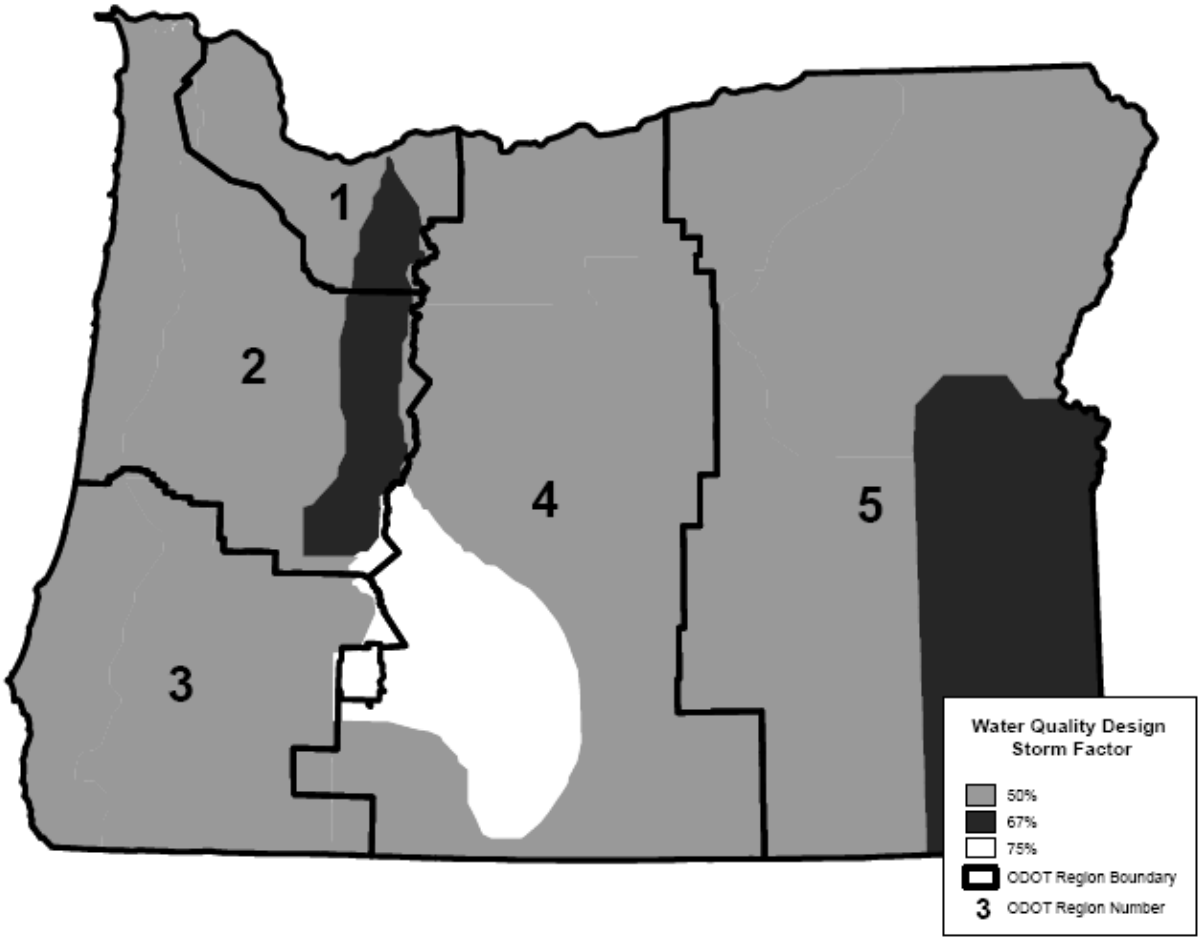


Figure 14-5 Design Storm Factors

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.

CITY OF MOLALLA
PUBLIC WORKS
DESIGN STANDARDS

3.0000 - STORM DRAINAGE

3.0010 - GENERAL DESIGN REQUIREMENTS

Performance Standards - Storm drainage design within a development area must include provisions to adequately control runoff from all public and private streets and the roof, footing, and area drains of residential, multi-family, commercial, or industrial buildings. The design must ensure future extension of the drainage system to the entire drainage basin in conformance with these Design Standards. These provisions include:

a. Surface or subsurface drainage, caused or affected by the changing of the natural grade of the existing ground or removal of natural ground cover or placement of impervious surfaces, shall not be allowed to flow over adjacent public or private property in a volume or location materially different from that which existed before development occurred, but shall be collected and conveyed in an approved manner to an approved point of disposal.

b. Surface water entering the subject property shall be received at the naturally occurring locations and surface water exiting the subject property shall be discharged at the natural locations with adequate energy dissipaters within the subject property to minimize downstream damage and with no diversion at any of these points.

c. The approved point of disposal for all storm water may be a storm drain, dry wells, existing open channel, creek, detention, or retention pond approved by the Public Works Director. Acceptance of suggested systems will depend upon the prevailing site conditions, capacity of existing downstream facilities, and feasibility of the alternate design.

d. When private property must be crossed in order to reach an approved point of disposal, it shall be the developer's responsibility to acquire a recorded drainage easement (of dimensions in accordance with those included in Section 3.0024). The drainage facility installed must be a closed conduit system. Temporary drainage ditch facilities, when approved, must be engineered to contain the storm water without causing erosion or other adverse effects to the private property.

e. The design peak discharge from the subject property may not be increased from conditions existing prior to the proposed development except where it can be satisfactorily demonstrated by the applicant that there is no adverse impact.

f. Retention/detention facilities will be required where necessary to maintain surface water discharge rates at or below the existing design storm peak discharge except where it can be demonstrated by the applicant that no adverse impart will result from not providing said facilities.

g. Minimum width of an access easement from an existing public road to a drainage facility shall be fifteen (15) feet.

h. Drainage from roofs, footings, and downspouts may drain directly to a street through the curb under the following circumstances:

   1. The building pad ground elevation is at least two (2) feet above the existing street curb, and

   2. The existing street is adequately crowned to avoid sheet flow across the street. This requirement will be waived if curb and gutter is existing or installed.

i. Vegetation shall be established on areas disturbed by/or on areas of construction as necessary to minimize erosion, in accordance with Section 3.0050 of these standards.

Drainage Calculations - Furnish such supporting information as required per Section: 1.0140 of these Design Standards.

Detention Requirements - All proposed development will be required to use adequate drainage management practices. Developments located within a master planned drainage basin will follow the recommendations adopted to that plan. Developments not located within master planned drainage basins will minimize the rate and amount of runoff to receiving systems and streams.

3.0012 - PIPE MATERIALS AND SIZE

Public storm drains may be constructed of the following materials: Concrete, Ductile Iron, PVC, HDPE.

When pipe has less than minimum cover as defined in Section 3.0023 the pipe material shall be ductile iron.

Public and private storm drain pipe shall meet the appropriate sections of the Uniform Plumbing Code.

All public storm drain lateral lines to catch basins and other inlet structures shall be a minimum of ten inches (10") in diameter. All public storm drain main lines shall be a minimum of twelve inches (12") in diameter.

3.0013 - MINIMUM DESIGN CRITERIA

Storm Frequency - All public storm drain systems shall be designed for the design storm recurrence interval in the following table:

DRAINAGE SYSTEM DESIGN CAPACITY

Drainage System Element	Design Storm Recurrence Interval Years
Minor:	25
Streets, curbs, gutters, inlets catch basin and connector drains	
Major:	
Laterals (collectors) < 100 tributary acres	25
Trunk > 100 tributary acres	50*
Arterial Streets and the Drainage System in or under Arterial Streets	50*
Watercourses:	
without designated floodplain	50
with designated floodplain	100
Bridges	100
Detention Facilities:	
Storage volume (on site)	25
Storage volume	100
Discharge rate	Function of down-stream capacity

* SURCHARGING contained within pipe system will be allowed.

3.0033 - DRY WELLS

Where there are no natural or constructed drain ways, or an existing storm water system, dry wells can be used as a discharge point with the approval of the Public Works Director.

Dry well systems shall be constructed with two manholes. The collector pipes shall discharge into the first manhole, which shall be constructed as an oil-water separator and settling basin. Liquid will then flow to the second manhole, which shall be a perforated manhole. The second manhole shall extend down to river rock or to the natural water table.

3.0034 - ANCHOR BLOCKS

For storm drain pipes greater than four (4) inches in diameter, concrete anchor blocks shall be required if the slopes are greater than twenty (20) percent. Anchor blocks shall key into trench sides. Spacing for anchor blocks is as follows:

SPACING FOR ANCHOR BLOCK FOR ALL SIZE PIPE

SLOPE %	MINIMUM SPACING (FT)
0 - 19.99	NO ANCHOR REQUIRED
20 - 34.99	35
35 - 50.99	25
51 - OR MORE	15 OR SPECIAL DESIGN

3.0035 - WATER BARS

Where the finished graded surface has a slope greater than or equal to 3 units horizontal to 1 unit vertical or as required, water bars shall be installed. The water bars shall be sloped slightly to drain runoff water away from the pipe line alignment. Water bars shall have a maximum spacing of forty (40) feet.

3.0040 - STORM DETENTION

3.0041 - DEVELOPMENT NOT REQUIRING DETENTION

In general, developments meeting the following criteria will not be required to provide detention:

a. Land divisions of less than four lots.

b. Multi-family developments of less than four units.

c. Commercial and industrial development where the construction of a new facility or expansion of an existing facility will not increase the impervious area by more than 5,000 square feet.

3.0043 - DETENTION VOLUME

When detention is required, the volume to be detained shall be based on the following:

The rate of runoff from a developed site during a 25-year recurrence interval storm shall not exceed the pre-development rate of runoff released based on a 10-year recurrence interval storm.

3.0044 - EMERGENCY OVERFLOW

The Design Engineer shall assess the impacts of system failure for on-site detention. Overflows may occur due to rainfall intensity which exceeds the design storm, debris blockage of storm drain system, or some other reason.

If a system overflows, it shall not cause inundation of neighboring properties. Potential overflow routes shall be protected from erosion by adequate means.

City of Molalla
Stormwater Master Plan

December 2003

Tetra Tech/KCM, Inc.
7080 SW Fir Loop
Portland, Oregon 97223

Frequency	6-Hour	24-Hour
2-Year	1.25	2.7
5-Year	1.5	3.5
10-Year	1.8	4.0
25-Year	2.0	4.2
50-Year	2.2	4.5
100-Year	2.4	5.0

There are no designated floodplains in Molalla, but Bear Creek lies within the UGB. Bear Creek's floodplain has never been defined, as it was outside the corporate limits when the U.S. Army Corps of Engineers last mapped floodplains in Oregon. A floodplain mapping project for Bear Creek should be conducted in the near future.

Lands surrounding Molalla are predominantly used for agricultural purposes. Significant stands of timber are located nearby to the east in the Cascade Range foothills.

Population

Historical population records and expected land development were used to project future populations through the 20-year study period.

Table 2-2 summarizes historical population and average annual growth rates for the City of Molalla. Population data are from Portland State University's (PSU) Population Research and Census Center.

PSU calculated a population density value from the 1980 census of 2.80 people per dwelling. For subsequent population estimates, PSU has assumed a slightly lower density. PSU assumed 2.73 people per dwelling for its 1998 population estimate.

Previous Population Projections

Population projections in the 1987 Molalla Comprehensive Plan assumed strong growth during the 1980s (7 percent annual average) and slower growth during the 1990s and early 2000s (2 to 3 percent annual average). The resulting population projection for 1998 was 7,317, which is 36 percent higher than the actual 1998 population of 5,395. The strong growth predicted in the 1980s, however, did occur during the mid-1990s.

A more recent population projection was performed for the Water System Master Plan (EAS, 1996), which assumed a steady 5 percent average annual growth rate over a 20-year planning period. Based on the 1995 population of 4,000, the population projection for 2016 was 11,144.

TABLE 2-2.
HISTORICAL POPULATION

		Annual Growth Rates			
Year	Population	1-year Average	5-year Average	10-year Average	20-year Average

Exhibit F: Clackamas County Assessor's Map

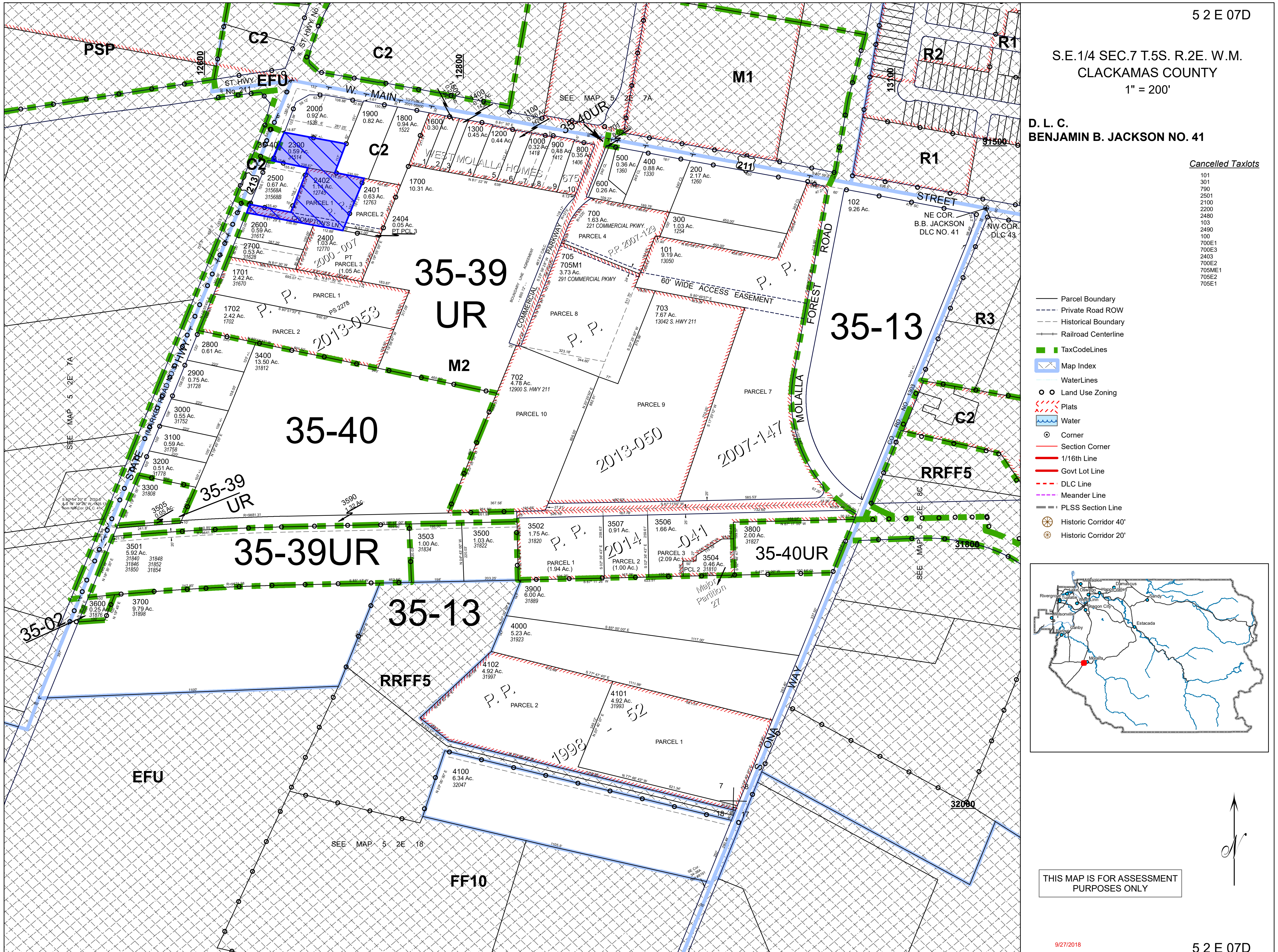

5 2 E 07D
S.E.1/4 SEC.7 T.5S. R.2E. W.M.
CLACKAMAS COUNTY
1" = 200'
D. L. C.
BENJAMIN B. JACKSON NO. 41
Cancelled Taxlots
101
301
790
2501
2100
2200
2480
130
2490
100
700E1
700E3
2403
700E2
103
705ME1
705E2
705E1
Parcel Boundary
Private Road ROW
Historical Boundary
Railroad Centerline
TaxCodeLines
Map 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
9/27/2018
5 2 E 07D
35-39 UR
35-40
35-13
35-39UR
35-40UR
35-02
M2
M1
C2
PSP
EFU
R1
R2
R3
RRFF5
FF10
W. MAIN
STREET
FOREST ROAD
MOLALLA
STATE HWY
ONA WAY
WEST MOLALLA HOMES
60' WIDE ACCESS EASEMENT
COMMERCIAL PARKWAY
SEE MAP 5 2E 7A
SEE MAP 5 2E 18
NE COR. B.B. JACKSON DLC NO. 41
NW COR. DLC 43

Exhibit G: Property Ownership Information

Grantor Name and Address:
DEUTSCHE BANK NATIONAL
TRUST COMPANY, AS INDENTURE
TRUSTEE UNDER THE INDENTURE
RELATING TO IMH ASSETS
CORP., COLLATERALIZED ASSET-
BACKED BONDS, SERIES 2005-
8, ITS SUCCESSORS AND/OR ASSIGNS
19500 JAMBOREE ROAD
IRVINE, CA 92612

Grantee Name and Address:
BEATRIZ ANDRADE GOMEZ
175 SE 3RD AVENUE
CANBY,OR 97013

After recording, return to:
BEATRIZ ANDRADE GOMEZ
175 SE 3RD AVENUE
CANBY,OR 97013

Until requested otherwise, send all tax statements to:
BEATRIZ ANDRADE GOMEZ
175 SE 3RD AVENUE
CANBY,OR 97013

Clackamas County Official Records
Sherry Hall, County Clerk

2014-032773

07/08/2014 09:10:17 AM

D-D Cnt=1 Stn=8 CINDY
$20.00 $16.00 $10.00 $22.00

$68.00

SPECIAL WARRANTY DEED

DEUTSCHE BANK NATIONAL TRUST COMPANY, AS INDENTURE TRUSTEE UNDER THE INDENTURE RELATING TO IMH ASSETS CORP., COLLATERALIZED ASSET-BACKED BONDS, SERIES 2005-8, ITS SUCCESSORS AND/OR ASSIGNS, whose address is 19500 Jamboree Road,I rvine,C A 92612 (referred to herein as "Grantor"), hereby conveys and specially warrants to BEATRIZ ANDRADE GOMEZ, a married woman, whose address is 175 SE 3rd Avenue, Canby, OR 97013 (referred to herein as "Grantee"), all of Grantor's interest in and to the following described real property located in Clackamas County, Oregon, free of liens and encumbrances created or suffered by the Grantor except as specifically set forth herein:

SEE EXHIBIT A ATTACHED HERETO AND MADE A PART HEREOF

Property street address: 12745 South Crompton Lane, Molalla,O R 97038

EXCEPTIONS of record on file with the County of Clackamas, Oregon.

The true consideration for this conveyance is: $104,900.00

Dated: June 24, 2014

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.

GRANTOR:

DEUTSCHE BANK NATIONAL TRUST COMPANY, AS INDENTURE TRUSTEE UNDER THE INDENTURE RELATING TO IMH ASSETS CORP., COLLATERALIZED ASSET-BACKED BONDS, SERIES 2005-8, ITS SUCCESSORS AND/OR ASSIGNS, by IMPAC FUNDING CORPORATION as Attorney in Fact

By: _____
Printed Name: Jerome Yap
Title: Authorized signer

STATE OF _____)
) ss.
COUNTY OF _____)

This instrument was acknowledged before me on _____, by _____, as _____ of IMPAC FUNDING CORPORATION as Attorney in Fact for DEUTSCHE BANK NATIONAL TRUST COMPANY, AS INDENTURE TRUSTEE UNDER THE INDENTURE RELATING TO IMH ASSETS CORP., COLLATERALIZED ASSET-BACKED BONDS, SERIES 2005-8, ITS SUCCESSORS AND/OR ASSIGNS.

[Affix Notary Seal]

Please see attached notary document

SIGNATURE OF NOTARY PUBLIC
My commission expires: _____

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California
County of Orange

On June 24, 2014 (Date) before me, Denise Anderson (Here Insert Name and Title of the Officer), Notary Public,

personally appeared Jerome Yap (Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: Denise Anderson (Signature of Notary Public)

DENISE ANDERSON
Commission # 1959746
Notary Public - California
Orange County
My Comm. Expires Dec 6, 2015

Place Notary Seal and/or Stamp Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: SUP 12745 S. Crompton lane malalla Oregon

Document Date: June 24, 2014 Number of Pages: three

Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer(s)

Signer's Name: Jerome Yap	Signer's Name:
☐ Corporate Officer — Title(s):	☐ Corporate Officer — Title(s):
☐ Individual	☐ Individual
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☒ Attorney in Fact	☐ Attorney in Fact
☐ Trustee	☐ Trustee
☐ Guardian or Conservator	☐ Guardian or Conservator
☐ Other:	☐ Other:
Signer Is Representing:	Signer Is Representing:
RIGHT THUMBPRINT OF SIGNER — Top of thumb here	RIGHT THUMBPRINT OF SIGNER — Top of thumb here

EXHIBIT A

Legal Description

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF Clackamas, STATE OF Oregon, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1, PARTITION PLAT NO. 2000-007, IN THE COUNTY OF CLACKAMAS AND STATE OF OREGON.

Parcel ID: 01089351

The preparer of this document has been engaged solely for the purpose of preparing this instrument, has prepared the instrument only from the information given and has not been requested to provide, nor has the preparer provided, a title search, an examination of the legal description, an opinion on title or advice on the tax, legal or non-legal consequences that may arise as a result of the conveyance. Further such preparer has not verified the accuracy of the amount of consideration stated to have been paid or upon which any tax may have been calculated nor has the preparer verified the legal existence or authority of any person who may have executed the document. Preparer shall not be liable for any consequences arising from modifications to this document not made or approved by preparer.

14-57994 (cmm)

Clackamas County Official Records
Sherry Hall, County Clerk
2018-035601
06/11/2018 11:34:01 AM
D-D Cnt=1 Stn=74 LESLIE
$15.00 $16.00 $10.00 $62.00
$103.00

After recording return to:
Angel Jimenez Alejandrez & Hector
Manuel Jimenez Ascencio
31514 S Highway 213
Molalla, OR 97038

Until a change is requested all tax statements shall be sent to the following address:
Angel Jimenez Alejandrez & Hector
Manuel Jimenez Ascencio
31514 S Highway 213
Molalla, OR 97038

File No.: 7072-3071594 (sh)
Date: June 01, 2018

FIRST AMERICAN 3071594-SS

STATUTORY WARRANTY DEED

Leeann Melnick, successor trustee of the Arlies J. Blackman Revocable Trust, dated August 27, 2014, and any amendments thereto, Grantor, conveys and warrants to **Angel Jimenez Alejandrez and Hector Manuel Jimenez Ascencio** , Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

LEGAL DESCRIPTION: Real property in the County of Clackamas, State of Oregon, described as follows:

See attached legal description Exhibit "A"

Subject to:
1. Covenants, conditions, restrictions and/or easements, if any, affecting title, which may appear in the public record, including those shown on any recorded plat or survey.

The true consideration for this conveyance is **$290,000.00**. (Here comply with requirements of ORS 93.030)

APN: **01089324** Statutory Warranty Deed - continued File No.: **7072-3071594 (sh)**

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.

Dated this 8th day of June, 2018.

Arlies J Blackman Revocable Trust dated August 27, 2014, and any amendments thereto

LeeannMelnick, Successor Trustee

STATE OF Oregon)
)ss.
County of Clackamas)

This instrument was acknowledged before me on this 8th day of June, 2018 by LeeannMelnick as Successor Trustee of Arlies J Blackman Revocable Trust dated August 27, 2014, and any amendments thereto, on behalf of the Trust.

OFFICIAL STAMP
SHEILA MARIE HOUCK
NOTARY PUBLIC - OREGON
COMMISSION NO. 964401
MY COMMISSION EXPIRES JULY 11, 2021

Notary Public for Oregon
My commission expires: 7/11/21

OFFICIAL STAMP
SHEILA MARIE HOUCK
NOTARY PUBLIC - OREGON
COMMISSION NO. 964401
MY COMMISSION EXPIRES JULY 11, 2021

EXHIBIT A

LEGAL DESCRIPTION: Real property in the County of Clackamas, State of Oregon, described as follows:

Part of the B.B. Jackson Donation Land Claim in Section 7, Township 5 South, Range 2 East of the Willamette Meridian, in the City of Molalla, County of Clackamas and State of Oregon, described as follows:

Beginning in the center line of the old Territorial Road, South 19° 55' West 203 feet from the intersection of said center line with the North line of said Jackson Donation Land Claim; thence South 81° 30' East 287.25 feet; thence South 19° 55' West 117 feet; thence North 81° 30' West 287.25 feet to the center line of the road; thence North 19° 55' East 117 feet to the point of beginning.

EXCEPTING THEREFROM that portion conveyed to the City of Molalla recorded January 18, 2005, Recorder's Fee No. 2005-004869.

NOTE: This legal description was created prior to January 1, 2008.

Exhibit H: Existing Deed Restrictions

FORM No. 723—BARGAIN AND SALE DEED (Individual or Corporate). STEVENS-NESS LAW PUBLISHING CO., PORTLAND, OR. 97204

1-74

BARGAIN AND SALE DEED

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 thereunto belonging or in anywise appertaining, situated in the County of* Clackamas *, State of Oregon, described as follows, to-wit:*

Transnation Title Insurance Accommodation Recording 98007533

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 .....

①However, the actual consideration consists of or includes other property or value given or promised which is the whole part of the consideration (indicate which).① (The sentence between the symbols ①, 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 *, 19* 97 *; 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, } ss.
County of ..... }

The foregoing instrument was acknowledged before me this ..... , 19 ..... , by .....

Notary Public for Oregon

(SEAL) *My commission expires:*

(ORS 194.570)

STATE OF OREGON, County of Clackamas)ss.

The foregoing instrument was acknowledged before me this 12-4 *, 19* 97 *, by* Janett B Burley *,*

..... president, and by ..... ,

..... secretary of .....

a ..... corporation, on behalf of the corporation.

Sharla Walker
Notary Public for Oregon

OFFICIAL SEAL
SHARLA WALKER
NOTARY PUBLIC-OREGON
COMMISSION NO. 300260
MY COMMISSION EXPIRES APR. 16, 2001

(SEAL)

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

SPACE RESERVED FOR RECORDER'S USE

STATE OF OREGON, } ss.
County of ..... }

I certify that the within instrument was received for record on the ..... day of ....., 19 ....., at ..... o' 98-045395 in book/reel/volume No. ..... page ..... or as fee/file/instrument/microfilm/reception No. ..... Record of Deeds of said county.

Witness my hand and seal of County affixed.

..... TITLE

By ..... Deputy

Revised T.L. 2400.

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, 287.40 feet to the northeast corner thereof and the true point of beginning; thence South 19°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°29'00" East along the south line of the Klinger tract, 253.88 feet to the southeast corner thereof; thence North 19°55'00" East along the easterly line of the Klinger tract, 179.92 feet; thence North 81°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°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.

STATE OF OREGON 98-045395
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

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

FORM NO. 23 — ACKNOWLEDGMENT
STEVENS-NESS LAW PUB. CO., PORTLAND, ORE.

STATE OF OREGON,
County of Clackamas } ss.

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.

OFFICIAL SEAL
TRISHA J BATES
NOTARY PUBLIC - OREGON
COMMISSION NO. 313858
MY COMMISSION EXPIRES JUN. 23, 2002

Trisha J Bates
Notary Public for Oregon.
My Commission expires 6/23/02

4.00 4.50

FORM No. 1456—DEED—PERSONAL REPRESENTATIVE (Individual or Corporate).

STEVENS-NESS LAW PUB. CO. PORTLAND

7-1-70

THIS INDENTURE Made this 10th *day of* March, *19* 72, *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 D. Crompton and Elizabeth 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. M., 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 340.85 feet to the Northeast corner of that tract conveyed to Orville C. Klinger, et ux, by deed recorded July 7, 1953 in Book 471, 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 feet 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 Pioneer National 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 [redacted] which is [redacted] the whole consideration (indicate which).①

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.

(If first party is a corporation, affix corporate seal.)

George G. Wells
Personal Representative
of the Estate of Charles C. Gosser Deceased.

NOTE—The sentence between the symbols ①, if not applicable, should be deleted. See ORS 93.030.

STATE OF OREGON, County of Clackamas) ss. March 10, 19 72. Personally appeared the above named George G. Wells and acknowledged the foregoing instrument to be his voluntary act and deed. Before me: (OFFICIAL SEAL) [signature] Notary Public for Oregon My commission expires: 7-11-72	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 ...., 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 My commission expires: (OFFICIAL SEAL)

PERSONAL REPRESENTATIVE'S DEED

....
Personal Representative of the Estate of ....
.... Deceased.
TO
....

No. ....

AFTER RECORDING RETURN TO
WELLS ACCOUNTING SERVICE
BOX 31
MOLALLA, OREGON

STATE OF OREGON, County of Clackamas } ss.

I, George D. Poppen, County Clerk, Ex-Officio Recorder of Conveyances and Ex-Officio Clerk of the Circuit Court of the State of Oregon, for the County of Clackamas, do hereby certify that the within instrument of writing was received for and recorded in the records of

DEED

1972 MAR 27 PM 4 18 of said County at

In Book ... On Page ...

Witness my hand and seal affixed.

GEORGE D. POPPEN County Clerk

Recording Certificate

[signature] Deputy.

Deputy

RECORDER OF CONVEYANCES * CLACKAMAS COUNTY, OREGON *

2

72-8037

FORM No. 723—BARGAIN AND SALE DEED (Individual or Corporate). STEVENS-NESS LAW PUBLISHING CO., PORTLAND, OR. 97204

1-1-74

BARGAIN AND SALE DEED

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.

Transnation Title Insurance Accommodation Recording 980253

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 $ 22,000 *.*

①However, the actual consideration consists of or includes other property or value given or promised which is the whole part of the consideration (indicate which).①(The sentence between the symbols ①, 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 *, 19* 97 *; 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, } *ss.*
County of)

The foregoing instrument was acknowledged before me this , *19* , *by*

Notary Public for Oregon

My commission expires:

(ORS 194.570)

STATE OF OREGON, County of Clackama)*ss.*

The foregoing instrument was acknowledged before me this 12-4 *, 19*97*, by* Janett B. Burley *,*

president, and by *,*

secretary of *corporation, on behalf of the corporation.*

Sharla Walker
Notary Public for Oregon

My commission expires: 4-16-01

OFFICIAL SEAL
SHARLA WALKER (SEAL)
NOTARY PUBLIC-OREGON
COMMISSION NO. 300260
MY COMMISSION EXPIRES APR. 16, 2001

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 RESERVED FOR RECORDER'S USE

STATE OF OREGON, } *ss.*
County of)

I certify that the within instrument wr[illegible] the ..... da 98-045396 *....., at ..... o'clock .....M., and recorded in book/reel/volume No ..... on page ..... or as fee/file/instrument/microfilm/reception No.....,*
Record of Deeds of said county.

Witness my hand and seal of County affixed.

NAME TITLE

By *Deputy*

Revised T.L. 2401.

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-wit:

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

25 10 SP 277018

After recording, return to:
City of Molalla
City Hall Records Department/Melanie Maben
117 N Molalla Ave
Molalla, OR 97038

Clackamas County Official Records
Sherry Hall, County Clerk
2004-118257
$46.00
00776706200401182570050050
12/28/2004 02:32:31 PM
D-E Cnt=1 Stn=4 MELISSA
$25.00 $11.00 $10.00

CHICAGO

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 Wile SEAL

Maureen ~~Wild~~ wife

MTW

STATE OF WA)
) ss.
County of CLARK)

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 COMMISSION EXPIRES JUNE 23, 2007 STATE OF WASHINGTON

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

Date: 12/16/04

By: Melanie Maben
Melanie Maben, City Recorder

Date: 12/16/04

OFFICIAL SEAL
PEGGY A. JOHNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 343758
MY COMMISSION EXPIRES MAY 2, 2005

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 **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

OFFICIAL SEAL
PEGGY A. JOHNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 343758
MY COMMISSION EXPIRES MAY 2, 2005

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

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:

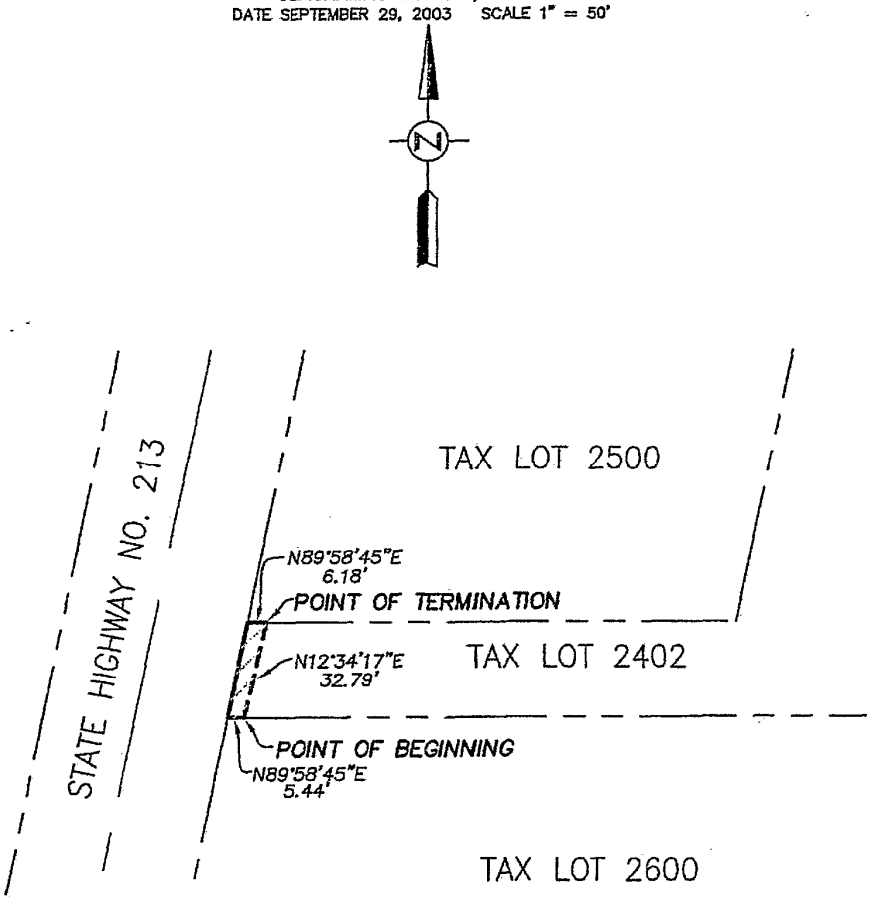
A strip of land running through that certain Real property conveyed to Perkins by deed recorded as Fee No. 2000-013298, deed records of said County, the Easterly line of said strip being More Particularly Described as follows:

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.

All 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

25
10
11
58
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
Sherry Hall, County Clerk
2005-004870
00784711200500048700050053
$46.00
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 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, 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.

_____ 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.

OFFICIAL SEAL
NATHAN R. POOL
NOTARY PUBLIC - OREGON
COMMISSION NO. 352895
MY COMMISSION EXPIRES JANUARY 30, 2006

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.

OFFICIAL SEAL
NATHAN R. POOL
NOTARY PUBLIC - OREGON
COMMISSION NO. 352895
MY COMMISSION EXPIRES JANUARY 30, 2006

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

Date: 12/30/04

By: Melanie Maben
Melanie Maben, City Recorder

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

OFFICIAL SEAL
PEGGY A. JOHNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 343758
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

OFFICIAL SEAL
PEGGY A. JOHNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 343758
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.

EXHIBIT B

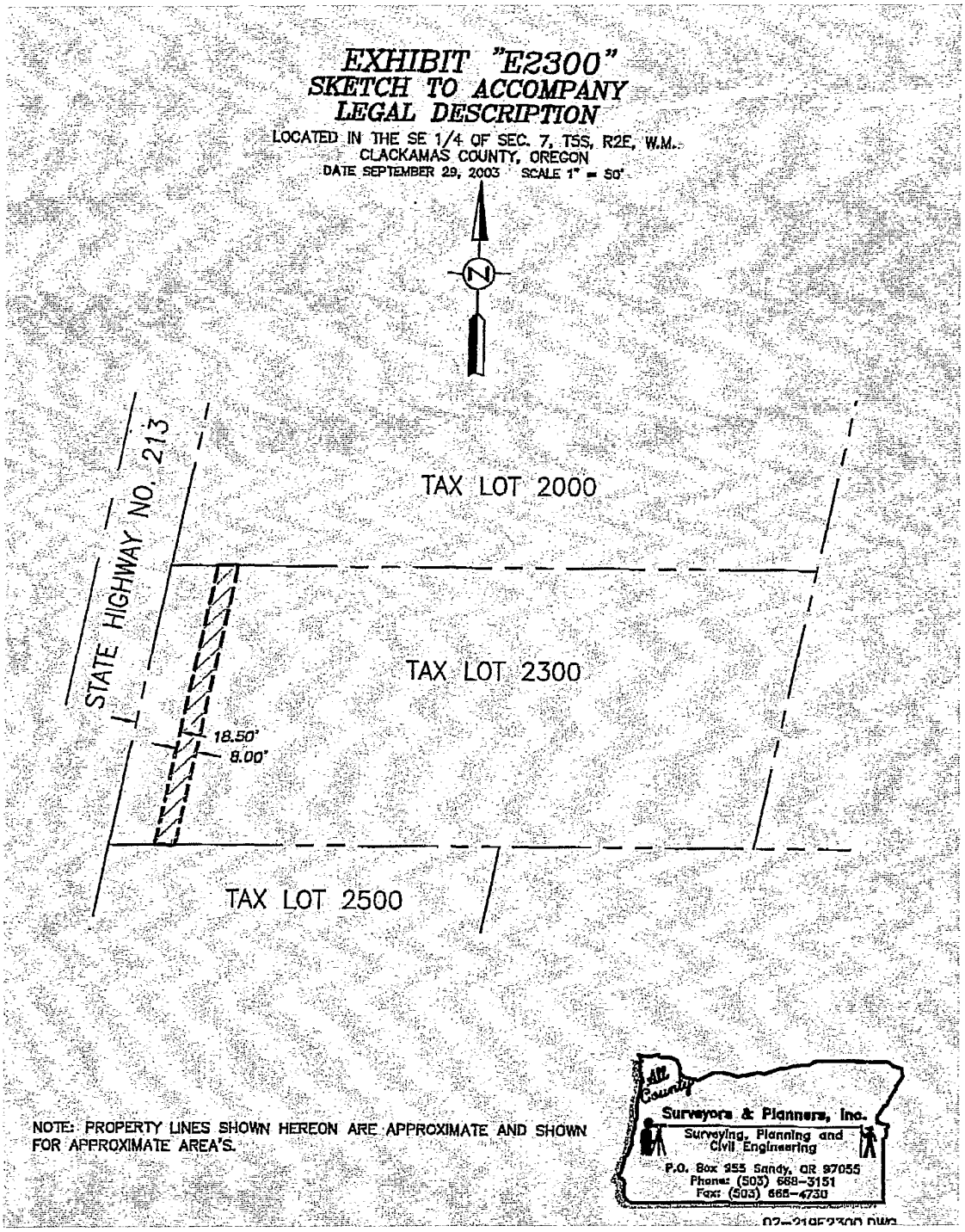


EXHIBIT "E2300"
SKETCH TO ACCOMPANY
LEGAL DESCRIPTION
LOCATED IN THE SE 1/4 OF SEC. 7, T5S, R2E, W.M.
CLACKAMAS COUNTY, OREGON
DATE SEPTEMBER 29, 2003 SCALE 1" = 50'
N
STATE HIGHWAY NO. 213
TAX LOT 2000
TAX LOT 2300
TAX LOT 2500
18.50'
8.00'
NOTE: PROPERTY LINES SHOWN HEREON ARE APPROXIMATE AND SHOWN FOR APPROXIMATE AREA'S.
All County
Surveyors & Planners, Inc.
Surveying, Planning and Civil Engineering
P.O. Box 355 Sandy, OR 97055
Phone: (503) 668-3151
Fax: (503) 668-4730

93

343

Clackamas County Official Records
Sherry Hall, County Clerk

2019-051634

$93.00

08/28/2019 09:08:28 AM

D-ER Cnt=1 Stn=9 COUNTER1
$5.00 $16.00 $62.00 $10.00

AFTER RECORDING RETURN TO:
Beatriz Andrade Gomez
309 NE 19th Avenue
Candy, OR 97013

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

OFFICIAL STAMP
LINDA M RODRIGUEZ
NOTARY PUBLIC - OREGON
COMMISSION NO. 990218
MY COMMISSION EXPIRES JULY 31, 2023

Exhibit B:

City Staff's Findings of Fact

Planning & Community Dev.
117 N Molalla Avenue
PO Box 248
Molalla, Oregon 97038
Phone: (503) 759-0205
communityplanner@cityofmolalla.com

EXHIBIT C– FINDINGS OF FACT

Per Chapter 17-4.2.050 Approval Criteria, an application for Site Design Review shall be approved if the proposal meets all 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;

Findings: The City received the Applicant's proposal on and deemed it complete on November 11, 2019. The application was deemed complete on December 13, 2019.

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;

Findings: Applicable Criteria under Division II. Zoning Regulations for this project include:

Chapter 17-2.2.030 Allowed Uses
Chapter 17-2.2.040 Lot and Development Standards
Chapter 17-2.2.060 Residential Density Standards
Chapter 17-2.3.080 Multifamily Development

Chapter 17-2.2.030 Allowed Uses

Findings: Staff finds the subject property is zoned C-2 (General Commercial). Multi-family development is allowed in the C-2 zone, subject to "Special Use standards." Cr

Chapter 17-2.2.040 Lot and Development Standards
Chapter 17-2.2.060 Residential Density Standards
Chapter 17-2.3.080 Multifamily Development

Findings: The proposed development is a residential project sited in the C-2 zone. Because the lot and development standards table found in MMC Chapter 17-2.2.040 does not provide standards for residential developments in commercial zones, Staff used lot and development standards for the R-3 zone since these standards are most applicable to multifamily development.

Staff finds that overall density and lot development of the project is in conformance with Division II standards and that the project is in conformance with Residential Density and Multifamily Development standards. However, the project currently faces issues pertaining to its spanning of one project over multiple lots. As a condition of approval, the Applicant shall record additional agreements prior to building permit submission such as easements or a replat of the subdivision that unifies the two parcels to accommodate for utility, amenity, and ingress/egress sharing between the two subject parcels.

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 proposal does not include non-conforming elements. This section 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:

Chapter 17-3.2.030 Residential Buildings
Chapter 17-3.2.050 Civic Space and Pedestrian Amenities
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

Chapter 17-3.2.030 Residential Buildings

Findings: Staff finds that the Applicant's submitted application meets all applicable portions of this chapter.

Chapter 17-3.2.050 Civic Space and Pedestrian Amenities

Findings: Staff finds that the Applicant's submitted application meets all applicable portions of this chapter.

Chapter 17-3.3 Access and Circulation

Findings: Staff highlights the following sections of Chapter 17-3.3 as requiring attention:

17-3.3.020 Applicability

17-3.3.020 (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: As a condition of approval the Applicant shall receive access permits from the Oregon Department of Transportation prior to occupancy.

17-3.3.020 (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: Refer to findings found in response to section 17-3.6.020 (4)(a) and 17-3.6.020 (4)(c).

17-3.3.020 (D)(3) Approach and Driveway Development Standards. Approaches and driveways shall conform to all the following development standards:

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.

17-3.3.020 (D)(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: Crompton's Lane is a pre-existing private drive established by reciprocal access easements with abutting properties to the east. The Applicant's submitted application shows that the second access on the north end of the property shall be abandoned leaving only the southern access "Crompton's Lane." Criteria is met. Applicant will be required to construct a paved driveway to the east end of the project and comply with all Planning requirements for onsite access and connectivity. As a condition of approval, access to public streets shall be limited to Crompton's Lane for vehicular access.

17-3.3.020 (D)(17) Approach and Driveway Development Standards. Approaches and driveways shall conform to all the following development standards:

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: ODOT comments pertaining to access width show concern that the 20 ft width of the proposed access from Crompton's LN does not meet their 24 ft standard width for multi-family development. As a condition of approval, the Applicant shall receive access permits from the Oregon Department of Transportation prior to submission of building permits.

17-3.3.020 (D)(21) Approach and Driveway Development Standards. Approaches and driveways shall conform to all the following development standards:

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

Findings: As a condition of approval the proposed development shall conform to the storm drainage and surface water management requirements of Section 17-3.6.050.

17-3.3.040 Pedestrian Access and Circulation

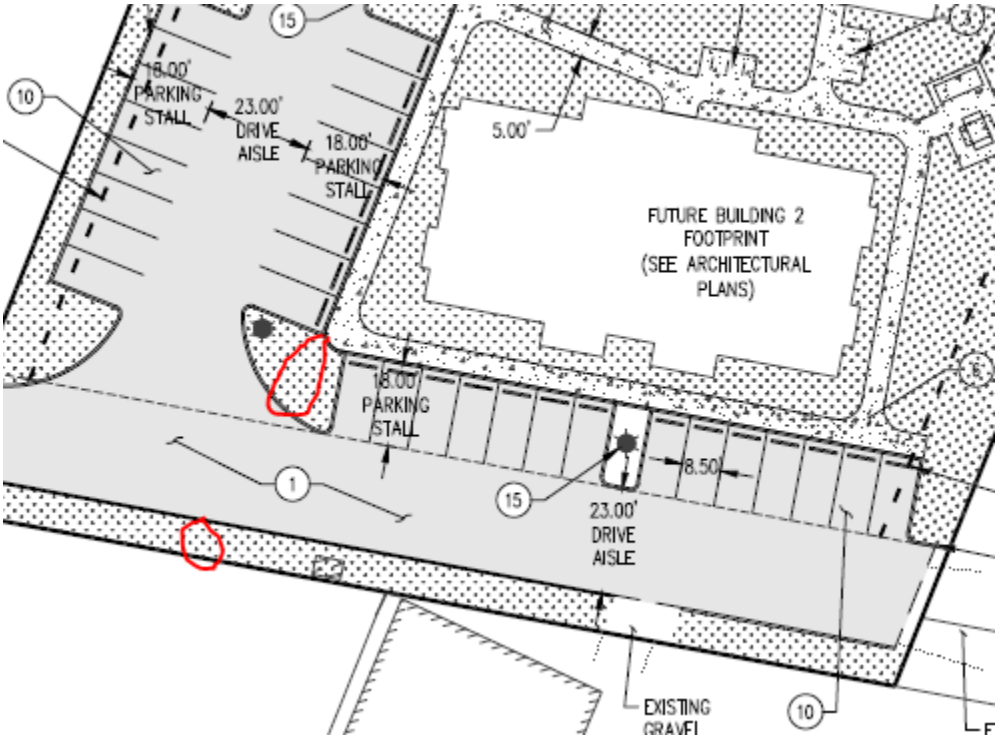
17-3.3.040 (B) (1) Standards. Developments shall conform to all the following standards for pedestrian access and circulation as generally illustrated in Figure 17-3.3-3:

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.

17-3.3.040 (B) (2) (a) Standards. Developments shall conform to all the following standards for pedestrian access and circulation as generally illustrated in Figure 17-3.3-3:

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.

Findings: Connections are proposed from the north side of the property from the development to the existing sidewalk along OR 213. The Applicant has demonstrated that existing impediments sufficiently prohibit pedestrian connections on the south side of the property at this time. Future development of parcels 2400 and 2401 situated to the east and southeast of the subject parcels, will trigger pedestrian connections along the south side of the access driveway to OR-213. As a condition of approval, the Applicant shall construct two ADA accessible approaches that allow for future development of pedestrian connections on the southern property line to allow for future pedestrian connections to OR-213.



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

Findings: Staff highlights the following sections of Chapter 17-3.4 as requiring attention:

17-3.4.030 Landscaping and Screening

17-3.4.030 (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 application shows that approximately 33% of the site is planned to be open areas that include landscaping, which exceeds the minimum standard of 20% shown in Table 17-2.2.040.D.

17-3.4.030 (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 the following standards and guidelines:

Findings: Staff finds that the existing conditions of the site contain no significant natural features. The Applicant's submitted preliminary landscaping plan shows plant selection type, size, coverage, and climate adaptability that meet the guidelines outlined in this section.

17-3.4.030 (C) Parking Lot Landscaping. All 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 preliminary landscaping plan shows that approximately 18% of the parking lot is landscaped.

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 Applicant's submitted preliminary landscaping plan shows landscaping islands that break up parking rows so that no more than 10 contiguous parking spaces occur within the lot.

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 Applicant's submitted preliminary landscaping plan shows a combination of shrubs and groundcover plants that provide appropriate coverage where no tree is present.

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 preliminary landscaping plan shows wheel stops or curbs along the edges of vehicle maneuvering areas.

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 preliminary landscaping plan does not include tree wells within sidewalks or other paved areas. This standard is not applicable.

17-3.4.030 (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 architectural plan includes a planned CMU fence around the trash enclosure. No other outdoor storage areas are planned.

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 preliminary landscaping plan shows appropriate landscape screening between parking areas and other uses, including residential.

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: The Applicant's submitted application does not include additional uses requiring screening.

17-3.4.030 (G) Maintenance. All landscaping shall be maintained in good condition, or otherwise replaced by the property owner.

Findings: 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

17-3.4.040 (F) *Maintenance. Fences and walls shall be maintained in good condition, or otherwise replaced by the property owner.*

Findings: As an ongoing condition of approval, fencing for the storage area and any fencing or walls installed at a later time shall be maintained in good condition or otherwise replaced by the property owner.

17-3.4.050 Outdoor Lighting

17-3.4.50 (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.

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

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.

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.

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

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.

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

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

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.

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.

11. Where a light standard is placed within a walkway, an unobstructed pedestrian

through zone not less than 48 inches wide shall be maintained.

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 onsite lighting plan conforms to City standards. In addition to onsite lighting, roadway lighting is required on all new development. Applicant shall be required to install roadway lighting on OR-213 or sign a waiver of remonstrance for future lighting project. Location and number shall be determined prior to obtaining building permits.

17-3.4.050 (C) (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: As a condition of approval, all lighting subject to Section 17-3.4.050 shall consist of materials approved for outdoor use and shall be installed according to the manufacturer's specifications.

17-3.4.050 (E) Maintenance. For public health and safety, outdoor lighting shall be maintained in good condition, or otherwise replaced by the property owner.

Findings: As a condition of approval, all outdoor lighting shall be maintained in good condition, or otherwise replaced by the property owner.

Chapter 17-3.5 PARKING AND LOADING

Table 17-3.5.030 Automobile Parking Spaces by Use

Findings: Table 17-3.5.030 requires the following;

- 1.5 spaces for a 1-bedroom unit
- 2 spaces for a 2-bedroom unit
- 2.5 spaces for 3 bedrooms or more

The Applicant's submitted application shows six 1-bedroom units (9 required spaces), twenty-four 2-bedroom units (48 required spaces), and six 3-bedroom units (15 required spaces). Based on Table 17-3.5.030.A, this requires a minimum of 72 parking spaces. The Applicant's submitted application application includes 78 planned parking spaces.

Table 17-3.5.030 F Parking Stall Design and Minimum Dimensions.

Findings: The Applicant's submitted site plan shows 78 parking stalls, all of which are angled at 90 degrees from the travel lane. Drive aisles are shown at 23' in the parking area at 18' depth. The Applicant's submitted site plan is in conformance with standards for Table 17-3.5.030 F.

Chapter 17-3.5.030 (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: As a condition of approval all stages of this project shall be in conformance with ADA parking requirements.

Chapter 17-3.5.030 H. 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: Table 17-3.5.040.A requires 2 bicycle parking spaces for every 4 units in multi-family developments with greater than 4 dwelling units. The Applicant's submitted site plan shows 36 bicycle parking spaces for 72 units, satisfying this criterion.

Chapter 17-3.6 PUBLIC FACILITIES

Findings: Staff highlights the following sections of Chapter 17-3.4 as requiring attention:

17-3.6.020 Transportation Standards

17-3.6.020 (4)(a) Determining the Required Level of Transportation Analysis and Documentation. A Transportation Impact Analysis (TIA) is required for developments that are expected to have an impact on the transportation system. The analysis shall be based upon the latest edition of the ITE Trip Generation Manual or an agreed-upon alternative methodology where credible data is available to support the alternative methodology. When specific criteria generally associated with small developments are met, a Transportation Analysis Letter (TAL) may be substituted for the required TIA. At the discretion of the City Engineer, a TAL may satisfy the City's transportation analysis requirements, in lieu of a TIA when a development meets all the following criteria:

17-3.6.020 (4)(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.

Findings: The Applicant's proposal met City of Molalla threshold for a TAL per MMC 17-3.6.020.A.4.a. To meet ODOT requirements, the Applicant's submitted application included a TIS. The Applicant's submitted TIS included intersection analysis for two intersections; OR-211/OR-213 and OR-213/S Crompton's LN (the proposed site entrance). Staff determined that the Applicant's submitted TIS required updates to include:

1. Trip generation calculations consistent for the existing analysis using the land-use code 221, Multifamily Housing (Mid-Rise) from the Institute of Transportation Engineers (ITE) Trip Generation Manual. Initial calculations were based on trip estimates for subcategory "Dense Multi-Use Urban" analysis of this code. The revised estimates were calculated using the "General Urban/Suburban" subcategory.

2. Projected trip generation impacts for the intersection located at Leroy Avenue and OR-211.

The Applicant submitted an addendum to their TIS which responded these issues. The addendum is included as Exhibit B of the DRW04-2019 staff report.

17-3.6.020 (C) (1) Rights-of-Way and Street Section Widths.

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.

Findings: This Applicant's submitted application does not include new streets but will require public right of way improvements along OR-213. As a condition of approval, all right of way improvements shall conform to ODOT standards.

17-3.6.020 (C) (3) Where a range of street width or improvement options is indicated, the City Engineer shall determine requirements based on the advice of a qualified professional and all the following factors:

Findings: OR 213: OR 213 is an arterial street under Oregon Department of Transportation (ODOT) jurisdiction. Current right-of-way width varies from 60-75 feet and approximate pavement width varies from 52-67 feet. Frontage improvements have been completed except for an ODOT approved driveway apron at Crompton's Lane. Applicant shall construct a driveway apron and sidewalk to the south edge of Crompton's Lane in accordance with ODOT requirements. Applicant shall also dedicate a 10-foot wide Public Utility Easement across the front of 31514 Hwy 213 and across 12745 Crompton's Lane fronting OR 213. Roadway lighting is required on all new development. Applicant shall install roadway lighting or sign a waiver of remonstrance for future lighting project. Location and number shall be determined during design review. Per ODOT recommendations found in Exhibit D of this staff report, left turn warrants have been met during PM peak. Refer to also ODOT comments about right of way width and left turn warrants.

Right-of-way Dedications/Donations: On ODOT rights of way, applicant shall donate sufficient right-of-way along variable width improvements and construct sidewalk widening to ODOT standards. ODOT requires donations of right-of-way to follow the requirements of Chapter 5.322. Developer Mitigation Donation in the ODOT Right-of-Way Manual. Applicant is advised that donation must be completed and recorded prior to submission of final subdivision plat or final partition plat for Public Works to process plat documents.

17-3.6.020 (L) 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.

Findings: As a condition of approval, the Applicant shall maintain all sidewalks and planter strips in the right of way.

17-3.6.020 (M) 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.

Findings: As a condition of approval, the Applicant shall provide certification to the City that all boundary and interior monuments have been reestablished and protected.

17-3.6.020 (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.

Findings: Applicant shall be required to install roadway lighting or sign a waiver of remonstrance for future lighting project. Location and number shall be determined during design review. All streetlights located in the right-of-way shall conform to ODOT 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.

17-3.6.020 (O) Mail Boxes. Mailboxes shall conform to the requirements of the United States Postal Service and the State of Oregon Structural Specialty Code.

Findings: Applicant shall install mailboxes that conform to the requirements of the United States Postal Service and the State of Oregon Structural Specialty Code.

CHAPTER 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.

B. Sewer and Water Plan Approval. Development permits for sewer and water improvements shall not be issued until the City Engineer has approved all sanitary sewer and water plans in conformance with City standards.

C. Over-Sizing. The City may require as a condition of development approval that sewer and water lines serving new development be sized to accommodate future development within the area as projected by the applicable facility master plans, and the City may authorize other cost-recovery or cost-sharing methods as provided under state law.

D. Inadequate Facilities. Development permits may be restricted or rationed by the Planning Commission where a deficiency exists in the existing water or sewer system that cannot be rectified by the development and which, if not rectified, will result in a threat to public health or safety, surcharging of existing mains, or violations of state or federal standards pertaining to operation of domestic water and sewerage treatment

systems. The City Engineer may require water booster pumps, sanitary sewer lift stations, and other critical facilities be installed with backup power. (Ord. 2017-08 §1)

Findings: An 8-inch sanitary main exists on OR-213. Applicant proposes to extend the 8-inch sewer main to the east end of the site and connect proposed development by lateral connection to proposed manhole. Extension of sewer main will require a Certificate of Capacity analysis by City's on-call engineer. 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.

Applicant proposes to loop a waterline through the site and extend the water main to the east end of the project on Crompton's Lane. Waterline shall meet Public Works size requirements and all fire hydrant locations shall be approved by the Fire Marshall.

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.

CHAPTER 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.

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.

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. (Ord. 2017-08 §1)

Findings: Applicant proposes to collect and detain all stormwater onsite and discharge to ODOT facilities. Connection to ODOT facilities shall comply with all ODOT requirements. Onsite private storm system shall comply with plumbing code requirements. The detention and flow control facilities shall be reviewed, permitted, and inspected by Public Works. The onsite storm conveyance system shall be reviewed and inspected by Clackamas County Building under a plumbing permit. The connection to the ODOT facilities shall be reviewed and permitted by ODOT including water quality requirements.

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.

Findings: All utilities to the project shall be served underground services. No overhead crossings of public right of way shall be approved by the city.

SDC Requirements:

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.

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.

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.

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.

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.

DESIGN REQUIREMENTS & POLICIES

A. For residential development projects, all public improvements shall be completed and accepted by the Public Works Department prior to issuance of building permits. No connections to City service shall be allowed until public improvements are completed. For commercial and industrial development projects, all public improvements shall be completed and accepted by the Public Works Department prior to issuance of any occupancy.

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.

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: The proposed use is a residential use. 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

Findings: The proposed use is a residential use. Does not apply.

18.02. Signs

18.02.040 Permit requirements. Permit Required. All signs erected after the effective date of the ordinance codified in this chapter, other than signs exempt from permit requirements of this chapter shall require a sign permit

Findings: The Applicant shall obtain appropriate permitting for all non-exempt signs associated with this project.

Exhibit C:

Oregon Department of Transportation Comments

Oregon
Kate Brown, Governor

Department of Transportation
Region 1 Headquarters
123 NW Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8259

February 14th, 2020 ODOT #9070

ODOT Response

Project Name: Colima Apartments	**Applicant:** Angel Jimenez
Jurisdiction: City of Molalla	**Jurisdiction Case #:** DRW04-2019
Site Address: 31514 S. Hwy 213, Molalla, OR	**Legal Description:** 05N 02E 07D **Tax Lot(s):** 02300
State Highway: OR 213	Hwy 160 MP 16.19

The site of this proposed land use action is adjacent to OR 213. ODOT has permitting authority for this facility and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation. **Please direct the applicant to the District Contact indicated below to determine permit requirements and obtain application information.**

COMMENTS/FINDINGS

ODOT has reviewed the Transportation Impact Study and Addendum #1 prepared for the proposed 36 unit multifamily residential project adjacent to OR 213 in the City of Molalla. ODOT has the following comments:

I. The executive summary of the original Traffic Impact Study states, "left turn warrants were not project to be met under year 2022 buildout conditions." Based on ODOT's review of the original Traffic Impact Study appendix for a Left Turn Warrant, the study finds the left turn warrant is met during the pm peak hour even while underestimating the trip generation for the development. ODOT concurs with the finding in the appendix that a left Turn Warrant for the proposed access to OR 213 has been met. Upon reviewing Addendum #1, the number of trips to the development increased while the left turn warrant was met. ODOT has determined the Left Turn Warrant for the access to OR 213 is warranted and recommends that it be required.

II. The proposed access to the site via Crompton's Ln require a State Highway Approach Road Permit. The site plan shows the access is limited to 20ft width. ODOT standard for the width of a multi-family access is 24ft wide. It is not clear whether there is the ability for the applicant to widen the access to 24ft. There are obstructions to the sight distance to the south including vegetation. A survey will be needed to indicate whether the tree is within ODOT right of way to determine if it can be trimmed back or removed.

ODOT is recommending that sidewalk improvements be required for the property's OR 213 frontage and right of way be donated to ODOT as necessary to accommodate the planned cross section in the Molalla Transportation System Plan.

All alterations within the State highway right of way are subject to the ODOT Highway Design Manual (HDM) standards. Alterations along the State highway but outside of ODOT right-of-way may also be subject to ODOT review pending its potential impact to safe operation of the highway. If proposed alterations deviate from ODOT standards a Design Exception Request must

be prepared by a licensed engineer for review by ODOT Technical Services. Preparation of a Design Exception request does not guarantee its ultimate approval. Until more detailed plans have been reviewed, ODOT cannot make a determination whether design elements will require a Design Exception.

Note: Design Exception Requests may take up to 3 months to process.

All ODOT permits and approvals must reach 100% plans before the District Contact will sign-off on a local jurisdiction building permit, or other necessary requirement prior to construction.

ODOT RECOMMENDED LOCAL CONDITIONS OF APPROVAL

Frontage Improvements and Right of Way

☒ Curb and sidewalk shall be constructed as necessary to be consistent with local, ODOT and ADA standards.

☒ Right of way deeded to ODOT as necessary to accommodate the planned cross section shall be provided. The deed must be to the State of Oregon, Oregon Department of Transportation. The ODOT District contact will assist in coordinating the transfer. ODOT should provide verification to the local jurisdiction that this requirement has been fulfilled. The property owner must be the signatory for the deed and will be responsible for a certified environmental assessment of the site prior to transfer of property to the Department.

Note: It may take up to **3 months** to transfer ownership of property to ODOT.

Access to the State Highway

☒ A State Highway Approach Road Permit from ODOT for access to the state highway for the proposed use is required. A left turn lane into the access is required as determined by ODOT. Turning templates for emergency vehicles shall be provided as needed to ensure vehicles can enter and exit the approach safely. Site access to the state highway is regulated by OAR 734.51. For application information go to http://www.oregon.gov/ODOT/HWY/ACCESSMGT/Pages/Application-Forms.aspx.

Note: It may take **2 to 3 months** to process a State Highway Approach Road Permit.

Please send a copy of the Notice of Decision including conditions of approval to:

ODOT_R1_DevRev@odot.state.or.us

Development Review Planner: Marah Danielson	503.731.8258, marah.b.danielson@odot.state.or.us
Traffic Contact: Avi Tayar, P.E.	503.731.8221 Abraham.tayar@odot.state.or.us
District Contact: District 2B	D2BUP@ODOT.state.or.us

Exhibit D:

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

February 4, 2020

TO: Alice Cannon, Senior Planner

FROM: Gerald Fisher, Public Works Director

RE: Colima Apartments (DRW04-2019) – 31514 OR 213 & 12745 Crompton's Lane – Revised

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. The apartment proposal will not require a traffic impact analysis update. The proposed development will add a total of 36 units (23 trips) and the threshold for a traffic impact analysis is 25 trips. A Transportation Analysis Letter (TAL) is required per MMC 17-3.6.020.A.4.a and must be submitted and approved by the City prior to issuance of construction permits.
      2. OR 213: OR 213 is an arterial street under Oregon Department of Transportation (ODOT) jurisdiction. Current right-of-way width varies from 60-75 feet and approximate pavement width varies from 52-67 feet. Frontage improvements have been completed except for an ODOT approved driveway apron at Crompton's Lane. Applicant will be required to construct a driveway apron and sidewalk to the south edge of Crompton's Lane in accordance with ODOT requirements. Applicant will also be required to dedicate a 10-foot wide Public Utility Easement across the front of 31514 Hwy 213 and across 12745 Crompton's Lane fronting OR 213. Roadway lighting is required on all new development. Applicant shall be required to install roadway lighting or sign a waiver of remonstrance for future lighting project. Location and number shall be determined during design review. See also ODOT comments about right of way width and left turn warrants.
      3. Crompton's Lane: Crompton's Lane is a private drive. Applicant will be required to construct a paved driveway to the east end of the project and comply with all Planning requirements for onsite access and connectivity. See also ODOT comments regarding width.
      4. Right-of-way Dedications/Donations: If right of way dedication fronts streets under the jurisdiction of the City of Molalla, Applicant shall submit dedication on formats approved by the Public Works Department. On ODOT rights of way, applicant will be required to donate sufficient right-of-way along variable width improvements and

construct sidewalk widening to ODOT standards. ODOT requires donations of right-of-way to follow the requirements of Chapter 5.322. Developer Mitigation Donation in the ODOT Right-of-Way Manual. Applicant is advised that donation must be completed and recorded prior to submission of final subdivision plat or final partition plat in order for Public Works to process plat documents.

5. Access to public streets shall be limited to Crompton's Lane for vehicular access.
6. 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:
   1. Applicant proposes to collect and detain all stormwater onsite and discharge to ODOT facilities. Connection to ODOT facilities shall comply with all ODOT requirements. Onsite private storm system shall comply with plumbing code requirements. The detention and flow control facilities shall be reviewed, permitted, and inspected by Public Works. The onsite storm conveyance system shall be reviewed and inspected by Clackamas County Building under a plumbing permit. The connection to the ODOT facilities shall be reviewed and permitted by ODOT including water quality requirements.
   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:
   1. An 8-inch sanitary main exists on OR 213. Applicant proposes to extend the 8-inch sewer main to the east end of the site and connect proposed development by lateral connection to proposed manhole. Extension of sewer main will require a Certificate of Capacity analysis by City's on-call engineer. 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. 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:
   1. Applicant proposes to loop a waterline through the site and extend the water main to the east end of the project on Crompton's Lane. Waterline shall meet Public Works size requirements and all fire hydrant locations shall be approved by the Fire Marshall.
   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. 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 underground services. No overhead crossings of public right of way shall be approved by the city.

DESIGN REQUIREMENTS & POLICIES

a. General Requirements:

A. For residential development projects, all public improvements shall be completed and accepted by the Public Works Department prior to issuance of building permits. No connections to City service shall be allowed until public improvements are completed. For commercial and industrial development projects, all public improvements shall be completed and accepted by the Public Works Department prior to issuance of any occupancy.

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 E:

Molalla Fire Department Comments

Comments for 31514 S Hwy 213. These comments supersede the previous comments from January 21st, 2020

1) Security gates shall have a clear span of not less than 16 feet. If its electronic, a separate fire department access code will need to be provided that will keep the gate open during the time the fire department is on scene. If this cannot be accomplished, a Knox override key shall be provided.
2) Knox boxes shall be provided for all riser rooms.
3) Addressing will need to meet current apartment addressing standards. I will supply photos at the preapplication meeting.
4) Please add dimensions of any carports or covered parking areas to the plans
5) Fire extinguishers do not need to be placed on plans. I will help place if you wish
6) Conversations will need to be held regarding FDC placement.
7) Hydrant/fire line will need to be extended in to the project as the last hydrant in the system is located at 12704 S Hwy 213. Hydrants will need will need to have a 4" stortz fitting. **NOT 5 as is a common mistake.** Hydrant lines will need to be looped. I will comment more on hydrant placement once I see the layout of the complex.

The above is a list of items that will need to be addressed. This is not a complete list of all items listed in the Oregon Fire Code, Oregon Structural Specialty Code or Oregon Mechanical Code.

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.

Molalla Fire District No 73
320 N Molalla Avenue
Molalla, OR 97038

Office No: 503.829.2200
Office Fax: 503.829.5794

www.molallafire.org

Michael Penunuri
February 13, 2020

Exhibit F:

Public Comment from Mr. Terry Burley and Mr. Randy Burley

I am going to put my 2 cents in even though it will probably get deleted. I think apartments next to THC pot store is not a good idea. Thought it was illegal anyway.

We have a 32 foot easement for the drive way, so pretty sure they cannot do anything there unless we sign off on it.

The well is shared and they cannot take it away.

None of their plans make sense anyway. Cant even read the thing.

What am I going to do with a sidewalk next 6 inches from the door of my shop? That should have never been allowed .

What about the zoning? Is that allowed.

Cedar trees stay.

Terry L Burley

12770 S Cromptons Lane

Molalla Oregon 97038

From Randy

we have a 32 ft easement and the easement says cannot be blocked and they cant do away with our well. my lawyer told me the easement cant be blocked for the whole 32 ft and cant be built on

---

and even if they own it its still a private driveway

Exhibit G:

Public Comment from Mr. Gary Sause and Mrs. Sandra Sause

North Fork Land & Development LLC

31670 S. Hwy 213 Molalla, OR 97038
Mailing Address: P.O. Box 491 Beavercreek, OR 97004
Phone: (503) 632-7675

January 31, 2020

Community Dev. & Planning
117 N. Molalla Avenue
PO Box 248
Molalla, OR 97038

Re: File No. DRW04-2019
Proposal : New construction for "Colima Apartments"
Date of Hearing : Wednesday, February 5th, 2019 at 6:30 p.m.

Dear Planning Dept.:

Regarding the above-referenced proposal, North Fork Land & Development, along with existing businesses operating along the east side of highway 213, i.e. Sause Marine Services, BCN Metal Fabrication, Mill Machinery and Pacific Northwest Fab, hereby submit our opposition to the above-referenced proposed development for the following reason:

1. Placing a 36 unit apartment complex in this area is not compatible with this industrial and business district.

Mill Machinery will submit additional comments under separate cover.

A marijuana retail shop was allowed to open in the referenced corridor on Hwy 213, and now it appears the intent is to place a 36 unit apartment complex directly behind the marijuana retail store, one lot North of existing heavy industrial operations. The existing heavy industrial businesses are allowed to engage in three shift operations, as needed.

It is our collective opinion that permitting an apartment complex in close proximity to the designated heavy industrial area would not be compatible with the intended zoning and the current business operations.

In 2005, we participated with a group of land owners and business owners (***TEAM*** – *Team For Economic Action In Molalla*) to annex the four corners industrial site into the City of Molalla. See attached *Team For Economic Action In Molalla* brochure. The intent was that the Highway 213/211 corridor would allow for general commercial businesses which would be compatible with a heavy industrial park, i.e. industrial welding, gas and parts suppliers, quick marts, breakfast/lunch cafes, and other businesses that would support and work in concert with

heavy industrial operations. We do not believe placing a residential apartment unit in close proximity to the industrial park is compatible with the zoning and current use.

We ask the planning department to reject this application.

North Fork Land & Dev. LLC

Sandra J. Sause

Sause Marine Services, Inc.

Gary S. Sause

BCN Metal Fabrication

Brian C. Nunn

Pacific Northwest Fab

Tyson C. Sause

Encl.

cc: Dave Cowan, Mill Machinery

TEAM FOR ECONOMIC ACTION IN MOLALLA

(TEAM)

P. O. Box 1031
Molalla, OR 97038
Phone: (503) 829-5003
E-mail:
temo@molalla.net

TEAM'S MISSION STATEMENT:

To build and maintain strong, diverse business districts; to create and retain living wage jobs; and to promote Molalla as a rewarding place to work, live and shop.

TEAM BOARD OF DIRECTORS

Ed Stafford, President
Windermere Realty

Jim Taylor, Vice President
Superior Glass Works

Mitch Magenheimer, Secretary*
Edward Jones Company

Gene Green, Treasurer
City of Molalla

Marci Marsh
Molalla Communications Company

Bill Avison, Member
Avison Lumber Company

Gary Deardorff, Member
Doubletree Properties

Pattie Smith, Member*
Parkside Cottage

Beth Smith, Member*
Portland General Electric

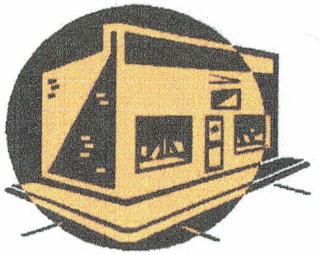
Gary Sause, Member*
Sause Marine

Shane Potter, Ex-Officio
Molalla City Planner

** = Newly Appointed Board Members*

TEAM FOR ECONOMIC ACTION IN MOLALLA

TEAM



P. O. Box 1031
Molalla, OR 97038
Phone: (503)829-5003
E-mail:
temo@molalla.net

Who We Are

- TEAM was established in 2002 and is a 501(c)(3), non-profit organization.
- TEAM's efforts began with funding through a grant from Mt. Hood Economic Alliance, City of Molalla, and Molalla Communications Company.
- TEAM's current project and program funding is with the newly formed Economic Improvement District (E.I.D.).
- TEAM's Board of Directors consists of business owners, property owners and community leaders whose main objective is to strengthen and develop Molalla's commercial and industrial business districts.
- TEAM serves as a clearinghouse for information on properties, funding resources, and provides technical assistance as necessary.
- TEAM is a point of contact for new and relocating businesses, for business retention and expansion opportunities, and downtown revitalization efforts.
- TEAM works with state and regional partners on business recruitment/retention/expansion opportunities.

Our Committees

MARKETING COMMITTEE

The mission of TEAM's Marketing Committee is to market Molalla as the place to go for shopping, working and operating a business. Responsibilities of this committee will include:

- Develop community-wide "shop local" campaign.
- Develop demographic and available property information that will be provided to businesses considering locating to Molalla.
- Creating brochures, websites and other materials and make it available to prospective businesses.
- Identify businesses that would serve as a good "fit" with the existing mix of businesses.
- Develop programs to enable downtown businesses to cross sell each other.
- Work with the Molalla Area Chambar of Commerce to improve Molalla's business product.

DESIGN COMMITTEE

The purpose of TEAM's Design Committee is to create an attractive, coordinated and quality image of the downtown by capitalizing on its unique assets and heritage. Activities may include analyzing parking, developing signage and gateways, coordinating window displays and acting as a design resource for business and property owners. The Committee will work with the Molalla Planning Commission in an advisory capacity to achieve the goals of downtown design, revitalization and development.

The City and TEAM will create a Building Improvement Revolving Loan where TEAM's Design Committee will play a role in the design review and approval process for funding.

INDUSTRIAL COMMITTEE

TEAM's Industrial Committee provides a venue in which industrial business representatives and industrial property owners meet to discuss needs and issues facing them. This group also works with TEAM to develop a mix of targeted industries to market relocation and/or expansion opportunities in Molalla.

2006 Projects

DESIGN COMMITTEE

- Building Improvement RLF & FREE Paint Program
- Directional Signage
- Gateways
- Trash Receptacles Downtown

MARKETING COMMITTEE

- Shop Molalla Campaign
- Quarterly Newsletters
- Web Page Design & Hosting
- Business Recruitment Materials & Distribution
- Available Property Brochures & Distribution

INDUSTRIAL COMMITTEE

- Industrial Park Signage
- Job Fair
- Industrial Land Matrix (Clackamas County/State of Oregon)
- Industrial Marketing Efforts