

PC2007 PUD 01
 PC2008 SUB 01
 Florence Golf Links
 35th & Rhody

City of Florence
 Community Development Department
 250 Highway 101
 Florence, OR 97439
 Phone: (541) 997 - 8237
 Fax: (541) 997 - 4109
www.ci.florence.or.us

Type of Request

- Preliminary Planned Unit Development (PUD) (Florence City Code Title 10, Ch-23)
- Tentative Subdivision Plan (Florence City Code Title 11, Ch-1, 3, 5 & 7)
- Modification to requirements (Title 10, Chapter 36 or Title 11)

Applicant Information

Name: 3J Consulting, C/O Mercedes Serra Phone 1: 503-946-9365
 E-mail Address: mercedes.serra@3j-consulting.com Phone 2: _____
 Address: 9600 SW Nimbus Ave, Ste. 100, Beaverton, OR 97008
 Signature: Date: 2/13/2020
 Applicant's Representative (if any): _____

Property Owner Information

Name: APIC Florence Holdings, LLC Phone 1: 503-704-9934
 E-mail Address: asorber@apicincus.com Phone 2: _____
 Address: 5 Thomas Mellon Cir. Ste. 305, San Francisco, CA 94134
 Signature: Date: 2/11/20
 Applicant's Representative (if any): Ashlee Sorber

NOTE: If applicant and property owner are not the same individual, a signed letter of authorization from the property owner which allows the applicant to act as the agent for the property owner must be submitted to the City along with this application. The property owner agrees to allow the Planning Staff and the Planning Commission onto the property. Please inform Planning Staff if prior notification or special arrangements are necessary.

For Office Use Only:

<p>RECEIVED City of Florence FEB 14 2020 By: _____</p>	<p>Approved</p>	<p>Exhibit Exhibit B</p>
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Property Description

Assessor's Map No.: _____ - _____ - _____ - _____ Tax lot(s): 1812153300700, 1812153403800, 1812222101900

Zoning District(s): RMH

Conditions & land uses within 300 feet of the proposed site that is one-acre or larger and within 100 feet of the site that is less than an acre OR add this information to the off-site conditions map (FCC 10-1-1-4-B-3): The properties to the west are zoned SFR and are developed with single-family homes. The properties to the north, east and south are zoned RMH and are developed with single-family homes.

Project Description

Lot Size: 9.28 acres Number of single family lots proposed: 81

Proposed Building Coverage if a PUD: 33.28%

Is any project phasing anticipated? (Check One): Yes No

Timetable of proposed improvements: Begin - October 2020, End- November 2022

Proposal: (Describe the project in detail, what is being proposed, size, objectives, and what is desired by the project. Attach additional sheets as necessary)

The proposed Planned Unit Development includes 31 single-family detached homes, 49 single-family attached homes and 46 multi-family homes. Access to the development is provided through private street and alley network. Recreation areas include a Central Green includes a children's play area, a pavilion, picnic areas, lawn, native grove and walking trails. Two pocket garden will provide native plantings, walking trails and seating areas for residents. A series of garden courts which include lawn, walking trails, a shelter and picnic area. A small fenced dog park with a seating area has been provided at the south end of the site.

For Office Use Only:

Date Submitted: _____ Fee: _____

Received by: _____

Paid

Other Information Required

Below is a check list of the required information to determine if an application is complete. The Florence City Code is available at City Hall or online at www.ci.florence.or.us (click on "City Code" which is located on the main page). You will also find the *Florence Transportation Plan, Downtown Architectural Guidelines, Highway 101 Access Management Plans, Stormwater Design Manual* and *Stormwater Management Plan* available on the City's Planning Department webpage or at the City Hall for review or purchase.

Note: Please submit an electronic copy of any plans submitted larger than 11" x 17"

Tentative Subdivision Plan drawn to scale, showing the following:

- Name and block numbering of proposed subdivision
- Date, north point, scale of the drawing,
- Description of the location and boundaries of the proposed subdivision or major partition area
- Names of all recorded subdivisions contiguous to the area
- Names and addresses of the owner and engineer or surveyor
- Locations, names, widths of all existing and proposed public and private streets and roads (includes right-of-way and pavement widths) & all reservations/restrictions relating to private roads & streets
- Grades and radii of curves of proposed streets
- Elevations of all points used to determine contours (given to true elevation above mean sea level) with base date used shall be clearly indicated and shall be compatible to City datum, if bench marks are not adjacent. Contours shall be in the following intervals:

Contour Intervals	Ground Slope
1'	0% to 5%
2'	5% to 10%
5'	over 10%

- Width and location of all proposed public utility easements
- Stormwater flows, location of existing storm lines, location of stormwater overflow and its impact down stream
- Location of sewer pipes, sizes, man holes, and elevations of existing and proposed pipes
- Water system proposed including source, pipe locations, sizes, meter locations & hydrants
- Width and location of all proposed sidewalks
- All public areas proposed to be dedicated by the partitioner and the proposed uses thereof such as reserve strips
- All public improvements proposed to be made or installed, and the time within which such improvements are envisioned to be completed
- A legal description of the boundaries of the entire area owned by the land owner of which the proposed land division is a part; provided, that where the proposed land division comprises all of such area, an affidavit of such fact shall accompany the application
- Dimensions of all proposed lots or/and parcels
- If lot areas are to be graded, a plan showing the nature of cuts and fills and information on the character of the soil

PUD Preliminary Development Plan, including the following

- An explanation of the character of the planned unit development and the manner in which it has been planned to take advantage of the planned unit development regulations.

- Map showing street systems, lot or partition lines and other divisions of land for management, use or allocation purposes.
- Areas proposed to be conveyed, dedicated or reserved for public streets, parks, parkways, playgrounds, school sites, public buildings and similar public and semi-public uses.
- Open Space Plan . Refer to FCC 10-23-5-G for criteria
- Off-Street Parking and Loading Plan
- List of Design Team and Summary of Qualifications (FCC 10-23-7)
- A plot plan for each building site and common open space area, showing the approximate location of buildings, structures, and other improvements and indicating the open spaces around buildings and structures, excepting private single-family lots in a residential PUD.
- Elevation and perspective drawings of proposed structures.
- A development schedule indicating:
 - a. The approximate date when construction of the project can be expected to begin.
 - b. The stages in which the project will be built and the approximate date when construction of each stage can be expected to begin.
 - c. The anticipated rate of development.
 - d. The approximate dates when each stage in the development will be completed.
 - e. The area, location and degree of development of common open space that will be provided at each stage.
- Agreements, provisions or covenants which govern the use, maintenance and continued protection of the planned unit development and any of its common open space areas.
- The following plans and diagrams, insofar as the reviewing body finds that the planned unit development creates special problems of traffic, parking and landscaping.
 - a. An off-street parking and loading plan.
 - b. A circulation diagram indicating proposed movement of vehicles, goods and pedestrians within the planned unit development and to and from thoroughfares. Any special engineering features and traffic regulation devices needed to facilitate or insure the safety of this circulation pattern shall be shown.
 - c. A landscaping and tree plan.

Additional Submittals, if not provided in plan or plat:

- Site Investigation Report (per FCC 10-7-3)
- Fire flows- For fire flow information, contact the Fire Marshal, Sean Barrett at (541) 997-3212.
- Signs (per FCC 10-6-6-D)- If proposing signs, (new or existing) provide a drawing or sketch to scale which includes: size, location, materials, colors, and illumination if any
- Title Report from a Title Company (per FCC 10-4-3-C and 10-6-6-E)- indicating liens, access and/or utility easements, legal description

- Survey (for Old Town Zoning District) (per FCC 10-17A-4-K-1-a, 10-17B-4-K-1-a, and 10-17C-4-K-1-a) A recent survey map drawn to scale which shows property lines, easements, 2' contours, existing structures (including height of sea-wall, if appropriate), floodplain & highest observed tide.
- Access permit (for properties accessing State or County Roads) (see FCC 10-35-2-4) A State or County complete access permit application is required. For properties along Highway 101 located between Highway 126 and the bridge along Highway 101 please refer to the *Highway 101 Access Management Plan*.
- Stormwater Plan:
 - Preliminary Development Plan (per FCC 9-5-2-A-4): (projects which are adding 500 square feet or greater of impervious surface area or clearing vegetation from 10,000 square feet or greater (single family homes are excluded) and under 1 acre per FCC 9-5-2-2-C) Shall include a general description of the proposed project property and description of existing structures, buildings, and other fixed improvements located on the property and surrounding properties. The plan shall also include natural water flow of the existing property, soils, storm water drainage, flooding from high groundwater table. The Plan also shall identify the features outlined in FCC 9-5-2-A-4.
 - A Stormwater Management Plan (per FCC 9-5-2-3): Stormwater Management Plan is required for projects over 1 acre is required with construction drawings, please refer to FCC 9-5-2-3 for submittal requirements.
- Traffic Impact Study. Please refer to FCC 10-1-1-4-D to see if a Traffic Impact Study is required.

Utility Plan:

List all utilities currently available to the site AND add this information to a utility plan map (See FCC 10-1-1-4-B-2).

Note: For help identifying the location of utilities, please call Dig Safely Oregon at 1-800-332-2344 or dial 811. Call Public Works (541-997-4106) to determine the size of utility lines. Call the Fire Marshal (541-997-3212) to determine fire flows.

Water Supply: 8 - inch line available from Rhododendron Drive (Street)
 Sanitary Sewer: 12 - inch line available from Rhododendron Drive (Street)
 Storm Sewer: 36 - inch line available from Rhododendron Drive (Street)

Check if available: Telephone Cable TV Electrical Other (Such as fiber optics)

Provide a plan drawn to common scale showing the location of existing and proposed buildings, existing and proposed utility services, location and size of water and sewer lines, drainage routes, manholes, meters, fire hydrants, fire flows, and 2' contours.

Lighting Plan:

Show location of each light fixture, diagram illustrating foot-candle distribution, and elevation drawing of each light fixture in conformance to FCC 10-37.

- Location of areas of scenic value, wildlife habitat, potential hazard areas (floodplains, geologic instability), wetlands, riparian areas or areas of special significance or within an overlay zone.

Erosion Control:

Projects of over 1 acre of land disturbance over a period of time (please see FCC 10-36-4) are required to obtain a National Pollution Discharge Elimination System permit from the Department of Environmental Quality prior to the issuance of a development permit or land use permit based on appropriate criteria.

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GENERAL INFORMATION

Property Owner and Applicant:

APIC Florence Holdings, LLC

5 Thomas Mellon Cir, Suite 305
San Francisco, CA 94134
Contact: Ashlee Sorber
Phone: (503) 704-9934
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Planning Consultant:

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Landscape Architect:

PLACE Studio LLC

735 NW 18th Avenue
Portland, OR 97209
Contact: Charles Brucker
Phone: (503) 334-2083
Email: charles.brucker@PLACE.la

Surveyor:

S&F Land Services

1725 N Roosevelt Dr, Suite B
Seaside, OR 97138
Contact: Jack White
Phone: (503) 738-3425
Email: jack.white@sflands.com

SITE INFORMATION

Parcel Number: 18121533 00700, 18121534 03800, and 18122221 01900
Address: No site address
Size: 9.28 acres
Zoning Designation: Mobile Home/Manufactured Home Residential (RMH)
Comprehensive Plan Designation: Medium Density Residential (MDR)
Existing Use: Vacant
Surrounding Zoning: The properties to the west are zoned Single-Family Residential. The properties to the north, east and south are zoned Mobile Home/Manufactured Home Residential.
Street Classification: Rhododendron Drive is classified as a minor arterial. 35th Street is classified as a collector.

INTRODUCTION

APPLICANT'S REQUEST

The Applicant proposes to construct a planned unit development and seeks the approval of concurrent applications for a Planned Unit Development (PUD) and Tentative Subdivision (SUB). This narrative describes the proposed development and demonstrates compliance with the relevant approval standards of the City of Florence's Zoning Code (Title 10) and Subdivision Code (Title 11).

A Planned Unit Development (PUD) application is evaluated under the Type III quasi-judicial decision process. The City's Planning Commission will render the Type III decision after a public hearing on the application is held.

SITE DESCRIPTION/SURROUNDING LAND USE

The subject site is 9.28 acres in size and is located on Rhododendron Drive, north of 35th Street. The property is located within the City and is zoned Mobile Home/Manufactured Home Residential (RMH). The site has generally flat topography, with a slight slope towards the western end of the property.

The properties to the north, south and east are zoned Mobile Home/Manufactured Home Residential (RMH). The properties to the west of Rhododendron Drive are zoned Low Density Residential (LDR). The site is abutted by single-family homes.

PROPOSAL

The proposed planned community will include a mixture of single-family detached homes, and single-family attached homes and multi-family homes. The proposed development includes 31 single-family homes, 49 single-family attached homes, and 46 multi-family homes with modifications to the base zone's dimensions as permitted through the PUD process.

The proposed design includes a network of open spaces, a thoughtfully linked pedestrian circulation system, and recreation facilities. The Central Green includes a children's play area, a pavilion, picnic areas, lawn, native grove and walking trails. Two pocket gardens will provide native plantings, walking trails and seating areas for residents. A series of garden courts which include lawn, walking trails, a shelter and picnic area. A small fenced dog park with a seating area has been provided at the south end of the site.

A private loop road will serve as access to the site, with two access points on Rhododendron Drive. A network of alleyways will provide for vehicle access to rear loaded garages in individual homes. On-street parking will be provided along the private loop road. Additional parking for residents has been provided on individual lots, or within surface level parking lots in the multi-family development areas. Sidewalks along each side of the private street will connect with an internal pedestrian pathways system which provides access to each building entrance and all open space recreation spaces provided on the site.

NEIGHBORHOOD MEETING

The Applicant held the required neighborhood meeting on November 12, 2019 with surrounding property owners to discuss the proposed development. The submitted materials include the signature sheet, meeting notes, and materials provided to the attendees of the meeting. No follow up comments on the proposal were received.

APPLICABLE CRITERIA

The following sections of Florence's Title 10 Zoning Code have been extracted as they have been deemed to be applicable to the proposal. Following each **bold** applicable criteria or design standard, the Applicant has provided a series of draft findings. The intent of providing code and detailed responses and findings is to document, with absolute certainty, that the proposed development has satisfied the approval criteria for a Type III Planned Unit Development application.

Title 10 – Zoning Regulations

Chapter 3 – Off-Street Parking and Loading

10-3-2: GENERAL PROVISIONS

- A. **The provision for and maintenance of off-street parking and loading spaces are continuing obligations of the property owners. No building or other permit shall be issued until plans are presented that show property that is and will remain available for exclusive use as off-street parking and loading space.**
- B. **At the time of new construction or enlargement or change in use of an existing structure within any district in the City, off-street parking spaces shall be provided as outlined in this Chapter, unless requirements are otherwise established by special review or City Council action. Additional parking spaces shall meet current code.**
- C. **If parking space has been provided in connection with an existing use or is added to an existing use, the parking space shall not be eliminated if elimination would result in less space than is required by this Chapter.**
- D. **Required parking spaces shall be available for the parking of passenger automobiles of residents, customers, patrons and employees, and shall not be used for storage of materials of any type.**
- E. **Ingress and egress for parking and loading shall not endanger or impede the flow of traffic.**
- F. **The required off-street parking for nonresidential uses shall not be used for loading and unloading operations during regular business hours.**
- G. **Parking and Loading standards that are listed under specific zoning districts supersede the general requirements of this chapter.**
- H. **Provisions of this Chapter shall not apply to any parking located in an organized parking district.**
- I. **The provisions of this Chapter shall be in addition to the provisions for parking design and construction in FCC Title 9 Chapter 5 and, where there are conflicts, Title 9 Chapter 5 shall prevail.**

Finding: Attached to this narrative is a Site Plan (Sheet C-3) which details the proposed parking for the site. It has been designed to accommodate proposed residential uses and allow for the safe and efficient flow of traffic with minimal conflicts with pedestrians.

10-3-3: MINIMUM STANDARDS BY USE: The number of required off-street vehicle parking spaces shall be determined in accordance with the standards in Table 10-3-1. Where a use is not specifically listed in this table, parking requirements are determined by finding that a use

is similar to one of those listed in terms of parking needs, or by estimating parking needs individually using the demand analysis option described below:

- A. Parking that counts toward the minimum requirement is parking in garages, carports, parking lots, bays along driveways, and shared parking. Parking in driveways does not count toward required minimum parking. For single family dwellings, duets and duplexes, one parking space per unit may be provided on a driveway if the criteria in FCC 10-3-8 are met.
- B. For non-residential uses where parking is available on-street, this parking shall count towards the minimum number of required parking spaces along all street frontages of the building where parking is available. Only useable spaces (i.e. those not blocking fire hydrants, mailboxes, etc.) shall count towards the minimum required number of parking spaces.
- C. The minimum number of parking spaces may also be determined through a parking demand analysis prepared by the applicant and approved by the Planning Commission. This parking demand analysis may include an acceptable proposal for alternate modes of transportation, including a description of existing and proposed facilities and assurances that the use of the alternate modes of transportation will continue to reduce the need for on-site parking on an on- going basis. Examples of alternate modes include but are not limited to:
 - 1. Transit-related parking reduction. The number of minimum parking spaces may be reduced by up to 10% if:
 - a. The proposal is located within a ¼ mile of an existing or planned transit route, and;
 - b. Transit-related amenities such as transit stops, pull-outs, shelters, park-and-ride lots, transit-oriented development, and transit service on an adjacent street are present or will be provided by the applicant.

Finding: Parking will be provided with a combination of single and double car garages on the single-family lots, driveways on single-family lots, covered and uncovered surface parking, and on-street spaces within the private street loop in order to meet the estimated parking demand. As detailed below, the applicant proposes the provision of 259 total parking spaces to meet the anticipated demand.

10-3-4: MINIMUM REQUIRED PARKING BY USE: During the largest shift at peak season, fractional space requirements shall be counted as the next lower whole space (rounded down). Square footages will be taken from the gross floor area (measurements taken from exterior of building). Applicants may ask the Planning Commission for a reduction for parking spaces as part of their land use application. The applicant will have to provide the burden of evidence to justify the reduction proposed. The Planning Commission and/or staff may require the information be prepared by a registered traffic engineer. Table 10-3-1 lists the minimum parking spaces required by use, with a minimum no less than two (2) spaces for non-residential uses, plus additional space(s) as needed to meet the minimum accessible parking requirement.

Table 10-3-1, Minimum Required Parking By Use:

A. Residential and Commercial Dwelling Types:

Single Family Dwelling Including attached and detached dwellings and manufactured homes	2 space per dwelling unit
Duplex/Duet	2 spaces per dwelling unit
Tri-plex or Quad-plex Cluster Housing Multiple-family dwelling Studio & one bedroom units Two-bedroom units Three-bedroom units or larger	1 space per unit 1.5 spaces per unit 2 spaces per unit

Finding: The proposed development will include 31 detached homes and 49 attached homes (five of which are one-bedroom units) requiring 160 parking spaces. The proposed apartments will provide 24 studio/one-bedrooms and 22 two-bedrooms, requiring 57 parking spaces. A total of 217 parking spaces are required on-site.

The detached and attached homes will provide parking within single or double car garages. Additional parking for the single-family detached homes will be provided on individual lots on parking pads located to the side of the homes. The multi-family apartments will provide a mix of covered and uncovered parking adjacent to each of the buildings in surface parking lots. On-street parking provided on the private street loop will provide additional parking. In total, 262 parking spaces will be provided on site, exceeding the minimum requirement.

	Number of Parking Spaces
SFA Garage Spaces	93
SFD Garage Spaces	37
SFD Driveway Parking Spaces	25
Multi-Family Surface Parking	61
On-Street Parking (Private)	46
Total	262

10-3-5: VEHICLE PARKING – MINIMUM ACCESSIBLE PARKING:

- A. Accessible parking shall be provided for all uses in accordance the standards in Table 10-3-2; parking spaces used to meet the standards in Table 10-3-2 shall be counted toward meeting off- street parking requirements in Table 10-3-1;**
- B. Such parking shall be located in close proximity to building entrances and shall be designed to permit occupants of vehicles to reach the entrance on an unobstructed path or walkway;**
- C. Accessible spaces shall be grouped in pairs where possible;**
- D. Where covered parking is provided, covered accessible spaces shall be provided in the same ratio as covered non-accessible spaces;**

- E. **Required accessible parking spaces shall be identified with signs and pavement markings identifying them as reserved for persons with disabilities; signs shall be posted directly in front of the parking space at a height of no less than 42 inches and no more than 72 inches above pavement level. Van spaces shall be specifically identified as such.**

Finding: The multi-family development on site is divided into two areas, each with 23 apartment units. Accessible parking has been provided on each site at the entrance of each building. The amount of accessible parking required and provided has been detailed in the table below.

	Site A	Site B
Surface Parking Stalls	26	35
Required Accessible Stalls (Table 10-3-2)	1	2
Provided Accessible Stalls	2	2

All accessible parking will be covered and will be identified with signs and pavement markings consistent with the requirements of this section. This standard is met.

10-3-8 PARKING AREA IMPROVEMENT STANDARDS: All public or private parking areas, loading areas and outdoor vehicle sales areas shall be improved according to the following: All required parking areas shall have a durable, dust free surfacing of asphaltic concrete, cement concrete, porous concrete, porous asphalt, permeable pavers such as turf, concrete, brick pavers or other materials approved by the City. Driveways aprons shall be paved for the first fifty feet (50') from the street.

- A. **Parking for new single family attached and detached dwellings, duets and duplexes shall be provided as follows:**
 1. **A carport or garage, unless the majority of existing dwellings within 100 feet of the property boundary of the proposed development do not have such covered parking facilities. The number of required covered parking spaces shall be based on the predominant number of covered spaces on the majority of lots within the 100 foot radius. Parking spaces shall measure nine (9) feet and six (6) inches wide by nineteen (19) feet long. No encroachments (such as water heaters, steps, door swings) are allowed into the required parking spaces.**
 2. **One parking space per unit may be provided on a driveway if the following criteria are met:**
 - a. **Driveway spaces shall measure at least nine (9) feet and six (6) inches wide by nineteen (19) feet long. No encroachments are allowed into the required parking spaces.**
 - b. **Driveway spaces shall not extend into the public right-of-way.**
 - c. **The number of parking spaces provided as a carport or garage shall not fall below one (1) space per unit.**

Finding: Parking for the single-family homes will be provided in either two-car garages or as single-car garage with an uncovered driveway space measuring at least nine feet six

inches wide by nineteen feet long. The proposed driveway spaces do not extend into the public right-of-way. The requirements of this section are met.

3. **Off-street parking for single-family attached dwellings on the front of the building and driveway accesses in front of a dwelling are permitted in compliance with the following standards:**
 - a. **Outdoor on-site parking and maneuvering areas shall not exceed twelve feet (12') wide on any lot.**
 - b. **The garage width shall not exceed twelve feet (12'). Garage width shall be measured based on the foremost four feet of the interior garage walls.**

Finding: Access to the proposed single-family attached dwellings has been provided through a rear alley. The requirements of this section are not applicable to the proposed development.

4. **Off-street parking for single-family attached dwellings not on the front of the building are permitted in compliance with the following standards:**
 - a. **Development abutting a rear alley shall take access from the alley.**
 - b. **Development that includes a corner lot without a rear alley shall take access from a single driveway on the side of the corner lot. Street classifications, access spacing, or other provisions may require adjustment or variance process. See Figure 10-3-8-A.2.b**
 - c. **Development that does not include a corner lot and does not abut a rear alley shall consolidate access for all lots into a single driveway. The access and driveway are not allowed in the area directly between the front of the building and front lot line of any of the single-family attached dwellings. See Figure 10-3-8-A.2.c.**

Finding: Access to the proposed single-family attached dwellings has been provided from a rear alleyway. The requirements of this section are met.

- B. **Parking for tri-plexes, quad-plexes or cluster housing may be provided either as a carport or garage or as a parking lot meeting the standards listed in FCC 10-3-9. Spaces shall be located on the rear of the lot and meet the following requirements:**

Finding: The proposed development features a mix of single-family detached, single-family attached and multi-family housing. The requirements of this section are not applicable.

- C. **All parking areas except those required in conjunction with a single-family, duet or duplex dwelling shall be graded so as not to drain storm water over public sidewalks. Parking lot surfacing shall not encroach upon a public right of way except where it abuts a concrete public sidewalk, or has been otherwise approved by the City.**

Finding: As shown on the Grading Plan and Erosion Control (Sheet C-7), all parking areas provided for the multi-family dwellings will be graded so as not to drain storm water

over public sidewalks. The proposed parking lot surfacing does not encroach upon a public right of way. The requirements of this section have been met.

D. Parking spaces shall be located or screened so that headlights do not shine onto adjacent residential uses.

Finding: The majority of the parking on site has been located within garages or in tuck under parking. Parking located within driveways and within the surface parking lots will be screened with landscaping, as shown on the Planting Plan (Sheet L-3). Parking located along the private street will be parallel to the street and will not shine into adjacent residential uses. This standard is met.

E. Except for parking areas required in conjunction with a single-family attached or detached; duet, duplex dwelling; or tri-plex, quad-plex, or cluster housing development that provides off-street parking through a carport or garage, all parking areas shall provide:

- 1. A curb of not less than six inches (6") in height near abutting streets and interior lot lines. This curb shall be placed to prevent a motor vehicle from encroaching on adjacent private property, public walkways or sidewalks or the minimum landscaped area required in paragraph E2 of this subsection.**
- 2. Except for places of ingress and egress, a five foot (5') wide landscaped area wherever it abuts street right-of-way. In areas of extensive pedestrian traffic or when design of an existing parking lot makes the requirements of this paragraph unfeasible, the Planning Commission may approve other landscaped areas on the property in lieu of the required five foot (5') landscaped area. See also FCC 10-34-3-6 and -7 for parking lot landscaping standards.**

Finding: Parking for the proposed multi-family dwellings has been provided in surface parking lots. Parking has not been located abutting streets or right-of-way. A six-inch curb has been provided around the perimeter of each of the parking lots. This standard is met.

F. No parking area shall extend into the public way except by agreement with the City.

Finding: Parking has not been located in the public way. This standard is met.

G. Except for parking in connection with dwellings, parking and loading areas adjacent to a dwelling shall be designed to minimize disturbance by the placement of a sight obscuring fence or evergreen hedge of not less than three feet (3') nor more than six feet (6') in height, except where vision clearance is required. Any fence, or evergreen hedge must be well kept and maintained.

Finding: All proposed parking has been provided in connection with dwellings. The requirements of this section are not applicable to this development.

H. Lighting: Refer to Section 10-37 of this Title for requirements.

Finding: Section 10-37 has been addressed within this narrative.

I. Except for single-family, duet and duplex dwellings, groups of more than two (2) parking spaces shall be so located and served by a driveway that their use will require no backing movements or other maneuvering within a street right of way other than an alley.

Finding: Section 10-37 has been addressed within this narrative.

J. Unless otherwise provided, required parking and loading spaces shall not be located in a required front or side yard.

Finding: As shown on the Site Plan (Sheet C-3), required parking has not been located in the front or side yard, except for parking located within driveways on the single-family lots as provided by Section 10-3-8.A.2. This standard is met.

K. Planning review is required for all parking lot construction or resurfacing.

L. A plan, drawn to a suitable scale, indicating how the off- street parking and loading requirements are to be met shall accompany an application for a building permit. The plan shall indicate in detail all of the following:

- 1. Individual parking and loading spaces.**
- 2. Circulation area.**
- 3. Access to streets and property to be served.**
- 4. Curb cut dimensions.**
- 5. Dimensions, continuity and substance of screening, if any.**
- 6. Grading, drainage, surfacing and subgrading details.**
- 7. Obstacles, if any, to parking and traffic circulation in finished parking areas.**
- 8. Specifications for signs, bumper guards and curbs.**
- 9. Landscaping and lighting.**

Finding: A Site Plan (Sheet C-3), Grading and Erosion Control Plan (Sheet C-7), Landscaping (Sheet L-2 and L-3) and Photometrics Plan (Sheet C-6) illustrating the requirements listed in subsection 1-9 above have been provided with this land use application.

M. In addition to other penalties and remedies, the failure to provide, maintain and care for a parking area as required by this Section:

- 1. Is declared a public nuisance which may be abated under subsection 6-1-8-5 of this Code.**
- 2. May be the basis for denying any business license required or permit issued by the City.**

Finding: The applicant acknowledges that the maintenance of the parking areas is the ongoing responsibility of the property owner.

N. Parking provided for Accessory Dwelling Units:

Finding: The proposed development does not include Accessory Dwelling Units. The requirements of this section are not applicable.

10-3-9: PARKING STALL DESIGN AND MINIMUM DIMENSIONS: All off-street parking spaces (except those provided for a single-family; duet, duplex dwelling; or tri-plex, quad-plex, or

cluster housing development that provides off-street parking through a carport or garage) shall be improved to conform to City standards for surfacing, stormwater management, and striping and where provisions conflict, the provisions of FCC Title 9 Chapter 5 shall prevail. Standard parking spaces shall conform to minimum dimensions specified in the following standards and Figures 10-3(1) and Table 10-3-3:

- A. Motor vehicle parking spaces shall measure nine (9) feet and six (6) inches wide by nineteen (19) feet long.
- B. Each space shall have double line striping with two feet (2') wide on center.
- C. The width of any striping line used in an approved parking area shall be a minimum of 4" wide.
- D. All parallel motor vehicle parking spaces shall measure eight (8) feet six (6) inches by twenty-two (22) feet;
- E. Parking area layout shall conform to the dimensions in Figure 10-3(1), and Table 10-3-3, below;
- F. Parking areas shall conform to Americans With Disabilities Act (ADA) standards for parking spaces (dimensions, van accessible parking spaces, etc.). Parking structure vertical clearance, van accessible parking spaces, should refer to Federal ADA guidelines.

Finding: As shown on the submitted Site Plan (Sheet C-3), the off-street parking spaces provided within the surface lots for the multi-family dwellings and the parking provided along the private street will conform to the City standards for surfacing, stormwater management, and striping. The standard parking spaces will conform to the minimum dimensions specified above and within Figure 10-3(1) and Table 10-3-3. This standard is met.

10-3-10: BICYCLE PARKING REQUIREMENTS: All new development that is subject to Site Design Review, shall provide bicycle parking, in conformance with the standards and subsections A-H, below.

- A. **Minimum Size Space: Bicycle parking shall be on a two (2) feet by six (6) feet minimum.**

Finding: The provided bicycle parking will be two feet by six feet minimum. This standard is met.

- B. **Minimum Required Bicycle Parking Spaces. Short term bicycle parking spaces shall be provided for all non-residential uses at a ratio of one bicycle space for every ten vehicle parking spaces. In calculating the number of required spaces, fractions shall be rounded up to the nearest whole number, with a minimum of two spaces.**

Finding: The proposed development is residential. The requirements of this section are not applicable to this development.

- C. **Long Term Parking. Long term bicycle parking requirements are only for new development of group living and residential uses of three or more units. The long term parking spaces shall be covered and secured and can be met by providing a bicycle storage room, bicycle lockers, racks, or other secure storage space inside or outside of**

the building; Tri-plex, Quad-plex, Cluster Housing or Multi-family = 1 per 3 units/ Group Living = 1 per 20 bedrooms/ Dormitory = 1 per 8 bedrooms.

1. **For residential developments that provide parking through a garage, bicycle parking may be provided as a wall-mounted rack located inside the garage. The minimum clearance distance from the wall to the automobile parking space shall be four feet (4').**

Finding: Long-term bicycle parking for the single-family attached and detached units will be provided within the individual garage spaces in the form of a hanging bike rack. Each multi-family apartment site will have a total of 23 residential units, requiring eight bicycle parking stalls. A covered storage area located within the ground floor of one of the buildings on each multi-family site will provide a total of eight bicycle parking stalls. This standard is met.

- D. **Location and Design. Bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle space other than handicap parking, or fifty (50) feet, whichever is less and shall be easily accessible to bicyclists entering the property from the public street or multi-use path.**
- E. **Visibility and Security. Bicycle parking for customers and visitors of a use shall be visible from street sidewalks or building entrances, so that it provides sufficient security from theft and damage;**
- F. **Lighting. For security, bicycle parking shall be at least as well lit as vehicle parking. Refer to Section 10-37 of this Title for requirements.**
- G. **Reserved Areas. Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only.**

Finding: Each multi-family apartment site will have a covered storage area located within the ground floor of one of the buildings. The storage area is located closer to the building than the parking area and will be easily be accessible and to bicyclists entering the property from the street. The proposed bicycle parking will be secure within the building and well lit. This standard is met.

- H. **Hazards. Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards. If bicycle parking cannot be provided safely, the Planning Commission or Community Development Director may waive or modify the bicycle parking requirements.**

Finding: The proposed bicycle parking has not been located in an area that will impede or create a hazard for pedestrians or conflict with vision clearance standards. This standard is met.

10-3-11: LOADING AREAS:

- A. **Purpose. The purpose of this section of the Code is to provide standards (1) for a minimum number of off-street loading spaces that will ensure adequate loading areas for large uses and developments, and (2) to ensure that the appearance of loading areas is consistent with that of parking areas.**

B. Applicability. This section applies to residential projects with fifty (50) or more dwelling units, and non-residential and mixed-use buildings with 20,000 square feet or more total floor area.

Finding: The proposed planned development will have a total of 80 single-family homes located on individual lots and 46 multifamily homes divided between two parcels. The provisions for a loading zone are not applicable to the proposed development.

Chapter 6 – Design Review

10-6-6: DOWNTOWN ARCHITECTURAL DESIGN: The Architectural Design criteria are designed to address and implement the Florence Downtown Architectural Guidelines. Where applicable, the following criteria consider the historical character of Florence through proper building massing, siting, and materials which reflect important aspects of Oregon’s traditional Northwest architecture. The type of building to which this code may apply may differ by district. The following requirements are intended to create and maintain a built environment that is conducive to walking; reduces dependency on the automobile for short trips; provides natural surveillance of public spaces; creates a human-scale design, e.g., with buildings placed close to streets or other public ways and large building walls divided into smaller planes with detailing; and maintains the historic integrity of the community

Development in the Old Town and Mainstreet districts shall comply with the standards in this section.

The City Planning Official, the City Planning Official’s designee, or the Planning Commission may require any of the following conditions in order to establish a minimum level of design quality and compatibility between buildings. The Planning Commission may approve adjustments or variances to the standards as part of a site Design Review approval, pursuant with FCC 10-5 and 10-6, respectively.

10-6-6-1: BUILDING TYPE: These types of buildings currently exist within the applicable zoning districts and are compatible with each other, despite being different in their massing and form. The following building types are permitted in future development and infill. Other building types not listed which are compatible with the surrounding area and buildings and are compatible with the historic nature of the zoning district are also permitted. Not all types may be permitted or regulated in all zoning districts.

- A. Residential Type, single-family, duplex (attached & detached), or multi-family**
- B. Commercial Storefront Type**
- C. Mixed-Use House Type**
- D. Community Building Type**

Finding: The proposed development will include a mix of single-family detached, single-family attached and multi-family development. This standard is met.

10-6-6-2: BUILDING STYLE:

- A. **Context:** Each building or addition shall be designed within the context of its larger surroundings and environment in terms of overall street massing, scale and configuration.
- B. **Historic Style Compatibility:** New and existing building design shall be consistent with the regional and local historical traditions. Where historic ornament and detail is not feasible, historic compatibility shall be achieved through the relation of vertical proportions of historic façades, windows and doors, and the simple vertical massing of historical buildings. Some examples of architectural styles currently or historically present in the Florence area are: Queen Anne, Shingle Style, Second Empire, Victorian, Italianate, Tudor Style, Craftsman Bungalow, American Foursquare, and Vernacular.
 - 1. **Existing buildings:** Maintain and restore significant historic details.
 - 2. **New Buildings:** Design shall be compatible with adjacent historic buildings

Finding: The proposed development will use a combination of three architectural design styles; board and batten, coastal shingle and cottage lap. The proposed development is not located adjacent to historic buildings. This standard is met.

10-6-6-3: BUILDING FAÇADES:

- A. **Horizontal Design Elements:** Multi-story commercial storefront buildings shall have a distinctive horizontal base; second floor; and eave, cornice and/or parapet line; creating visual interest and relief. Horizontal articulations shall be made with features such as awnings, overhanging eaves, symmetrical gable roofs, material changes, or applied fascia detail. New buildings and exterior remodels shall generally follow the prominent horizontal lines existing on adjacent buildings at similar levels along the street frontage. Examples of such horizontal lines include but are not limited to: the base below a series of storefront windows; an existing awning or canopy line, or belt course between building stories; and/or an existing cornice or parapet line. Where existing adjacent buildings do not meet the City's current building design standards, a new building may establish new horizontal lines.

Finding: The proposed development does not include commercial development. The requirements of this section are not applicable to this development.

- B. **Vertical Design Elements:** Commercial storefront building faces shall have distinctive vertical lines of emphasis spaced at relatively even intervals. Vertical articulations may be made by material changes, variations in roof heights, applied fascia, columns, bay windows, etc. The maximum spacing of vertical articulations on long, uninterrupted building elevations shall be not less than one break for every 30 to 40 feet.

Finding: The proposed development does not include commercial development. The requirements of this section are not applicable to this development.

- C. **Articulation and Detailing:** All building elevations that orient to a street or civic space must have breaks in the wall plane (articulation) of not less than one break for every 30 feet of building length or width, as applicable, as follows:

1. **Plans 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 30-40 feet. In addition, each floor shall contain at least two elements meeting the following criteria:**
 - a. **Recess (e.g., porch, courtyard, entrance balcony, or similar feature) that has a minimum depth of 4 feet;**
 - b. **Extension (e.g., floor area, porch, entrance, balcony, overhang, or similar feature) that projects a minimum of 2 feet and runs horizontally for a minimum length of 4 feet; and/or**
 - c. **Offsets or breaks in roof elevation of 2 feet or greater in height.**
 - d. **A “break,” for the purposes of this subsection, is a change in wall plane of not less than 24 inches in depth. Breaks may include, but are not limited to, an offset, recess, window reveal, pilaster, frieze, pediment, cornice, parapet, gable, dormer, eave, coursing, canopy, awning, column, building base, balcony, permanent awning or canopy, marquee, or similar architectural feature.**
2. **The Planning Commission, through Design Review, may approve detailing that does not meet the 24-inch break-in-wall-plan standard where it finds that proposed detailing is more consistent with the architecture of historically significant or historically-contributing buildings existing in the vicinity.**
3. **Changes in paint color and features that are not designed as permanent architectural elements, such as display cabinets, window boxes, retractable and similar mounted awnings or canopies, and other similar features, do not meet the 24-inch break-in-wall plane standard.**
4. **Building elevations that do not orient to a street or civic space need not comply with the 24-inch break-in-wall-plan standard but should complement the overall building design.**

Finding: Conceptual elevations have been submitted for the proposed multi-family, attached and detached housing proposed on site. All proposed elevations feature articulation including recesses, extensions, and offsets or breaks in roof elevations. The spacing standard of the articulation does not exceed 30 feet along the elevations.

The multi-family elevations are illustrated on Sheet A-12 Multi-Family Housing: Concept A1 & A2. The conceptual elevations for the attached housing are shown on sheets A-13 Attached Housing: Concept B2, A-14 Attached Housing: Concept B3.1, A-15 Attached Housing: Concept B3.2 and A-16 Attached Housing: Concept B4. The conceptual elevations for the detached housing are shown on sheets A-17 Detached Housing: Concept C1 and A-18 Detached Housing: Concept C2. This standard is met.

10-6-6-4: PERMITTED VISIBLE BUILDING MATERIALS: Building materials which have the same or better performance may be substituted for the materials below provided that they have the same appearance as the listed materials.

A. Exterior Building Walls:

1. Lap siding, board and batten siding, shingles and shakes. Metal siding and vinyl siding shall not be permitted.
2. Brick or stone masonry with a minimum 2 ½" deep solid veneer material.
3. Cement-based stucco.
4. Secondary materials: Any of the materials listed above as permitted may also be used as secondary materials or accents. In addition, the materials listed above are allowed as secondary materials, trims, or accents (e.g., flashing, wainscoting, awnings, canopies, ornamentation) when non-reflective and compatible with the overall building design, subject to approval. Secondary materials may be used on up to 30% of the façade.

Finding: The proposed materials will include board and batten siding, coastal shingle, and cottage lap siding, which will be used in combination throughout the development. This standard is met.

B. Roofs, Awnings, Gutters, and Visible Roofing Components:

- a. Composition shingles, concrete, slate or cedar shingles, or concrete or clay tiles. Red composition shingle similar to the Kyle Building are encouraged.
- b. Standing seam roofing: copper, terne metal or coated metal.
- c. Gutters and downspouts: copper, terne metal, or coated metal.
- d. Single or multi-ply roofing, where visibly concealed.
- e. Glass, steel, wood or canvas fabric awnings.
- f. Skylights: metal and wood framed glass and translucent polymer.

Finding: The primary roofing material will be asphalt shingles, with standing-seam metal roofing used as a secondary material for sheds and breezeways. This standard is met.

C. Chimney Enclosures: Brick, cement-based stucco, stone masonry or wood shingles.

Finding: Chimney enclosures are not proposed. The requirements of this section are not applicable to the proposed development.

D. Windows, Entrances, and Accessories:

1. Wood, vinyl or pre-finished metal frames and sashes.
2. Glazed and unglazed entry doors shall be wood, pre-finished or coated metal or fiberglass.
3. Solid wood or fiberglass shutters.
4. The use of decorative detailing and ornamentation around windows (e.g., corbels, medallions, pediments, or similar features) is encouraged.

Finding: All windows will be vinyl. Exterior doors will be wood or fiberglass. All proposed trim will be cementitious wood-looking material. This standard is met.

E. Trellises, Decks, Stairs, Stoops, Porches, and Balconies

1. **Architectural concrete, brick and stone masonry, solid wood or fiberglass columns, posts, piers and arches.**
2. **Wood, brick, concrete and stone masonry decks, stoops, stairs, porches, and balconies.**
3. **Solid wood, painted welded steel or iron trellises.**
4. **Railings, balustrades, and related components shall be solid wood, painted welded steel or iron.**

Finding: Balconies will be constructed of composite wood decking with anodized aluminum railings. This standard is met.

F. Landscape/Retaining Walls and Fences: Shall be subject to the FCC 10-34 and the following requirements:

1. **Brick and stone masonry or precast concrete.**
2. **Architecturally finished exposed concrete.**
3. **Cement-based stucco over masonry or concrete substrate.**
4. **Solid wood pickets, lattice and boards.**
5. **Painted welded metal or iron**

Finding: The development perimeter will have a continuous six-foot tall cedar fence along all abutting property. The internal fencing at the dog park will be welded wire panels with wood framing. All proposed walls on site will be architecturally finished exposed concrete. This standard is met.

G. Building and Site Material Colors: Color finishes on all building exteriors shall be approved by the City and be of a muted coastal Pacific Northwest palette. Reflective, luminescent, sparkling, primary, and "day-glow" colors and finishes are prohibited. The Planning Commission/Planning Commission or their designee may approve adjustments to the standards as part of a site Design Review approval.

Finding: The proposed development will utilize a Pacific Northwest palette. This standard is met.

10-6-6-5: MATERIAL APPLICATIONS AND CONFIGURATIONS:

A. Building Walls:

1. **For each building, there shall be one single, clearly dominant exterior wall material and finish.**
2. **Brick and stone front façades shall return at least 18" around side walls.**
3. **Building walls of more than one material shall change along horizontal lines only, with a maximum of three materials permitted per façade.**
4. **Heavier materials, such as stone, shall only be used below lighter materials, such as siding.**
5. **Siding and shingles shall have a maximum 6" to the weather.**
6. **4" minimum width corner, skirt, rake and eave trim shall run the full height of each façade, flush, or protrude beyond the surrounding wall surface.**

7. Board and batten siding: battens shall be spaced a maximum of 8" on center.

Finding: All buildings will have a single dominant exterior wall material and finish. Building material changes occur on horizontal lines only with a maximum of three materials per façade. the dimensional requirements of this section will be met.

B. Roofs, Awnings, Gutters and Roofing Accessories:

- 1. Visibly sloped roofs shall pitch a minimum of 5:12 to a maximum 12:12 with symmetrical gable or hip configuration.**
- 2. Eaves shall be continuous except at sheds and dormers.**
- 3. Shed roofs shall attach to the main building wall or roof ridge with minimum 3:1 slope.**
- 4. Flat roofs shall be concealed by cornices or parapets.**
- 5. Gutters shall be round or ogee profile. Leaders shall be round or square.**
- 6. All roof-mounted components such as mechanical equipment shall not be visible from street-level public rights-of-way.**
- 7. Sloped roof eaves shall overhang exterior wall planes at least 12" and shall be visibly supported by exposed rafter ends or other compatible architectural detailing.**

Finding: All visibly sloped roofs will have a minimum pitch of 5:12 and a maximum pitch of 12:12. This standard is met.

C. Towers:

- 1. Slender towers of a maximum 400 square feet in area are permitted to exceed the building height limit.**
- 2. Towers on residential and commercial buildings shall be occupiable with windows. Community buildings may feature unoccupiable towers.**
- 3. Commercial signage may not be placed on towers.**
- 4. Tower separation shall be minimum of 100 feet.**

Finding: The proposed building designs do not include towers. This standard is not applicable to this development.

D. Visible Windows, Glazing, and Entrances:

- 1. Windows shall be square and/or vertical rectangular shape with straight, bow, or arch tops.**
- 2. 10% of total windows maximum on the public façade may be circular, hexagonal, octagonal or other window configurations.**
- 3. Bay windows shall have visible bracket support.**
- 4. Overhead doors shall not face the building's primary street façade or a major public right-of-way.**
- 5. Door and window shutters shall be sized to cover the entire window.**
- 6. Exterior shutters shall be solid wood or fiberglass.**
- 7. No single lite or glass panel visible from the street shall be greater than 24 square feet in area except in storefront glazing systems.**

8. **Multiple vertical windows may be grouped in the same horizontal opening provided they are separated by 4" minimum width vertical trim.**
9. **Windows and doors in exterior walls shall be surrounded with 2 ½" minimum width trim applied flush or projecting beyond the finished wall surface.**
10. **Profiles of window mullions shall extend out beyond the exterior glass surface. Windows shall have muntins which create True Divided Lights or a similar simulated appearance.**

Finding: As shown on the attached elevations, all proposed windows will comply with the requirements of this section.

- E. Visible Decks and Balconies: All balconies and decks attached to building faces, whether cantilevered or supported below or above, shall be visibly supported by vertical and horizontal elements such as brackets, columns, or beams. Exterior posts and columns, solid or encased, shall be minimum 5 ½" in cross-section.**

Finding: The proposed multi-family building design features visible balconies which will be recessed into the façade, with visible support above and below. This standard is met.

F. Visible Landscape/Retaining Walls and Fences:

1. **Freestanding concrete and masonry walls shall be minimum 8" nominal thickness with a finished top course, cap, or other compatible termination.**
2. **Site wall materials should generally match or provide compatibility with the adjoining building materials.**
3. **Metal and iron fencing shall be configured in predominately vertical elements.**

Finding: All proposed walls on site will be architecturally finished exposed concrete with a minimum 8-inch nominal thickness. All metal fencing will be configured in predominately vertical elements. This standard is met.

G. Mechanical Equipment:

1. **Building walls. Where mechanical equipment, such as utility vaults, air compressors, generators, antennae, satellite dishes, or similar equipment, are permitted on a building wall that abuts a public right-of-way or civic space, it shall be screened pursuant with FCC 10-34. Standpipes, meters, vaults, and similar equipment need not be screened, but shall not be placed on a front elevation when other practical alternatives exist; such equipment shall be placed on a side or rear elevation where practical.**
2. **Rooftops. Except as provided below, rooftop mechanical units shall be setback and/or screened behind a parapet wall so that they are not visible from any public right-of-way or civic space. Where such placement and screening is not practicable, the City decision body may approve painting of the mechanical units in lieu of screening; such painting shall meet the standards of FCC 10-6-6-4-G above and shall make the equipment visually subordinate to the building and adjacent buildings, if any. These regulations do not apply to solar photovoltaic and solar thermal energy**

systems as allowed by HB 3516 on properties not listed in the Comprehensive Plan's Historic Inventory.

3. **Ground-Mounted.** Ground-mounted equipment, such as generators, air compressors, trash compactors, and similar equipment, shall be limited to side or rear yards and screened with fences or walls constructed of materials similar to those on adjacent buildings per FCC 10- 34-3-7. The City may require additional setbacks and/or noise attenuating equipment for compatibility with adjacent uses.

Finding: All mechanical equipment will be located within the buildings. This standard is met.

Chapter 10 – Residential Districts

10-10-2: RESIDENTIAL USES:

- A. **Table 10-10-2-A.** The following table indicates which uses are permitted in each residential zone.

Uses	RMH
Planned Unit Development	Type III Planning Commission Review

Finding: A Planned Unit Development is allowed in the RMH zone as a Type III land use decision with a Planning Commission Review.

10-10-3: NON-RESIDENTIAL USES

- A. **Table 10-10-3-A.** The following table indicates which uses are permitted in each residential zone.

Uses	RMH
Recreation facilities for use of residents or guests as part of an approved PUD	Permitted

Finding: The proposed recreation facilities for use of residents and guests as part of the proposed PUD are allowed with Site Review.

10-10-4: LOT AND YARD PROVISIONS:

- A. **Minimum Lot Dimensions:** To be designated a building site, a lot must meet the following minimum lot dimensions:

Type	RMH	
	Width	Depth
All development types including single-family detached ² , except:	50 ft.	80 ft.
Single-family attached dwelling or duet (single unit)	25 ft.	80 ft.

Finding: A modification to the minimum lot dimensions has been requested through the Planned Unit Development Section 10-23-5.H, which allows for the modification of the underlying zoning requirements, including lot width and depth. The proposed lot dimensions have been listed in the table below.

Development Type	Width	Depth

Single-family detached	36 ft.	62 ft.
Single-family attached	24 ft.	60 ft.
Multi-family	132 ft.	93 ft.

The modification requirements have been addressed within this narrative under FCC Chapter 10-23.

B. Minimum Lot Area: To be designated a building site, a lot must meet the following minimum lot area:

Development Type	RMH
Single-family detached dwelling	5,000 sq. ft.
Single-family attached dwelling	3,000 sq. ft.
All other development types ²	5,000 sq. ft.

Finding: A modification to the minimum lot area has been requested through the Planned Unit Development Section 10-23-5.H, which allows for the modification of the underlying zoning requirements, including lot area. The proposed setbacks have been listed in the table below.

Development Type	Minimum Lot Area
Single-family detached	2,232 sq. ft.
Single-family attached	1,464 sq. ft.
Multi-family	30,146 sq. ft.

The modification requirements have been addressed within this narrative under FCC Chapter 10-23.

C. Lot Coverage: The maximum coverage shall not exceed the following:

	RMH
Maximum building coverage	50%
Maximum coverage by all impervious surfaces	75%

Finding: The subject site is approximately 404,026 square feet in size. The total building coverage of the proposed site is 134,516 square feet or 33.3 percent. The proposed impervious surface area on site is 229,072 square feet, or 56.7 percent. This standard is met.

D. Yard Regulations: Unless an adjustment or variance is granted in accordance with Chapter 5 of this Title, minimum setbacks and yard regulations shall be as indicated below:

	RMH
Front <ul style="list-style-type: none"> • Primary • Garage or Carport vehicular entrance wall 	10 ft. 20 ft.
Side <ul style="list-style-type: none"> • Primary² 	5 ft.

<ul style="list-style-type: none"> • Parking lot, Garage or Carport • Garage or Carport vehicular entrance wall 	<p>5 ft. 20 ft.</p>
Rear¹ <ul style="list-style-type: none"> • Primary • Parking Lot, Garage or Carport • Garage or Carport vehicular entrance wall 	<p>5 ft. 10 ft. 20 ft.</p>
<p>¹Single-family detached and duplex dwellings in the HDR District shall have the same front, side and rear yard regulations as the MDR District.</p> <p>²Minimum side setbacks may be reduced to zero feet (0') for attached primary structures where they share a common wall with a structure on an adjacent lot.</p> <p>³For a corner lot or parcel which adjoins the point of intersections of two streets as defined in "Lot Type Corner" both lot or parcel lines are the front line. The sum of these setbacks shall not fall below the sum of the minimum front and side yard requirements for primary building and no setback shall be below the minimum primary side yard requirement for the district.</p>	

1. The required front and side yards shall not be used for clotheslines, incinerators, storage of trailers, boats and recreational vehicles or of any materials, nor shall said yards be used for the regular or constant parking of automobiles or other vehicles, except as permitted under 10-3-8-A.
2. All patio and playground equipment structures and swimming pools shall be a minimum of five feet (5') from any side or rear property line.
3. When a multi-family use adjoins a single-family detached use, the multi-family use shall be set back from shared lot lines one additional foot for each foot of height over twenty-eight feet (28'), except that the required setback shall not exceed twenty feet (20') from any lot line.

Finding: A modification to the minimum setbacks and yard regulation has been requested through the Planned Unit Development section 10-23-5.H, which allows for the modification of the underlying zoning requirements, including setbacks. The proposed setbacks have been listed in the table below. A perimeter setback of 10 feet has been provided along all property lines with adjacent residential development. The proposed multi-family use has a maximum height of 32 feet and has been set back 10 feet from neighboring single-family residential development.

	Proposed Setback
Front:	5 feet
Side:	
- Street	5 feet
- Detached Single-family	3 feet
- Attached Single-family	0 feet and 3 feet
Rear:	
- Primary	3 feet
- Garage (alley-loaded)	3 feet

A modification has also been requested to allow parking within a side yard setback to allow for a parking pad on the single-family detached lots. The detached lots will

have a 3-foot wide side yard setback on one side and an 11-foot wide setback on the adjacent side where parking is proposed to allow for a 9.5-foot wide parking pad.

The modification requirements have been addressed within this narrative under FCC Chapter 10-23.

E. Residential Density Standards: Unless a variance is granted in accordance with Chapter 5 of this Title, minimum and maximum density standards shall be as listed below:

	RMH ³
Minimum net density (units/acre)	-
Maximum average net density (units/acre)	12
¹ Maximum average net density may be increased in the High Density Residential District through a PUD. See FCC 10-23. ² Maximum Density is calculated using minimum lot size for use(s) proposed. ³ Existing undeveloped (infill) lots use lot sizes in Table 10-10-4-B. Subdivisions, partitions, lot line consolidations, and replats use 12 units per acre for MDR and RMH.	

Finding: The proposed development has a total of 126 residential units on 9.28 net acres, for a maximum average net density of 13.6 units per acre. The maximum average net density exceeds the allowable density of 12 units per acre in the RMH zone. A modification to the density has been requested through the Planned Unit Development section 10-23-5.H, which allows for the modification of the underlying zoning requirements, including density. The modification requirements have been addressed within this narrative under FCC Chapter 10-23.

10-10-5: SITE DEVELOPMENT PROVISIONS:

A. Building or Structural Height Limitations:

1. **Primary Structures: The maximum building or structural height shall be thirty-five feet (35'), except High Density District which shall permit forty feet (40'), limited to three (3) stories.**
2. **Accessory Structures: The maximum building height shall be twenty feet (20').**
3. **Accessory Dwelling Units: The maximum building height shall be twenty-eight feet (28').**
4. **Nonresidential Structures: The maximum building height shall not exceed thirty feet (30').**
5. **Structures in the HDR, LDR, MDR and RMH shall have a minimum roof pitch of 3/12, except mobile homes in the mobile/manufactured home parks or district.**

Finding: The proposed single-family detached homes have a maximum building height of 28 feet. The single-family attached homes have a maximum height of 30 feet. The multi-family buildings have a maximum height of 32 feet. All proposed buildings will have a minimum roof pitch of 5:12 and a maximum roof pitch of 12:12. This standard is met.

B. Fences: See Code Section 10-34-5 of this Title.

Finding: This narrative describes how the proposed development complies with 10-34-5 of this Title.

C. Vision Clearance: Refer to Section 10-2-13 and 10-35-2-14 of this Title for definition, and requirements.

Finding: Attached to this application is a Site Plan (Sheet C-3) detailing the proposed vision clearance for the subject site. This narrative describes how the proposed development complies with 10-35-2-14 of this Title.

D. Off-Street Parking: Refer to Chapter 3 of this Title (Off-Street Parking and Loading)

Finding: Attached to this application is a Site Plan (Sheet C-3) detailing the proposed parking for the subject site. This narrative describes how the proposed development complies with 10-3 of this Title.

E. Signs: Signs shall be in accordance with Title 4 Chapter 7 of this Code. (Ord. 4,2011)

Finding: All proposed signs will be provided in accordance with Title 4 Chapter 7 of this code.

F. Landscaping: Except for single-family and duplex dwellings, refer to Section 10-34 of this Title for requirements.

Finding: Attached to this application is a landscaping plan set (Sheets L1-L4) detailing the proposed landscaping for the subject site. This narrative describes how the proposed development complies with 10-34 of this Title.

G. Access and Circulation: Refer to Section 10-35 of this Title for requirements.

Finding: Attached to this application is a Parking and Circulation Plan (Sheet C-5) detailing the proposed access and circulation for the subject site. This narrative describes how the proposed development complies with 10-35 of this Title.

H. Public Facilities: Refer to Section 10-36 of this Title for requirements.

Finding: Attached to this application is a Composite Utility Plan (Sheet C-8) detailing the proposed utility access for the subject site. This narrative describes how the proposed development complies with 10-36 of this Title.

I. Lighting: Refer to Section 10-37 of this Title for requirements.

Finding: Attached to this application is a Photometric Plan (Sheet C-6) detailing the proposed lighting scheme for the subject site. This narrative describes how the proposed development complies with 10-37 of this Title.

10-10-7: ATTACHED HOUSING:

A. Applicability: Single-family attached dwellings, duplexes, tri-plexes, and four-plexes are subject to all of the applicable sections of this Title. Where there is a conflict between these standards and standards elsewhere in the code, the Attached Housing standards shall apply.

B. Intent.

1. **To provide a variety of housing types that respond to changing household sizes and ages, including but not limited to retirees, small families, and single-person households.**
2. **To ensure that the overall size and visual impact of the attached development be comparable to standard residential development, by balancing bulk and mass of individual residential units with allowed intensity of units.**
3. **To ensure minimal visual impact from vehicular use and storage areas for residents of the attached housing development as well as adjacent properties.**

C. Approval Criteria.

1. Construction Criteria:

- a. **Maintenance easement: No building permit shall be issued for an attached development unless the applicant provides a copy of a recorded easement from the owner(s) of contiguous properties providing for reasonable ingress, egress, and use of such properties for the purpose of maintaining, repairing and replacing the premises. The easement shall be in a form approved by the City Attorney.**

Finding: A maintenance easement will be recorded and submitted to the City prior to the issuance of building permits. This standard is met.

- b. **Number of attached units allowed: No more than 4 consecutive units that share a common wall or walls, roof, or foundation are permitted. A set of 4 attached units is allowed to be adjacent to a separate set of 4 attached units.**

Finding: The proposed development features attached units in combinations of three and four consecutive units. This standard is met.

2. Dimensional Standards: In addition to the standards listed in 10-10-4, attached housing must meet the following:

- a. **Interior side setback: Any exterior wall or portion thereof which faces but is not contiguous to an interior side lot line shall be setback a minimum of five feet. This standard shall also apply to accessory structures**

Finding: A modification to the minimum setbacks and yard regulation has been requested through the Planned Unit Development section 10-23-5.H, which allows for the modification of the underlying zoning requirements, including setbacks. The proposed setbacks have been listed in the table below. The attached single-family units have a proposed interior side setback of three feet for the exterior wall not contiguous to an interior side lot line.

The modification requirements have been addressed within this narrative.

3. Open Space: Developments of four (4) or more units shall provide and maintain open space for the use of all occupants. Open space shall have the following characteristics:

- a. **Not less than ten feet (10') in width or depth at any point.**
- b. **Located on land with grade less than five percent (5%) slope.**
- c. **Cleared sufficiently of trees, brush and obstructions so that intended recreational use proposed is possible.**
- d. **Not used for temporary or regular parking of automobiles or other vehicles.**
- e. **Includes at least one hundred (100) square feet of area for each dwelling unit.**
- f. **Includes one or more of the following: indoor or outdoor recreation area, protection of sensitive lands (e.g., trees or bank vegetation preserved), play fields, outdoor playgrounds, outdoor sports courts, swimming pools, walking fitness courses, pedestrian amenities, or similar open space amenities for residents.**
- g. **Open space may be provided as private open space for single-family attached dwellings.**

Finding: The proposed development will provide 49 attached units, 46 multi-family units and 31 detached units. Based on one hundred square feet of area for each dwelling unit, 12,600 square feet of open space is required for the site.

The Planned Unit Development code provided in Chapter 10-23 requires that a PUD provide open space in the amount of 20 percent of the net site area. The subject site is 9.28 acres in size. Therefore, 80,847 square feet of open space is required. Of the required open space, 25 percent, or 20,212 square feet is required. The proposed development includes 84,118 square feet of provided open space, or 20.8 percent of the site area. A total of 32,094 square feet of recreation open space is provided, or 38.2 percent of the open space area. The proposed open space configuration is shown on the Master Plan: Open Space Plan (Sheet A-2).

The provided open space will not be less than ten feet in width or depth at any point. As shown on the Landscape Plan (Sheet L-2), a variety of recreation areas will be provided on site. The Central Green includes a children's play area, a pavilion, picnic areas, lawn, native grove and walking trails. Two pocket gardens will provide native plantings, walking trails and seating areas for residents. A series of garden courts which include lawn, walking trails, a shelter and picnic area. A small fenced dog park with a seating area has been provided at the south end of the site.

This standard is met.

4. Architectural Details

- a. **Approved exterior building wall materials:**
 - i. **Lap siding, board and batten siding, shingles and shakes. Metal siding and vinyl siding shall not be permitted**
 - ii. **Vinyl siding is permitted if it meets the following standards:**
 - 1. **The style emulates lap siding, board and batten siding, shingles and/or shakes.**

2. **The vinyl is ultraviolet- and heat-stabilized.**
 3. **Panels are a minimum thickness of 0.044 inches.**
 4. **Soffit panels are a minimum thickness of 0.050 inches.**
 5. **Siding is installed with corrosion-resistant fasteners such as aluminum or galvanized nails.**
 6. **Siding is installed with sufficient space at openings, stops and nailing slots to allow for expansion and contraction of the material without warping, buckling or cracking.**
- iii. **Brick or stone masonry with a minimum 2 ½" deep solid veneer material**
 - iv. **Cement-based stucco**
 - v. **Secondary materials: Any of the materials listed above as permitted may also be used as secondary materials or accents. In addition, the materials listed above are allowed as secondary materials, trims, or accents (e.g., flashing, wainscoting, awnings, canopies, ornamentation) when nonreflective and compatible with the overall building design, subject to approval. Secondary materials may be used on up to 30% of the façade.**

Finding: The proposed materials will include cementitious board and batten siding, coastal shingle, and cottage lap siding, which will be used in combination throughout the development. This standard is met.

- b. **Single-family attached and duet dwellings shall include an area of transition between the public realm of the right-of-way and the entry to the private dwelling with one of the following options:**
 - i. **A covered porch or patio of at least sixty square feet with a minimum depth of five feet (5') between the main entrance and the street.**
 - ii. **Uncovered stairs that lead to the front door or front porch of the dwelling. The stairs shall rise at least three feet (3'), and not more than six feet (6'), from grade.**

Finding: The front entries have been located along central open space or a private street with a covered entry porch of at least sixty square feet with a depth of five feet between the main entrance and the street. All single-family attached dwellings will have rear-loaded garages accessible from private alleyways. This standard is met.

5. **Off-Street Parking: Attached Housing must meet all of the applicable standards outlined in Section 10-3 of this Title.**

Finding: The applicable standards in Section 10-3 have been addressed within this narrative.

6. **Fences: Attached Housing must meet all of the applicable standards outlined in Section 10-34-5 of this Title.**

Finding: The applicable standards in Section 10-34-5 have been addressed within this narrative.

10-10-9: Multi-family Dwellings:

- A. **Applicability: Developments of five (5) or more attached residential units are subject to all of the applicable sections of this Title. Where there is a conflict between these standards and standards elsewhere in the code, the Multi-Family Dwellings standards shall apply.**

Finding: The proposed PUD features four multi-family buildings with either 11 or 12 attached residential units. The requirements of this section are applicable to the four multi-family buildings.

- B. **Siting and Design Criteria:**

1. **Separation Between Buildings: The minimum separation between multiple-family buildings shall be thirty feet (30') except where buildings are arranged end to end. Except in such a case, there shall be at least a ten-foot (10') separation and no doorway or entry may open into the space between the buildings.**

Finding: The proposed multi-family buildings have been located to provide a minimum of 30 feet of separation between buildings. This standard is met.

2. **Public Facilities: In addition to requirements listed in Section 10-36 of this Title, the developer of a multi-family dwelling shall have full financial responsibility for the utilities needed on the building site. The developer shall also have partial or full financial responsibility, as determined by the City, for extra capacity utilities required to serve the building site.**

Finding: All utilities needed on the building site will be provided by the developer. This standard is met.

3. **Open Space: Developments of five (5) or more units shall provide and maintain at least one common open space for the use of all occupants. The open space shall have the following characteristics:**
 - a. **Not less than ten feet (10') in width or depth at any point.**
 - b. **Located on land with less than a five percent (5%) slope.**
 - c. **Cleared sufficiently of trees, brush and obstructions so that intended recreational use proposed is possible.**
 - d. **Not used for temporary or regular parking of automobiles or other vehicles.**
 - e. **Includes at least one hundred (100) square feet of area for each dwelling unit. (Ord. 625, 6-30-80)**

- f. **Includes one or more of the following: indoor or outdoor recreation area, protection of sensitive lands (e.g., trees or bank vegetation preserved), play fields, outdoor playgrounds, outdoor sports courts, swimming pools, walking fitness courses, pedestrian amenities, or similar open space amenities for residents.**

Finding: The proposed development will provide 49 attached units, 46 multi-family units and 31 detached units. Based on one hundred square feet of area for each dwelling unit, 12,600 square feet of open space is required for the site.

The Planned Unit Development code provided in Chapter 10-23 requires that a PUD provide open space in the amount of 20 percent of the net site area. The subject site is 9.28 acres in size. Therefore, 80,847 square feet of open space is required. Of the required open space, 25 percent, or 20,212 square feet is required. The proposed development includes 84,118 square feet of provided open space, or 20.8 percent of the site area. A total of 32,094 square feet of recreation open space is provided, or 38.2 percent of the open space area. The proposed open space configuration is shown on the Master Plan: Open Space Plan (Sheet A-2).

The provided open space will not be less than ten feet in width or depth at any point. As shown on the Landscape Plan (Sheet L-2), a variety of recreation areas will be provided on site. The Central Green includes a children's play area, a pavilion, picnic areas, lawn, native grove and walking trails. Two pocket gardens will provide native plantings, walking trails and seating areas for residents. A series of garden courts which include lawn, walking trails, a shelter and picnic area. A small fenced dog park with a seating area has been provided at the south end of the site.

This standard is met.

- 4. **Design Standards: Multi-family buildings must meet all applicable design criteria of FCC 10-6-6-4 and 10-6-6-5, with the following exceptions:**
 - a. **10-6-6-4.G.**
 - b. **10-6-6-5.F.2.**
 - c. **10-6-6-5.G.3.**
 - d. **Vinyl siding may be permitted if it meets the following standards:**
 - 1. **The style emulates lap siding, board and batten siding, shingles and/or shakes.**
 - 2. **The vinyl is ultraviolet- and heat-stabilized.**
 - 3. **Panels are a minimum thickness of 0.044 inches.**
 - 4. **Soffit panels are a minimum thickness of 0.050 inches.**
 - 5. **Siding is installed with corrosion-resistant fasteners such as aluminum or galvanized nails.**
 - 6. **Siding is installed with sufficient space at openings, stops and nailing slots to allow for expansion and contraction of the material without warping, buckling or cracking.**

Findings: The Design standards of section 10-6-6-4 and 10-6-6-5 have been addressed within this narrative.

5. **Off-Street Parking: Multi-family development must meet all of the applicable standards outlined in Section 10-3 of this Title.**

Finding: The off-street parking requirements for the multi-family development have been addressed in Section 10-3 of this narrative.

6. **Fences: Multi-family development must meet all of the applicable standards outlined in Section 10-34-5 of this Title.**

Finding: The fencing requirements for the multi-family development have been addressed in Section 10-34-5 of this narrative.

Chapter 23 – Planned Unit Development (PUD)

10-23-1: PURPOSE: The Planned Unit Development authorization is intended to:

- A. **Encourage the coordinated development of unplatted land.**
- B. **Encourage innovative land utilization through a flexible application of zoning regulations.**
- C. **Preserve the natural amenities of land and water.**
- D. **Create opportunities for a wide variety of lifestyles by creating a variety of dwelling types that help meet the needs of all income groups in the community.**
- E. **Provide for the efficient use of public utilities, services and facilities.**
- F. **Result in a comprehensive development equal to or better than that resulting from traditional lot-by-lot land use development, in which the design of the overall unit permits increased freedom in the placement and uses of buildings and the location of open spaces, circulation facilities, off-street parking areas and other facilities.**

Finding: The Applicant proposes a residential Planned Unit Development (PUD) meeting the stated purposes of the PUD regulations. The site is of sufficient size as to warrant comprehensive planning rather than traditional lot-by-lot development. The Applicant proposes a variety of housing-types with flexibility in the placement and clustering of buildings, use of open space, circulation, parking and density to promote a safe, attractive, stable and efficient residential environment. The proposed public and private utilities and facilities have been shown on the attached Composite Utility Plan (Sheet C-8). This standard is met.

10-23-3: DEVELOPMENT OPTIONS: A PUD may include any of the following land uses, either singly or in combinations when they are compatible with each other and blend harmoniously with adjacent uses:

- A. **For the Low Density Residential District:**
 - a. **All uses permitted in the designated zoning district including uses requiring design review.**
 - b. **Single-family attached dwellings.**
 - c. **Duplexes, triplexes, and quadplexes.**
 - d. **Multi-family dwellings.**

- e. **Open Space and Parklands (Ord. No. 2, Series 2011)**
- B. For all other districts:**
 - a. **All permitted uses in the designated zoning district including uses requiring design review.**
 - b. **Triplexes, quadplexes, and multiple-family dwellings.**
 - c. **Open Space and Parklands (Ord. No. 2, Series 2011)**
 - d. **Commercial uses.**
 - e. **Temporary use of vacant lots for RV use. (Ord 12, 1998)**

Finding: The proposed development includes a combination of single-family detached homes, single-family attached homes and multi-family homes. All proposed uses are allowed within the RMH zone as a PUD.

10-23-4: GENERAL CRITERIA: Applicant must demonstrate that the development conforms to all the following criteria:

- A. The proposed development shall be compatible with the general purpose and intent of the Comprehensive Plan.**

Finding: The stated intent of the Florence Comprehensive Plan is to establish a coordinated land use planning process and policy framework to guide land use decisions and related actions; assure an adequate factual basis for those decisions and actions; and comply with the applicable requirements of state law.

The stated purpose of the Florence Comprehensive Plan is to provide the Florence City Council with a definite set of policies to guide future development of the community; Enable the Council to view specific projects against desirable long-range development decisions; Provide a suitable forum for public discussion; Convey community concerns regarding physical development problems and opportunities as they relate to social and economic issues; and Provide a framework by which standards may be applied to achieve a viable and aesthetically pleasing community.

The Florence Comprehensive Plan provides a framework for development within the City. The subject site has been designated Medium Density Residential (MDR) within the Comprehensive Plan. The corresponding zoning district is Mobile Home/Manufactured Home Residential (RMH). Modifications to the underlying zoning have been provided through the planned unit development process.

The Florence Comprehensive Plan encourages the use of residential planned unit development subdivisions noting that trade-off to conventional zoning requirements and density limitations may be required to achieve the purpose of a planned unit development (PUD). The proposed modifications and purpose of the planned unit development have been addressed within this narrative within the criteria listed in Chapter 23- Planned Unit Development (PUD).

The proposed development is consistent with the general purpose and intent of the Comprehensive Plan.

- B. The location, design and size are such that the development can be well integrated**

with its surroundings or will adequately reduce the impact where there is a departure from the character of adjacent land uses.

Finding: The proposed development will include a mix of single-family detached and attached homes and multi-family homes. The site has been designed to provide a gradient of uses and density, with the higher density residential uses provided adjacent to Rhododendron Drive, and the single-family detached homes provided along the boundary of the site, adjacent to the surrounding neighboring single-family detached homes. All proposed buildings will be two stories in height and designed to complement the existing neighboring residential developments. This standard is met.

C. The location, design, size and land uses are such that traffic generated by the development will be accommodated safely and without congestion on existing or planned arterial or collector streets and will, in the case of commercial or industrial developments, avoid traversing local streets.

Finding: A Traffic Impact Study has been provided under Appendix D which provides a detailed analysis of the existing traffic conditions adjacent to the site and the anticipated impact of the proposed development. The results of the analysis indicate that the proposed residential planned development can be constructed while maintaining safe and acceptable traffic operations. This standard is met.

D. The location, design, size and land uses are such that the residents or establishments to be accommodated will be adequately served by existing or planned utilities and services.

Finding: A Composite Utility Plan (Sheet C-8) has been provided under Appendix E, which details how the proposed development will be served by utilities and services. The proposed development will connect with the existing eight-inch water line in Rhododendron and an existing 12-inch sewer line in Rhododendron. Stormwater treatment for roof runoff will be provided within soakage trenches. Water quality and infiltration basins will be provided for all walkways, roadways and ground impervious surfaces on site. A Preliminary Drainage Report detailing the proposed stormwater system has been provided under Appendix E.

E. The location, design, size and uses will result in an attractive, healthful, efficient and stable environment.

Finding: The subject property is located within the existing city limits on fully developed roads. Existing utilities and services provide for efficient use of the land. The proposed residential Planned Unit Development (PUD) design includes a variety of housing-types with flexibility in the placement and clustering of buildings, use of open space, circulation, parking and density to promote a safe, attractive, stable and efficient residential environment.

10-23-5: DEVELOPMENT STANDARDS:

To ensure that a PUD fulfills the intent of this Chapter, the following standards and those of FCC 10-36 shall apply.

A. Minimum Size: Two (2) acres of contiguous land is the minimum for a PUD, unless the Planning Commission finds that a particular parcel of land less than two (2) acres is

suitable as a planned unit development by virtue of its unique character, topography, landscape features, or by virtue of its qualifying as a special problem area.

Finding: The subject site is 9.28 acres in size. Therefore, the site is suitable for a PUD. This standard is met.

B. Perimeter Yards: The Planning Commission may require a yard at least as deep as that required by the front yard regulations of the district adjacent to the PUD on any, or all, sides of the PUD. Such a perimeter yard does not qualify as open space unless the Planning Commission finds that such a dual purpose use of land is desirable.

Finding: The properties surrounding the subject property are zoned RMH. The primary front yard regulations in the RMH zone are 10 feet. The proposed PUD will have a perimeter yard of at least 10 feet on all sides abutting adjacent residential property and five feet on all sides adjacent to the right-of-way of existing roads.

This standard is met.

C. Off-Street Parking: The requirements for off-street parking and loading shall be in accordance with Chapter 3 of this Title. The Planning Commission may allow one parking space for single family dwellings in a PUD. Parking spaces or garages may be grouped together when the Planning Commission determines that such grouping of parking spaces, and the location thereof, will be accessible and useful to the residents, guests and patrons of the PUD. (Ord 12, 1998)

Finding: The proposed development will include 31 detached homes and 49 attached homes (five of which are one-bedroom units) requiring 160 parking spaces. The proposed apartments will provide 24 studio/one-bedrooms and 22 two-bedrooms, requiring 57 parking spaces. A total of 217 parking spaces are required on-site.

The detached and attached homes will provide parking within single or double car garages. Additional parking for the single-family detached homes will be provided on individual lots on parking pads located to the side of the homes. The multi-family apartments will provide a mix of covered (tuck-under) and uncovered parking adjacent to each of the buildings in surface parking lots. On-street parking provided on the private loop street will provide additional parking. In total, 262 parking spaces will be provided on site, exceeding the minimum requirement.

	Number of Parking Spaces
SFA Garage Spaces	93
SFD Garage Spaces	37
SFD Driveway Parking Spaces	25
Multi-Family Surface Parking	61
On-Street Parking (Private)	46
Total	262

D. Underground Utilities: All electrical, telephone, cable television, fire alarm, street light and other wiring, conduits and similar utility facilities and accessories shall be placed underground by the developer.

Finding: All new utilities necessary to serve the proposed development will be placed underground.

This standard is met.

- E. Open Space: A minimum of 20% of the net development area shall be open space and must be platted for that purpose. (Easements are not acceptable). At least 25% of the 20% shall include an area designated and intended for recreation use and enjoyment. The required recreation area may be provided as:**
- **Public dedication for use by public in general, and/or**
 - **Property owned by the Home Owners Association (or other legal entity) for use by residents of the development.**

The recreation area may provide for passive and/or active recreational activities. Examples of passive and/or active recreational use include, but are not limited to, community gardens, common with amenities, and private parks. Recreation areas shall include high-quality and durable amenities and incorporate ADA accessibility features such as, but not limited to:

- **Indoor or outdoor recreation areas**
- **Play fields or outdoor playgrounds**
- **Indoor or outdoor sports courts**
- **Swimming pools**
- **Walking or running fitness courses**
- **Pedestrian and bicycle amenities meeting park industry durability standards**
- **Other recreation amenities determined by Planning Commission to fulfill the purpose of this Chapter.**

The recreational area is required to be developed to satisfy one or more recreational needs identified in the latest Florence Parks and Recreation Master Plan. If the Master Plan or Comprehensive Plan shows a need for public recreation area in the location of the PUD (such as a trail connection or neighborhood park), the recreation area shall be dedicated to the public. If the recreation area is not meeting a need for public recreation, the city may choose not to accept dedication of the recreation area. (Ord. No. 2, Series 2011)

1. **Open space will be suitably improved for its intended use, except that common open space (outside the required 25% of recreation use area) containing natural features worthy of preservation may be left unimproved. The buildings, structures and improvements to be permitted in the common open spaces shall be appropriate to the uses, which are authorized for the open space.**

Finding: The subject site is 9.28 acres in size. Therefore, 80,847 square feet of open space is required. Of the required open space, 25 percent, or 20,212 square feet is required. The proposed development includes 84,118 square feet of provided open space, or

20.8 percent of the site area. A total of 32,094 square feet of recreation open space is provided, or 38.2 percent of the open space area. This standard is met.

The designated recreational space is broken up into three main zones; The Central Green, Dog Park and Pocket Gardens:

Central Green:

The Central Green is characterized as a linear park providing a multitude of uses. The most active zone to the north incorporates a pavilion area for sheltered picnicking accompanied by a children's playground. At the center of the green is a large lawn framed by rows of trees to allow for flexible uses. It is envisioned to support pick up sports, lawn games and lounge areas. The southern end of the green is design as a native grove, characterized by native trees and pockets of planting and surrounded by picnic areas. Connecting all of these spaces is a concrete loop trail to support exercise and walking.

Dog Park:

The dog park is focused around a fenced bark/lawn area to support dog training/play and relief. At the dog park entry, a paved area is provided to allow for ease of pet movement with areas for seating/viewing. The park is surrounded by a number of trees to help provide shade and visual interest.

Pocket Gardens:

Two pocket gardens are provided as contemplative spaces for the development. The Garden to the south is envisioned as a flower garden with bisecting walking trails to allow up-close viewing of the variety of plant species cultivated. Along the walking paths, seating opportunities are provided for rest. The garden to the northeast offers a center paved space for picnicking. This space is framed by native plantings and a ring of trees to provide shade.

This standard is met.

- 2. The development schedule which is part of the development plan shall coordinate the improvement of the open space and the construction of buildings and other structures in the open space with the construction of residential dwellings in the planned unit development.**

Finding: The proposed development will be completed within a two-year timeframe as required by a planned unit development. The construction phase of the project will be divided into two phases, Phase 1a and Phase 1b.

Phase 1a will include a mix of site work and grading work, all multi-family buildings and associated parking areas, 15 single-family detached homes, and 31 single-family attached homes. Site work will begin in October 2020 and will be a seven-month construction period. Building work is scheduled to begin in February 2021 and will be a 12-month construction period. Phase 1a has been shown on Master Plan: Phase 1A (Sheet A-3).

Phase 1b will include 16 single-family detached homes and 18 single-family attached homes. Phase 1b will begin in February 2022 and will be a nine-month construction period. Phase 1b has been shown on Master Plan: Phase 1B (Sheet A-4).

This standard is met.

3. **If buildings, structures or other improvements are to be made in the open space, City may require that the development provide a bond or other adequate assurance that the buildings, structures and improvements will be completed. In this case, the City Council shall release the bond or other assurances when the buildings, structures and other improvements have been completed according to the development plan.**

Finding: The proposed structures in the open space area include one central open-air pavilion approximately 12 feet by 20 feet is located at the northern end of the Central Green. Additionally, each Garden Court has an open air structure approximately 20 feet by 20 feet to support picnicking.

The applicant acknowledges that the City may require that the development provide a bond or other adequate assurance that the buildings, structures and improvements will be completed. This standard is met.

4. **The following areas are not acceptable for recreation area required as part of a PUD: (Ord. No. 2, Series 2011)**
 - a. **Hillsides over five (5) percent slope; (Ord. No. X, Series 2019)**
 - b. **Land in the floodway, floodplain, or required riparian or wetland buffer, unless trails, benches, picnic tables and similar above are incorporated;**
 - c. **Roadside ditches;**
 - d. **Monument entry areas and central landscaped boulevards;**
 - e. **Stormwater retention or detention ponds that are designed to hold stormwater runoff from less than one hundred (100) year events;**
 - f. **Parking areas and road rights-of-way that are located within the parkland, open space, or common area, except for parking that is required specifically for use of the parkland;**
 - g. **Yards, court areas, setbacks, or other open areas required by the zoning and building ordinances and regulations shall not be included in the computation.**

Finding: The proposed recreation areas within the open space will not include the items listed in subsection a-g above. This standard is met.

5. **A portion not to exceed 50% of open space and recreation area requirements may be met with a fee-in-lieu if the proposed PUD is within one quarter (1/4) mile of underdeveloped parkland as measured on public rights-of-way with reasonable pedestrian and bicycle connections to the parkland. The fee for**

open space shall be calculated by multiplying the sq. ft. of open space area being met with fee-in-lieu multiplied by the average square foot value of abutting real property as shown on the current Lane County assessment roll, less a percentage for easement retained for public use. The fee for recreation area will include the open space methodology and additional fee for improvements planned for the underdeveloped parkland as identified in the Florence Parks and Recreation Master Plan or in a City Council approved community park plan for that park.

Finding: The required open space and recreation area requirements will be met on site. A fee-in-lieu is not proposed for the development.

F. Natural Resource Protection and Unique Land Forms: Development plans shall incorporate measures to preserve, enhance or protect significant natural resources or unique land forms where identified as part of a Phase 1 site investigation report. Areas designated for preservation or protection may count towards meeting the open space requirement but may not count towards meeting the recreation area requirement.

Finding: The subject site does not have any mapped natural resource protection areas or unique land forms. The requirements of this section are not applicable.

G. Mixed Uses, Unit Types, and Density: Where supported by the zoning district, development plans shall incorporate a mix of dwelling unit types and densities consistent with the base zone as well as a mix of residential, commercial, and recreational uses.

Finding: The proposed PUD will include a mix of single-family detached units, single-family attached units and multi-family units. The proposed mix of unit types is consistent with the RMH base zone.

This standard is met.

H. The project shall meet the development standards for the underlying zone including but not limited to height, density, coverage, setbacks, lot area. However, the applicant may propose modifications to those standards as part of the PUD application without the need for a separate variance or adjustment application subject to FCC 10-5. For all proposed modifications, the applicant shall submit application and show how the proposed modification achieves the following:

Finding: The applicant has proposed the following modifications to the underlying standards of this code through the planned unit development process:

Lot Width and Depth (Section 10-10-4.A)

Development Type	Required Width	Proposed Width	Required Depth	Proposed Depth
Single-family detached	50 ft.	36 ft.	80 ft.	62 ft.
Single-family attached	25 ft.	24 ft.	80 ft.	60 ft.

Minimum Lot Area (Section 10-10-4.B)

Development Type	Required Minimum Lot Area	Proposed Minimum Lot Area
Single-family detached	5,000 sq. ft.	2,232 sq. ft.
Single-family attached	3,000 sq. ft.	1,464 sq. ft.

Setbacks (Section 10-10-4.D)

	Required Setback	Proposed Setback
Front:	10 feet	5 feet
Side:		
- Street	5 feet	5 feet
- Detached Single-family	5 feet	3 feet
- Attached Single-family	0 feet and 5 feet	0 feet and 3 feet
Rear:		
- Primary	5 feet	3 feet
- Garage (alley-loaded)	20 feet	3 feet

Density (Section 10-10-4.E)

	Required Maximum Density	Proposed Maximum Density
Maximum average net density (units/acre)	12 units/net acre	13.6 units/acre

Parking Stall Size (Section 10-3-8.A.2)

Required parking/driveway dimension: 9 feet 6 inches wide by 19 feet long

Proposed driveway parking dimension: 8 feet wide by 19 feet long

Parking in Setback (Section 10-10-4.D-footnote 1)

"The required front and side yards shall not be used for clotheslines, incinerators, storage of trailers, boats and recreational vehicles or of any materials, nor shall said yards be used for the regular or constant parking of automobiles or other vehicles, except as permitted under 10-3-8-A.

The applicant has proposed a modification to allow a parking pad within the side yard setback for the single-family detached lots.

- 1. High quality building design using of Old Town and Mainstreet Architectural Standards or higher standard**

Finding: The proposed buildings have been designed using the Downtown Architectural Design Standards provided in Chapter 10-6-6. Chapter 10-6-6 has been addressed within this narrative as it relates to the proposed building design. Conceptual elevations for the proposed buildings have been submitted under Appendix E. This standard is met.

- 2. Incorporation of unique land forms into the final PUD design**

Finding: The subject site does not have any existing unique land forms that are able to be included in the final PUD design. The requirements of this section are not applicable to the proposed development.

3. More recreation space than the minimum required

Finding: Planned Unit Developments require that 25 percent of the required open space be provided as recreation space. The proposed development includes 84,118 square feet of provided open space, or 20.8 percent of the site area. A total of 32,094 square feet of recreation open space is provided, or 38.2 percent of the open space area. This standard is met.

4. On-site amenities reflecting the value for both active and passive recreational facilities

Finding: A variety of active and passive recreational facilities have been provided on the site. The Central Green includes a children’s play area, a pavilion, picnic areas, lawn, native grove and walking trails. Two pocket gardens will provide native plantings, walking trails and seating areas for residents. A series of garden courts which include lawn, walking trails, a shelter and picnic area. A small fenced dog park with a seating area has been provided at the south end of the site.

The recreational areas support both active and passive uses. Active spaces provide opportunities for picnicking, children’s play, dog play, pick-up sports, lawn games and exercise. Passive areas include garden viewing, walking, seating areas, and lounge.

This standard is met.

5. Natural resource protection, where identified as part of a preliminary site investigation report

Finding: The subject site does not have identified natural resources on site. The requirements of this section are not applicable.

6. A mix of dwelling unit types and densities

Finding: The proposed PUD will include a mix of single-family detached units, single-family attached units and multi-family units. The proposed mix of unit types is consistent with the RMH base zone.

This standard is met.

7. A mix of residential, commercial, and recreational uses, where zoning permits.

Finding: The proposed development features a mix of residential uses including multi-family, single-family attached and single-family detached. Recreation facilities for use of residents or guests as part of an approved PUD are allowed within the underlying zone and have been provided. Other commercial and recreational uses are not permitted on the site. This standard is met.

10-23-6: DEDICATION AND MAINTENANCE OF FACILITIES: The City may require that space be set aside, improved, conveyed or dedicated for the following uses:

- A. Easement necessary to accommodate existing or proposed public utilities.
- B. Streets, bikeways and pedestrian paths necessary for the proper development of either the PUD or adjacent properties.
- C. Common open space, recreation facilities, parks and playgrounds necessary and appropriate for the owners, residents, patrons and employees of the PUD. Maintenance, repair, insurance and related obligations are the responsibility of either:
 - 1. The developer; or
 - 2. An association of owners or tenants, created as a nonprofit corporation under the laws of the state, which shall adopt and impose articles of incorporation and bylaws and adopt and impose a declaration of covenants and restrictions on the common open space that is acceptable to the Planning Commission as providing for the continuing care of the space. Such an association shall be formed and continued for the purpose of maintaining the common open space.

Finding: Easements will be provided for all public utilities on site. Streets, bikeways, pedestrian paths and all common open space will be provided in tracts and will be maintained by the association of owners or tenants. The requirements of this section have been met.

10-23-7: PROFESSIONAL DESIGN: The developer is required to employ a design team to ensure that the project is well planned, and to coordinate the process of application. The design team shall include an Architect or Engineer, a Landscape Architect, a Planner, a Surveyor, and in some cases, a Soils Engineer. Designation of a professional coordinator doesn't prohibit the owner from taking part in the process.

Finding: The design team includes an architect, engineer, landscape architect, planner, surveyor and a soils engineer. The contact information for each consultant has been provided within the general information section at the beginning of this narrative.

10-23-8: GENERAL PROCEDURES: There shall be a three-stage review process for all PUD's. The first step is the application conference, followed by preliminary development review and approval and final review.

10-23-9: APPLICATION CONFERENCE: An outline development plan accompanied by the application fee, shall be submitted to the Planning Commission by the owner(s) of the properties to be developed. The developer, or the designated professional coordinator, shall meet one or more times together with the Planning Commission's staff and determine whether the requirements of this Chapter have been fulfilled.

Outline Development Plan: An outline development plan shall include both maps and a written statement as described in this section. The information shall deal with enough of the area surrounding the proposed planned unit development to demonstrate the relationship of the planned unit development to adjoining uses, both existing and allowable.

- 1. The maps which are part of the outline plan may be in general schematic form, and shall contain the following information:

- a. The existing topographic character of the land.
 - b. Existing and proposed land uses and the approximate location of buildings and other structures.
 - c. The character and approximate density of the proposed buildings.
 - d. The approximate location of major thoroughfares.
 - e. General traffic flow patterns within the PUD.
 - f. Public uses, including schools, parks, playgrounds and other public open spaces.
 - g. Common open spaces and a description of the proposed use of these spaces.
2. The written statement which is part of the outline development plan shall contain the following information:
- a. An explanation of the character of the planned unit development and the manner in which it has been planned to take advantage of the planned unit development regulations.
 - b. A statement of the present ownership of all the land included within the planned unit development.
 - c. A general indication of the expected schedule of development.
 - d. A preliminary site investigation report.

Finding: A pre-application conference discussing the items listed above was held with the City and the design team on November 12, 2019.

10-23-10: PRELIMINARY APPROVAL: The Planning Commission shall hold a public hearing, and any continuance thereof, to discuss the PUD proposal. The public hearing shall not be held until the complete information listed below has been available for review by the Planning Commission's staff for at least thirty (30) days.

Preliminary Development Plan: A preliminary development plan shall be prepared and shall include the following information:

1. A map showing street systems, lot or partition lines and other divisions of land for management, use or allocation purposes.
2. Areas proposed to be conveyed, dedicated or reserved for public streets, parks, parkways, playgrounds, school sites, public buildings and similar public and semi- public uses.
3. A plot plan for each building site and common open space area, showing the approximate location of buildings, structures, and other improvements and indicating the open spaces around buildings and structures, excepting private single-family lots in a residential PUD.
4. Elevation and perspective drawings of proposed structures.
5. A development schedule indicating:
 - a. The approximate date when construction of the project can be expected to begin.
 - b. The stages in which the project will be built and the approximate date

- when construction of each stage can be expected to begin.
 - c. The anticipated rate of development.
 - d. The approximate dates when each stage in the development will be completed.
 - e. The area, location and degree of development of common open space that will be provided at each stage.
6. Agreements, provisions or covenants which govern the use, maintenance and continued protection of the planned unit development and any of its common open space areas.
 7. The following plans and diagrams, insofar as the reviewing body finds that the planned unit development creates special problems of traffic, parking and landscaping.
 - a. An off-street parking and loading plan.
 - b. A circulation diagram indicating proposed movement of vehicles, goods and pedestrians within the planned unit development and to and from thoroughfares. Any special engineering features and traffic regulation devices needed to facilitate or ensure the safety of this circulation pattern shall be shown.
 - c. A landscaping and tree plan.

After the public hearing, the Planning Commission shall determine whether the criteria and general intent of this section have been fulfilled. The Planning Commission may require such changes and impose such conditions as they determine to be prudent and desirable. The Planning Commission may, at its discretion, authorize submission of the final plan in stages, corresponding to the different phases or elements of the development, after receiving evidence assuring completion of the entire project on schedule.

Finding: All required application materials for the preliminary development plan have been included in this land use application.

10-23-15: PHASED PLANNED UNIT DEVELOPMENT: A Planned Unit Development may be phased. No building permit shall be issued without receiving preliminary development plan approval as set forth in this section. When a PUD is phased, one preliminary development plan is approved by Planning Commission for the entire development, and final development plan for each individual phase is reviewed separately. Planning Commission shall approve a phased preliminary development plan, provided affirmative findings can be made that:

- A. The proposed PUD meets the preliminary development plan requirements outlined in 10-23-1 through 10-23-10.
- B. The proposed PUD includes the following elements:
 1. A phasing plan that indicates the tentative boundaries of each phase, the sequencing of phases, the tentative configuration of lots in each phase, and a plan for the construction of all required city infrastructure in each phase

2. **Connectivity for streets and City utilities between each phase ensures the orderly and efficient construction of required public improvements among all phases.**
 3. **Each phase will have public improvements that meet the infrastructure capacity requirements for the development and meet the requirements of City Code and city design standards.**
 4. **Each phase is designed in such a manner that each phase supports the infrastructure requirements for the phased development as a whole.**
- B. If the approval of a final development plan for a phase of a phased PUD requires the change of a boundary of a subsequent phase, or a change to the conditions of approval, the phasing plan for the preliminary development plan shall be modified prior to approval of the final development plan.**
- C. If a phased PUD includes creation of a subdivision, the application may be processed concurrently.**

PUDs approved for multi-phased development may apply for final development plan approval by phase, in the following manner:

1. **The first phase of development shall apply for final development plan approval within two (2) years from the date of the preliminary development plan approval;**
2. **The second phase of development shall apply for final development plan approval within two (2) years after the final development plan approval of the first phase;**
3. **Subsequent phases shall file for final development plan approval within two (2) years after the final development plan approval for the preceding phase, with all phases filed within eight (8) years of the preliminary development plan approval.**

Finding: The proposed development will be completed within a two-year timeframe as required by a planned unit development. The construction phase of the project will be divided into two phases, Phase 1a and Phase 1b.

Phase 1a will include a mix of site work and grading work, all multi-family buildings and associated parking areas, 15 single-family detached homes, and 31 single-family attached homes. Site work will begin in October 2020 and will be a seven-month construction period. Building work is scheduled to begin in February 2021 and will be a 12-month construction period. Phase 1a has been shown on Master Plan: Phase 1A (Sheet A-3).

Phase 1b will include 16 single-family detached homes and 18 single-family attached homes. Phase 1b will begin in February 2022 and will be a nine-month construction period. Phase 1b has been shown on Master Plan: Phase 1B (Sheet A-4).

This standard is met.

Chapter 34 – Landscaping

10-34-2: LANDSCAPE CONSERVATION

10-34-2-1: Applicability. Except for single family homes and duplexes the provisions of this Section are applicable to all development sites which contain stands of Native Vegetation or specific Significant Vegetation, as defined below. “Development sites” do not include any street, alley, or public right-of-way.

10-34-2-2: Native Vegetation. “Native vegetation” means those plant species native to the Florence region that are listed as native on the suggested Tree and Plant List for the City of Florence, such as Shore Pine, Fir, Hemlock, Spruce, Native Rhododendron, Wax Myrtle, Kinnikinnick, Huckleberry and Salal. Preservation of existing native vegetation is strongly encouraged and preferred over removal of vegetation and re-planting. Existing native vegetation may be credited toward the landscape requirements of Section 10-34-3-3 if it is preserved in accordance with the following standards:

- A. Living plant material covers a minimum of 70 percent of the area proposed for preservation;
- B. Preservation area(s) are a minimum of 30 square feet for any one area with dimensions a minimum of 5 feet on any side to ensure adequate space for healthy plant growth;
- C. Preservation area(s) are setback from new construction areas a minimum of 10 feet from new structures, and a minimum of 5 feet from new hard-surface areas (e.g. parking lot, walkways), and replanted with native vegetation if damaged during construction;
- D. The preservation area is clearly marked and identified for protection on the landscaping plan as well as on-site (e.g. construction fencing) prior to site disturbance.
- E. Existing noxious weeds within the preservation area are removed prior to approval of the installed landscaping; and
- F. Preservation areas with grade changes around the perimeter are addressed with appropriate transition or stabilization measures (e.g. retaining wall) to avoid erosion.

10-34-2-1: Significant Vegetation. “Significant vegetation” means:

- A. Native vegetation, or
- B. Plants within designated sensitive land areas such as wetlands, riparian areas, and slopes steeper than 40%, or
- C. Trees having a DBH of four (4) inches or larger measured 4½ feet above ground.

10-34-2-1: Preservation Credit. The City may grant a “Preservation Credit” if existing significant vegetation on the site is preserved, in the form of a reduction of the overall landscape area and planting requirements of Sections 10-34-3-3. The City may authorize credits which effectively reduce the required landscaping if the following standards are met:

- A. Significant vegetation species and areas to be preserved shall be mapped and flagged in support of the site development application. Significant trees shall be mapped individually and identified by species and diameter. Wetland resources shall have a

current delineation approved by the Department of State Lands. Appropriate protection from construction damage shall be in place prior to site disturbance. For a "Burn to Learn" site, significant vegetation that can be saved shall be protected.

- B. Native vegetation, wetland, riparian, and steep slope vegetation shall meet the standards set forth in Section 10-34-2-2 subsections A through F above.
- C. Dead or diseased vegetation and split, leaning, or unstable trees shall not qualify as preserved vegetation.
- D. Mature vegetation shall be trimmed and pruned as appropriate by qualified personnel to form a long-term element of the site landscaping.
- E. Landscape credit for preserved significant vegetation areas shall be granted at the ratio of 2 to 1 (e.g. every one square foot of preserved significant vegetation shall be counted as two square feet in meeting the total specified landscape area for a site). However, in no case shall the requirement for actual landscaped area be reduced below 2/3 of the area that would be required with no credit.
- F. Landscape credit for preserved trees shall be granted at the ratio of one less new tree planting for every two (2) inches diameter of preserved significant trees (e.g. a preserved tree of six inch diameter counts as three newly planted trees). This credit can be applied against required front yard, parking island, buffer, and/or street trees. However in no case shall this credit reduce the requirement for newly planted trees below 2/3 of the number that would be required with no credit. All preserved trees shall be protected from construction compaction or grade changes of more than six inches on the surface area in relation to the crown of the tree canopy.

Finding: The proposed development will not include the preservation of native vegetation on site; therefore, preservation credits are not requested.

10-34-3: LANDSCAPING

10-34-3-1: Applicability. Except for single-family and duplex dwelling uses, this Section shall apply to all new development as well as changes of use and expansions as described below, and shall apply in all districts except where superseded by specific zoning district requirements. These provisions shall be in addition to the provisions of FCC Title 9 Chapter 5 and where there are conflicts, the provisions of Title 9 Chapter 5 shall prevail.

A. For new developments, all landscaping shall meet current code requirements.

10-34-3-2: Landscaping Plan Required. A landscape plan is required. All landscape plans shall include the following information:

- A. The location and height of existing and proposed fences and walls, 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 new proposed plant materials (at time of planting).
- D. The location(s) of areas where existing vegetation will be cleared and the location(s) of areas where existing vegetation will be preserved, delineated on a

- recent aerial photo or site plan drawn to scale.
- E. Existing and proposed building and pavement outlines.
- F. Specifications for soil at time of planting, irrigation and anticipated planting schedule.
- G. Other information as deemed appropriate by the City Planning Official.

Finding: A landscape plan set (Sheet L1-L4) illustrating the information listed in Subsections A-G above has been submitted under Appendix E.

10-34-3-3: Landscape Area and Planting Standards. The minimum landscaping area is 15% of the lot area, unless specified otherwise in the applicable zoning district for the proposed use. This required minimum landscaping area may be reduced if preservation credits are earned as specified in Section 10-34-2-4.

- A. Landscaping shall include planting and maintenance of the following:
 1. One tree per 30 lineal feet as measured along all lot lines that are adjacent to a street.
 2. Six shrubs per 30 lineal feet as measured along all lot lines that are adjacent to a street.
 3. Living plant materials shall cover a minimum of 70 percent of the required landscape area within 5 years of planting.
 4. Except for preservation of existing significant vegetation, the required plant materials on-site shall be located in areas within the first 20 feet of any lot line that abuts a street. Exceptions may be granted where impracticable to meet this requirement or the intent is better served. Required trees may be located within the right-of-way and must comply with Section 10-34-4. Plant materials may be installed in any arrangement and do not need to be equally spaced nor linear in design. Plantings and maintenance shall comply with the vision clearance standards of FCC 10-35-2-13.
 5. Pocket-planting with a soil-compost blend around plants and trees shall be used to ensure healthy growth.
- B. Noxious Weeds shall be removed during site development and the planting of invasive or noxious weeds is prohibited.

Finding: A total landscaping area of 132,269 square feet (32.7 percent) has been provided on site. The proposed plantings have been shown on the Planting Plan (Sheet L-3) submitted under Appendix E. This standard is met.

10-34-3-4: Landscape Materials. Permitted landscape materials include trees, shrubs, ground cover plants, non-plant ground covers, existing native vegetation, outdoor hardscape features and storm water features, as described below.

- A. **Plant Selection.** A combination of deciduous and evergreen trees, shrubs, and ground covers shall be used, consistent with the purpose of this Chapter. A suggested *Tree and Plant List for the City of Florence* and the *Sunset Western Garden Book* are available at City Hall. The selection of plant and tree species shall be based upon site conditions such as wind and sun exposure, space limitations, water availability, and drainage

conditions. The use of indigenous plants is encouraged, and may be required where exposure, slope or soil conditions warrant.

1. **Ground Cover.** Ground cover may consist of separate plants or mowed grass turf. Ground cover plant species shall meet the following minimum standards: plants from 4-inch pots shall be spaced a maximum of 18 inches measured on center, and 1-2 gallon size plants shall be spaced a maximum of 3 feet measured on center.
2. **Shrubs.** Shrub plant species shall be planted from 3 gallon containers unless otherwise specified in the *Tree and Plant List for the City of Florence*.
3. **Trees.** Evergreen and deciduous tree species shall meet the following minimum standards: deciduous trees shall be a minimum of 1 ¾ inch caliper (diameter) measured 6 inches above grade, and evergreen trees shall be a minimum of 5 feet tall (Nursery Grade 5/6).
4. **Non-plant Ground Covers.** Bark dust, chips, aggregate, or other non-plant ground covers may be used. Non-plant ground cover located adjacent to pedestrian ways shall be confined to the material within the planting bed to avoid safety hazards by edging 4 inches above-grade or recessing from grade. **Non-plant ground covers cannot be a substitute for ground cover plants.**

Finding: As identified on the submitted landscaping plan, all street trees and ground cover provided in this development will meet city standards. All plant materials have been selected for their appropriateness to the Site, drought tolerance and year-round greenery and coverage and staggered flowering periods. This standard is met.

- B. Existing Native Vegetation.** Preservation of existing native vegetation is encouraged and preservation credits in accordance with Section 10-34-2-4 may be used to meet the landscape requirements of this Chapter.

Finding: The proposed development will not include the preservation of native vegetation on site.

- C. Hardscape features, such as plazas, pathways, patios and other pedestrian amenities may count toward ten (10) percent of the required landscape area, except in the Old Town and Main Street districts where hardscape features may count toward 50 percent of the landscape area, provided that such features conform to the standards of those districts. Swimming pools, sports courts, decks and similar facilities may not be counted toward fulfilling the landscape requirement in any zone.**

Finding: A total landscaping area of 132,269 square feet has been provided on site. The total hardscape feature area is 12,962 square feet, or 9.8 percent. The proposed plantings have been shown on the Planting Plan (Sheet L-3) submitted under Appendix E. This standard is met.

- D. Storm Water Facilities.** Storm water facilities, such as detention/retention ponds and swales shall be landscaped. Landscaped bio-swales are encouraged and shall count toward meeting the landscaping requirement of this section if they are designed and

constructed in accordance with the standards specified in Title 9 Chapter 5, and approved by the Public Works Department. Storm water facilities shall be landscaped with water- tolerant, native plants.

Finding: As shown on the Planting Plan (Sheet L-3), the proposed stormwater facilities will be landscaped with water-tolerant native plants. This standard is met.

10-34-3-5: Irrigation. Permanent, underground irrigation is required for all landscaping, except existing native vegetation that is preserved in accordance with the specifications of Section 10-34-2-2 and new drought tolerant plants which must have temporary irrigation for plant establishment. All irrigation systems require an irrigation permit and shall be installed with a backflow prevention device per FCC 9-2-3-5.

Finding: Underground Irrigation consistent with the requirements of this section will be provided on the site, except for the single-family lots, which are exempt from this section. This standard is met.

10-34-3-6: Parking Lot Landscape Standards. All parking lots shall meet Parking Area Improvement Standards set forth in FCC 10-3-8. Parking areas with more than twenty (20) spaces shall include interior landscaped "islands" to break up the parking area. Interior parking lot landscaping shall count toward the minimum landscaping requirement of Section 10-34-3-3. The following standards apply:

- A. For every parking space, 10 square feet of interior parking lot landscaping shall be provided;**
- B. Parking islands shall be evenly distributed to the extent practicable with a minimum of one tree selected from the *Tree and Plant List for the City of Florence* installed per island;**
- C. Parking island areas shall provide a minimum of 30 square feet of planting area and any planting area dimension shall be a minimum of 5 feet on any side (excluding curb dimensions), unless reduced by the Planning Commission where a lesser distance will provide adequate space for healthy plant growth;**
- D. Irrigation is required for interior parking lot landscaping to ensure plant survival;**
- E. Living plant material shall cover a minimum of 70% of the required interior parking lot landscaping within 5 years of planting; and**
- F. Species selection for trees and shrubs shall consider vision clearance safety requirements and trees shall have a high graft (lowest limb a minimum of 5 feet high from the ground) to ensure pedestrian access.**

Finding: The proposed parking lots within the multi-family development will be provided as tuck-under parking with the second-floor building overhang providing cover of the parking spaces. Landscaping is not proposed within the tuck-under parking areas. Where surface parking is provided without building overhang cover, landscape islands have been provided consistent with the requirements of this section. This standard is met.

10-34-3-7: Buffering and Screening. Buffering and screening are required under the conditions listed below. Walls, fences, and hedges shall comply with the vision clearance requirements

and provide for pedestrian circulation, in accordance with FCC 10-35-2-13. (See Section 10-34-5 for standards specific to fences and walls.)

- A. **Parking/Maneuvering Area Adjacent to Streets and Drives.** Where a parking or maneuvering area is adjacent and parallel to a street or driveway, a berm; an evergreen hedge; decorative wall (masonry or similar quality material) with openings; arcade; trellis; or similar partially opaque structure 3-4 feet in height shall be established between street and driveway or parking area. See also FCC 10-3-7-D for standards specific to parking lots adjacent to the street. The required screening shall have breaks or portals to allow visibility (natural surveillance) into the site and to allow pedestrian access to any adjoining walkways. Hedges used to comply with this standard shall be a minimum of 36 inches in height at maturity, and shall be of such species, number, and spacing to provide year- round screening within five (5) years after planting. Vegetative ground cover is required on all surfaces between the wall/hedge and the street/driveway line.

Finding: The proposed tuck-under parking will be visibly screened from the street by the proposed buildings. Where surface parking is provided, landscape screening from the street will be provided. This standard is met.

- B. **Parking/Maneuvering Area Adjacent to Building.** Where a parking or maneuvering area or driveway is adjacent to a building, the area shall be separated from the building by a curb and a raised walkway, plaza, or landscaped buffer not less than five (5) feet in width. Raised curbs, bollards, wheel stops, or other design features shall be used to protect pedestrians, landscaping, and buildings from being damaged by vehicles.

Finding: The parking areas adjacent to the multi-family buildings have been separated from the buildings with a curb and raised walkway a minimum of five feet in width. This standard is met.

- C. **Screening of Mechanical Equipment, Outdoor Storage, Service and Delivery Areas, and Other Screening When Required.** All mechanical equipment, outdoor storage and manufacturing, and service and delivery areas shall be screened from view from all public streets and adjacent Residential districts. When these or other areas are required to be screened, such screening shall be provided by:

1. a decorative wall (i.e., masonry or similar quality material),
2. evergreen hedge,
3. opaque or sight-obscuring fence complying with Section 10-34-5, or
4. a similar feature providing an adequate screen.

Finding: All mechanical equipment will be located within the buildings. The screening requirements of this section are not applicable.

- D. **Abutting Land Use Buffers.** When a commercial, industrial, or other non-residential use abuts a residential district or residential land use, a visual and noise buffer shall be established and maintained immediately adjacent to the residential property line, consistent with the standards listed in the table below. In no case shall the buffer strip

be less than 15 feet in width unless reduced by the Planning Commission where a lesser distance will provide adequate buffering. The buffer strip may include existing vegetation, landscape plantings, evergreen hedge, berm, fence, and/or wall components. Fence and wall structures shall be not less than 6 feet and no more than 8 feet in height (see also Section 10-34-5). The landscaped buffer shall effectively screen at least 70 percent of the view between districts within five (5) years. Significant vegetation in these buffer strips may be preserved in accordance with Section 10-34-2, and replanting of local native vegetation is encouraged.

Finding: The subject site is located within a residential district. The proposed residential use is compatible with the surrounding residential uses. The requirements of this section are not applicable to the proposed development.

10-34-3-8: Maintenance. If the plantings fail to survive, the property owner shall replace them with an equivalent specimen (i.e., native Rhododendron replaces native Rhododendron, evergreen shrub replaces evergreen shrub, deciduous tree replaces deciduous tree, etc.) within six (6) months of their dying or removal, whichever comes first. All man-made features required by this Code shall be maintained in good condition, or otherwise replaced by the owner within six (6) months of any such feature being removed or irreversibly damaged (whichever comes first).

Finding: The applicant acknowledges that the maintenance of the required on-site landscaping is the responsibility of the property owner.

10-34-4: STREET TREES: Street trees are trees located within the right-of-way.

- A. **Street Tree List.** Trees shall be selected from the *Tree and Plant List for the City of Florence* based on climate zone, growth characteristics and site conditions, including available space, overhead clearance, soil conditions, exposure, and desired color and appearance. Other tree species are allowed with City approval.
- B. **Caliper Size.** The minimum diameter or caliper size at planting, as measured six (6) inches above grade, is one and one half (1 ½) inches with a high graft (lowest limb a minimum of 5 foot high from the ground) to ensure pedestrian access.
- C. **Spacing and Location.** Street trees shall be planted within the street right-of-way within existing and proposed planting strips or in sidewalk tree wells on streets without planting strips, except when utility easements occupy these areas, in accordance with the requirements of FCC 10-35-2-3 and 10-36-2-16. Street tree spacing shall be based upon the type of tree(s) selected and the canopy size at maturity and, at a minimum, the planting area shall contain sixteen (16) square feet, or typically, a four (4) foot by four (4) foot square. In general, trees shall be spaced no more than thirty (30) feet apart, except where planting a tree would conflict with existing trees, retaining walls, utilities and similar physical barriers. All street trees shall be placed outside utility easements, and shall comply with the vision clearance standards of FCC 10-35-2-14.
- D. **Soil Preparation, Planting and Care.** Street trees shall be planted with root guards to preserve the physical integrity of sidewalks and streets. Pocket-planting with a soil-

compost blend around trees shall be used to ensure healthy growth (see footnote to FCC 10-34-3-3-A-5). The developer shall be responsible for planting street trees, including soil preparation, ground cover material, staking, and temporary irrigation for three years after planting. The developer shall also be responsible for tree care (pruning, watering, fertilization, and replacement as necessary) during the first three years after planting, after which the adjacent property owners shall maintain the trees.

Finding: Street trees have been provided along both sides of the proposed private street spaced an average of 25 feet on-center. A mix of tree species has been provided to create diversity and marking crossings and zones within the development. All of the proposed street trees have been selected from the *Tree and Plant List for the City of Florence* and will meet the caliper size standards. This standard is met.

10-34-5: FENCES AND WALLS: Construction of fences and walls shall conform to all of the following requirements:

- A. General Requirements. All fences and walls shall comply with the height limitations of the respective zoning district and the standards of this Section. The City may require installation of walls and/or fences as a condition of development approval, in accordance with land division approval, approval of a conditional use permit, or design review approval. When required through one of these types of approvals, no further land use review is required. (See also, Section 10-34-3-6 for landscape buffering and screening requirements.)**
- B. Dimensions.**
 - 1. Residential Zones: Except as provided below, the height of fences and walls between the building and the front lot line shall not exceed four (4) feet as measured from the grade and no greater than 6 feet in height in rear and side yards unless the front door is located on the longer side of the lot, in which case the fence shall not exceed four (4) feet in height or taller fences or walls are allowed through a Type II or III Design Review approval. (See Figure 10-34(2))**
 - 2. Commercial and Industrial Zones: Except as provided below, the height of fences and walls in any required front yard shall not exceed four (4) feet as measured from the grade and no greater than eight (8) feet elsewhere on site.**
- C. The following exceptions may be allowed through Type I, II or III Review.**
 - 1. Specifically for RV parking in residential zones, the height of fences and walls shall not exceed eight (8) feet in the rear and side yards.**
 - 2. A retaining wall exceeding four (4) feet in height within a front yard setback which is necessary for site grading and development (see also FCC 10-34-5-D-3).**
 - 3. One arbor, gate, or similar garden structures not exceeding eight (8) feet in height and six (6) feet in width is allowed within the front yard, provided that it is not within a required clear vision area. Courtyard walls up to 6 feet in height may also be allowed in the front yard.**
 - 4. Walls and fences for swimming pools, tennis courts, and other recreational structures may exceed six (6) feet provided they are not located in the front yard.**

5. Walls and fences taller than otherwise allowed if needed for screening, safety or security purposes.

D. Specific Requirements

1. Walls and fences to be built for required buffers shall comply with Section 10-34-3-7.
2. Fences and walls shall comply with the vision clearance standards of FCC 10-35-2-14.
3. Retaining walls exceeding four (4) feet in height and freestanding walls or fences greater than seven (7) feet in height require a building permit
4. Sheet Metal Fencing (as permitted) shall meet the following criteria:
 - a. Must have appropriate weatherization coating to address vulnerability to rust in Florence's coastal climate.
 - b. Must be installed and maintained as per warranties to ensure longevity. Warranty documentation must be submitted to the Planning Director before approval.
 - c. Shall be maintained in good condition (rust and hole free, non-peeling, and absent of similar signs of disrepair), or otherwise replaced by the property owner.
 - d. Sheet metal fencing, due to its manufacturing design, will be either horizontally or vertically dominant depending on the manner of installation. To break up the dominant vertical or horizontal orientation, the fence design along streets shall incorporate variable architectural detail. This can be accomplished through one or more of the following a minimum of every eight (8) feet;
 1. Addition of vertical siding trim strips and cap trim of colors different yet complimentary to the fence color.
 2. Change in orientation of sheet metal.
 3. Vertical offsets (staggered fence line).

- E. Maintenance.** For safety and for compliance with the purpose of this Chapter, walls and fences required as a condition of development approval shall be maintained in good condition, or otherwise replaced by the property owner.

F. Materials.

1. Permitted materials: wood; chain-link steel, iron, bricks, stone; stucco, or similar masonry, and non-prohibited evergreen plants.
2. Materials permitted with Administrative Design Review: Sheet metal is permitted within the Limited Industrial District with Administrative Design review Approval.
3. Prohibited materials: unfinished concrete blocks; straw bales; electric or razor wire; scrap lumber or other scrap materials; sheet metal; and hedges taller than eight (8) feet. Sheet metal is prohibited within all districts except the Limited Industrial District.
4. Barbed wire fencing may be permitted only within commercial and industrial

zones or on public property subject to the criteria in FCC 6-1-7-14.

Finding: The residential lots will have a six-foot tall cedar perimeter fence. The internal fencing at the dog park will be welded wire panels with wood framing. This standard is met.

Chapter 35 – Access and Circulation

10-35-2: VEHICULAR ACCESS AND CIRCULATION:

10-35-2-5: Traffic Study Requirements: The City may require a traffic study prepared by an Oregon registered professional engineer with transportation expertise to determine access, circulation, and other transportation requirements in conformance with FCC 10-1-1-4-E, Traffic Impact Studies.

A. The Traffic Impact Study shall:

- 1. Evaluate all streets where direct access is proposed, including proposed access points, nearby intersections, and impacted intersections with the state highway system.**
- 2. Utilize the analysis procedures of the Highway Capacity Manual, latest edition.**
- 3. Document compliance with Florence City Code, the goals and policies of the Transportation System Plan, and any other applicable standards.**
- 4. Be coordinated with other affected jurisdictions and agencies such as Lane County, the Port of Siuslaw, and the Oregon Department of Transportation.**
- 5. Identify mitigation measures that resolve the identified traffic safety problems, address the anticipated impacts from the proposed land use, and meet the city's adopted Level-of- Service standards. The study shall also propose funding for the proposed mitigation measures.**

Finding: A traffic study addressing the requirements listed above has been provided under Appendix D of this land use application. This standard is met.

B. The applicant shall consult with City staff to determine the content and level of analysis that must be included in the TIS. A pre-application conference is encouraged.

Finding: A pre-application conference was held with the City. The traffic study addresses the requirements discussed in the pre-application conference.

C. Conditions of Approval: The City may deny, approve, or approve a development proposal with appropriate conditions needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system. Conditions of approval should be evaluated as part of the land division and site development reviews, and may include but are not limited to:

- 1. Crossover or reciprocal easement agreements for all adjoining parcels to facilitate future access between parcels.**
- 2. Access adjustments, where proposed access points do not meet the designated access spacing standards and/or have the ability to align with opposing access driveways.**
- 3. Right-of-way dedications for future improvements.**

- 4. **Street improvements.**
- 5. **Turn restrictions such as “right in right out”.**

Finding: The applicant acknowledges that the City may propose conditions of approval as needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system.

10-35-2-6: Conditions of Approval: The roadway authority may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting a land use or development approval or access permit, to ensure the safe and efficient operation of the street and highway system.

Finding: The applicant acknowledges that the City may propose conditions of approval as needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system.

10-35-2-7: Intersection Separation; Backing onto Public Streets: New and modified accesses shall conform to the following standards:

- A. **Except as provided under subsection B, below, the distance from a street intersection to a driveway shall meet the following minimum spacing requirements for the street's classification, as measured from side of driveway to street or alley pavement (see Figure 10-35(1)). A greater separation may be required for accesses onto an arterial or collector for compliance with ODOT or County requirements.**

Separation Distance from Driveway to Pavement

Alley	15 feet
Local Street	25 feet
Collector	30 feet
Arterial Street	50 feet

- B. **Where the City finds that reducing the separation distance is warranted, such as:**
 - 1. **no other alternatives exist (e.g., alley or shared access is not feasible, building lot is too narrow, existing building prohibits access at correct distance, etc.), or**
 - 2. **planned improvements or traffic circulation patterns show a different location to be efficient and safe,**

the City may allow construction of an access connection at a point less than the dimensions listed above. In such case, the access should be as far away from the intersection as possible, and the total number of access points to the site shall be limited to the minimum necessary to provide reasonable access. The City may also require shared/joint access and/or impose turning restrictions (i.e., right in/out, right in only, or right out only).

- C. **Access to and from off-street parking areas shall be designed to prevent backing onto**

a public street, except that single-family and duplex dwellings are exempt.

Finding: The subject site consists of a single private loop street. Access to the single-family homes is provided through a series of private alleyways. Access to the multi-family homes is provided through a surface-level access drive connecting to a shared parking area. All on-site alley driveways have been located over 50 feet from Rhododendron Drive. All access driveways connecting to the newly created private loop drive have been spaced more than 15 feet apart. All on-site access has been designed to prevent backing onto a public street. This standard is met.

10-35-2-8: Access Standards: New development shall gain access primarily from local streets. Access onto arterials and collectors shall be evaluated based on access options, street classifications and the effects of new access on the function, operation and safety of surrounding streets and intersections and possible lower level street alternatives. Where such access to higher level street classification is necessary, shared driveways may be required in conformance with FCC 10-35. If vehicle access off a lower-level street is possible, then the City may prohibit access to the higher-level street.

Finding: The proposed development has been designed around a single private loop street. Access to the individual units has been provided through a series of private alleyways. The proposed private street system will function as a local street. Access onto an arterial or collector is not proposed. This standard is met.

10-35-2-9: Site Circulation: New developments shall be required to provide a circulation system that accommodates expected traffic on the site. Pedestrian and bicycle connections on the site, including connections through large sites, and connections between sites (as applicable) and adjacent sidewalks, trails or paths, must conform to the provisions in Section 10-35-3.

Finding: A Parking and Circulation Plan (Sheet C-5) has been provided detailing the proposed circulation system on the site. A Transportation Impact Study has been submitted under Appendix D providing analysis about the expected traffic on site. The site has been designed to adequately serve the expected traffic. This standard is met.

10-35-2-10: Joint and Cross Access – Requirement: When necessary for traffic safety and access management purposes, the City may require joint access and/or shared driveways in the following situations:

- A. For shared parking areas;**
- B. For adjacent developments, where access onto an arterial street is limited and access spacing standards can not otherwise be met;**
- C. For multi-tenant developments, and developments on multiple lots or parcels. Such joint accesses and shared driveways shall incorporate all of the following:**
 - 1. A continuous service drive or cross-access corridor that provides for driveway separation consistent with the applicable transportation authority's access management classification system and standards;**
 - 2. Driveway stubs to property lines (for future extension) and other design features to demonstrate that the abutting properties may be required with future development to connect to the cross-access driveway;**

3. **Fire Code Official-approved turnaround for service drives or driveways over 150 feet long.**

10-35-2-11: Joint and Cross Access – Easement and Use and Maintenance Agreement: Pursuant to this Section, the following documents shall be recorded with the deed for each parcel:

- A. **An easement allowing cross-access to and from other properties served by the joint-use driveways and cross-access or service drive;**
- B. **An agreement that remaining access rights along the roadway for the subject property shall be dedicated to the City and pre-existing driveways will be closed and eliminated after construction of the joint-use driveway;**
- C. **A joint maintenance agreement defining maintenance responsibilities of property owners.**

Finding: Joint and cross access is not proposed on the site. The requirements of this section are not applicable to the proposed development.

10-35-2-12: Driveway Design: All openings onto a public right-of-way and driveways shall conform to the following:

- A. **Driveway Approaches. Driveway approaches, including private alleys, shall be approved by the Public Work Director and designed and located with preference given to the lowest functional classification street. Consideration shall also be given to the characteristics of the property, including location, size and orientation of structures on site, number of driveways needed to accommodate anticipated traffic, location and spacing of adjacent or opposite driveways.**

Finding: All driveway approaches have been designed and located to conform with the City's spacing and design standards. This standard has been met.

- B. **Driveways. Driveways shall meet the following standards, subject to review and approval by the Public Works Director:**

1. **Driveways for single family residences shall have a width of not less than ten (10) feet and not more than twenty-four (24) feet. Driveways leading to covered parking should be not less than 20 feet in depth from the property line to the structure.**
2. **Driveways shall have a minimum width of ten (10) feet, except where a driveway serves as a fire apparatus lane, in which case city-approved driveway surface of 12 feet minimum width shall be provided within an unrestricted, twenty (20) foot aisle, or as approved by the Fire Code Official.**
3. **Where a driveway is to provide two-way traffic, the minimum width shall be 18 feet.**
4. **One-way driveways shall have appropriate signage designating the driveway as a one-way connection. Fire apparatus lanes shall be so marked (parking prohibited).**
5. **The maximum allowable driveway grade is fifteen (15) percent, except that driveway grades exceeding fifteen (15) percent may be allowed, subject to review and approval by the Public Works Director and Fire Code Official,**

provided that the applicant has provided an engineered plan for the driveway. The plan shall be stamped by a registered geotechnical engineer or civil engineer, and approved by the Public Works Director.

Finding: The proposed street network will feature a private loop road, which intersects with Rhododendron in two locations. The interior of private loop road is broken into smaller blocks with an alley network. All proposed private alleys have been designed with a 20-foot right-of-way and 16 feet of pavement. Access to the single-family lots will be from the private alleyways. All residential driveways will be a minimum of 10-feet in width. Driveway grades will not exceed 15 percent. This standard is met.

C. Driveway Apron Construction. Driveway aprons (when required) shall be constructed of concrete and shall be installed between the street right-of-way and the private drive, as shown in Figure 10- 35(2). Driveway aprons shall conform to ADA requirements for sidewalks and walkways, which generally require a continuous unobstructed route of travel that is not less than three (3) feet in width, with a cross slope not exceeding two (2) percent and providing for landing areas and ramps at intersections. Driveways are subject to review by the Public Works Director.

Finding: The intersections of the private loop road and Rhododendron Drive have been designed to meet street intersection standards. Driveway aprons are not provided on Rhododendron. Driveway aprons have been provided where the proposed alleyways intersect with the private loop road. The driveway aprons have been designed to meet the requirements of this section.

D. Fire access lanes with turnarounds shall be provided in conformance with the Fire code. Except as waived in writing by the Fire Code Official, a fire equipment access drive shall be provided for any portion of an exterior wall of the first story of a building that is located more than 150 feet from an existing public street or approved fire equipment access drive. The drive shall contain unobstructed aisle width of 20 feet and turn-around area for emergency vehicles. The fire lanes shall be marked as “No Stopping/No Parking.” See figure 10-35(3) for examples of fire lane turn-rounds. For requirements related to cul-de-sacs or dead-end streets, refer to FCC 10-36.

Finding: The proposed private loop street and alley circulation system has been reviewed and preliminarily approved by the Siuslaw Valley Fire and Rescue Fire Code included under Appendix B. This standard is met.

10-35-2-13: Vertical Clearances: Driveways, private streets, aisles, turn-around areas and ramps shall have a minimum vertical clearance of 13' 6" for their entire length and width.

Finding: All proposed driveways, private streets, aisles, and turn-around areas will have a minimum vertical clearance of 13' 6" for their entire length and width. This standard is met.

10-35-2-14: Vision Clearance: No visual obstruction (e.g., sign, structure, solid fence, or shrub vegetation) shall block the area between two and one-half feet (2 ½') and eight (8) feet in height in “vision clearance areas” on streets, driveways, alleys, mid-block lanes, or multi-use paths

where no traffic control stop sign or signal is provided, as shown in Figure 10-35(4). The following requirements shall apply in all zoning districts:

- A. At the intersection of two (2) streets, minimum vision clearance shall be twenty feet (20').
- B. At the intersection of an alley or driveway and a street, the minimum vision clearance shall be ten feet (10')
- C. At the intersection of internal driveways, the minimum vision clearance shall be ten feet (10').

The sides of the minimum vision clearance triangle are the curb line or, where no curb exists, the edge of pavement. Vision clearance requirements may be modified by the Public Works Director upon finding that more or less sight distance is required (i.e., due to traffic speeds, roadway alignment, etc.). This standard does not apply to light standards, utility poles, trees trunks and similar objects. Refer to Section 10-2-13 of this Title for definition.

Finding: The proposed development maintains all required vision clearance setbacks, as demonstrated on the submitted plans. This standard is met.

10-35-3: PEDESTRIAN ACCESS AND CIRCULATION: All new development shall be required to install sidewalks along the street frontage, unless the City has a planned street improvement, which would require a non-remonstrance agreement.

10-35-3-1: Sidewalk Requirements:

- A. **Requirements:** Sidewalks shall be newly constructed or brought up to current standards concurrently with development under any of the following conditions:
 - 1. Upon any new development of property.
 - 2. Upon any redevelopment of property that expands the building square footage by 25% or more.
 - 3. Upon any change of use that requires more than five additional parking spaces.
- B. **Exceptions:** The Planning Commission may issue a permit allowing noncompliance with the provisions of subsection (A) of this section and obtain instead a non-remonstrance agreement for future improvements when, in the Planning Commission's determination through a Type 3 process, the construction of a sidewalk is impractical for one or more of reasons 1 through 4 below. The Public Works Director may issue a permit allowing noncompliance with the provisions of subsection (A) of this section and obtain instead a non-remonstrance agreement for future improvements for reason 5 below:
 - 1. Sidewalk grades have not and cannot be established for the property in question within a reasonable period of time.
 - 2. Future installation of public utilities or street paving would, of necessity, cause severe damage to existing sidewalks.
 - 3. Topography or contours make the construction of a sidewalk impractical.
 - 4. Physical improvements are present along the existing street that prevents a reasonable installation within the right-of-way or adjacent property.
 - 5. If the proposed development is in a residential zoning district and there are no

sidewalks within 400 linear feet.

- C. **Appeals:** If the owner, builder or contractor considers any of the requirements impractical for any reason, s/he may appeal the decision to the Planning Commission.
- D. **Timing:** Sidewalks shall be constructed and approved by the Public Works Department prior to final inspection for the associated building permit. No certificate of occupancy may be issued until the required sidewalks are constructed or financially secured.

Finding: A 10-foot wide shared multi-use path will be provided along the frontage of Rhododendron Drive, consistent with the City of Florence Transportation System Plan. Sidewalks will be provided along both sides of the private loop road and will connect to the internal circulation system which will provide direct access to all building entrances and recreation areas. This standard is met.

10-35-3-2: Site Layout and Design: To ensure safe, direct, and convenient pedestrian circulation, all developments shall provide a continuous pedestrian system. The pedestrian system shall be based on the standards in subsections A - C, below:

- A. **Continuous Walkway System.** The pedestrian walkway system shall extend throughout the development site and connect to all future phases of development, and to existing or planned off-site adjacent trails, public parks, and open space areas to the greatest extent practicable. The developer may also be required to connect or stub walkway(s) to adjacent streets and to private property with a previously reserved public access easement for this purpose in accordance with the provisions of Section 10-35-2, Vehicular Access and Circulation, and Section 10-36-2 Street Standards.

Finding: Sidewalks will be provided along both sides of the private loop road and will connect the multi-use path on Rhododendron to the internal circulation system which will provide direct access to all building entrances and recreation areas. This standard is met.

- B. **Safe, Direct, and Convenient.** Walkways within developments shall provide safe, reasonably direct, and convenient connections between primary building entrances and all adjacent streets, based on the following criteria:

1. **Reasonably direct.** A route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for likely users.
2. **Safe and convenient.** Routes that are reasonably free from hazards and provide a reasonably direct route of travel between destinations.
3. **"Primary entrance" for commercial, industrial, mixed use, public, and institutional buildings** is the main public entrance to the building. In the case where no public entrance exists, street connections shall be provided to the main employee entrance.
4. **"Primary entrance" for residential buildings** is the front door (i.e., facing the street). For multifamily buildings in which units do not have their own exterior entrance, the "primary entrance" may be a lobby, courtyard, or breezeway that serves as a common entrance for more than one dwelling.

Finding: The internal circulation system will be reasonably direct, free from hazards and provide access to all primary building entrances on site. This standard is met.

C. Connections Within Development. Connections within developments shall be provided as required in subsections 1 - 3, below:

- 1. Walkways shall be unobstructed and connect all building entrances to one another to the extent practicable, as generally shown in Figure 10-35(5);**
- 2. Walkways shall connect all on-site parking areas, storage areas, recreational facilities and common areas, and shall connect off-site adjacent uses to the site to the extent practicable. Topographic or existing development constraints may be cause for not making certain walkway connections; and**
- 3. For large parking areas with 80 or more parking spaces and depending on the layout of the parking lot, the City may require raised walkways a minimum of 5 feet wide to provide pedestrian safety.**

Finding: The internal circulation system will provide direct access to all building entrances, on-site parking areas, storage areas, recreation facilities and common areas. The internal circulation system will connect with the proposed multi-use path on Rhododendron Drive. This standard is met.

10-35-3-3: Walkway and Multi-Use Path Design and Construction: Walkways and multi-use paths shall conform to all applicable standards in subsections A - D, as generally illustrated in Figure 10-35(6):

A. Vehicle/Walkway Separation. Except for pedestrian crossings (subsection B), where a walkway abuts a driveway or street it shall be raised six (6) inches and curbed along the edge of the driveway/street. Alternatively, the decision body may approve a walkway abutting a driveway at the same grade as the driveway if the walkway is protected from all vehicle maneuvering areas. An example of such protection is a row of decorative metal or concrete bollards designed to withstand a vehicle's impact, with adequate minimum spacing between them to protect pedestrians.

Finding: All walkways abutting streets or driveways will be separated from the street by a six inch curb. This standard is met.

B. Pedestrian Crossing. Where a walkway crosses a parking area, or driveway, it shall be clearly marked with contrasting paving materials (e.g., light-color concrete inlay between asphalt), which may be part of a raised/hump crossing area. Painted or thermo-plastic striping and similar types of non-permanent applications may be approved for crossings of not more than twenty-four (24) feet in length.

Finding: All pedestrian crossings will be clearly marked with contrasting materials. This standard is met.

C. Width and Surface. Walkway surfaces shall be concrete, asphalt, brick/masonry pavers, or other durable surface, as approved by the Public Works Director, at least five (5) feet wide, without curb. Multi-use paths (i.e., for bicycles and pedestrians) shall

be concrete or asphalt, at least ten (10) feet wide. (See also, Section 10- 36-2)

Finding: All walkway surfaces will be constructed of a durable surface, as approved by the Public Works Director, and will be at least five feet wide without a curb. The multi-use path along Rhododendron Drive will be ten feet wide. This standard is met.

D. Accessible routes. Walkways and multi-use paths shall conform to applicable Americans with Disabilities Act (ADA) requirements. The ends of all raised walkways, where the walkway intersects a driveway or street shall provide ramps that are ADA accessible, and walkways shall provide direct routes to primary building entrances.

Finding: All walkways and multi-use paths will conform to applicable ADA requirements. Ramps will be provided where walkways intersect with driveways and streets. On-site walkways will provide direct routes to primary building entrances. This standard is met.

10-35-4: Transit Facilities: Proposed uses other than single-family residences and duplexes must provide for transit riders by providing developmental improvements to accommodate current or planned transit stops pursuant to the following:

- A. If the proposed uses are located on a site within ¼ mile of an existing or planned transit stop, the proposed pedestrian circulation system must demonstrate a safe and direct pedestrian route from building entrances to the transit stop or to a public right-of-way that provides access to the transit stop.**
- B. Proposed development must accommodate on site any existing or planned transit facility, if identified in the Community Transit Plan, through one or more of the following:**
 - 1. Provide a transit passenger landing pad accessible to disabled persons.**
 - 2. Provide an easement or dedication of land to accommodate passenger seating or shelter if requested by the transit provider.**
 - 3. Provide lighting at the transit facility meeting the requirements of Title 10-37.**

Finding: The subject site is not located within ¼ mile of an existing or planned transit stop. The requirements of this section are not applicable.

Chapter 36 – Public Facilities

10-36-2: STREET STANDARDS:

10-36-2-1: Development Standards: The following standards shall be met for all new uses and developments:

- A. All new lots created, consolidated, or modified through a land division, lot line adjustment, lot consolidation, or street vacation must have street frontage and approved access to a street.**

Finding: The proposed development features a single private loop road which connects with Rhododendron Drive. All lots will front onto shared open space with rear alley access.

- B. Streets within or abutting a development shall be improved in accordance with the Transportation System Plan (TSP), provisions of this Chapter and other applicable sections of this Code.**

Finding: Frontage improvements on Rhododendron Drive will be provided consistent with the requirements of the Transportation System Plan and the provisions of this chapter.

C. Development of new streets, and additional street width or improvements planned as a portion of an existing street, shall be improved in accordance with this Section, and public streets shall be dedicated to the applicable road authority. Street location, width, and grade 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.

Finding: Frontage improvements on Rhododendron Drive will be provided consistent with the requirements of the Transportation System Plan and the provisions of this chapter. The proposed private street will be improved in accordance with this section.

D. All new public streets and alleys shall be paved per the City of Florence Standards and Specifications document. Alleys may also be improved with porous concrete, porous asphalt, permeable pavers such as turf concrete, brick pavers or other materials approved by the City. The City does not maintain alleys.

Finding: All new streets and alleys will be paved per the City of Florence Standards and Specifications.

10-36-2-2: Improvement Guarantee: The City may accept a future improvement guarantee (e.g., non-remonstrance agreement, which certifies that the owner and their successors will not to object to the formation of a local improvement district in the future) in lieu of street improvements if one or more of the following conditions exist:

A. A partial improvement does not create a potential safety hazard to motorists, bicyclists, or pedestrians.

B. Due to the developed condition of adjacent properties it is unlikely that street improvements would be extended in the foreseeable future and the improvement associated with the project under review does not, by itself, reduce street safety or capacity.

C. The improvement would be in conflict with an adopted capital improvement plan.

Finding: The proposed development will include all required frontage improvements on Rhododendron Drive. A future improvement guarantee is not proposed.

10-36-2-3: Creation of Rights-of-Way for Streets and Related Purposes: Streets shall be created through the approval and recording of a final subdivision or partition plat; except the City may approve the creation of a Public Right-of-Way by acceptance of a deed, where no plat will be recorded, and provided that the street is deemed in the public interest by the City Council for the purpose of implementing the Florence Transportation System Plan, and the deeded right-of-way conforms to this Code. All deeds of dedication shall be in a form prescribed by the City and shall name "the public" as grantee.

Finding: The proposed development will utilize a private street system on-site. New right-of-way for streets will not be created through this development. This standard is met.

10-36-2-4: Creation of Access Easements: The City may approve or require an access easement when the easement is necessary to provide for access and circulation in conformance with Chapter 35, Access and Circulation. Access easements shall be created and maintained in accordance with the Oregon Fire Code and the City of Florence Standards and Specifications.

Finding: The proposed private street and alley network will be located within a tract. Access easements are not proposed on the site. The requirements of this section are not applicable to this development.

10-36-2-5: Rights-of-Way and Street Sections: Street rights-of-way and improvements shall be consistent with the Transportation System Plan and standards specified in Title 8 Chapter 2.

- A. Street right-of-way and pavement widths shall be based on the following cross section standards. See individual zoning chapters for additional requirements regarding sidewalk width (for sidewalks wider than the standard 5 feet).**
- B. Modifications to the street standards identified in section A, above, may be made pursuant to Title 11 Chapter 7. Considerations based on the existing conditions along with the following factors would be reviewed as part of determining a hardship or meeting the purpose of Title 11:**
 - 1. Street classification in the Transportation System Plan**
 - 2. Anticipated traffic generation**
 - 3. On-street parking needs**
 - 4. Pedestrian and bicycle requirements based on anticipated level of use**
 - 5. Requirements for placement of utilities**
 - 6. Street lighting**
 - 7. Minimize drainage, slope, and sensitive lands impacts**
 - 8. Street tree location, when provided**
 - 9. Protection of significant vegetation, as provided for in Chapter 34**
 - 10. Safety and comfort for motorists, bicyclists, and pedestrians**
 - 11. Street furnishings (e.g., benches, lighting, bus shelters, etc.), when provided**
 - 12. Access needs for emergency vehicles**
 - 13. Transition between different street widths (i.e., existing streets and new streets)**
 - 14. Driveway Off-sets**
 - 15. Curve Radii**
 - 16. Queuing Factors**
- C. Partial street improvements may be accepted only in the case of a collector or arterial street and only when requiring a full-width street improvement can not be justified based on the proportionate impact of the development on the transportation system. Where a less than full street is allowed, the minimum total paved width shall provide for two travel lanes, and for bicycle lanes if warranted.**

Finding: Frontage improvements will be provided on Rhododendron Drive to provide a 10-foot-wide multi-use path consistent with the requirements of the Transportation System Plan. The internal circulation system will consist of a private street and private

alley network, which have been designed to meet applicable fire access codes. This standard is met.

10-36-2-6: Cul-de-sacs: A cul-de-sac street shall only be used when the applicant demonstrates that environmental or topographical constraints, existing development patterns, or compliance with other standards in this code preclude street extension and through circulation. When cul-de-sacs are provided, all of the following shall be met:

Finding: The proposed development does not include a cul-de-sac street. The requirements of this section are not applicable to this development.

10-36-2-7: Alleys, Public or Private: Alleys shall provide a 20-foot right-of-way and 16 feet of pavement. Unless otherwise approved by the Planning Commission, where topographical conditions will not reasonably permit, grades shall not exceed twelve percent (12%) on alleys. Alley intersections and sharp changes in alignment shall be avoided. The corners of necessary alley intersections shall have a radius of not less than twelve (12) feet or wider if required by the Fire District.

Finding: All proposed private alleys have been designed with a 20-foot right-of-way and 16 feet of pavement. Grades of the alleys will not exceed 12 percent. This standard is met.

10-36-2-8: Private Streets: Private streets shall conform to City standards of construction and shall include sidewalks or pathways as approved by the City. Private streets shall not be used to avoid public access connectivity required by this Chapter or the Transportation System Plan. Legal assurance for construction and maintenance shall be required of the developers and owners. Private streets shall connect with public streets to complete the City's transportation system grid where practical.

Finding: The proposed private street has been designed to conform to City standards of construction and will include sidewalks. This standard is met.

10-36-2-9: Street Location and Connectivity: Planned streets shall connect with surrounding streets to permit the convenient movement of traffic and to facilitate emergency access and evacuation. Proposed streets or street extensions shall be located to provide access to existing or planned commercial services and other neighborhood facilities, such as schools, shopping areas and parks.

- A. Where the location of a street is not shown in an existing street plan, the location of streets in a development shall provide for the continuation and connection of existing streets in the surrounding areas, conforming to the street standards of this Section, or**
- B. Wherever a proposed development abuts unplatted land or a future development phase of the same development, street stubs shall be provided to and to logically extend the street system into the surrounding area. All street stubs over 150 feet in length shall be provided with a temporary turn-around unless specifically exempted by the Fire Marshal, and the restoration and extension of the street shall be the**

responsibility of any future developer of the abutting land.

1. These extended streets or street stubs to adjoining properties are not considered to be cul-de-sacs since they are intended to continue as through streets when the adjoining property is developed.
2. Developer shall install a Type III barricade at the end of the street. The barricade shall not be removed until authorized by the City or other applicable agency with jurisdiction over the street.
3. Temporary street ends shall provide turnarounds (e.g., hammerhead or bulb-shaped configuration) constructed to Oregon Fire Code standards for streets over 150 feet in length.

Finding: The neighboring properties have been fully developed and do not provide for a through connection to neighboring streets. This standard is met.

C. Mid-Block Connection/Multi-use Path Standards. Where a street connection in conformance with the maximum block length standards in Section 10-36-2-10 is impracticable, a multi-use path shall be provided at or near the middle of a block in lieu of the street connection, as generally shown in Figure 10-36(2). The City may also require developers to provide a multi-use path off a cul-de-sac. Such pathways shall conform to all of the following standards:

1. Multi-use paths shall be no less than ten (10) feet wide and located within a twenty (20)- foot right-of-way or easement allowing public access and, as applicable, emergency vehicle access.
2. If the streets within the subdivision or neighborhood are lighted, all pathways in the subdivision shall be lighted. Pathway illumination shall provide at least two (2)-foot candles and shall meet all other requirements in Title 10-37.
3. All pathways shall conform to applicable ADA requirements unless precluded by topographic conditions.
4. The City may require landscaping, walls or terraces as part of the required pathway improvement to buffer pedestrians from adjacent vehicles, or to screen pathways from view of adjacent residences.

Finding: A 10-foot wide multi-use path is proposed by the City of Florence along Rhododendron Drive. The neighboring properties have been fully developed and do not provide for a through connection to neighboring streets. This standard is met.

10-36-2-10: Block Length and Block Perimeter: In order to promote efficient vehicular and pedestrian circulation throughout the city, subdivisions and site developments shall be served by a connecting network of public streets and/or accessways, in accordance with the following standards (minimum and maximum distances between two streets or a street and its nearest accessway):

A. Residential Districts: Minimum of 100-foot block length and maximum 600-foot length; maximum 1,400-foot block perimeter

Finding: The proposed street network will feature a private loop road, which intersects with Rhododendron in two locations. The interior of private loop road is broken into

smaller blocks with an alley network, creating three interior blocks, none exceeding a 1,400-foot block perimeter length. The exterior area of the private loop road has been divided using private alleyways. The neighboring properties have been fully developed and do not provide for a through connection to neighboring streets. This standard is met.

10-36-2-11: Traffic Controls:

- A. Traffic signals/roundabouts shall be required with development when traffic control warrants are met, in conformance with the Highway Capacity Manual and Manual of Uniform Traffic Control Devices. Traffic signal/roundabout design shall be approved by City Engineer. The developer's financial responsibility and the timing of improvements shall be included as part of the development approval.**
- B. Traffic controls on roads under State jurisdiction shall be determined by the Oregon Department of Transportation. Traffic controls on roads under Lane County jurisdiction shall be determined by Lane County.**
- C. The City may require the installation of calming features such as traffic circles, curb extensions, reduced street width (parking on one side), medians with pedestrian crossing refuges, and/or special paving to slow traffic in neighborhoods or commercial areas with high pedestrian traffic.**
- D. Where the City TSP identifies future traffic signals, additional right-of-way shall be provided at the intersection to accommodate the signal apparatus.**

Finding: The proposed development does not require traffic controls or calming features. This requirement is not applicable to this development.

10-36-2-12: Medians: The use of landscaped medians improve community appearance, helps maintain system mobility and reduces the effects of wide street widths to all modes of travel. Medians will be landscaped with water efficient plant materials unless otherwise indicated below.

- A. At intersections where left turn pockets are constructed, the 16-foot wide median will transition to an 11-foot wide left turn lane with a five-foot pedestrian refuge median separating the left turn lane from oncoming traffic. Intersections and access must comply with Chapter 35, Access and Circulation.**
- B. Medians on roads under State jurisdiction shall be determined by the Oregon Department of Transportation.**

Finding: The proposed development will not utilize medians. The requirements of this section are not applicable to the proposed development.

10-36-2-13: Street Alignment, Radii:

- A. On Arterial and Collector Roadways, intersections shall be spaced at a minimum of 250 feet, as measured from the centerline of the street.**
- B. On Local Streets, street centerlines at intersections may not be offset by more than two feet. Intersections shall be spaced at a minimum of 125 feet, as measured from the centerline of the street.**

- C. **Corner curb return radii shall be at least thirty-five (35) feet on Arterial Streets and at least twenty (20) feet on other streets, except where smaller radii are approved by the Public Works Director. Larger Radii may be required by the Director to accommodate emergency and freight vehicles.**

Finding: Rhododendron is classified as a minor arterial. The intersections of the loop road with Rhododendron have been spaced 265 feet apart, and 339 feet from the intersection with 35th Street. This standard is met.

10-36-2-14: Intersection Angles: Streets shall be laid out so as to intersect at an angle as near to a right angle as practicable, except where topography requires a lesser angle. In no case shall the centerline angle be less than 80°; elbow or knuckle corners are not allowed (see Figures 10-36(3) and (4) for illustrations). In addition, the following standards shall apply:

- A. **Streets design shall provide a minimum of 50 feet of straight centerline tangent past the intersecting right-of-way unless a lesser distance is approved by the Public Works Director(see Figure 10-36(5) for illustration).**
- B. **Intersections that are not at right angles shall have a minimum corner radius of 20 feet along the right-of-way lines of the acute angle.**

Finding: All proposed streets have been designed to intersect at as near to a right angle as practicable. The private street has been designed to provide a minimum of 50 feet of straight centerline tangent past the intersecting right-of-way. This standard is met.

10-36-2-15: Grades and Curves: Unless otherwise approved by the City due to topographical conditions, grades shall not exceed 6% on arterials, 10% on collector streets, or 12% on all other streets. Grades in excess of 10% require Fire Code Official approval.

- A. **Centerline curve radii shall not be less than 700 feet on arterials, 350 feet on collectors, or 100 feet on other streets.**
- B. **Streets intersecting with a collector or greater functional classification street, or streets intended to be posted with a stop sign or signalization, shall provide a landing averaging 5% slope or less. Landings are that portion of the street within twenty (20) feet of the edge of the intersecting street at full improvement. See Figure 10-36(6) for example.**
- C. **Existing conditions may warrant additional design criteria. All streets and intersection designs shall be subject to the approval of the Public Works Director.**

Finding: As shown on the Grading and Erosion Control Plan (Sheet C-7), grades will not exceed 12 percent on the proposed streets. The internal circulation system consists of a private street loop and private alley system. The private loop road will have a centerline curve radius of 60 feet in one location. The intersection of the private street with Rhododendron Drive will have a landing that does not exceed five percent slope. This standard is met.

10-36-2-16: Sidewalks, Planter Strips, Bicycle Lanes: Sidewalks, planter strips, and bicycle lanes shall be installed in conformance with applicable provisions of the Florence Transportation System Plan, Comprehensive Plan, adopted street plans, City of Florence Standards and Specifications and the following standards:

- A. Sidewalks may be placed adjacent to the street or at the property line with planter strips where practicable, or as otherwise directed by the Public Works Director.
- B. In areas with high pedestrian volumes, the City may approve a minimum 12-foot wide sidewalk area, curb tight, with street trees in tree wells and / or landscape planters.
- C. Bicycle lanes shall be constructed on all newly constructed arterial and collector streets as well as all arterial and collector streets that are widened to provide additional vehicular capacity, as indicated in the TSP, unless otherwise designated.
- D. Sidewalks shall be provided on both sides of the street for all arterial and collector streets. Sidewalks shall be provided on at least one side of the street for local streets. Exceptions may be granted if the City determines that hillsides, drainage facilities, ditches, waters of the state, or natural landscapes are to be preserved, then sidewalks on one side or a multi-use path may be approved. Sidewalks are not required on T-courts (hammer-head).
- E. Where practical, sidewalks shall be allowed to meander around existing trees if in conformance with the requirements of the Americans with Disabilities Act.
- F. Maintenance of sidewalks and planter strips in the right-of-way is the continuing obligation of the adjacent property owner.

Finding: Sidewalks have been provided along both sides of the private loop road. A shared pedestrian multi-use pathway is proposed along the frontage of Rhododendron Drive, consistent with Florence’s Transportation System Plan. This standard is met.

10-36-2-17: Existing Rights-of-Way: Whenever existing rights-of-way adjacent to or within a proposed development are developed less than standard width, additional rights-of-way shall be provided at the time of subdivision or site development, in conformance with FCC 10-36-2-5.

Finding: The development includes a proposed right-of-way dedication along Rhododendron Drive to provide for the proposed shared use path along the frontage, consistent with Florence’s Transportation System Plan. This standard is met.

10-36-2-18: Curbs, Curb Cuts, Ramps, and Driveway Approaches: Concrete curbs, curb cuts, curb ramps, bicycle ramps and driveway approaches shall be constructed in accordance with Chapter 35, Access and Circulation, City of Florence Standards and Specifications and the following standards:

- A. Curb exposure shall be per City Standards and Specifications.
- B. There shall be no curbs on alleys unless otherwise approved by the Public Works Director.
- C. Curb extensions (bulb-outs) at local residential street intersections are optional. If provided, the minimum width between the curb extensions shall be 24-feet, unless otherwise approved by the Public Works Director. Curb extensions shall not be used on streets with bike lanes.

Finding: All proposed curbs have been designed to meet the City of Florence Standards and Specifications and are consistent with the requirements of this section.

10-36-2-19: Street Names: The developer shall submit proposed street names to the City of Florence Community Development Department for review and submittal to the Lane County Road Naming Committee for approval prior to recording final plat. No new street name shall be used that duplicates or could be confused with the name of an existing street in the County. Street names shall be in conformance with FCC 8-2-1-1.

Finding: The proposed street names will be submitted to the City for review prior to recording the final plat.

10-36-2-20: 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 re-established.

Finding: The applicant acknowledges that it is the responsibility of the developer's registered professional land surveyor to provide certification to the City that all boundary and interior monuments have been re-established.

10-36-2-21: Street Signs: The cost of signs required for new development, including stop signs and any other roadway signs, shall be the responsibility of the developer and shall be installed as part of the street system developed and approved through the land use process. Signs shall be installed by developers per City of Florence Standards and Specifications.

Finding: The applicant acknowledges that it is the responsibility of the developer and shall be installed as part of the street system developed and approved through the land use process.

10-36-2-22: Mail Boxes: Plans for mail boxes shall be approved by the United States Postal Service.

Finding: Group mailboxes will be provided for each group of detached houses and in two locations for the attached housing. The multi-family housing will be served by group mailboxes within the covered breezeway stairs. All proposed mailbox plans will be approved by the United States Postal Service. This standard is met.

10-36-2-23: Street Light Standards: Street lights shall be provided in all developments within the City and shall be provided in accordance with Resolution 16, Series 1999. The Planning Commission during site design review may add street lights at other locations and authorize specific exceptions to the above priorities when necessary in order to enhance the public safety and welfare; actual locations may be varied slightly depending on placement of Central Lincoln PUD poles. Streetlights shall be installed in accordance with City of Florence Standards and Specifications. Where a private street intersects a public street, a street light shall be installed.

Finding: All proposed street lighting has been shown on the Photometrics Plan (Sheet C-6) and is consistent with the requirements of this section.

10-36-3: SANITARY SEWERS, WATER, STORMWATER, AND FIRE PROTECTION:

A. Sewers, Water, and Stormwater Mains Required: Sanitary sewers, water mains, and

stormwater drainage shall be installed to serve each new development and to connect developments to existing mains in accordance with the City's Wastewater Master Plan, Water System Master Plan, and Stormwater Master Plan, Florence Code Title 9 Chapters 2, 3 and 5, and the applicable construction specifications. When streets are required to be stubbed to the edge of the subdivision; stormwater, sewer and water system improvements shall also be stubbed to the edge of the subdivision for future development.

- B. Sewer, Water, and Stormwater Plan Approval: Development permits for stormwater drainage, sewer and water improvements shall not be issued until the Public Works Director or their designee has approved all stormwater, sanitary sewer and water plans in conformance with City standards, and Florence Code Title 9 Chapters 2, 3 and 5.**

Finding: A Composite Utility Plan (Sheet C-8) has been submitted under Appendix E which illustrates the proposed sewer, water and storm water design for the site. This standard is met.

- C. Existing Watercourse: Where a proposed development is traversed by a watercourse, drainage way, channel, or stream, there shall be provided a storm water easement or drainage right-of-way conforming substantially to the lines of such watercourse and such further width as will be adequate for conveyance and maintenance to protect the public health and safety and consistency with the Stormwater Manual.**

Finding: The subject site is not traversed by a watercourse, drainage way, channel, or stream. The requirements of this section are not applicable.

- D. Over-Sizing: The City may require as a condition of development approval that sewer, water, and/or storm drainage systems serving new development be sized to accommodate future development within the area as projected by the applicable Water, Sewer, and/or Storm Drainage Master Plan, and Florence Code Title 9 Chapter 1. The developer may be entitled to credit or reimbursement for over-sizing City master planned improvements.**

Finding: Oversizing of the sewer, water, or storm drainage systems is not required as a part of the development.

- E. Fire Protection: All new development shall conform to the applicable provisions of the Oregon Fire Code. Developers shall provide verification of existing and proposed water service mains and hydrant flow supporting the development site. Fire flow analyses and plans for hydrants and water service mains shall be subject to review and approval by the Building Official or Fire Marshal.**

Finding: The proposed development will conform to the applicable provisions of the Oregon Fire Code. Verification of existing and proposed water service mains and hydrant flow supporting the site will be provided. This standard is met.

- F. Inadequate Facilities: Development permits may be restricted by the City where a deficiency exists in the existing water, sewer or stormwater system that cannot be**

rectified by the development and that 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.

Finding: The site can be adequately served by the existing water, sewer and stormwater system. This standard is met.

10-36-4: EROSION CONTROL: In addition to standard City requirements for stormwater, erosion control and sand management, projects that disturb one (1) or more acres of land over a period of time, a National Pollution Discharge Elimination System (NPDES) Permit must be obtained from the Department of Environmental Quality prior to the issuance of a development permit or land use permit based on appropriate criteria.

Finding: The applicant will obtain all necessary permits for the proposed development.

10-36-5: UTILITIES:

A. Underground Utilities:

1. **Generally.** All new utility lines including, but not limited to, those required for electric, communication, lighting, and cable television services and related facilities shall be placed underground, except for temporary utility service facilities during construction, and high capacity electric lines operating at 50,000 volts or above.
2. **Subdivisions.** In order to facilitate underground placement of utilities:
 - a. The developer shall make all necessary arrangements with the serving utility to provide the underground services. Care shall be taken to ensure that all above ground equipment does not obstruct vision clearance areas for vehicular traffic.
 - b. The City reserves the right to approve the location of all surface-mounted facilities.
 - c. All underground utilities, including water, sanitary sewers and storm drains installed in streets by the developer, shall be constructed prior to the surfacing of the streets.
 - d. Stubs for service connections shall be long enough to avoid disturbing the street improvements when service connections are made.

C. Exception to Undergrounding Requirement: An exception to the undergrounding requirement may be granted due to physical constraints, such as steep topography, sensitive lands, or high water table or existing development conditions.

Finding: All new utility lines will be located underground, as shown on the Composite Utility Plan (Sheet C-8). This standard is met.

10-36-6: EASEMENTS:

A. Provision: Dedication of easements for storm water, sewers, water and for access thereto for maintenance, in order to safeguard the public against flood damage and the accumulation of surface water; dedication of easements for sanitary sewers, and for access thereto for maintenance; and dedication of easements for other public

utilities may be required of the land divider by the Planning Commission along lot rear lines, lot side lines or elsewhere as necessary to provide needed facilities for present or future development of the area in accordance with the purpose of this Title. Easements for utility lines shall be not less than fifteen feet (15') in width and the utility shall be located in the center of the easement. Before a partition or subdivision can be approved, there shall appear thereon a restriction, providing that no building, structure, tree, shrubbery or other obstruction shall be placed or located on or in a public utility easement. The City may require an additional five foot (5') easement for utility lines along street frontages when necessary.

- B. **Recordation: As determined by the City all easements for sewers, storm drainage and water quality facilities, water mains, electric lines, or other public utilities shall be recorded with the final plat.**

Finding: Easements will be provided for all public utilities on site. All proposed utility easements have been shown on the Composite Utility Plan (Sheet C-8).

10-36-9: PARKLANDS:

- A. **Purpose: For the purpose of promoting health, safety, and the general welfare of City residents, this section provides for the provision of parkland for recreational opportunities and/or openspace for passive recreational use for Florence residents. The parkland provision serves the following specific purpose:**

- 1. **To address the Community Needs identified in the Florence Parks and Recreation Master Plan (Master Plan) and to ensure that park land and open space are provided to meet the needs of residents of new residential developments.**

- B. **Parklands:**

- 1. **Developers are encouraged to work with the City to identify parkland facilities proposed in their service area. If the City has an interest in acquiring a portion of a proposed land division or development, or if the City has been advised of such interest by another district or public agency, and there is reasonable assurance that the steps will be taken to acquire the land, then the Planning Commission may require that those portions of the land division be reserved for public acquisition, for a period not to exceed one year, at a cost not to exceed the value of the land prior to subdivision.**
- 2. **Areas smaller than one acre for new public parkland is generally impractical. If less than one acre of public parkland is proposed, the dedication should add on to an existing park area within or adjacent to the development site or provide some special public benefit acceptable to the city such as a trail connection.**

- C. **Standards for Parkland:**

- 1. **Ownership and Maintenance Requirements. Land provided for parkland shall be owned and maintained in one or more of the following ways:**
 - a. **Dedicated to, and accepted by, the City;**
 - b. **Privately owned, developed, and maintained by the property owner or**

Home Owners Association;

- c. **Owned and maintained by a land conservation entity, such as The Nature Conservancy;**
- d. **Accessible to the public through a public easement.**

Finding: The subject site is not located within an area that has been identified as a Residential Area Under-Served by Community Parks on Figure 4.4 Community Park Service Areas map within the Parks and Recreation Master Plan. The proposed open space and recreation areas on site will be under private ownership. This standard is met.

Chapter 37 – Lighting

10-37-3: LIGHTING PLANS REQUIRED: All applications for building permits and land use planning review which include installation of exterior lighting fixtures, not exempted, shall include the number of luminaires, the number of lamps in each luminaire, a photometric report for each type of luminaire and a site plan with the photometric plan of the lumen output.

The City shall have the authority to request additional information in order to achieve the purposes of this Ordinance.

Finding: A Photometrics Plan (Sheet C-6) consistent with the requirements of this section has been submitted under Appendix E of this land use application.

10-37-4: LIGHTING STANDARDS:

- A. **All exterior lighting fixtures subject to this code section must be designed as a full cut-off fixture or have a shielding method to direct light emissions downward below the horizontal plane onto the site and does not shine illumination or glare skyward or onto adjacent or nearby property.**
- B. **Parking areas shall have lighting to provide at least two (2) foot-candles of illumination at any point in the entire lot with a maximum of five (5) foot-candles over parking spaces and walkways. The Design Review Board may decrease the minimum if the applicant can provide documentation that the overall parking lot has adequate lighting. The Design Review Board may increase the maximum on a case-by-case basis, with no greater than 7 foot-candles measured directly under the light fixture.**
- C. **Lighting in or adjacent to residential zones or residential uses shall not exceed twenty feet in height as measured from the adjacent grade to the top of the light fixture. Heights in other zoning districts shall not exceed 25 feet unless the Design Review Board adopts findings that the higher light fixtures are necessary to achieve proper illumination levels.**
- D. **Main exterior lights for commercial, institutional, and industrial buildings, landscaping and parking lots shall be extinguished at end of business hours with a minimum lighting remaining for personal and building security and safety after hours.**
- E. **A thirty-day review period beginning with the first day in business using the new lighting system shall be required to evaluate and adjust illumination levels of lighting. The City may ask for lighting to be adjusted in this time period based on public comments or staff inspections.**
- F. **All externally lit commercial signs should shine from the top and point down toward**

the ground. Signs with uplighting must be shielded so that illumination is restricted to the sign face and glare is eliminated.

- G. Lighting for roadway signs and pedestrian ways must be designed or have an opaque shielding method to direct light emissions downward and below the horizontal plane of the fixture in the permanently installed position.

Finding: A Photometrics Plan (Sheet C-6) consistent with the requirements of this section has been submitted under Appendix E of this land use application.

10-37-5: EXEMPTIONS:

- A. Exterior light fixtures, except Mercury Vapor lights, lawfully installed prior to and operable on the effective date of the requirements codified in this Ordinance except as follows:
 - 1. All replacement of outdoor lighting fixtures, as of the date of adoption, shall be subject to the provision of this ordinance.
 - 2. Until a date ten years after the date of the adoption of this ordinance.
- B. Lighting within public right-of-way or easement for the purpose of illuminating streets or roads. No exemption shall apply to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside the public right of way or easement.
- C. Fossil Fuel Light. All outdoor light fixtures producing light directly by the combustion of natural gas or other fossil fuels.
- D. Carnivals, fairs and temporary events that require the use of exterior lighting require a special events license. Permanent installations at dedicated sites must conform to the requirements of this Ordinance.
- E. Seasonal Holiday Lighting - Lights used for decorating during holidays or festivals as defined in this code section and may be blinking or flashing.
- F. Lighting for a properly displayed U.S. flag is exempt.
- G. Construction lighting necessary for a roadway, building, or utility construction site except that permanent installations at dedicated sites must conform to the requirements of this Ordinance.
- H. Up-lighting intended to highlight part of a building or landscaping provided that the light distribution from the fixture is effectively contained by an overhanging architectural element or landscaping element and does not shine beyond the intended target including into the night sky. Such containment elements may include but are not limited to awnings, dense shrubs or year round dense evergreen tree canopies which will contain illumination of the sky.
- I. Commercial and industrial low wattage lighting used to highlight driveways and landscaping, or applied to a building providing they are properly aimed and shielded down to not shine glare, emit direct illumination, or cast a shadow into the public right of way or onto abutting or nearby properties.
- J. Lighting for public monuments, murals, and statuary providing lighting is properly aimed and shielded to contain light to the art feature and not shine glare into the public

- right of way or onto abutting or nearby properties.
- K. Airport operations lighting and aircraft navigational beacons as established by the Federal Aviation Administration. All other airport outdoor lighting must conform to this ordinance.
- L. Underwater lighting in swimming pools and other water features.
- M. Temporary lighting for theatrical, television, and performance areas.
- N. Athletic field lighting; steps should be taken to minimize glare and light trespass, and utilize sensible curfews. Light directed upward is prohibited.
- O. Correctional Facilities
- P. Ornamental and architectural lighting of bridges.
- Q. Temporary exemptions as granted by the City of Florence.
- R. In addition to exceptions mentioned above the below apply to residential uses.
 1. One partly shielded or unshielded luminaire at the main entry, not exceeding 630 lumens.
 2. Any other partly shielded or unshielded luminaires not exceeding 315 lumens.
 3. Low voltage landscape lighting aimed so that glare is not visible from adjacent properties and not exceeding 525 lumens per fixture.
 4. Shielded directional flood lighting aimed so that direct glare is not visible from adjacent properties and not exceeding 1,260 lumens.
 5. Lighting installed with a vacancy sensor, where the sensor extinguishes the lights no more than 10 minutes after the area is vacated.
 6. Decorative low wattage lights.

Finding: A Photometrics Plan (Sheet C-6) illustrating non-exempt lighting consistent with the requirements of this section has been submitted under Appendix E of this land use application.

10-37-6: PROHIBITIONS:

- A. Laser Light Source. The use of laser source light or any similar high intensity light for exterior advertising or entertainment is prohibited.
- B. Searchlights and Strobe Lights. The use of searchlights or strobe lights for purposes other than public safety or emergencies is prohibited.
- C. Blinking & Flashing Lights. All blinking and flashing lights except for traffic control fixtures, those used for public safety or emergencies, and seasonal holiday lights are prohibited.
- D. Externally affixed neon lighting is prohibited except in the following manner: As a trim element that surrounds windows, doors, or building edges; when located on building facades that face street frontages or internal driveways within commercial districts; such lighting must not be located more than 15 feet from finished grade and must not be used to define a building roof-line; and, such lighting must not include flashing, intermittent or rotating lights. Notwithstanding the provisions of this subsection, all neon lighting associated with signs must meet the requirements of the City of Florence Sign Code.

Finding: The proposed development does not include any of prohibited light fixtures listed within this section.

Title 11 – Subdivision Regulations

Chapter 3 – Subdivision Tentative Plan Procedure

11-3-2: TENTATIVE PLAN REQUIREMENTS:

11-3-4: APPROVAL OF TENTATIVE SUBDIVISION: After giving notice as required by FCC 10-1-1-6, the Planning Director or its designee shall grant approval or deny the subdivision tentative plan. The hearing decision and further consideration of a similar application shall be reviewed under a Type II process as defined by paragraph 10-1-1-6 of this Code. If approval involves implications of new or modified standards or policy, the Planning Commission and not its designee shall render a decision. Approval shall be based on compliance with the following criteria.

A. When the division of land results in remaining lots that are equal to or greater than twice the minimum lot size of the base zone, the application shall label it as a “Tract” and reserve it for open space as applicable or indicate the location of lot lines and other details of layout that show future land division may be made without violating the requirements of this land use code. In either scenario the tract(s) or future lot layout shall not interfere with the orderly extension of adjacent streets, bicycle paths, and accessways.

1. Any restriction of buildings within future street, bicycle path and accessway locations shall be made a matter of record in the tentative plan approval.

Finding: All proposed oversized lots will be provided for the use of open space and will be labeled as a “Tract” on the Tentative Plat. This standard is met.

B. All proposed lots comply with the development standards of the base zone.

Finding: The proposed subdivision is a residential Planned Unit Development (PUD) meeting the stated purposes of the PUD regulations. The Applicant proposes flexibility in the base zone standards as provided for in Chapter 23 of the development code. The modifications to the base zone standards have been addressed within this narrative. This standard is met.

C. Adequate public facilities are available or can be provided to serve the proposed parcels.

Finding: The proposed public and private utilities and facilities have been shown on the attached Composite Utility Plan (Sheet C-8). The site can be adequately served by the existing water, sewer and stormwater system. This standard is met.

D. The application provides for the dedication or conveyance of public rights-of-way or utility easements necessary and adequate to meet the standards of the applicable master plan.

Finding: The proposed development will require a dedication of right-of-way along Rhododendron Drive. The proposed right-of-way dedication has been shown on the

Site Plan (Sheet C-3). All public utility easements have been shown on the Composite Utility Plan (Sheet C-8). This standard is met.

E. The tentative plan complies with the requirements of this Title, all applicable provisions of the Oregon Revised Statutes including ORS Chapter 92, the Florence Zoning Ordinance, the Florence Comprehensive Plan and Policies, as well as the intent and purpose of this Title.

Finding: As demonstrated within this narrative and the submitted land use plan set, the tentative plan for the proposed planned unit development and subdivision complies with the requirements of this Title, all applicable provisions of the Oregon Revised Statutes, the Florence Zoning Ordinance, the Florence Comprehensive Plan and Policies as well as the intent and purpose of this title.

11-3-8: PHASED SUBDIVISION TENTATIVE PLAN: The subdivision of land may be phased. No land shall be divided as a phased subdivision without receiving tentative phased subdivision plan approval as set forth in this section. When the subdivision of land is phased, one tentative plan is approved by Planning Director for the entire phased subdivision, and each individual phase receives separate final plat approval from the Planning Director. Planning Director shall approve a phased subdivision tentative plan, provided affirmative findings can be made that: (Ordinance No. 7, Series 2019)

Finding: The proposed subdivision will be completed in a single phase. The requirements of this section are not applicable to this development.

SUMMARY AND CONCLUSION

Based upon the materials submitted herein, the Applicant respectfully requests approval from the City's Planning Department for this Type III Planned Unit Development Application (PUD) and Tentative Subdivision Application (SUB).

MASTER PLAN: BUILDING TYPES

SITE PROGRAM

	Unit #	Building Coverage	Site %	Lot Area	Site %
Attached Housing	= 49 =	62,858 sf	15.6%	85,244 sf	21.1%
Detached Housing	= 31 =	42,718 sf	10.6%	84,227 sf	20.8%
Multi-Family Housing	= 46 =	28,940 sf	7.1%	69,713 sf	17.3%
TOTAL	= 126 =	134,516 sf	33.3%	239,184 sf	59.2%

(13.6 Units/Acre)



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MASTER PLAN: BUILDING TYPES
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER
A - 1

Exhibit D



MASTER PLAN: OPEN SPACE

SITE PROGRAM

	Unit #	Building Coverage	Site %	Lot Area	Site %
Attached Housing	= 49 =	62,858 sf	15.6%	85,244 sf	21.1%
Detached Housing	= 31 =	42,718 sf	10.6%	84,227 sf	20.8%
Multi-Family Housing	= 46 =	28,940 sf	7.1%	69,713 sf	17.3%
TOTAL	= 126 =	134,516 sf	33.3%	239,184 sf	59.2%
	<i>(13.6 Units/Acre)</i>				

Open Space - Min 20%*	=	81,751 sf	(81,751/404,120 =)	20.2%
Recreation Space - Min 25% / Open Space =		29,907 sf	(29,907/81,751 =)	36.6%

*Note: Assumes 10' Perimeter Yard at adjacent property & 5' Perimeter Yard at public R.O.W.



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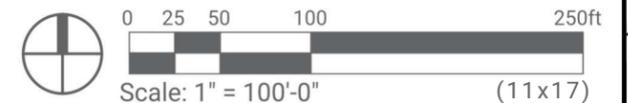
MASTER PLAN: OPEN SPACE
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER

A - 2



MASTER PLAN: PHASE 1A

SITE PROGRAM

	Unit #	Building Coverage	Site %	Lot Area	Site %
Attached Housing	= 31 =	39,750 sf	9.9%	53,841 sf	13.3%
Detached Housing	= 15 =	20,670 sf	5.1%	40,588 sf	10.0%
Multi-Family Housing	= 46 =	28,940 sf	7.1%	69,713 sf	17.3%
TOTAL (Phase 1A)	= 92 =	89,360 sf	22.1%	164,142 sf	40.6%

Open Space - Min 20%*	=	64,003 sf	(64,003/308,713 =)	20.7%
Recreation Space - Min 25% / Open Space =	=	25,470 sf	(25,470/64,003 =)	39.8%

*Note: Assumes 10' Perimeter Yard at adjacent property & 5' Perimeter Yard at public R.O.W.

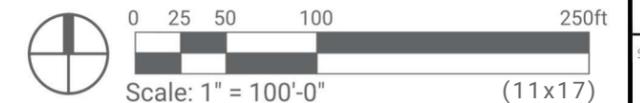
Total Site (Phase 1A)	=	(7.09 Acres)	308,713 sf	76.4%
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BUILDING PROGRAM

	Unit #	Building #	Total Unit #
Attached Housing: B2	= 2	x 3	= 6
Attached Housing: B3.1	= 3	x 4	= 12
Attached Housing: B3.2	= 3	x 3	= 9
Attached Housing: B4	= 4	x 1	= 4
Detached Housing: C1	= 1	x 1-9	= 1-9
Detached Housing: C2	= 1	x 6-15	= 6-15
Multi-Family Housing: A1	= 12	x 2	= 24
Multi-Family Housing: A2	= 11	x 2	= 22
Total Units (Phase 1A)			92

ESTIMATED SCHEDULE

	Phase 1A
Estimated Start Date (Site):	October 1 st , 2020
Length of Construction (Site):	7 Months
Estimated Start Date (Buildings):	February 1 st , 2021
Length of Construction (Buildings):	12 Months
Estimated Completion:	February 1 st , 2022



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MASTER PLAN: PHASE 1A
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER

A - 3

MASTER PLAN: PHASE 1B

SITE PROGRAM

	Unit #	Building Coverage	Site %	Lot Area	Site %
Attached Housing	= 18 =	23,108 sf	5.7%	31,403 sf	7.8%
Detached Housing	= 16 =	22,048 sf	5.5%	43,639 sf	10.8%
Multi-Family Housing	= 0 =	0 sf	0%	0 sf	0%
TOTAL (Phase 1B)	= 34 =	45,156 sf	11.2%	75,042 sf	18.6%

Open Space - Min 20%*	=	17,748 sf	(17,748/95,407 =)	4.4%
Recreation Space - Min 25% / Open Space =		4,437 sf	(4,437/17,748 =)	25.0%

*Note: Assumes 10' Perimeter Yard at adjacent property & 5' Perimeter Yard at public R.O.W.

Total Site (Phase 1A)	=	(7.09 Acres)	308,713 sf	76.4%
Total Site (Phase 1B)	=	(2.19 Acres)	95,407 sf	23.6

BUILDING PROGRAM

	Unit #	Building #	Total Unit #
Attached Housing: B2	= 2	x 2	= 4
Attached Housing: B3.1	= 3	x 0	= 0
Attached Housing: B3.2	= 3	x 2	= 6
Attached Housing: B4	= 4	x 2	= 8
Detached Housing: C1	= 1	x 1-16	= 1-16
Detached Housing: C2	= 1	x 1-16	= 1-16
Multi-Family Housing: A1	= 12	x 0	= 0
Multi-Family Housing: A2	= 11	x 0	= 0
Total Units (Phase 1B)			34

ESTIMATED SCHEDULE

	Phase 1A
Estimated Start Date (Site):	October 1 st , 2020
Length of Construction (Site):	7 Months
Estimated Start Date (Buildings):	February 1 st , 2021
Length of Construction (Buildings):	12 Months
Estimated Completion:	February 1 st , 2022

	Phase 1B
Estimated Start Date (Buildings):	February 1 st , 2022
Length of Construction:	9 Months
Estimated Completion:	December 1 st , 2022



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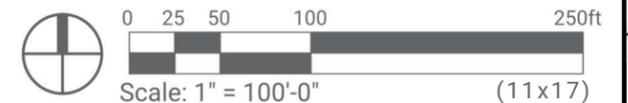
MASTER PLAN: PHASE 1B
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER

A - 4



MASTER PLAN: OVERALL

SITE PROGRAM

	Unit #	Building Coverage	Site %	Lot Area	Site %
Attached Housing	= 49 =	62,858 sf	15.6%	85,244 sf	21.1%
Detached Housing	= 31 =	42,718 sf	10.6%	84,227 sf	20.8%
Multi-Family Housing	= 46 =	28,940 sf	7.1%	69,713 sf	17.3%
TOTAL	= 126 =	134,516 sf	33.3%	239,184 sf	59.2%

(13.6 Units/Acre)

Open Space - Min 20%*	=	81,751 sf	(81,751/404,120 =)	20.2%
Recreation Space - Min 25% / Open Space	=	29,907 sf	(29,907/81,751 =)	36.6%

*Note: Assumes 10' Perimeter Yard at adjacent property & 5' Perimeter Yard at public R.O.W.

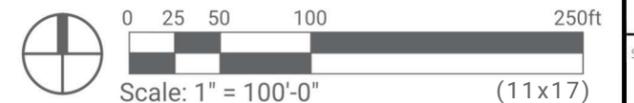
Total Site (Phase 1A)	=	(7.09 Acres)	308,713 sf	76.4%
Total Site (Phase 1B)	=	(2.19 Acres)	95,407 sf	23.6%
TOTAL	=	(9.28 Acres)	404,120 sf	100.0%

BUILDING PROGRAM

	Unit #	Building #	Total Unit #
Attached Housing: B2	= 2 x	5	= 10
Attached Housing: B3.1	= 3 x	4	= 12
Attached Housing: B3.2	= 3 x	5	= 15
Attached Housing: B4	= 4 x	3	= 12
Detached Housing: C1	= 1 x	1-25	= 1-25
Detached Housing: C2	= 1 x	6-31	= 6-31
Multi-Family Housing: A1	= 12 x	2	= 24
Multi-Family Housing: A2	= 11 x	2	= 22
Total Units (Phase 1A)			92
Total Units (Phase 1B)			34
TOTAL			126

ESTIMATED SCHEDULE

	Phase 1A
Estimated Start Date (Site):	October 1 st , 2020
Length of Construction (Site):	7 Months
Estimated Start Date (Buildings):	February 1 st , 2021
Length of Construction (Buildings):	12 Months
Estimated Completion:	February 1 st , 2022
	Phase 1B
Estimated Start Date (Buildings):	February 1 st , 2022
Length of Construction:	9 Months
Estimated Completion:	December 1 st , 2022



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MASTER PLAN: OVERALL
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



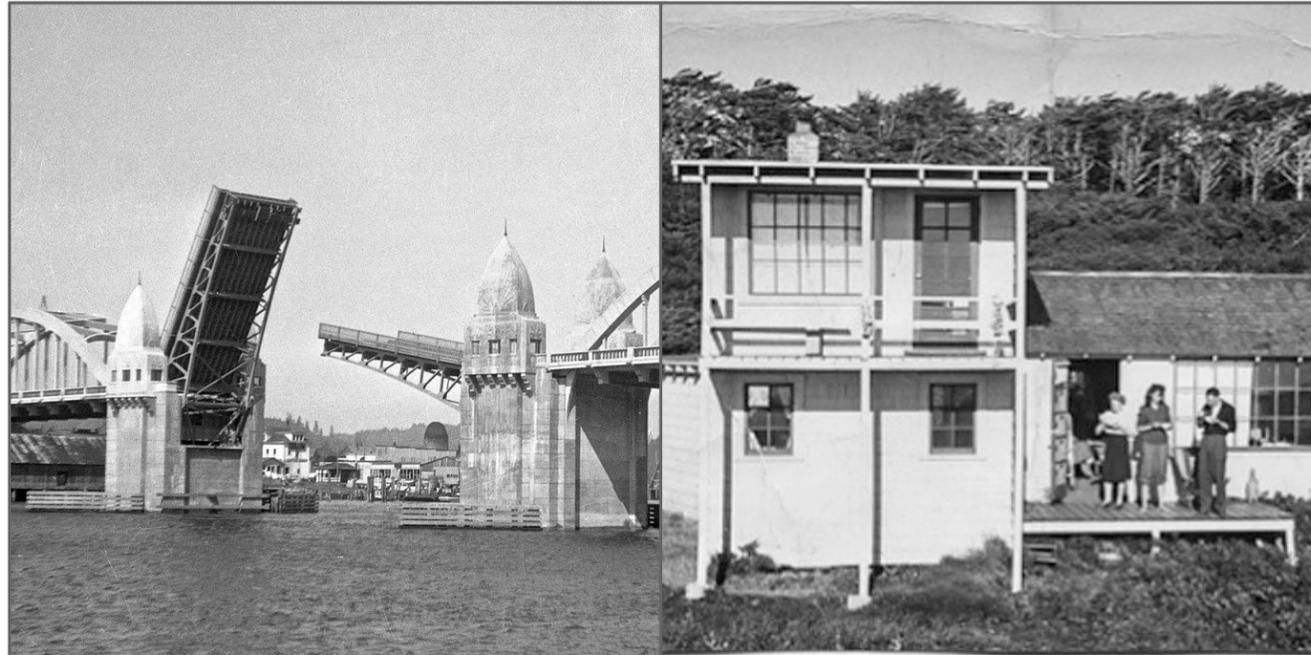
PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER

A - 5

ESTABLISHING A STYLE

FLORENCE INFLUENCES



 History



 Industry



 Culture



 Climate

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FLOOR PLANS
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



3J CONSULTING

PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
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SHEET NUMBER

A - 6

ESTABLISHING MATERIALS: BOARD & BATTEN

PRECEDENTS



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ESTABLISHING MATERIALS: BOARD & BATTEN
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FLORENCE, OR



PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER
A - 7

ESTABLISHING MATERIALS: COASTAL SHINGLE

PRECEDENTS



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ESTABLISHING MATERIALS: COASTAL SHINGLE
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER

A - 8

ESTABLISHING MATERIALS: COTTAGE LAP

PRECEDENTS



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ESTABLISHING MATERIALS: COTTAGE LAP
RHODODENDRON DR & 35TH ST
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PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER

A - 9

ESTABLISHING MATERIALS: MIXED COMBINATION

PRECEDENTS



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ESTABLISHING MATERIALS: MIXED COMBINATION
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



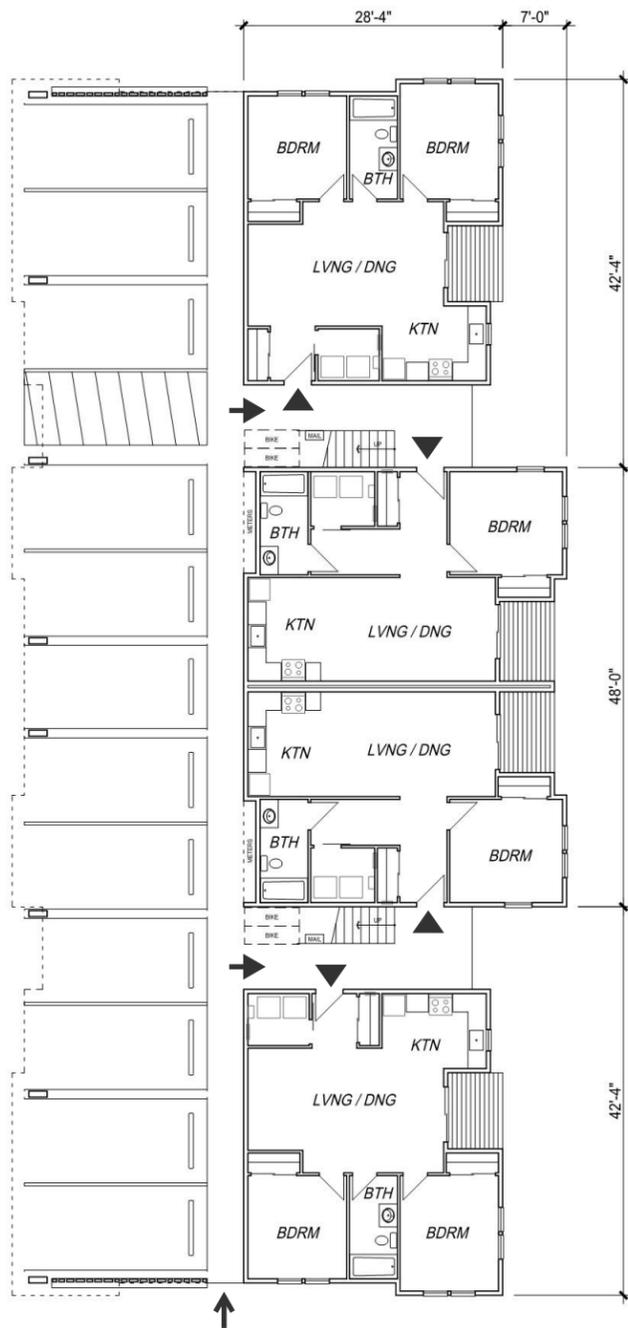
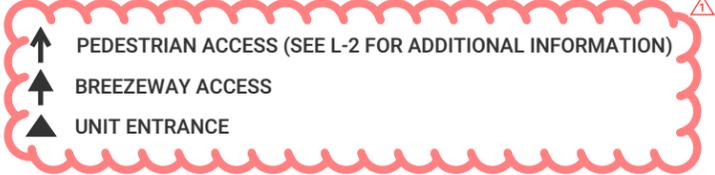
PROJECT INFORMATION
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LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER

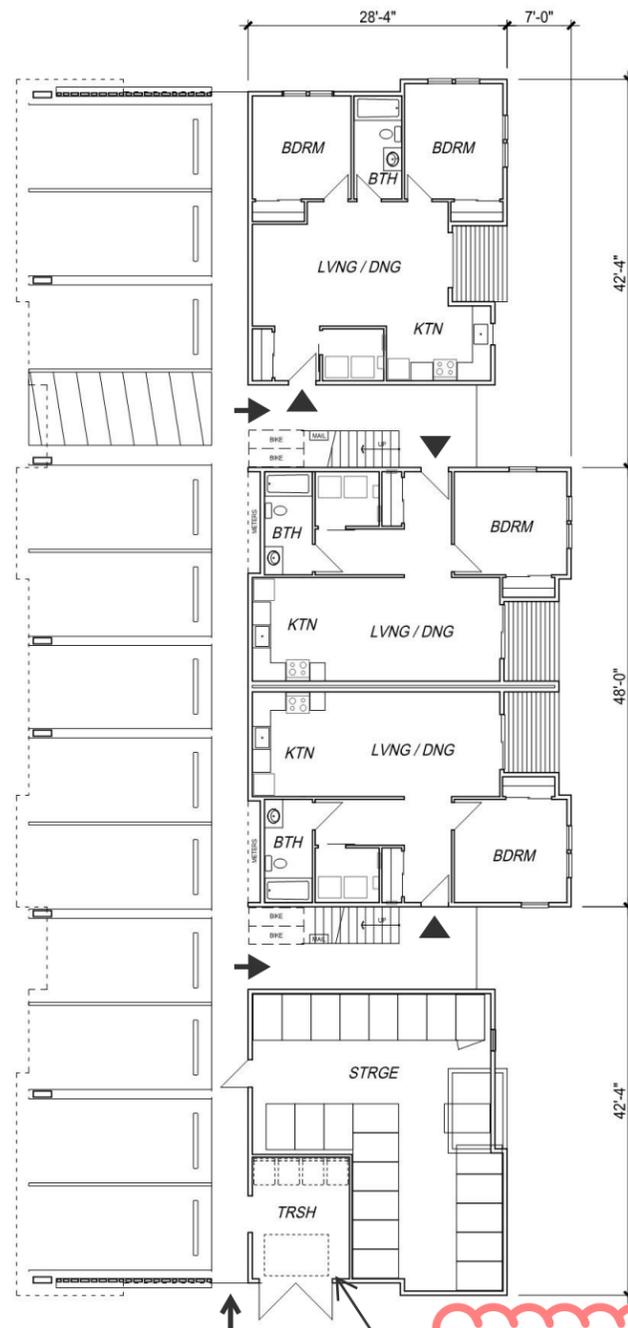
A - 10

MULTI-FAMILY HOUSING: CONCEPT A1 & A2 – 11-12 UNITS

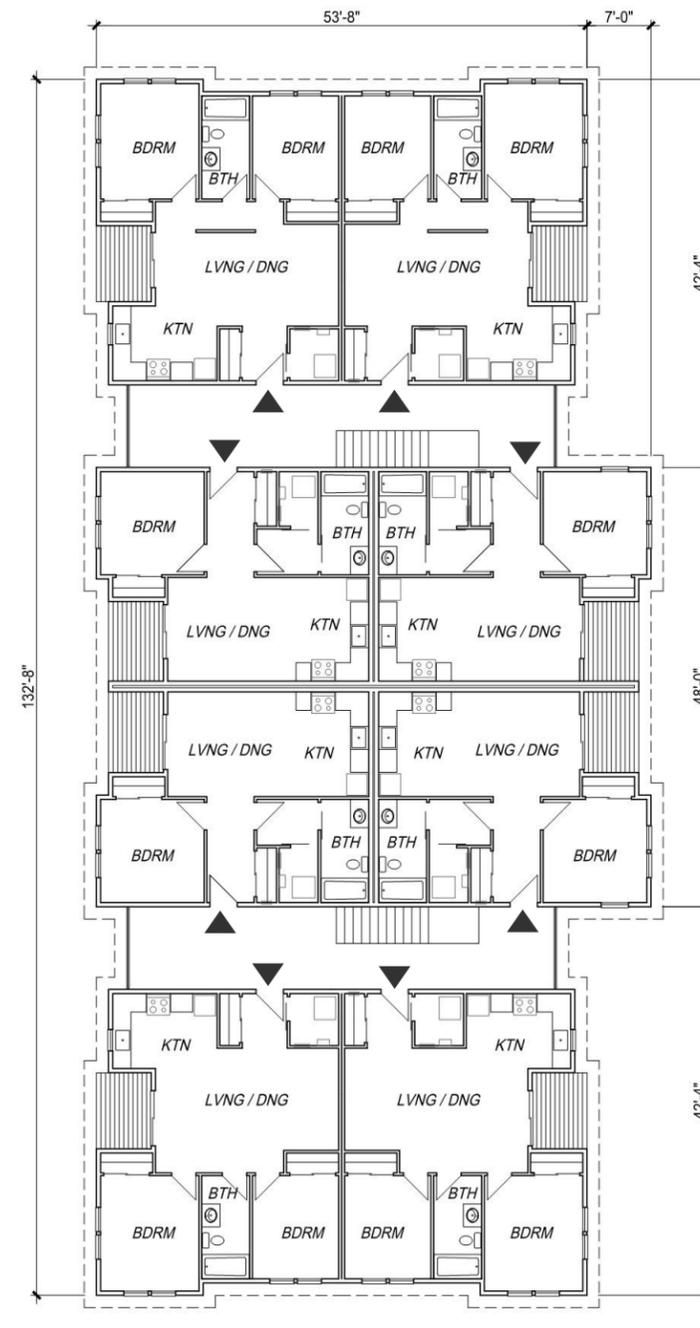
FLOOR PLANS



1ST FLOOR: A1 – 4 UNITS



1ST FLOOR: A2 – 3 UNITS



2ND FLOOR – 8 UNITS (A1 & A2)



PUBLISH DATE
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FLOOR PLANS
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
 APIC FLORENCE HOLDINGS, LLC
 FLORENCE, OR



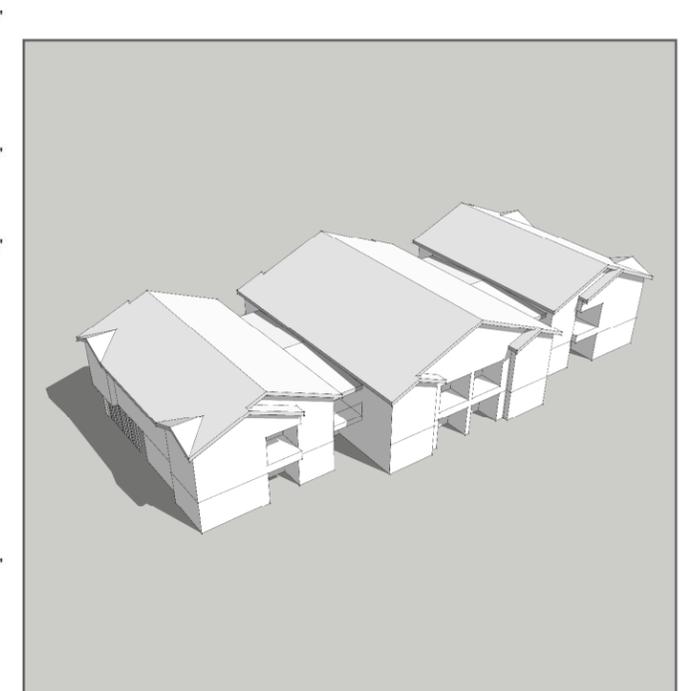
PROJECT INFORMATION
 PROJECT # | 219187 (LRS)
 LAND USE # | TBD
 TAX LOT(S) | 18S12W15 700 & 3800
 DESIGNED BY | DH, MS
 CHECKED BY | RB

SHEET NUMBER
A - 11

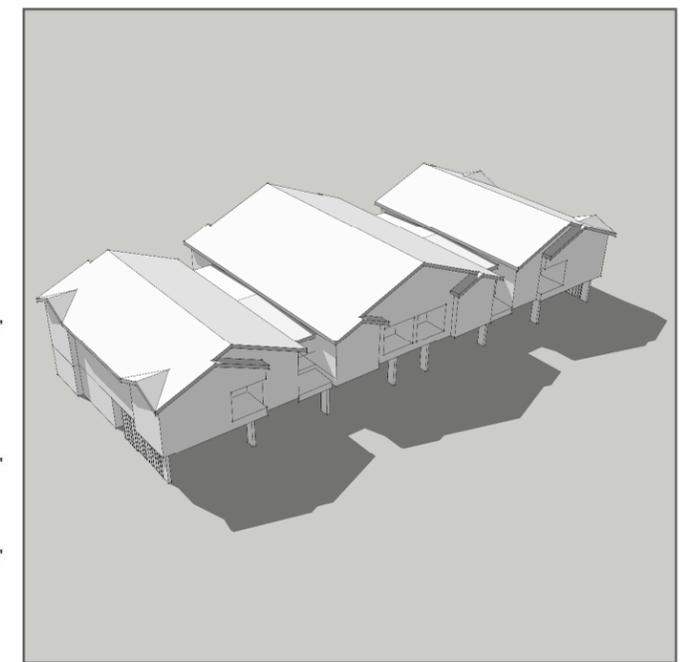
MULTI-FAMILY HOUSING: CONCEPT A1 & A2 – 11-12 UNITS

ELEVATIONS

PERSPECTIVES



FRONT BIRDS-EYE



REAR BIRDS-EYE

PUBLISH DATE
02-14-2020
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MULTI-FAMILY HOUSING: A1 & A2 (ELEVATIONS)
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



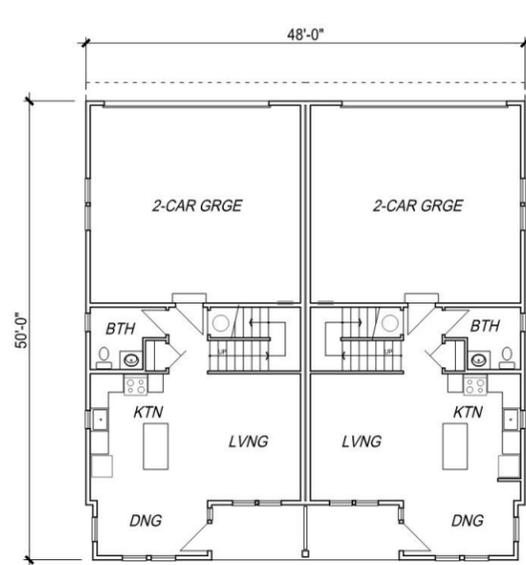
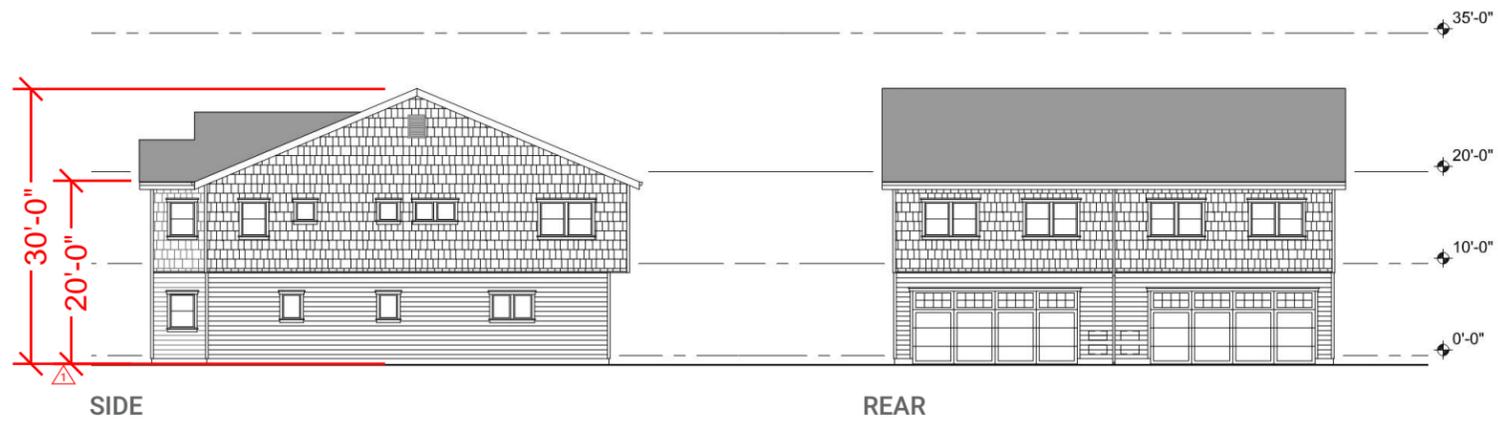
PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER
A - 12

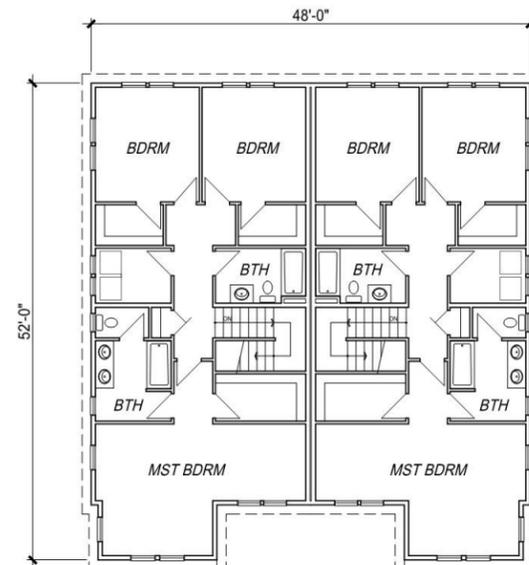


ATTACHED HOUSING: CONCEPT B2 – 2 UNITS

ELEVATIONS & FLOOR PLANS

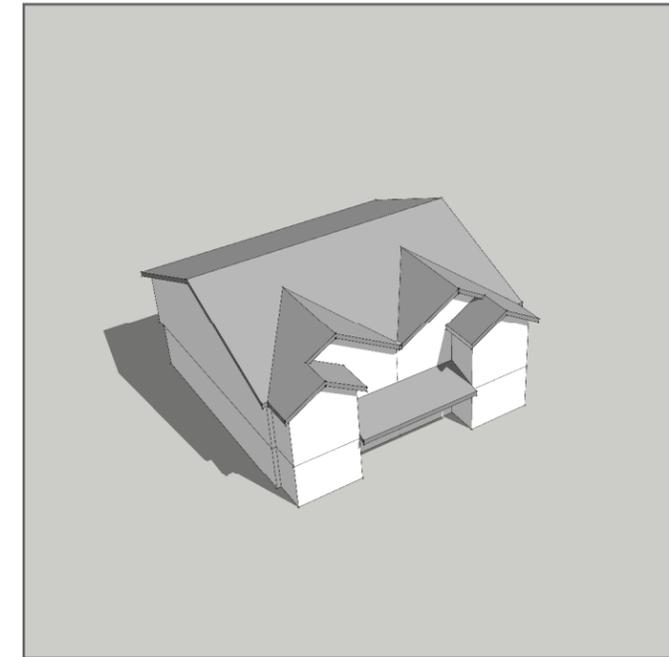


1ST FLOOR

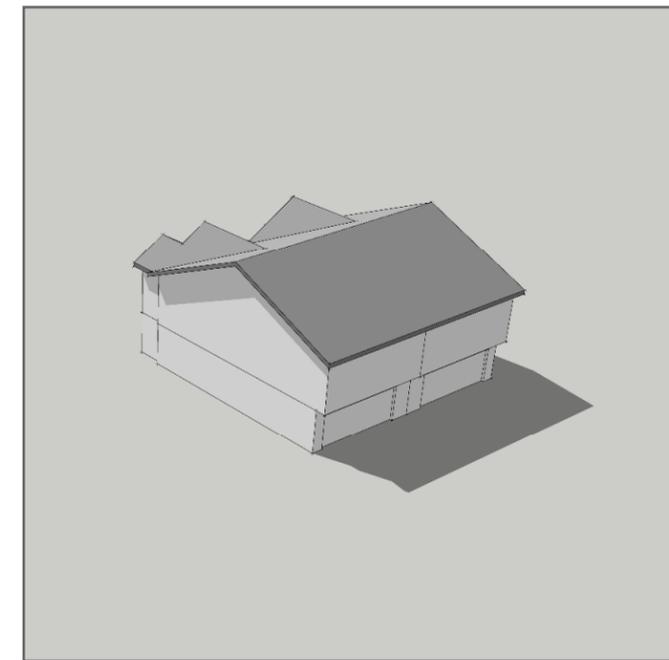


2ND FLOOR

PERSPECTIVES



FRONT BIRDS-EYE



REAR BIRDS-EYE

PUBLISH DATE
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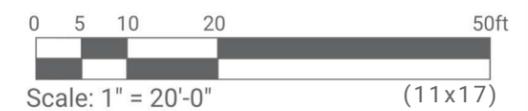


FLOOR PLANS
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



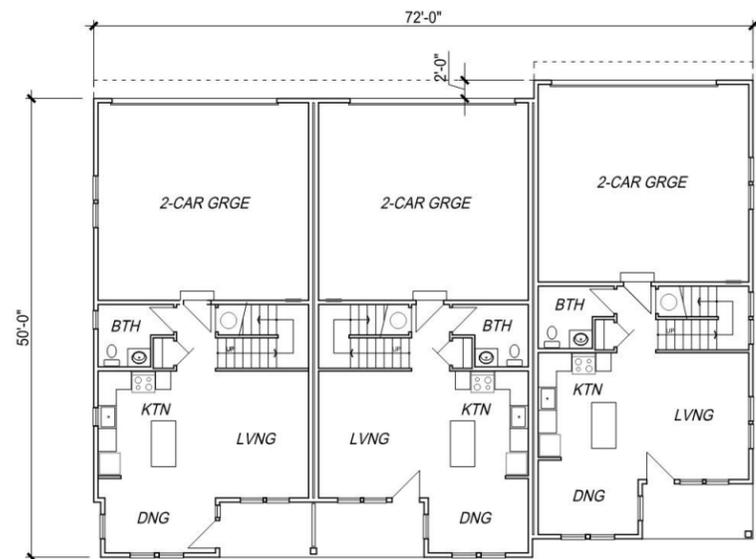
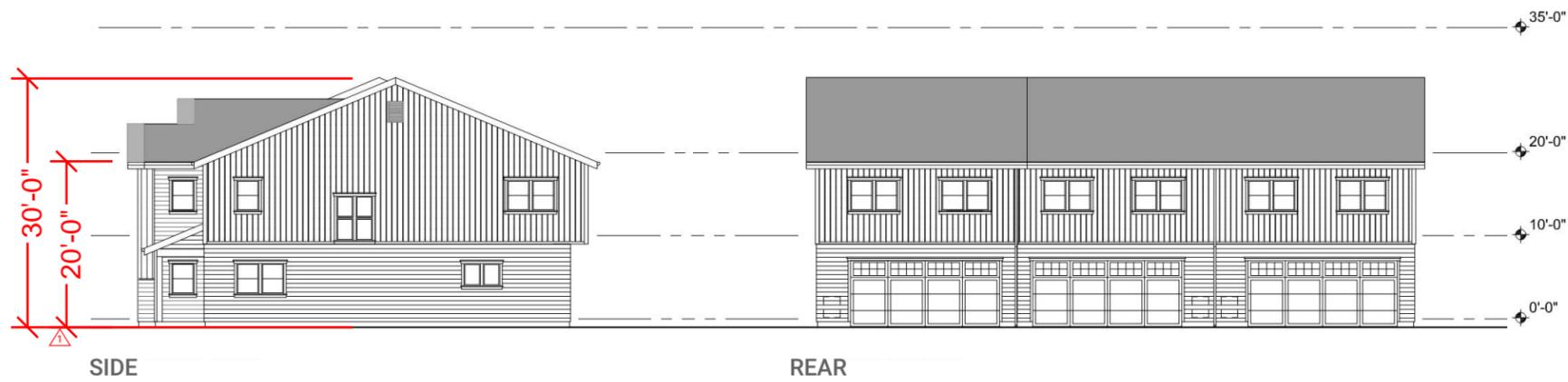
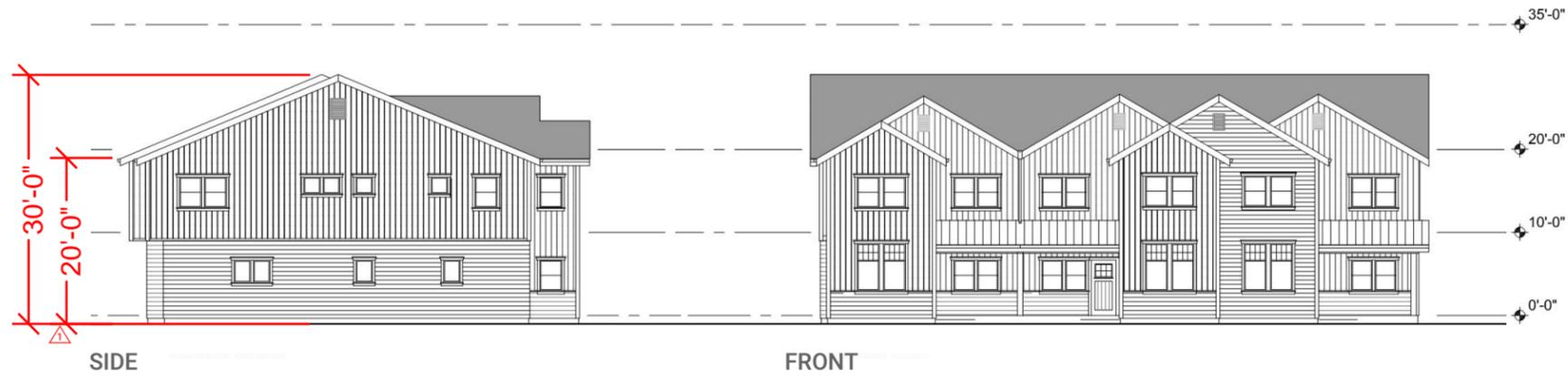
PROJECT INFORMATION
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TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER
A - 13

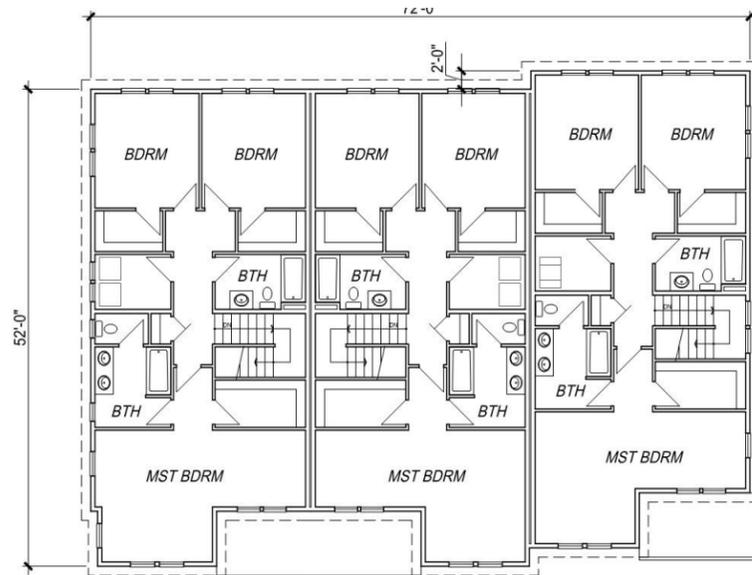


ATTACHED HOUSING: CONCEPT B3.1 – 3 UNITS

ELEVATIONS & FLOOR PLANS

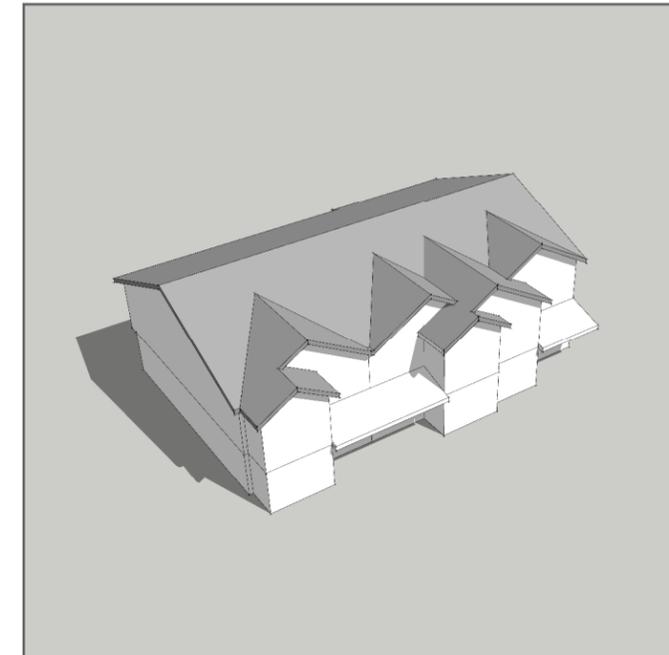


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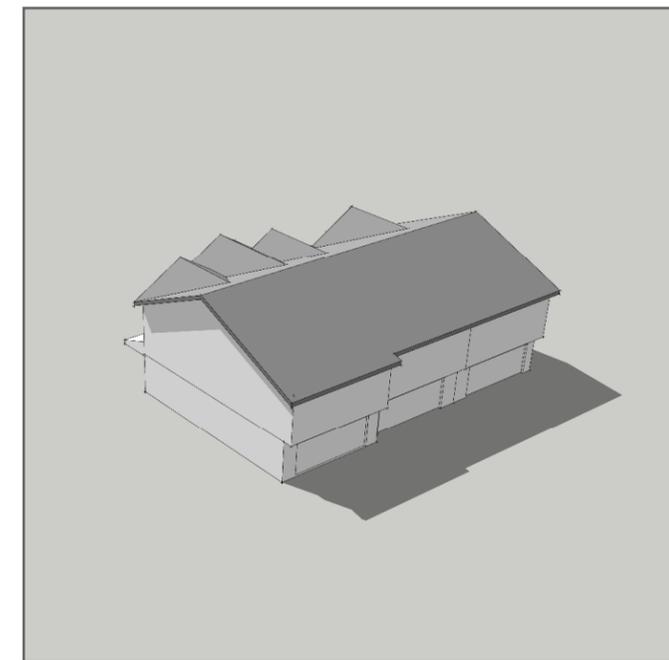


2ND FLOOR

PERSPECTIVES



FRONT BIRDS-EYE



REAR BIRDS-EYE

PUBLISH DATE
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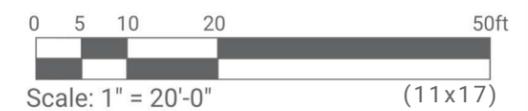


FLOOR PLANS
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



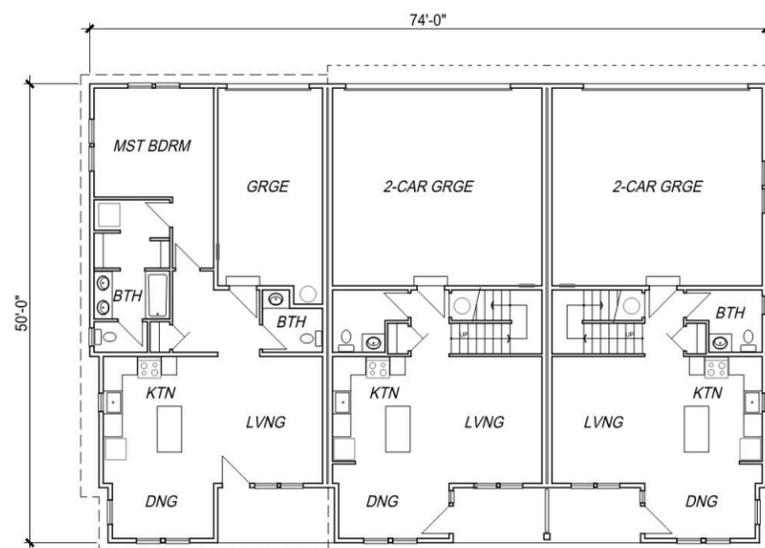
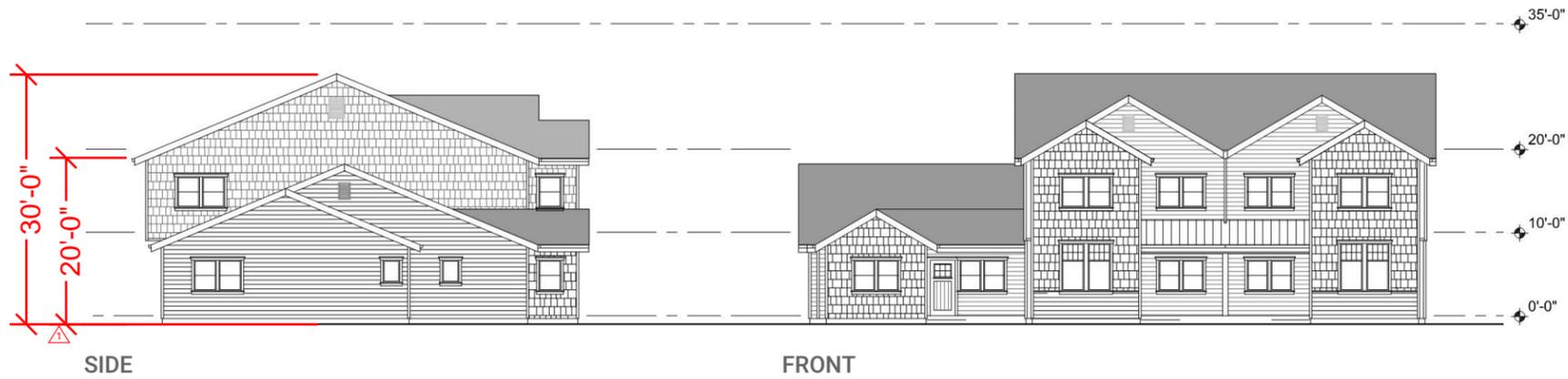
PROJECT INFORMATION
PROJECT # | 219187 (LRS)
LAND USE # | TBD
TAX LOT(S) | 18S12W15 700 & 3800
DESIGNED BY | DH, MS
CHECKED BY | RB

SHEET NUMBER
A - 14

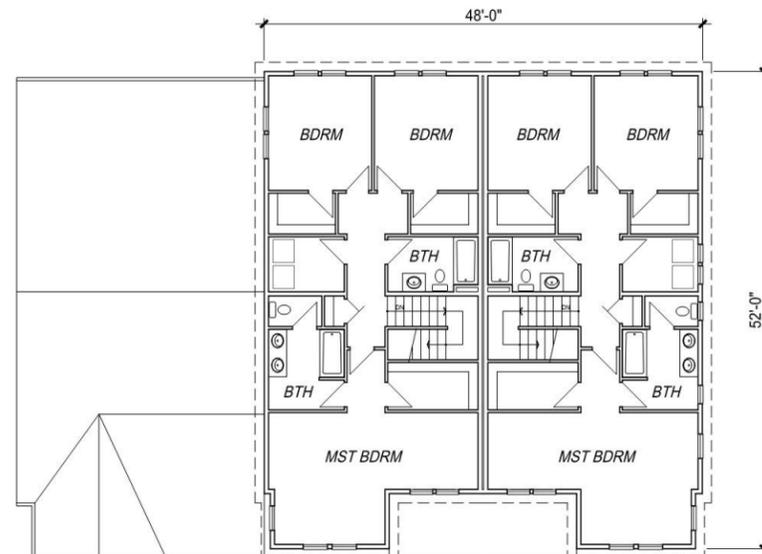


ATTACHED HOUSING: CONCEPT B3.2 – 3 UNITS

ELEVATIONS & FLOOR PLANS

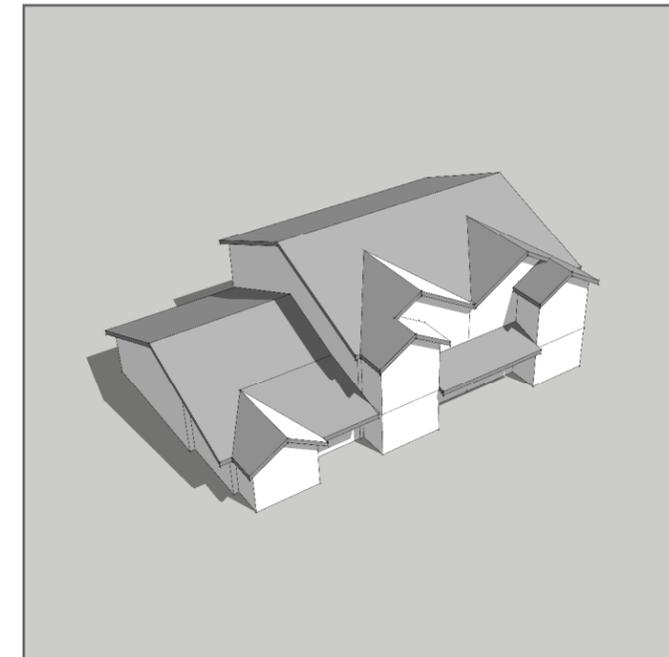


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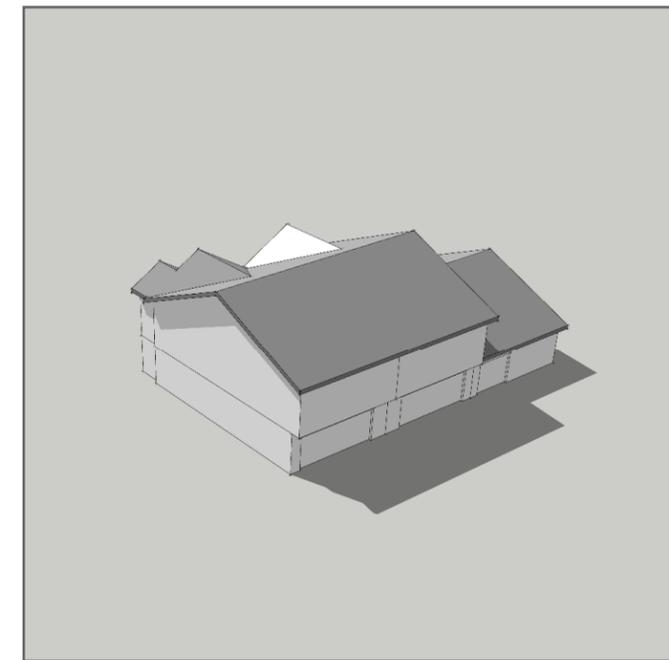


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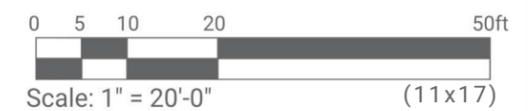
PERSPECTIVES



FRONT BIRDS-EYE



REAR BIRDS-EYE



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FLOOR PLANS
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR

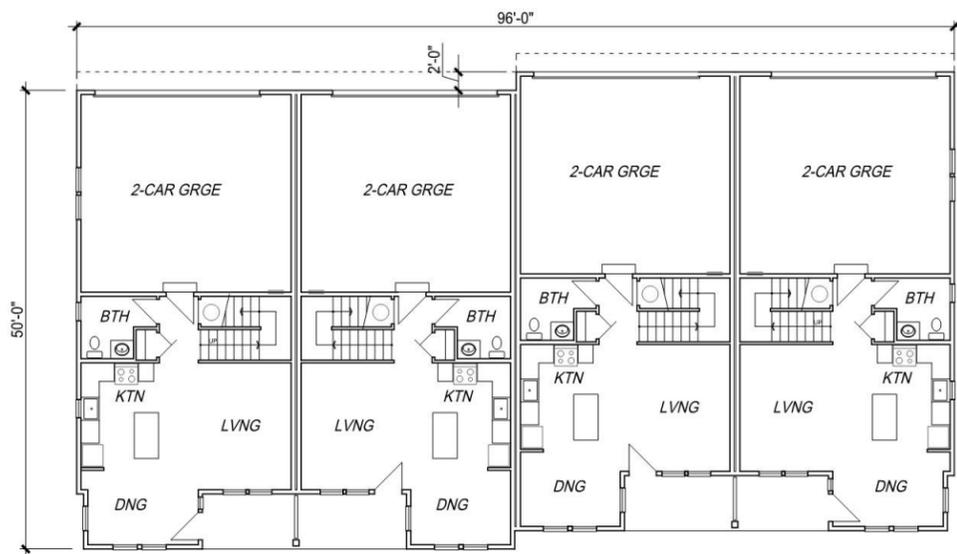
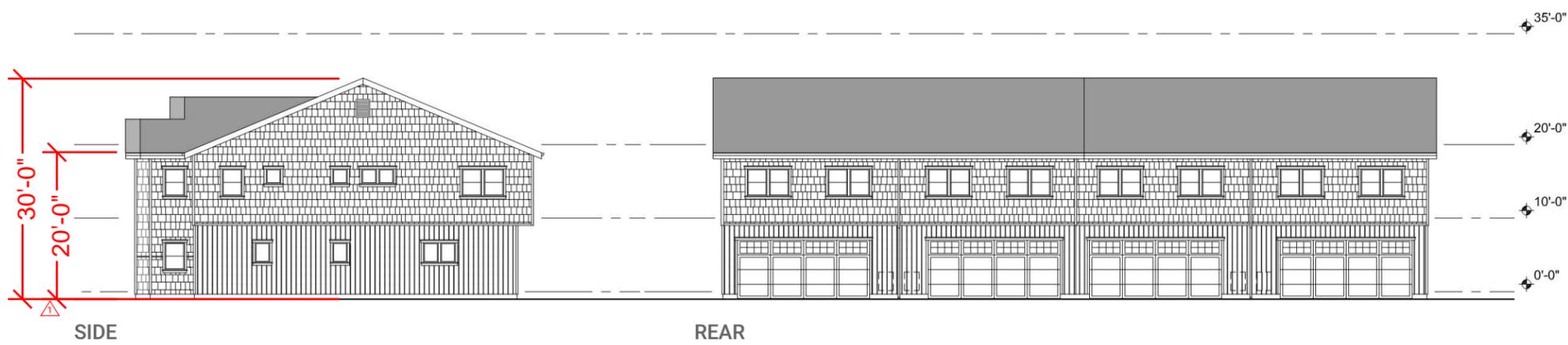
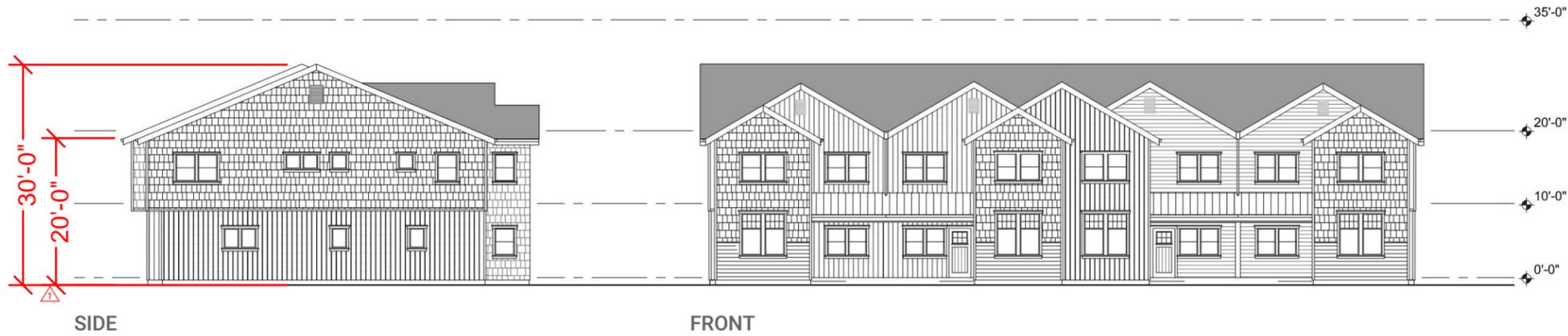


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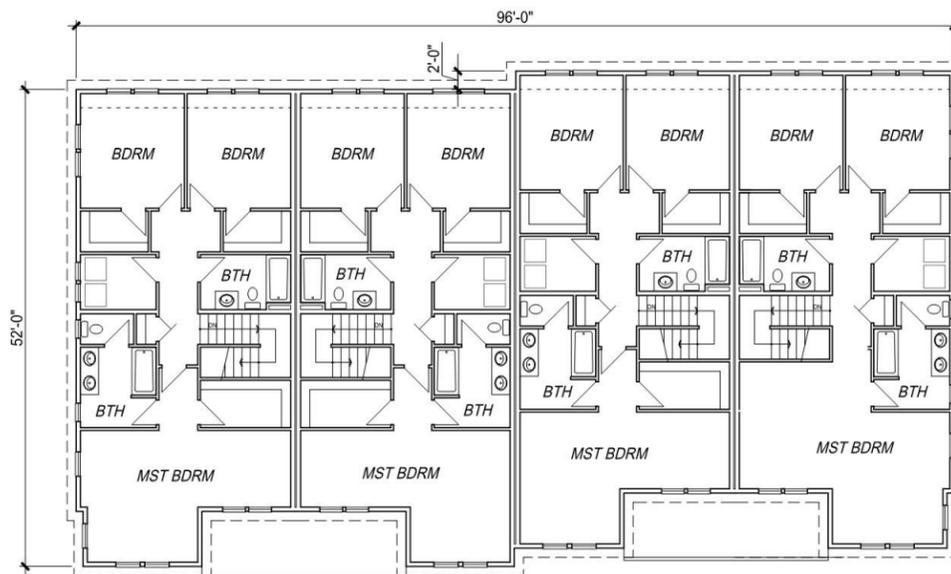
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ELEVATIONS & FLOOR PLANS

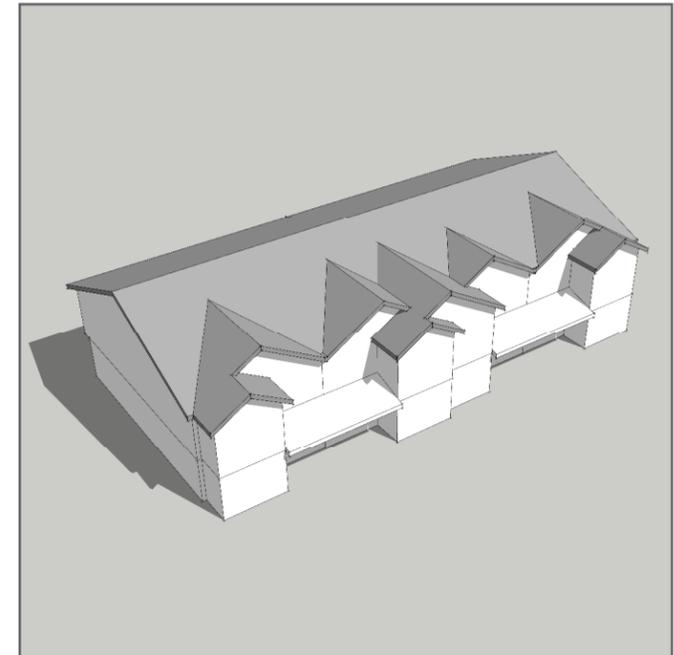


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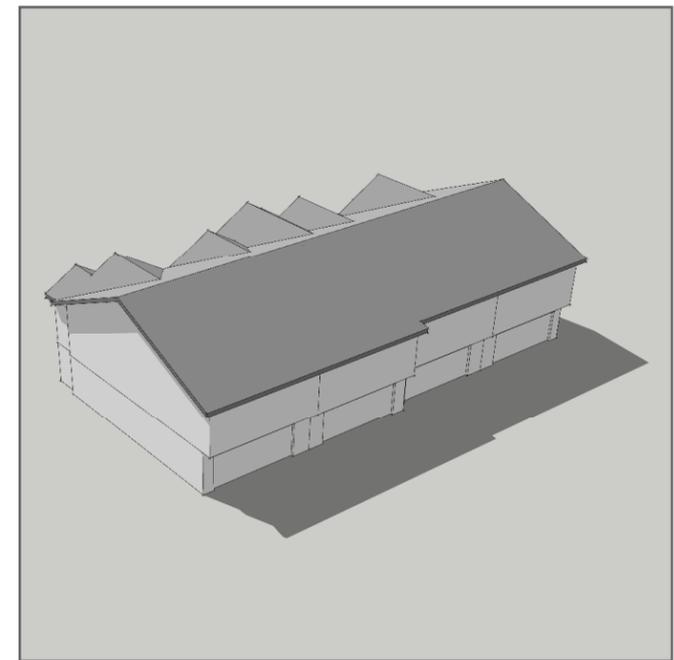


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PERSPECTIVES



FRONT BIRDS-EYE



REAR BIRDS-EYE

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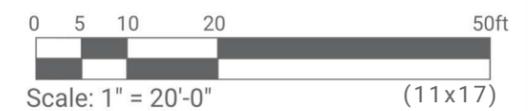


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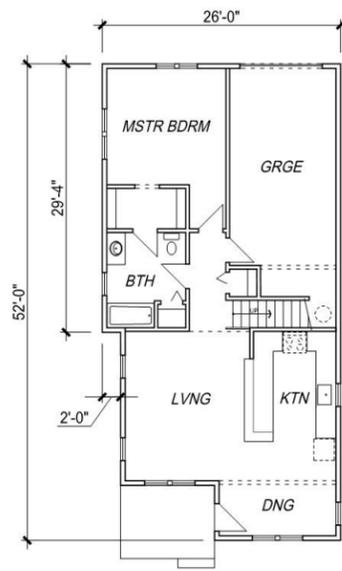
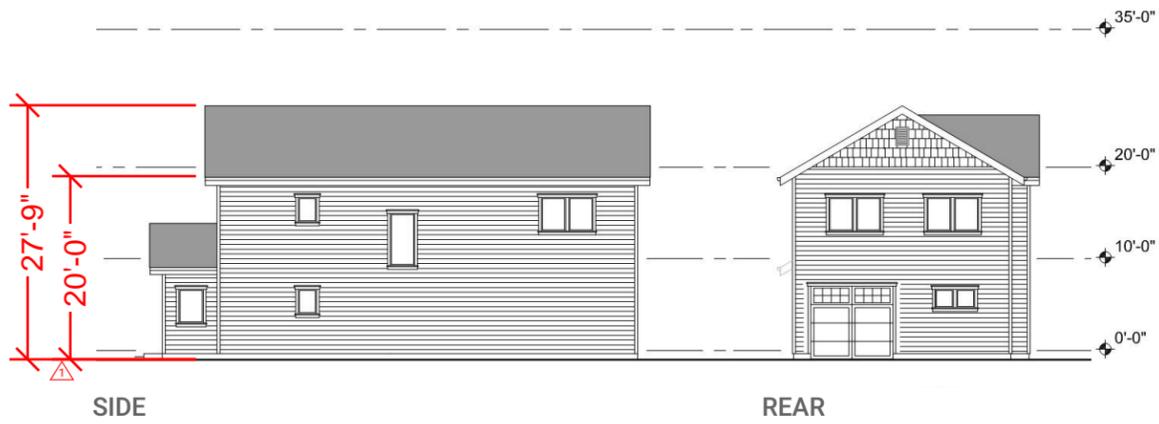
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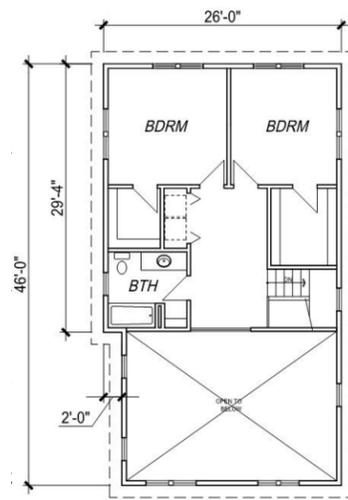


DETACHED HOUSING: CONCEPT C1

ELEVATIONS & FLOOR PLANS

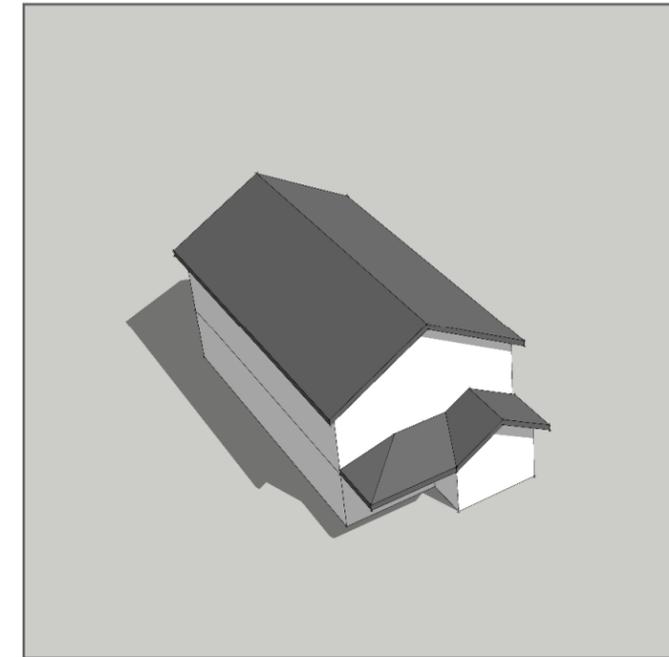


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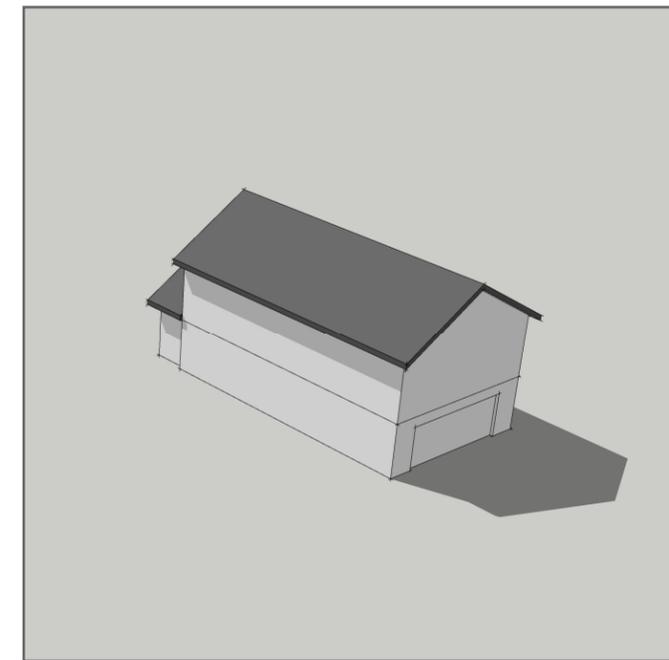


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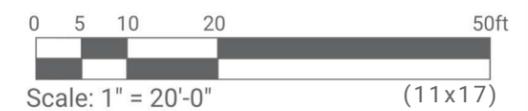
PERSPECTIVES



FRONT BIRDS-EYE



REAR BIRDS-EYE



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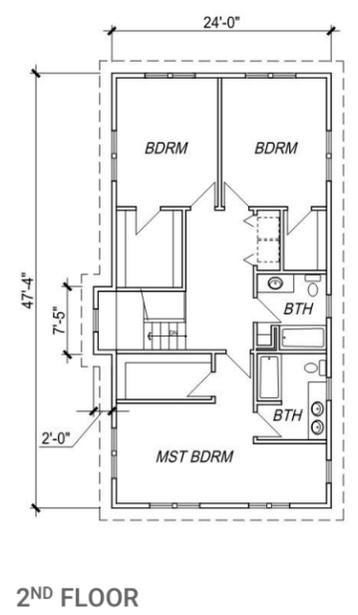
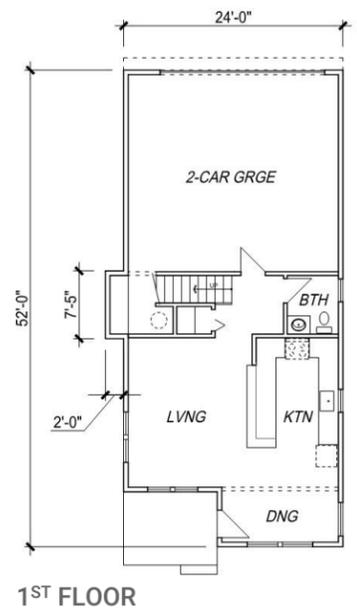
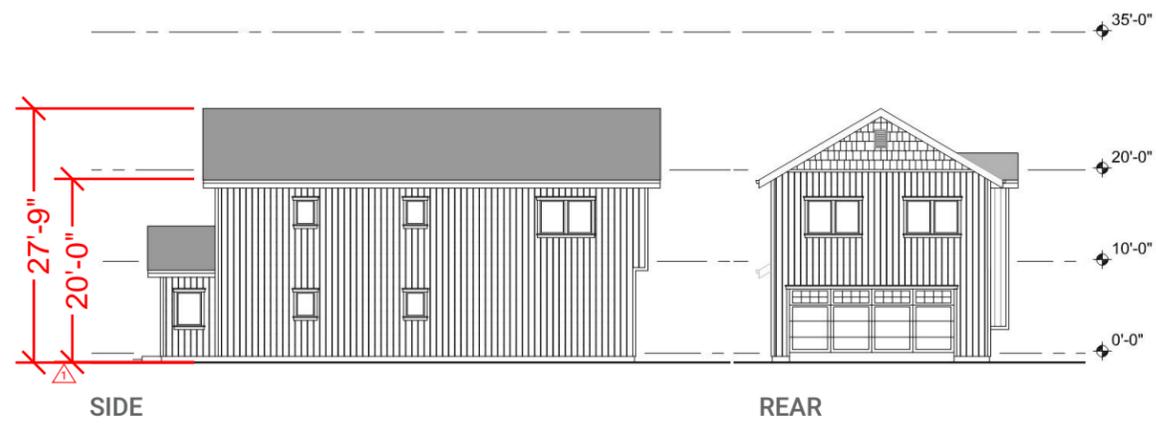
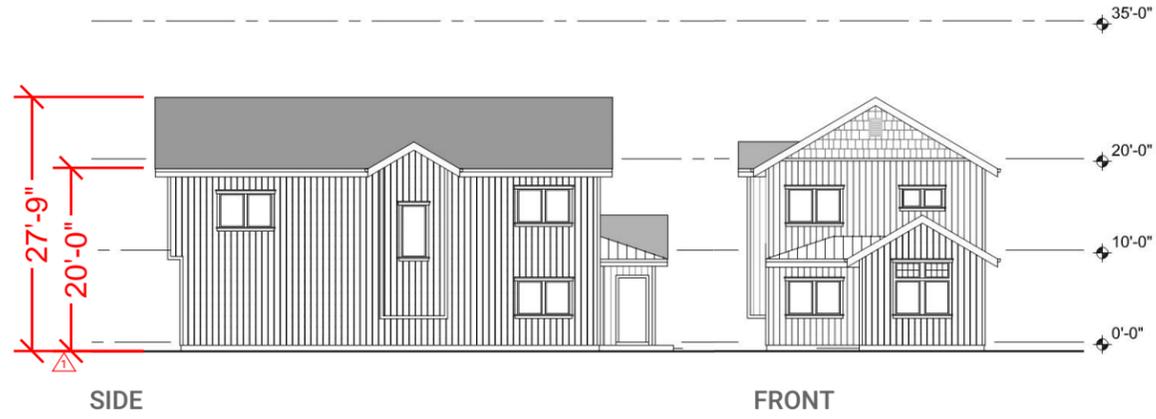


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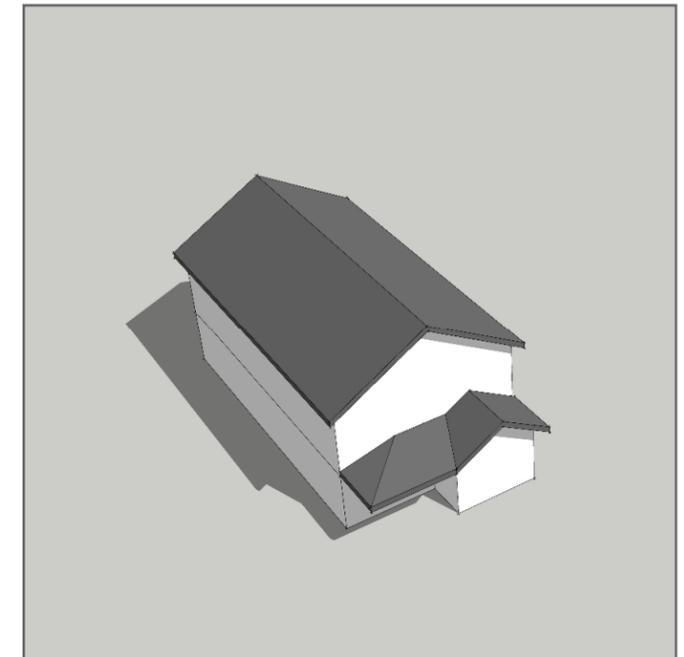
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DETACHED HOUSING: CONCEPT C2

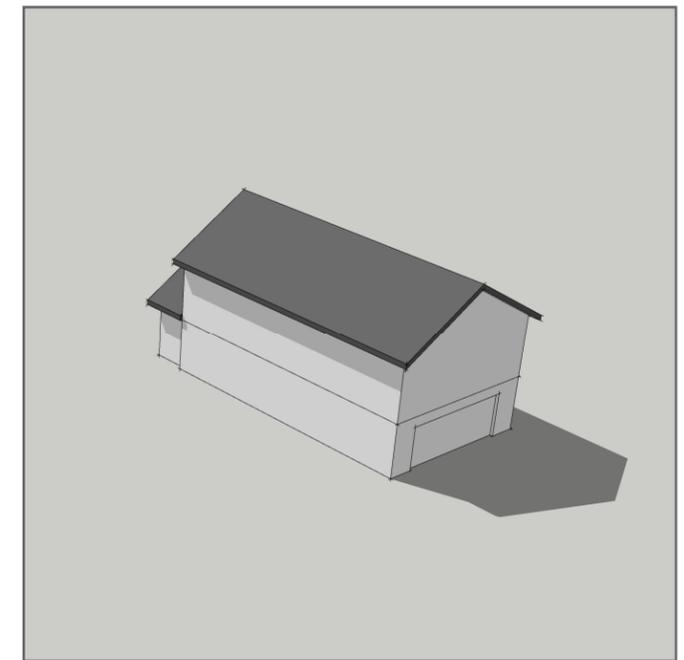
ELEVATIONS & FLOOR PLANS



PERSPECTIVES



FRONT BIRDS-EYE



REAR BIRDS-EYE



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DETACHED HOUSING: CONCEPT C2
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MASSING CONCEPT

BIRDS-EYE PERSPECTIVES



VIEW FROM WEST



VIEW FROM SOUTHEAST



VIEW FROM EAST



VIEW FROM NORTHEAST

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MASSING CONCEPT
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A - 19



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TREE PLAN
RHODODENDRON DR & 35TH ST
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PROJECT # | 19023 PLACE
LAND USE # | TBD
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L-1

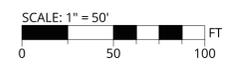


EXISTING TREE LEGEND

-  TREES WITHIN BOUNDARY TO BE REMOVED
-  TREES TO BE PRESERVED

TREE PLAN

Exhibit E



LANDSCAPE KEY PLAN

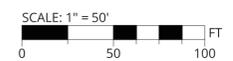
- ① CENTRAL GREEN
 - a. Pavilion
 - b. Children's Play Area
 - c. Picnic Area
 - d. Flexible Lawn
 - e. Native Grove
 - f. Walking Trails
- ② POCKET GARDENS
 - e. Native Planting
 - f. Walking Trails
 - g. Seating Areas
- ③ DOG PARK
 - g. Seating Areas
 - h. Fenced Dog Area
- ④ GARDEN COURTS
 - a. Shelter
 - c. Picnic Area
 - d. Flexible Lawn

SITE ELEMENTS

- S1 Perimeter Fence: 6' HT. cedar
- S2 Dog Park Fence: 4' HT. Welded wire panel
- S3 Monument Entry Pillars
- S4 Garden Court Thresholds
- S5 Pole Lights
- S6 Concrete Retaining Wall - 8" width min.



LANDSCAPE PLAN



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LANDSCAPE PLAN
RHODOENDRON DR & 35TH ST
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SHEET NUMBER
L-2

PLANT SCHEDULE				
	BOTANICAL NAME	COMMON NAME	MINIMUM SIZE	
TREES	ACER CIRCINATUM	VINE MAPLE	2" CAL.	
	ALNUS RUBRA	RED ALDER	2" CAL.	
	CHAMAECYPARIS LAWSONIANA	PORT ORFORD CEDAR	6" HT.	
	FRAXINUS LATIFOLIA	OREGON ASH	2" CAL.	
	MAGNOLIA STELLATA	STAR MAGNOLIA	2" CAL.	
	PICEA SITCHENSIS	SITKA SPRUCE	6" HT.	
	PINUS CONTORTA	SHORE PINE	6" HT.	
	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	6" HT.	
	THUJA PLICATA	WESTERN RED CEDAR	6" HT.	
	SHRUBS	ARBUTUS UNEDO	STRAWBERRY TREE	5 GAL.
CEANOTHUS THYRSIFLORA		BLUE BLOSSOM	3 GAL.	
CHOISYA X 'AZTEC PEARL'		MEXICAN ORANGE	5 GAL.	
CISTUS		ROCK ROSE	2 GAL.	
GAULTHERIA SHALLOON		SALAL	2 GAL.	
PRUNUS LAUROCERASUS 'NANA'		COMPACT ENGLISH LAUREL	3 GAL.	
RHOODENDRON MACROPHYLLUM		PACIFIC RHOODENDRON	3 GAL.	
RIBES SANGUINEUM		RED FLOWERING CURRANT	3 GAL.	
SPIRAEA DOUGLASSII		WESTERN SPIREA	3 GAL.	
VACCINIUM OVATUM		EVERGREEN HUCKLEBERRY	3 GAL.	
GROUND COVER		ARCTOSTAPHYLOS UVA-URSI	KINNIKINNIK	1 GAL.
		COASTAL NATIVE GRASS MIX	COASTAL NATIVE GRASS MIX	1LB PER 1000SF
	COTONEASTER	COTONEASTER	1 GAL.	
	FRAGARIA CHILOENSIS	COASTAL STRAWBERRY	1 GAL.	
	LITHODORA	GRACE WARD	1 GAL.	
	POLYSTICHUM MUNITUM	SWORD FERN	1 GAL.	
	PERENNIALS/GRASSES	AGAPANTHUS	AFRICAN LILLY	1 GAL.
		ARUNCUS DIODICUS	GOAT'S BEARD	1 GAL.
		DESCHAMPSIA CESPITOSA	TUFFED HAIRGRASS	3 GAL.
		EURYOPS PECTINATUS 'VIRIDIS'	EURYOPS	1 GAL.
HELICOTRICHON SEMPERVIRENS		BLUE OAT GRASS	1 GAL.	
LAVANDULA ANGUSTIFOLIA 'MUNSTEAD'		MUNSTEAD LAVENDER	1 GAL.	
MISCANTHUS SINENSIS 'LITTLE KITTEN'		DWARF MAIDEN GRASS	1 GAL.	
STORMWATER		CAMASSIA LEICHTLINII	CAMAS LILY	1 GAL.
		CAREX OBNUPA	SLOUGH SEDGE	1 GAL.
		CORNUS ALBA 'SIBIRICA'	RED TWIG DOGWOOD	3 GAL.
	CORNUS SERICEA 'FLAVIRAMEA'	YELLOW TWIG DOGWOOD	3 GAL.	
	ELEOCHARIS PALUSTRIS	SPIKE RUSH	1 GAL.	
	IRIS SIBIRICA	SIBERIAN IRIS	1 GAL.	
	JUNCUS BOLANDERI	BOLANDER'S RUSH	1 GAL.	
	SCREENING	CHAMAECYPARIS OBUSA	HINKO CYPRESS	4HT.
MYRICA CALIFORNICA		PACIFIC WAX MYRTLE	5 GAL.	
RHOODENDRON MACROPHYLLUM		PACIFIC RHOODENDRON	5 GAL.	
THUJA OCCIDENTALIS 'SMARAGD'		EMERALD GREEN ARBORVITAE	5HT.	
LAWN	SEDED GRASS			

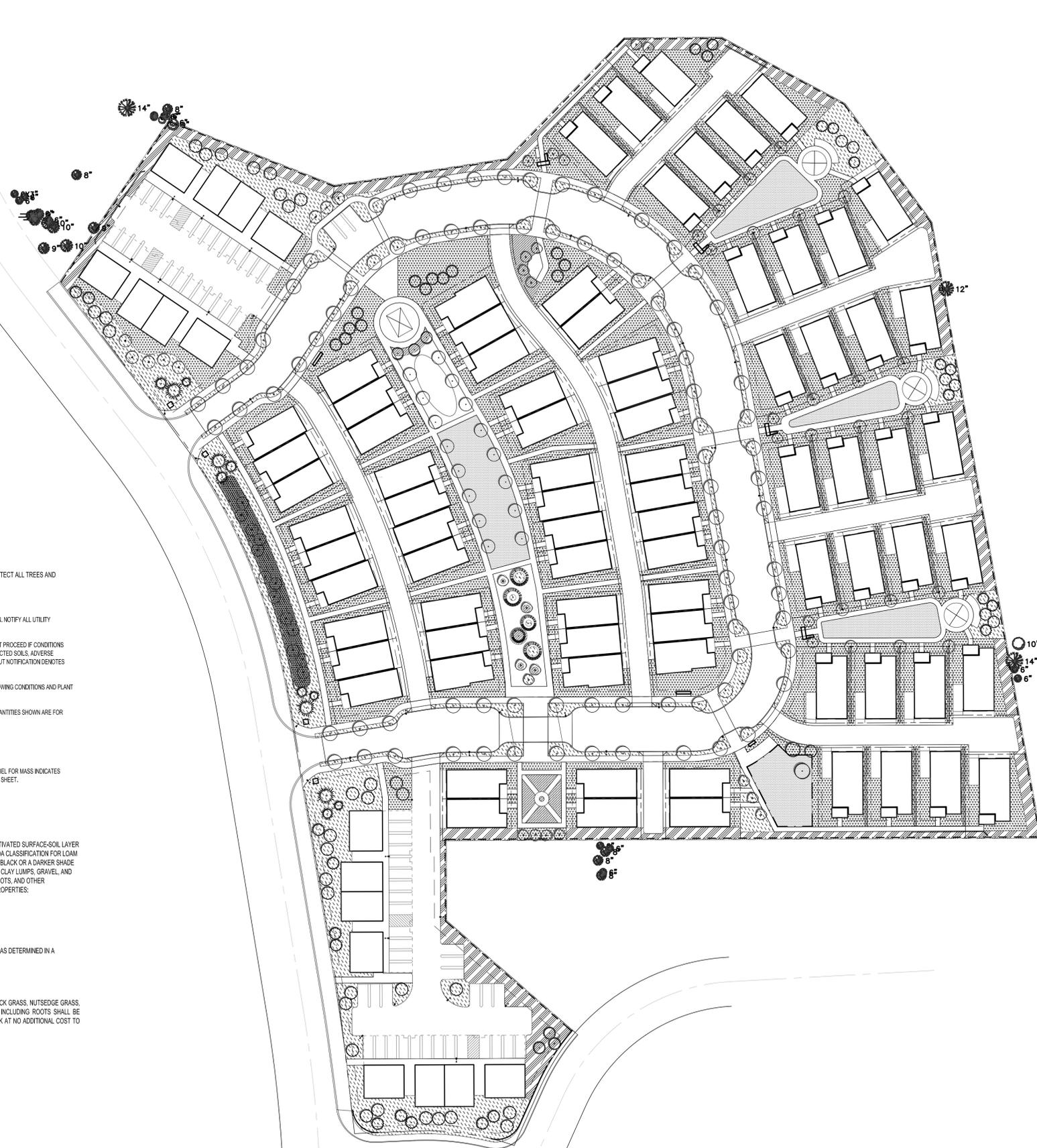
PLANTING NOTES

1. VERIFY LOCATION OF EXISTING TREES TO REMAIN PRIOR TO SOIL PREPARATION. PROTECT ALL TREES AND SHRUBS INDICATED TO REMAIN.
2. ALL NEW PLANTING AREAS TO HAVE ESTABLISHMENT IRRIGATION.
3. VERIFY AND COORDINATE WORK AROUND ALL UNDERGROUND UTILITIES BEFORE EXCAVATION. NOTIFY ALL UTILITY PROVIDERS AT LEAST TWO (2) WORKING DAYS PRIOR TO BEGINNING WORK.
4. VERIFY THAT THE CONDITIONS ARE SUITABLE TO PROMOTE HEALTHY PLANT GROWTH. DO NOT PROCEED IF CONDITIONS DETRIMENTAL TO HEALTHY GROWING ENVIRONMENT ARE PRESENT, INCLUDING OVER-COMPACTED SOILS, ADVERSE DRAINAGE CONDITIONS, DEBRIS, OR OTHER HARMFUL CIRCUMSTANCES. PROCEEDING WITHOUT NOTIFICATION DENOTES ACCEPTANCE.
5. COORDINATE WITH OTHER SUBCONTRACTORS AND TRADES TO ENSURE PROTECTION OF GROWING CONDITIONS AND PLANT MATERIALS.
6. VERIFY PLANT QUANTITIES SHOWN ON THE PLANS BASED ON GRAPHIC REPRESENTATION. QUANTITIES SHOWN ARE FOR CONTRACTOR CONVENIENCE ONLY.
7. PROVIDE POSITIVE DRAINAGE FOR ALL PLANTING AREAS.
8. UNLESS OTHERWISE INDICATED, ALL PLANTINGS SHALL BE TRIANGULARLY SPACED.
9. LABELLING REFERS TO ALL ADJACENT IDENTICAL SYMBOLS WHERE PLANTS ARE MASSED. LABEL FOR MASS INDICATES TOTAL NUMBER OF PLANTS IN GROUP, EVEN IF THE GROUP IS SPREAD OVER MORE THAN ONE SHEET.

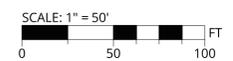
SOIL NOTES

TOPSOIL: IMPORTED MATERIAL CONFORMING TO ASTM D 5298. SHALL BE A NATURAL OR CULTIVATED SURFACE-SOIL LAYER CONTAINING ORGANIC MATTER AND SAND, SILT, AND CLAY PARTICLES. CONFORMING TO USDA CLASSIFICATION FOR LOAM (ONLY IF SAND CONTENT ≥ 35%) OR SANDY LOAM OR LOAMY SAND; FRABLE, PERVIOUS, AND BLACK OR A DARKER SHADE OF BROWN, OR GRAY-BROWN, THAN UNDERLYING SUBSOIL; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, GRAVEL, AND OTHER OBJECTS MORE THAN 1-INCH IN DIAMETER ANY DIMENSION; AND FREE OF WEEDS, ROOTS, AND OTHER DELETERIOUS MATERIALS HARMFUL TO PLANT GROWTH, WITH THE FOLLOWING PHYSICAL PROPERTIES:

1. ORGANIC MATTER: 5 PERCENT MINIMUM BY WEIGHT.
2. SODIUM ADSORPTION RATIO (SAR): LESS THAN 6.0.
3. SATURATION EXTRACT CONCENTRATION FOR BORON: LESS THAN 1.0.
4. PH RANGE OF FROM 5.7 TO 7.5 (PLUS 0, MINUS 0.5).
5. SATURATION EXTRACT CONDUCTIVITY: LESS THAN 4.0 DSM @ 25 DEGREES CELSIUS AS DETERMINED IN A SATURATION EXTRACT.
6. NON-SOIL COMPONENTS: LESS THAN 1 PERCENT BY VOLUME.
7. HEAVY METAL CONCENTRATIONS: BELOW THE USDA PER YEAR LOAD LIMIT.
8. MINIMAL WEED SEED.
 - a. IF REGENERATIVE NOXIOUS WEEDS (INCLUDING, BUT NOT LIMITED TO, QUACK GRASS, NUTSEDEGE GRASS, AND HORSETAIL) ARE PRESENT IN THE SOIL, ALL RESULTANT GROWTH INCLUDING ROOTS SHALL BE REMOVED THROUGHOUT ONE-YEAR PERIOD AFTER ACCEPTANCE OF WORK AT NO ADDITIONAL COST TO OWNER.



PLANTING PLAN



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PLANTING PLAN
RHOODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION
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TAX LOT(S) | 18S12W15 700 & 3800
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MONUMENT ENTRY PILLARS



MONUMENT ENTRY PILLARS



GARDEN COURT THRESHOLDS



CONCRETE RETAINING WALL



CEDAR FENCE



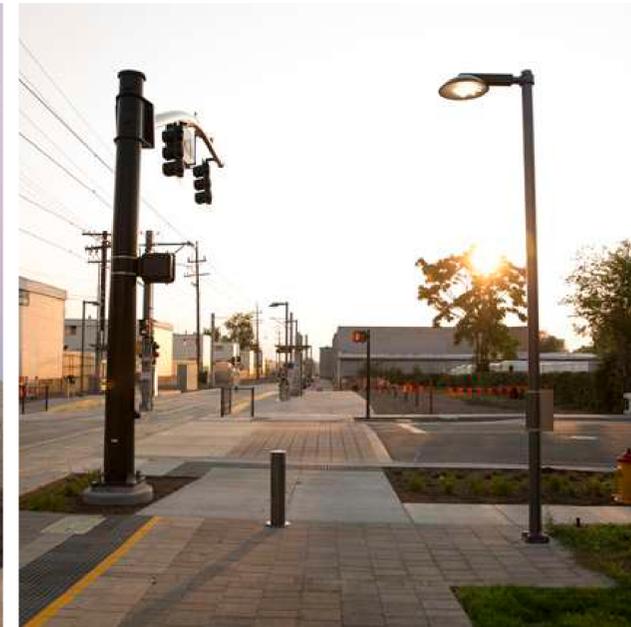
WELDED WIRE PANEL FENCE



POLE LIGHT



STREET LIGHT



LANDSCAPE ELEMENT INSPIRATION



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LANDSCAPE ELEMENT PRECEDENTS
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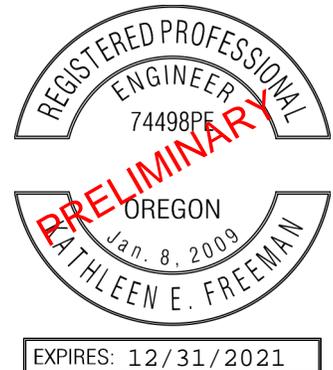
3J CONSULTING

CIVIL ENGINEERING | WATER RESOURCES | COMMUNITY PLANNING

PRELIMINARY STORMWATER MANAGEMENT REPORT

PLANNED UNIT DEVELOPMENT
Rhododendron Dr & 35th Ave
Florence, OR

Submittal Date: April 29, 2020
Revised from: February 14, 2020



Owner:

APIC Florence Holdings, LLC
5 Thomas Mellon Cir., STE 305
San Francisco, CA 94134

Prepared By:

3J Consulting, Inc.
9600 SW Nimbus Avenue, Suite 100
Beaverton, Oregon 97008
Project No: 19555
JBC

Exhibit F

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DESIGNER'S CERTIFICATION & STATEMENT

I hereby certify that this Stormwater Management Report for the Florence Master Plan has been prepared by me or under my supervision and meets minimum standards of the City of Florence and normal standards of engineering practice. I hereby acknowledge and agree that the jurisdiction does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities designed by me.



EXECUTIVE SUMMARY

The project site is approximately 9.275 ac and is located along Rhododendron Dr in Florence, OR (Tax Lots 18s12w15 700, 3800, & 1900). The site is zoned for multi-family use. The project falls within the jurisdiction of the City of Florence and will comply with the City's Stormwater Design Manual, issued in November 2010, revised September 2011.

The existing site is currently undeveloped and covered with trees and vegetation. There is a conveyance ditch onsite, that carries stormwater from the east side of the site to the west and discharges to the drainage system in Rhododendron Dr. The site typically slopes from the northeast to the southwest.

The proposed project will construct a new residential subdivision, including 81 new single family dwellings, 2 apartment complexes, roads, and utilities. Additionally, a new sidewalk will be constructed along Rhododendron Dr. All runoff from the proposed development will be managed and infiltrated onsite. Runoff from all roof area will be conveyed directly to soakage trenches, drywells and an infiltration basin to be retained and infiltrated; all other impervious area will be treated in a new rain garden that overflows to the infiltration basin. The existing conveyance ditch onsite will be piped and conveyed to the storm drainage system in Rhododendron Dr. The City of Florence requires that new developments infiltrate runoff to the maximum extent feasible. All runoff from the proposed project is designed to be managed, retained and infiltrated onsite; no runoff will leave the site.

Per the Stormwater Design Manual, pollution reduction facilities must perform at the required efficiency as follows: 70 percent total suspended solids (TSS) removal from 90 percent of the average annual runoff. Pollution reduction BMPs are required for all impervious area, except for roof area, if infiltrated and not combined with other impervious area runoff. Runoff from all roads, sidewalks and paths will be conveyed to a proposed water quality basin to be treated. The proposed basin was sized using the City of Portland Presumptive Approach Calculator (PAC), which used a pollution reduction storm event of 0.83 inches of rainfall over 24 hours.

This Stormwater Management Report was prepared to show that the proposed project will follow the City of Florence's Stormwater Design Manual.



PROJECT OVERVIEW & DESCRIPTION

The project site is approximately 9.275 ac and is located along Rhododendron Dr in Florence, OR (Tax Lots 18s12w15 700, 3800, & 1900). The site is zoned for multi-family use. The project falls within the jurisdiction of the City of Florence and will comply with the City's Stormwater Design Manual, issued in November 2010, revised September 2011.

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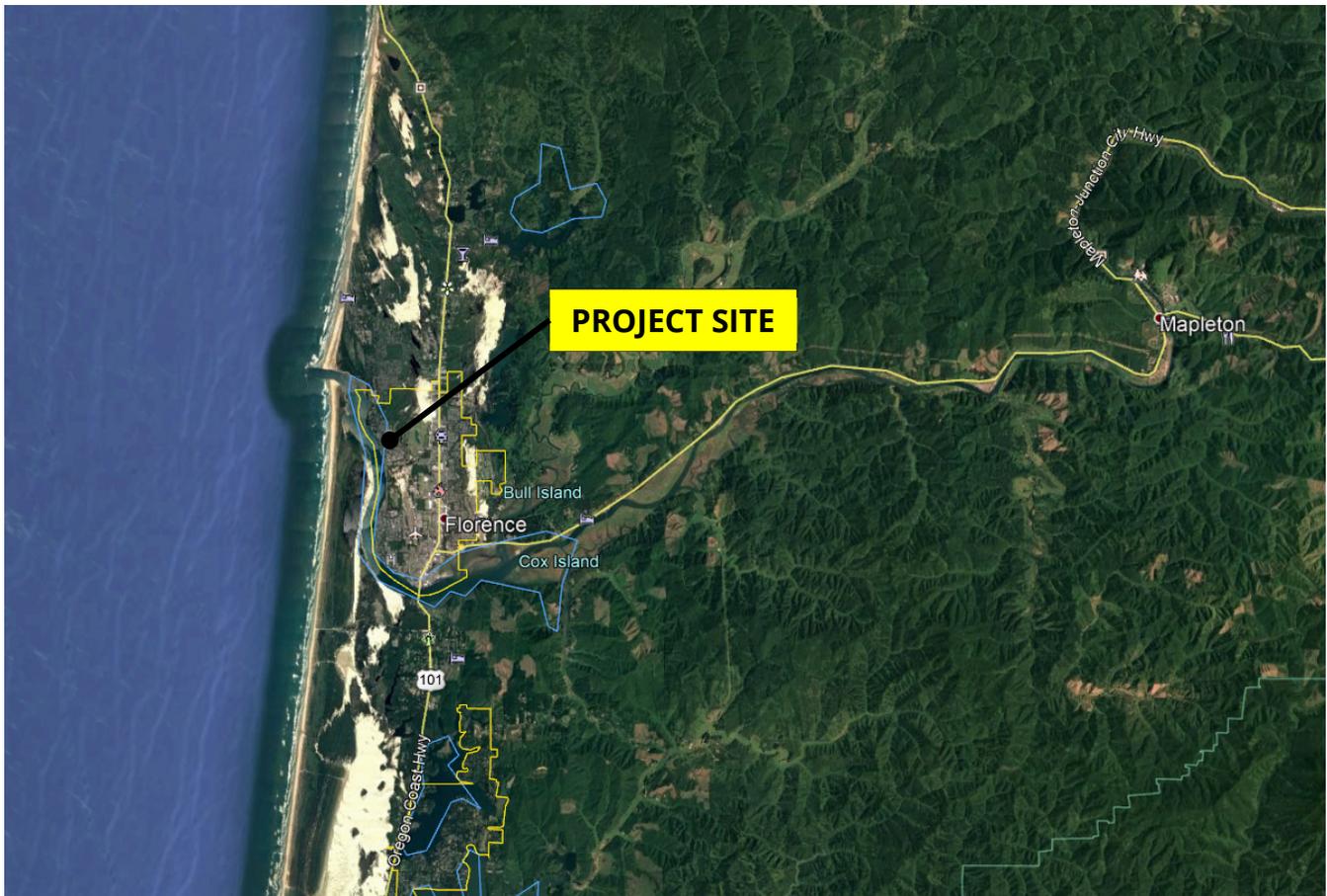


Figure 1 - Vicinity Map



Figure 2 - Site Location

METHODOLOGY

Existing Conditions

Existing Basins

The existing site is located on the east side of Rhododendron Dr between 35th St and Coast Guard Rd in Florence, OR (See Technical Appendix: Exhibits – Existing Conditions). The site is currently undeveloped and covered in trees and vegetation. Table 1 outlines the onsite impervious and pervious areas in the existing conditions.

Existing Basin	sf	ac
Impervious Area	1,674	0.038
Pervious Area	402,351	9.237
<i>Total Area</i>	<i>404,025</i>	<i>9.275</i>

Table 1 – Existing Basin Areas

Existing Drainage

In existing conditions, the site generally drains from the northeast to the southwest. Runoff sheet flows to Rhododendron Dr or to a ditch located onsite. Runoff eventually goes to the drainage system in Rhododendron Dr and outfalls to an unnamed drainage channel that discharges to the Siuslaw River.

Flood Map

The site is located within Zone X (un-shaded) per flood Insurance Rate Map (FIRM) community panel numbers 41039C0938F & 41039C1426F. FEMA's definition of Zone X (un-shaded) is an area of minimal flood hazard.

Hydrologic Soil Group

The soil types as classified by the United States Department of Agriculture Soil Survey of Lane County, Oregon are identified in Table 2 (See Technical Appendix: Exhibits - Hydrologic Soils Group - Lane County Area, Oregon).

Soil Type	Hydrologic Group	Percent Coverage (%)
Waldport Fine Sand	A	91.3
*Yaquina Loamy Fine Sand	A/D	8.7

*Modeled as Hydrologic Soils group D

Table 2 - Hydrologic Soils Group

Infiltration Testing Results

A Geotechnical Report performed by Branch Engineering on January 28, 2020 (See Technical Appendix: Geotechnical Report) evaluated onsite percolation rates using the encased falling head infiltration test at 3 locations; testing was performed at 54 & 56 inches below ground surface (BGS). The percolation rates were evaluated to be 92, 49, & 80 in/hr. The average infiltration rate for the proposed site is 73.67 in/hr, which was used to size the infiltration basin. A factor of safety of 2 was added to the design infiltration rate. The proposed water quality basin was sized using the City of Portland PAC, which has a maximum infiltration rate of 20 in/hr for native soils.

No groundwater was observed in the exploratory test pits which were advanced to a maximum of 10 ft BGS. Well logs from nearby sites were obtained from the Oregon Water Resources Department by the Geotechnical Engineer. The well logs list static water levels at 6.2 ft and 21 feet BGS. Variations in the depth to water is typical in stabilized dune environments with raised dunal areas and deflation zones with water close to the surface. The Geotechnical Engineer expects that ground water levels will fluctuate with the season and should be expected to be highest during the late winter and spring months. The presence of ground water is not expected to impact the proposed development, provided the recommendations of the Geotechnical Report are implemented in the design and construction of the project.

Proposed Conditions

Proposed Basins

In proposed conditions, the site will be the location of a new sub-division with 81 single family dwellings and 2 apartments complexes (See Technical Appendix: Exhibits - Post-Construction Conditions). Table 3 outlines the onsite impervious and pervious areas in proposed conditions.



Proposed Basin	sf	ac
Impervious Area Roof Area = 130,625 sf Nonroof Imp. Area = 101,108 sf	231,733	5.320
Pervious Area	172,292	3.955
<i>Total Area</i>	<i>404,025</i>	<i>9.275</i>

Table 3 – Proposed Basin Areas

Additionally, the project will construct a new sidewalk along the frontage of the site. The proposed sidewalk was included in the City of Florence Master Plan and was identified as a future project of the City's. Runoff from the sidewalk will be captured via catch basins and conveyed to the existing drainage system in Rhododendron Dr. Table 4 below shows the total impervious area constructed for the sidewalks.

Proposed Basin	sf	ac
Impervious Area	9,675	0.222

Table 4 – Proposed Frontage Improvements

Proposed Drainage

In proposed conditions, all runoff from the site will be managed and infiltrated onsite. Runoff from all roof area will be conveyed directly to soakage trenches, drywells and an infiltration basin to be retained and infiltrated; all other impervious area will be treated in a new rain garden that overflows to the infiltration basin. The existing conveyance ditch onsite will be piped and conveyed to the storm drainage system in Rhododendron Dr.

Runoff from the proposed sidewalk will be captured and conveyed to the existing drainage system in the right-of-way. The existing grade of the road and surrounding area do not provide the adequate slope to capture the runoff and convey it to a treatment facility to be treated/detained without providing additional improvements to the road, which is outside the scope of this project. Additionally, the surrounding area is developed and does not provide adequate area to construct a vegetated treatment facility. There is capacity in the downstream system to receive undetained flow from the sidewalk.

Stormwater Management

The City of Florence requires that new developments infiltrate runoff to the maximum extent feasible. All runoff from onsite is designed to be managed, retained and infiltrated onsite; no runoff will leave the site.

Per section 5.7 of the City of Florence Stormwater Design Manual, pre-treatment for soakage trenches are not required when runoff is exclusively from residential roof runoff. Runoff from roof areas will be conveyed directly to soakage trenches, drywells or an infiltration basin to be infiltrated. Soakage trenches were designed using the Presumptive Approach shown in Detail SW-180. The proposed drywells were sized using Exhibit 2-36 in detail SW-170. The proposed infiltration basin will manage more 15,000 sf of impervious area and a performance approach was applied to that facility.

All concrete and asphalt will be conveyed to a proposed water quality basin to be treated. The water quality basin was designed for only water quality treatment using the City of Portland Presumptive Approach Calculator (PAC).



An overflow drain will be installed in the rain garden so that storm events larger than the water quality event will be conveyed directly below into the infiltration basin.

The roof runoff from the proposed single family dwellings adjacent to the raingarden will be conveyed directly to the infiltration basin. All other roof runoff will be conveyed to a number of different soakage trenches.

Conveyance Design Criteria

The City of Florence requires that runoff be infiltrated to the maximum extent feasible. The proposed site will manage, retain and infiltrate all runoff from the proposed development.

The existing ditch onsite will be piped and conveyed to the stormwater system in Rhododendron Dr. The proposed pipe will match the existing pipe that captures runoff in the ditch (36" diameter). The proposed pipe is designed to convey the 100-year design storm with no out of system flooding.

ANALYSIS

Design Assumptions

Design Storms

The City of Florence has unique rainfall distributions where instead of a quick buildup with heavy intensity precipitation, rainfall tends to have broad peaks with several continuous hours of heavy rainfall. Due to this, a SCS Type 1a hyetographs is the most appropriate rainfall distribution for the area. Table 5 below shows the Design Storms used to design the proposed stormwater system.

Recurrence Interval (yr)	24-hr Depth (in)
WQ	0.83
2	3.46
10	4.48
25	5.06
100	5.95

Table 5 – 24-hr Rainfall Depths

Computation Methods & Software

In conformance with the City's Stormwater Design Manual, the Santa Barbara Urban Hydrograph (SBUH) Method via XPSTORM was used to evaluate stormwater runoff volume to size the proposed infiltration basin located under the water quality basin. Additionally, XPSTORM was utilized to model the proposed conveyance pipe replacing the existing ditch and analyze the downstream system.

Presumptive Approach

The presumptive approach was used to design the soakage trenches. The soakage trenches were design in accordance with detail SW-180 in Appendix I of the City of Florence Stormwater Design Manual.

The City of Portland PAC was used to size the Water Quality Basin only.



Time of Concentration

The time of concentration for the proposed site was calculated using the TR-55 method. The calculated time of concentration for the predeveloped site is 57 minutes (See Technical Appendix: Calculations – Time of Concentrations). A time of concentration of 5 minutes was assumed for proposed conditions.

Curve Numbers

Per Table A-2 of the SWMM, the runoff curve numbers (CN) by the Natural Resources Conservation Service (NRCS) for impervious and pervious areas (open space, fair condition) were 98 and 52 (weighted based on percent coverage of each Hydrologic Soils Group, see Table 2), respectively, for the proposed conditions.

Pollution Reduction

Per the SWMM, pollution reduction facilities must perform at the required efficiency as follows: 70 percent total suspended solids (TSS) removal from 90 percent of the average annual runoff. Pollution reduction BMPs are required for all impervious area, except for roof area. Runoff from all roads, sidewalks and paths will be conveyed to a proposed water quality basin to be treated. The proposed basin was sized using the City of Portland PAC, which used a pollution reduction storm event of 0.83 inches of rainfall over 24 hours.

Water Quality Basin Sizing

All runoff from proposed impervious area, other than roof area, will be treated in a proposed Water Quality Basin located on the west side of the property. The basin was sized using the City of Portland PAC. The proposed rain garden has the following dimensions (See Technical Appendix: Calculations – PAC Report);

Bottom Area = 700 sf
Bottom Width = 4 ft
Side Slopes = 3:1
Storage Depth 1 = 12 in
Growing Medium Depth = 18 in
Freeboard Depth = 6 in
Top Area = 2,375 sf

The proposed water quality basin will overflow to a proposed infiltration basin located under the basin.

Infiltration Basin Sizing

The proposed infiltration basin is sized to fully infiltrate runoff from all concrete and asphalt and 9 of the single family dwelling on the west side of the site during the 25-year design storm. The volume of runoff was calculated using the SBUH method and the computer software XPSTORM. The proposed infiltration basin will meet the dimensions shown below (See Technical Appendix: Calculations – Infiltration Basins Design);

Drawdown Time: 10 Hours
Porosity: 0.3
Depth = 3.0 ft
Area = 1,423 sf

Drywell System Sizing

Runoff from the apartment complex located in the southern corner of the site will be conveyed to three drywells to be infiltrated. The proposed drywells were sized using the simplified approach shown in Exhibit 2-



36 in Detail SW-170. Table 6 below shows the required number of drywells to infiltrate the impervious area draining to it.

Infiltration Facility	Impervious Area (sf)	Required Number of Drywells	Drywell Diameter (in)	Drywell Sump Depth (ft)
Drywell System	6,971	13	48	5'

¹The roof runoff will be split between the three drywells. Each drywell will be responsible for infiltrated a total of 2,324 sf of impervious area.

Table 6 - Proposed Drywell System Dimensions

Soakage Trench Sizing

All roof area, outside of what is being conveyed to drywells, shall be conveyed to a number of soakage trenches onsite to be retained and infiltrated. Each soakage trench was designed in accordance with Detail SW-180 in the City of Florence Stormwater Design Manual. The Post-Construction Conditions exhibit in the Technical Appendix shows the amount of impervious area draining to each soakage trench. The length (l) of the soakage trench was calculating using 30 ft of length per 1,000 sf of impervious area. The required area (A) of each soakage trench was calculated using the equation below;

$$A = l * (3 \text{ ft})^1$$

¹Per detail SW-180, the 30 ft length per 1,000 sf of impervious area assumes a 36 inch width.

Table 7 below shows the required area and the actual area of each soakage trench.

Infiltration Facility	Impervious Area Draining to Facility (sf)	Required Length (ft)	Required Area (sf)	Proposed Area (sf)
Soakage Trench #1	6,971	209	627	670
Soakage Trench #2	6,971	209	627	670
Soakage Trench #3	3,900	117	351	394
Soakage Trench #4	11,232	337	1,011	1,148
Soakage Trench #5	11,232	337	1,011	1,148
Soakage Trench #6	11,232	337	1,011	1,148
Soakage Trench #7	8,160	245	734	778
Soakage Trench #8	5,088	153	459	523
Soakage Trench #9	6,971	209	627	673
Soakage Trench #10	12,120	364	1,091	1,213
Soakage Trench #11	12,060	362	1,085	1,273
Soakage Trench #12	14,517	436	1,307	1,348
Soakage Trench #13	2,400	72	216	313

Table 7 - Soakage Trench Details

Stormwater Escape Route

All runoff from the proposed project will managed, retained and infiltrated onsite.



Conveyance Performance

Demonstration of conveyance capacity will be detailed in the Final Stormwater Management Report.

DOWNSTREAM ANALYSIS

The City of Florene requires any development requiring a Drainage Plan onsite and offsite drainage concerns, both up gradient and down gradient (minimum of 1/4 mile) of the proposed site. The analysis shall determine if;

1. Modification to the existing onsite stormwater drainage and management facilities and drainage patterns shall not restrict or redirect flows creating backwater or direct discharge onto offsite property to levels greater than the existing conditions unless approved by the affected offsite property owners and the City.
2. Stormwater facilities shall be designed and constructed to accommodate all flows generated from the project's property in accordance with the land use zoning as shown in the most recent approved City Code.
3. Capacity of the downstream drainage system to determine if increase in peak flow rates resulting from the proposed development can be accommodated.

All runoff from onsite will be managed and infiltrated onsite; no runoff will leave the site. The only increase in runoff to the downstream system will be the new sidewalk constructed along Rhododendron Dr. The downstream system was analyzed assuming the proposed site will discharge to it.

Runoff from the proposed site and sidewalk was added to the existing drainage system in Rhododendron Dr. Runoff enters the system where the existing ditch onsite discharges to. Water is then conveyed approximately 30' south via a 36" storm line and approximately 70' west in a 36" pipe. The pipe then outfalls to an unnamed drainage channel approximately 660' upstream of the Siuslaw River. The downstream system was analyzed up to the Siuslaw River.

Although efforts to gather asbuilts for the upstream and downstream basins were pursued by the City of Florence and EGR & Associated, Inc (Consultants that previously worked on site located upstream of the proposed project site), no asbuilts were acquired. The basins draining to the system analyzed was delineated using contours from publicly available LIDAR Data online (DOGAMI Lidar Viewer) and the layout of contributing properties.

Each sub basin's time of concentrations was assumed based on the slope of the land and cover type. The CN of each sub basins was determined by the type of cover for each basin and weighted by the Hydrologic Soils Group Type present for each sub basin. The downstream system was modeled using the SBUH method and the computer software XPSTORM. All pipe inverts and lengths were surveyed by S&F Land Services on September 19, 2019. The cross section for the unnamed drainage channel was determined using the LIDAR Data collected for the basin delineation. The Manning's Coefficient (n) for all drainage pipe is 0.013 and the n for the unnamed drainage channel is 0.048.

The model shows that the downstream system has capacity to handle the increased flow from the proposed development. The downstream system has capacity to convey the 25-year design storm without surcharging any pipes and maintaining a minimum freeboard of 3.00' (See Technical Appendix: Downstream Analysis – XPSTORM Conveyance Data). Additionally, the system can convey the 100-year design storm without



surcharging any pipes and maintaining a minimum freeboard of 2.88'. Given that the existing downstream system has capacity for the entire site plus the frontage improvements, the increased in runoff from the proposed sidewalk will not have an adverse effect on the downstream system.

ENGINEERING CONCLUSIONS

This report demonstrates that the proposed stormwater management system for the Florence Master Plan follows the City's Stormwater Design Manual. The proposed site takes advantage of infiltration and all runoff will be managed and infiltrated onsite. Additionally, pollution reduction in accordance with the City's Stormwater Design Manual were used to provide treatment from all concrete and asphalt.

An Operations & Maintenance Plan for the stormwater facilities will be provided in the Technical Appendix in the final design phase of the project.



TECHNICAL APPENDIX

Exhibits

National Flood Hazard Layer FIRMette
Hydrologic Soils Group – Lane County Area, Oregon
Table A-2 – Runoff Curve Numbers for Urban Areas
Table A-3 – Runoff Curve Numbers for Other Agricultural Lands
Existing Conditions
Post-Construction Conditions

Drawings

Sheet C1 – Existing Conditions & Demolition Plan
Sheet C7 – Grading Plan
Sheet C8 – Composite Utility Plan

Calculations

Time of Concentration
PAC Report
Infiltration Basin Design

Downstream Analysis

Downstream Basins
Hydraulic Soil Group (Basin 2-5)
XPSTORM Hydraulic Layout
XPSTORM Runoff Data
XPSTORM Conveyance Data

Geotechnical Report

Geotechnical Engineering Recommendations and Site Evaluation, Branch Engineering, Inc., January 28, 2020

Operations & Maintenance (To be completed in final design phase)

REFERENCES

Stormwater Design Manual issued September 2011 – City of Florence

Stormwater Management Manual issued 2016 – City of Portland

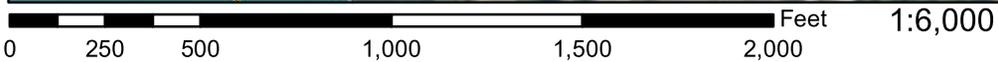
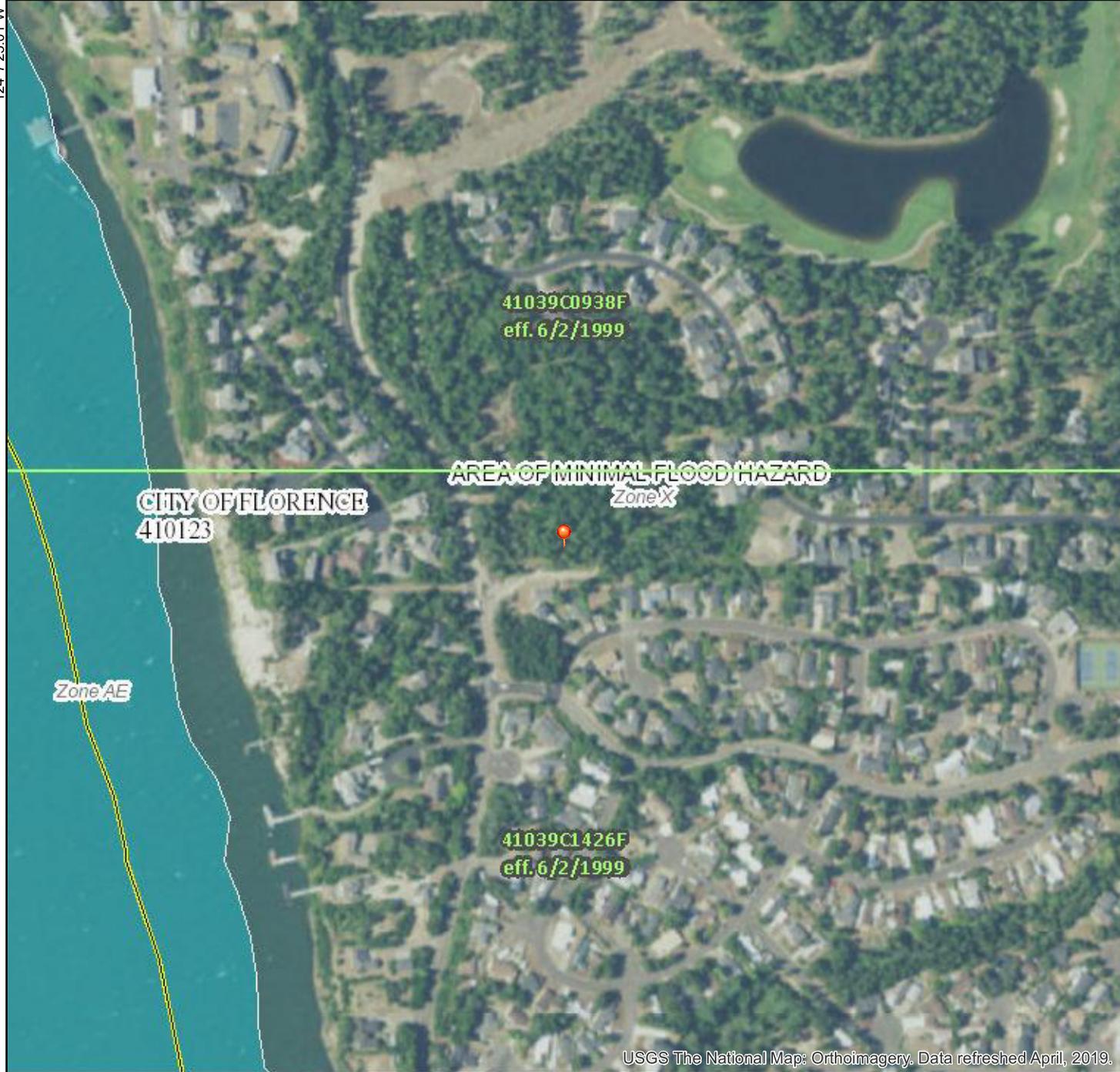


EXHIBITS

National Flood Hazard Layer FIRMette



44°0'10.79"N



43°59'44.91"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

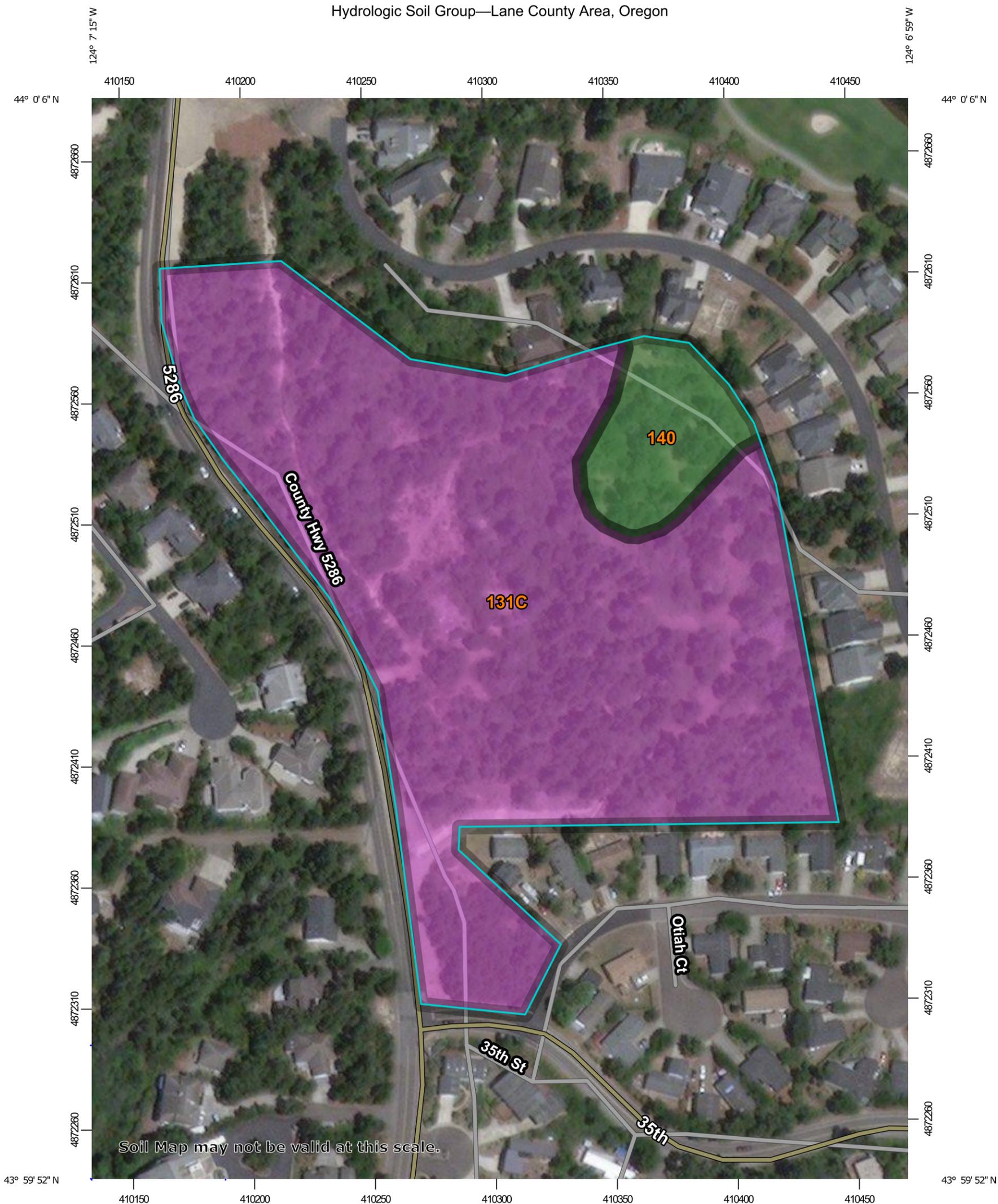
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/15/2020 at 4:43:03 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

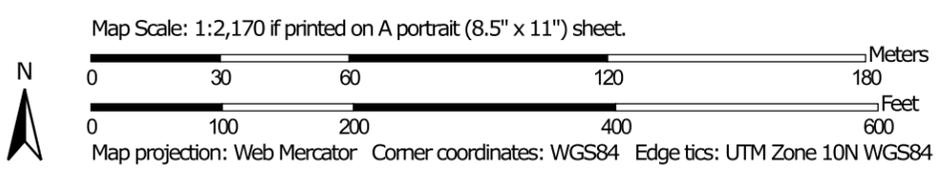


124°6'47.56"W

Hydrologic Soil Group—Lane County Area, Oregon



Soil Map may not be valid at this scale.



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

1/8/2020
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lane County Area, Oregon
 Survey Area Data: Version 16, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2007—Sep 15, 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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
131C	Waldport fine sand, 0 to 12 percent slopes	A	10.2	91.3%
140	Yaquina loamy fine sand	A/D	1.0	8.7%
Totals for Area of Interest			11.2	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Table A-2. Curve Numbers for Urban Areas

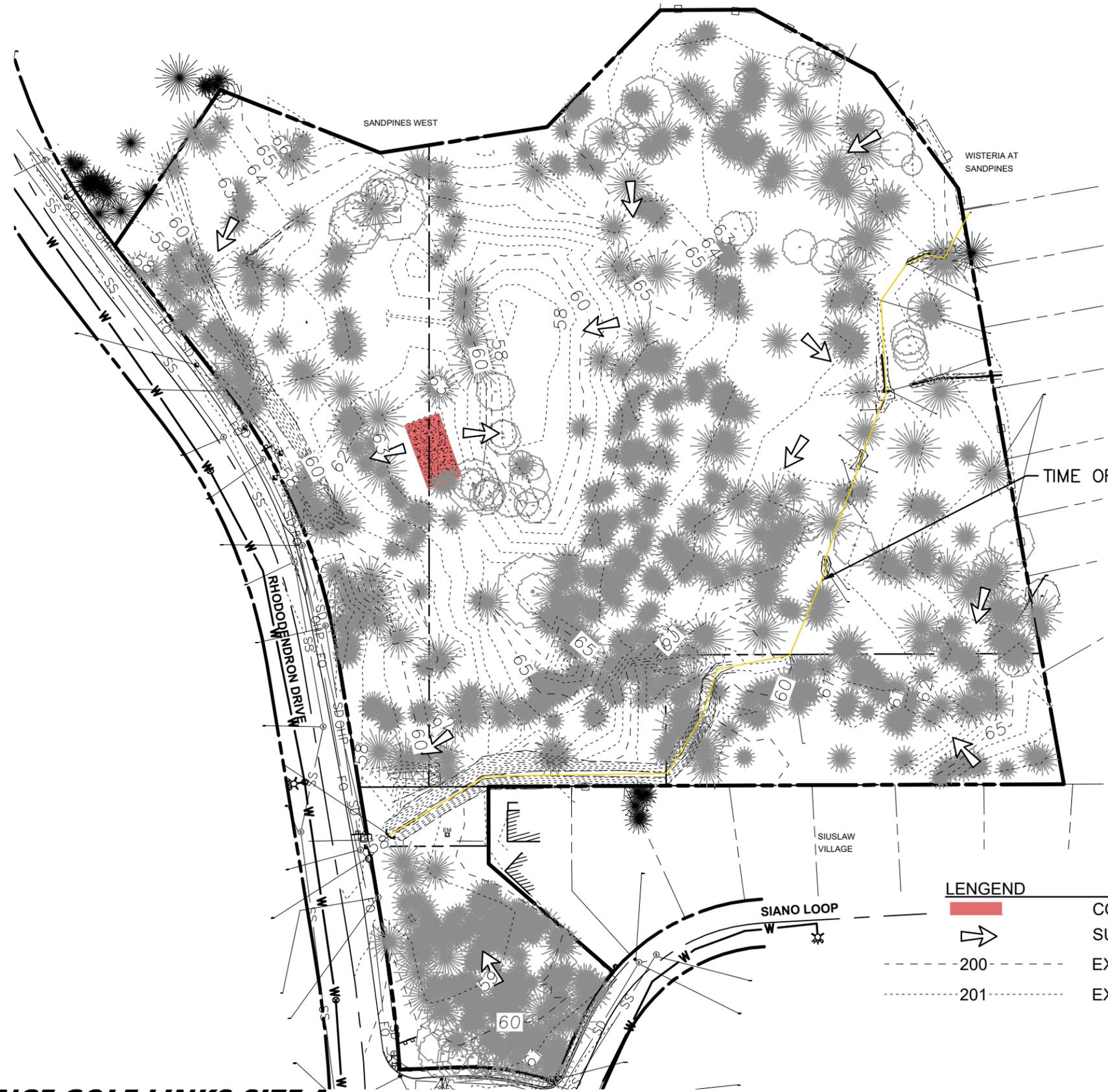
Cover type and hydrological condition	Average percent impervious area	Curve Numbers by Hydrologic Soil Group			
		A	B	C	D
Open Space (lawns, parks, golf courses, cemeteries, etc.):					
Poor condition (grass cover <50%)		68	79	86	89
Fair condition (grass cover 50-75%)		49	69	79	84
Good condition (grass cover >75%)		39	61	74	80
Impervious Area:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	93
Urban Districts:					
Commercial and business	85	85	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	82
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82

Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release 55, pp. 2.5-2.8, June 1986.

Table A-3. Runoff Curve Numbers for Other Agricultural Lands

Cover type and hydrological condition	Hydrologic Condition	Curve Numbers by Hydrologic Soil Group			
		A	B	C	D
Pasture, grassland, or range-continuous forage for grazing: <50% ground cover or heavily grazed with no mulch 50 to 75% ground cover and not heavily grazed >75% ground cover and lightly or only occasionally grazed	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow-continuous grass, protected from grazing and generally mowed for hay		30	58	71	78
Brush-weed-grass mixture with brush as the major element: <50% ground cover 50-75% ground cover >75% ground cover	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30	48	65	73
Woods-grass combination (orchard or tree farm)	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning Woods are grazed by not burned, and some forest litter covers the soil Woods are protected from grazing and litter and brush adequately cover the soil	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30	55	70	77

Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release 55, pp. 2.5-2.8, June 1986.



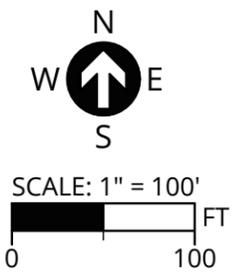
TOTAL SITE = 404,025 SF = 9.275 ACRES
 IMPERVIOUS AREA = 1,674 SF = 0.038 ACRES
 PERVIOUS AREA = 402,351 SF = 9.237 ACRES

 CN = 39.7 (WOODS FAIR CONDITIONS, WEIGHTED
 BASED OF HSG)

TIME OF CONCENTRATION = 57 MIN

LENGEND

-  CONCRETE / ASPHALT
-  SURFACE RUN-OFF FLOW ARROW
-  -200- EXISTING MAJOR CONTOUR
-  -201- EXISTING MINOR CONTOUR





FACILITY	CONCRETE / AC (SF)	¹ ROOF AREA (SF)	² CALC'D LENGTH (FT)	REQUIRED AREA (SF)	ACTUAL AREA (SF)
SOAKAGE TRENCH #1	0	6,971	209	627	670
SOAKAGE TRENCH #2	0	6,971	209	627	670
SOAKAGE TRENCH #3	0	3,900	117	351	394
SOAKAGE TRENCH #4	0	11,232	337	1,011	1,148
SOAKAGE TRENCH #5	0	11,232	337	1,011	1,148
SOAKAGE TRENCH #6	0	11,232	337	1,011	1,148
SOAKAGE TRENCH #7	0	8,160	245	734	778
SOAKAGE TRENCH #8	0	5,088	153	459	523
SOAKAGE TRENCH #9	0	6,971	209	627	673
SOAKAGE TRENCH #10	0	12,120	364	1,091	1,213
SOAKAGE TRENCH #11	0	12,060	362	1,085	1,273
SOAKAGE TRENCH #12	0	14,517	436	1,307	1,348
SOAKAGE TRENCH #13	0	2,400	72	216	313
INFILTRATION BASIN	³ 101,108	10,800	-	1,389	
DRYWELLS	0	6,971	-		

¹DOES NOT REQUIRE TREATMENT.
²ASSUMED WIDTH OF 36".
³RUNOFF FROM CONCRETE AND AC WILL BE TREATED IN A WATER QUALITY BASINS BEFORE THE INFILTRATION BASIN.

TOTAL SITE = 404,025 SF = 9.275 ACRES
 IMPERVIOUS AREA = 231,733 SF = 5.320 ACRES
 PERVIOUS AREA = 172,292 SF = 3.955 ACRES

FRONTAGE IMPROVEMENTS
 IMPERVIOUS AREA = 9,675 SF = 0.222 ACRES

CN = 52.0 (OPEN SPACE FAIR CONDITIONS, WEIGHTED BASED OF HSG)

DRAWINGS

P:\1955-FLORENCE MASTER PLAN\CADD\DWG\1955-EXISTING CONDITIONS.DWG



SURVEYOR'S NOTES

1. LOCATION OF UNDERGROUND UTILITY FACILITIES SHOWN HEREON ARE BASED ON LOCATE MARKS REQUESTED FOR THIS SURVEY PER ONE CALL PUBLIC LOCATE TICKETS. UTILITY LOCATES MAY NOT BE COMPLETE. THE SURVEYOR MAKES NO GUARANTEE AS TO THE EXACT LOCATION, EXISTENCE, NON-EXISTENCE OR COMPLETENESS OF ANY SUBSURFACE UTILITIES SHOWN, OR NOT SHOWN ON THE MAP. ALL UTILITY LOCATIONS SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION. CALL 811 BEFORE DIGGING.
2. FIELD WORK WAS PERFORMED ON AUGUST 19-23 AND SEPTEMBER 10-13, 2019.
3. STORM DRAINAGE AND SANITARY SEWER PIPE SIZES AND MATERIALS WERE VISUALLY NOTED AND MEASURED IN THE FIELD FROM THE RIM OF STRUCTURES. NOTED PIPE SIZES MAY VARY.
4. EXISTING TAX LOT LINES IF SHOWN ARE FOR REFERENCE FROM RECORD DATA, NOT ALL ADJOINING TAX LOT LINES ARE SHOWN HEREON.
5. PROPERTY PARCEL DESIGNATION IS PER THAT PRELIMINARY TITLE REPORT PREPARED BY FIDELITY NATIONAL TITLE HAVING ORDER NO. 60461640170, SUPLT 7, DATED 14, 2019.
6. PROPERTY IS SUBJECT TO BLANKET EASEMENTS AND RESTRICTIONS PER DOCUMENTS OF RECORD AS NOTED IN SAID PRELIMINARY TITLE REPORT.
7. PROPERTY IN GENERAL IS AN UNDEVELOPED LOT CONSISTING OF SANDY SOIL, DENSE UNDERBRUSH, AND COASTAL PINES OF VARYING SIZES.
8. THE PROPERTY IS LOCATED IN THE S.W. 1/4 OF SECTION 15 AND N.W. 1/4 OF SECTION 22, T.18.S., R.12.W., W.M. LANE COUNTY, OREGON
9. THE BASIS OF BEARINGS AND HORIZONTAL POSITIONS: OREGON NORTH STATE PLANE COORDINATE SYSTEM NAD 83 (2011) AS MEASURED AND OUTPUTTED ON THE OREGON COORDINATE REFERENCE FRAME, OREGON COAST ZONE.
10. ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

LEGEND

	PROJECT BOUNDARY
	EXISTING RIGHT OF WAY
	EXISTING RIGHT OF WAY CENTERLINE
	EXISTING LOT LINE
	EXISTING EASEMENT LINE
	EXISTING CONCRETE
	EXISTING CURB
	EXISTING FENCE LINE
	EXISTING TELECOM. LINE
	EXISTING GAS LINE
	EXISTING CABLE LINE
	EXISTING OVERHEAD POWER
	EXISTING SANITARY SEWER
	EXISTING STORM DRAIN
	EXISTING WATER MAIN
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING CONIFEROUS TREE
	EXISTING DECIDUOUS TREE
	EXISTING SIGN
	EXISTING STREET LIGHT
	EXISTING UTILITY POLE
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY CLEANOUT
	EXISTING STORM MANHOLE
	EXISTING STORM CATCH BASIN
	REMOVE EXISTING FENCE
	PROPOSED GRADING LIMITS

DEMOLITION GENERAL NOTES

1. PROTECT EXISTING PAVEMENT ADJACENT TO WORK LIMITS. REPLACE DAMAGED CONCRETE IN WHOLE PANELS.
2. PROTECT EXISTING BUILDING ADJACENT TO WORK LIMITS. REPAIR DAMAGE TO SATISFACTION OF OWNER, AT NO EXPENSE TO OWNER.
3. PROTECT EXISTING FENCE ADJACENT TO WORK LIMITS. REPAIR DAMAGE TO SATISFACTION OF OWNER, AT NO EXPENSE TO OWNER.
4. CONTRACTOR TO VERIFY PRESENCE, LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO COMMENCING WORK. NOTIFY OWNER AND ENGINEER FOR ANY CONFLICTS WITH PROPOSED DESIGN.
5. REMOVE TREES WITHIN GRADING LIMITS.

ZONE X (UN-SHADED) THE SITE IS LOCATED WITHIN ZONE X (UN-SHADED) PER FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY-PANEL NUMBER 41039C0938F & 41039C1426F FEMA'S DEFINITION OF ZONE X (UN-SHADED) IS AN AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRMS AS ABOVE THE 500-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD AND PROTECTED BY LEVEE FROM 100-YEAR FLOOD. IN COMMUNITIES THAT PARTICIPATE IN THE NFIP, FLOOD INSURANCE IS AVAILABLE TO ALL PROPERTY OWNERS AND RENTERS IN THESE ZONES.



PUBLISH DATE
04-29-2020

ISSUED FOR
LAND USE SUBMITTAL

REVISIONS



EXISTING CONDITIONS PLAN

RHODOENDRON DR & 35TH ST

PLANNED UNIT DEVELOPMENT

APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION

PROJECT # | 19555

LAND USE # | TBD

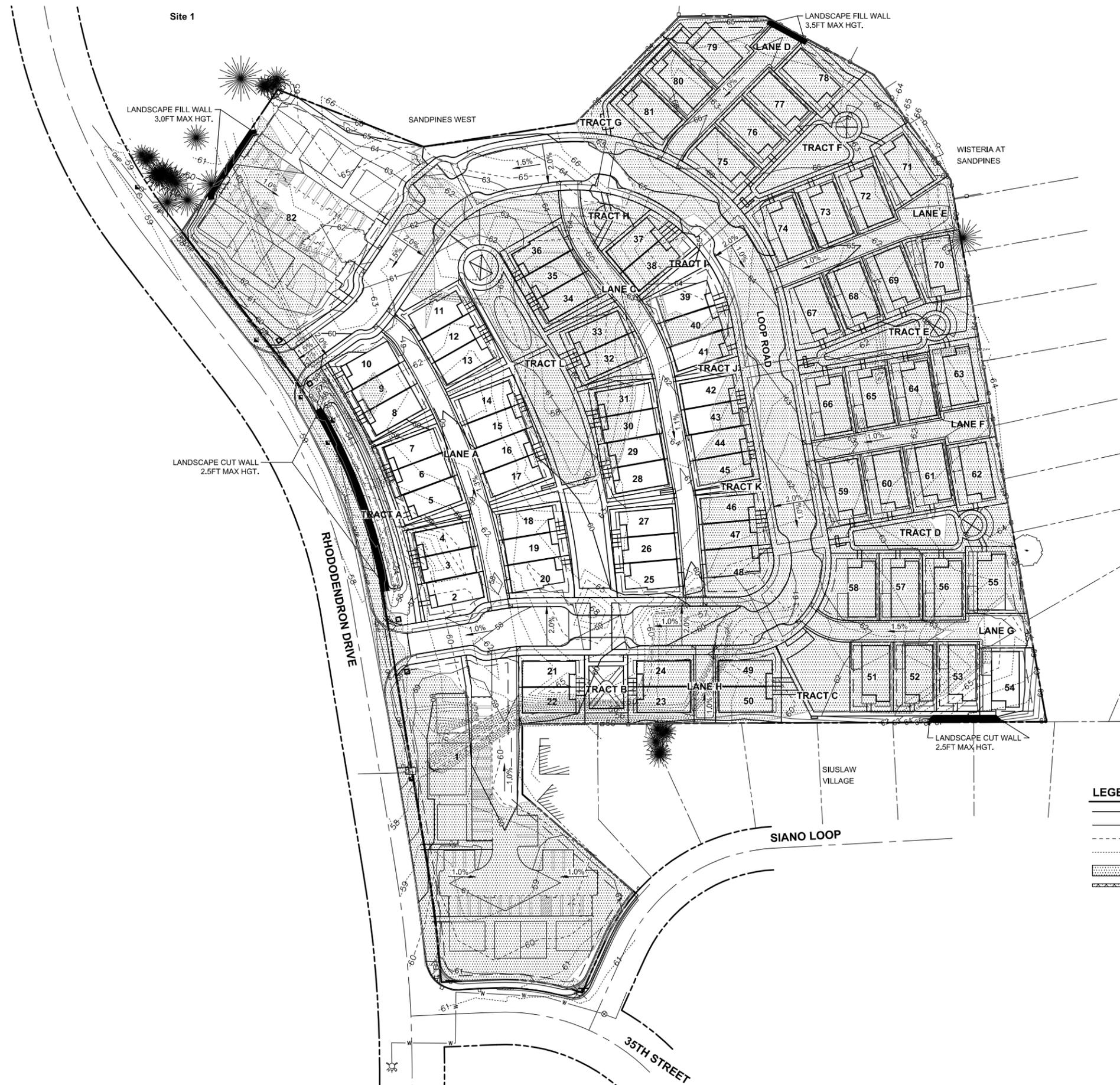
TAX LOT(S) | 18121534 700, 1900, 3800

DESIGNED BY | JTE, TEG

CHECKED BY | AJM

SHEET NUMBER
C1

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LEGEND

	10	PROPOSED MAJOR CONTOUR
	108	PROPOSED MINOR CONTOUR
	110	EXISTING MAJOR CONTOUR
	108	EXISTING MINOR CONTOUR
		ZONE OF PROPOSED FILL
		PROPOSED RETAINING WALL



PUBLISH DATE
04-29-2020
ISSUED FOR
LAND USE SUBMITTAL
REVISIONS



GRADING PLAN
RHODOENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION
PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER
C7



PUBLISH DATE
04-29-2020
ISSUED FOR
LAND USE SUBMITTAL
REVISIONS



COMPOSITE UTILITY PLAN
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



3J CONSULTING

PROJECT INFORMATION
PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER
C8

LEGEND

- PROPOSED LOT LINE
- - - PROPOSED EASEMENT LINE
- - - PROPOSED RIGHT OF WAY
- - - PROPOSED CENTERLINE
- - - PROPOSED SETBACK LINE
- - - PROPOSED CURB FACE
- - - PROPOSED CURB BACK
- ▒ PROPOSED ASPHALT
- ▒ PROPOSED CONCRETE
- ▒ PROPOSED HEAVY DUTY CONCRETE
- ▒ PROPOSED CONCRETE SCORING
- ▒ PROPOSED RETAINING WALL
- ▒ PROPOSED SOAKAGE TRENCH
- ▒ PROPOSED STORM TOP OF BANK
- ▒ PROPOSED STORM BOTTOM OF BANK
- SD PROPOSED STORM PIPE
- SS PROPOSED BYPASS STORM PIPE
- SS PROPOSED SANITARY PIPE
- W PROPOSED WATER MAIN
- ⊙ PROPOSED STORM MANHOLE
- ⊞ PROPOSED CURB INLET
- ⊙ PROPOSED ROUND AREA INLET
- ⊙ PROPOSED SEWER MANHOLE
- ⊙ PROPOSED HYDRANT
- ⊙ PROPOSED VALVE
- ⊙ PROPOSED BLOW-OFF / AIR RELEASE ASSY.
- ⊙ PROPOSED LIGHTING

WATER SYSTEM KEY NOTES

- 1 INSTALL 8" WATER MAIN.
- 2 INSTALL 6" WATER MAIN.
- 3 INSTALL 4" WATER MAIN.
- 4 CONNECT PROPOSED 8" WATER MAIN TO EXISTING 8" WATER MAIN.

STORM DRAIN KEY NOTES

- 1 INSTALL 12" PRIVATE STORM MAIN.
- 2 CONSTRUCT INFILTRATION BASIN.
- 3 CONSTRUCT INFILTRATION SOAKAGE TRENCH.
- 4 INSTALL 36" BYPASS STORM MAIN FOR RUN-ON FLOWS.

SANITARY SEWER KEY NOTES

- 1 INSTALL 8" SANITARY SEWER MAIN.
- 2 INSTALL 6" SANITARY SEWER MAIN.
- 3 CONNECT PROPOSED 8" SANITARY SEWER MAIN TO EXISTING 12" SANITARY SEWER VIA PROPOSED SANITARY SEWER MANHOLE.
- 4 CONNECT PROPOSED 8" SANITARY SEWER MAIN TO EXISTING SANITARY SEWER MANHOLE.



TYP. TELEPHONE / CABLE PEDESTAL,
NO LINES MARKED BUT SIGN
INDICATED UNDERGROUND BURRIED
CABLE RUNNING BETWEEN UNITS.

SSMH: 60.22' RIM
IE 16" PVC IN (NW): 54.97'
IE 16" PVC OUT (SE): 54.99'

SDMH: 58.88' RIM
IE 14" PVC OUT (SE): 55.35'
IE 14" PVC IN (NW): 55.37'

SDMH: 59.28' RIM
IE 14" PVC IN (NW): 54.79'
IE 14" PVC OUT (SE): 54.75'

SSMH: 58.80' RIM
IE 16" PVC IN (NW): 54.69'
IE 16" PVC OUT (SE): 54.66'

SDMH: 59.33' RIM
IE 14" PVC IN (NW): 54.34'
IE 14" PVC OUT (SW): 54.31'

SDMH: 59.19' RIM
IE 14" PVC IN (NW): 54.30'
IE 14" PVC OUT (SW): 54.27'

SSMH: 59.16' RIM
IE 16" PVC IN (NW): 54.56'
IE 16" PVC OUT (SE): 54.53'

SDMH: 57.35' RIM
IE 14" PVC IN (NW): 53.84'
IE 14" PVC OUT (SW): 53.77'

SSMH: 57.50' RIM
IE 16" PVC IN (NW): 54.41'
IE 16" PVC OUT (SE): 54.37'

SDMH: 57.18' RIM
IE 14" PVC IN (NW): 53.37'
IE 14" PVC OUT (SE): 53.34'

SDMH ON CONC: 57.18' RIM
IE 14" PVC IN (NW): 53.31'
IE 36" PVC IN (NE): 53.30'
IE 36" PVC OUT (SE): 53.30'

SSMH: 56.98' RIM
IE 6" PVC IN (W): 54.08'
IE 6" PVC IN (W): 54.08'
IE 8" PVC OUT (N): 53.98'
IE 6" PVC INT (SW): 53.70'
IE 36" OUTFALL 47.46'

SDMH: 58.23' RIM
SUMP HOLDING TANK
IE 36" PVC OUT (W): 49.23'
SDCB: 60.42' FL
IE 12" PVC
OUT (SE): 57.42'

SDCB: 60.41' FL
IE 12" PVC OUT (N): 55.56'
IE 12" PVC IN (S): 55.71'

SDMH: 60.86' RIM
IE 12" PVC IN (E): 55.96'
IE 12" PVC IN (S): 55.94'
IE 12" PVC OUT (N): 55.92'

SSMH: 59.73'
IE 8" PVC IN (N): 53.67'
IE 8" PVC IN (W): 52.85'
IE 8" PVC OUT (E): 52.60'
IE 6" PVC IN (SW): 53.09'

SDMH: 61.12' RIM
IE 12" PVC IN (N): 56.52'
IE 12" PVC IN (W): 55.82'
IE 12" PVC OUT (E): 55.84'

SDCB: 60.37' FL
IE 12" PVC OUT (NW): 57.52'
IE 8" PVC IN (SW): 58.39'

SSMH: 61.20' RIM
IE 8" PVC IN (N): 54.46'
IE 8" PVC OUT (W): 54.49'
IE 8" PVC IN (E): 54.52'

SDCB: 60.12' FL
IE 12" PVC OUT (SE): 54.44'

SSMH: 60.55' RIM
IE 8" PVC OUT (SW): 55.73'
IE 8" PVC IN (E): 55.84'

SDMH: 60.42' RIM
IE 12" PVC OUT (W): 57.34'
IE 12" PVC IN (E): 56.92'
IE 12" PVC OUT (S): 56.62'

STREET LIGHT POWER MAY RUN BEHIND
CURB NE'LY PER GIS SKETCH, NO PAINT
SDMH: 61.52' RIM
IE 12" PVC OUT (W): 56.02'
IE 12" PVC IN (N): 56.03'

NO WTR PAINTED. SEE GIS SKETCH
WATER LINE DRAWN PER GIS SKETCH, NO PAINT
SSMH: 61.53' RIM
IE 8" PVC IN (N): 54.83'
IE 8" PVC OUT (W): 54.81'
IE 8" PVC IN (E): 56.13'

P:\19555-FLORENCE MASTER PLAN\CADD\01\9555-COMPOSITE UTILITY.DWG



SCALE: 1" = 50'
0 50 100 FT



Know what's below.
Call before you dig.

CALCULATIONS



TIME OF CONCENTRATION

PROJECT NO.	Florence Master Plan	BY JBC	DATE 1/24/2020
-------------	----------------------	--------	----------------

SHEET FLOW			
INPUT	PREDEVELOPED		
Surface Description	Type 9 Woods (light_underbrush)	Type 5 Grass (short prairie)	Type 5 Grass (short prairie)
Manning's "n"	0.4	0.15	0.15
Flow Length, L	300 ft	0 ft	0 ft
2-Yr 24 Hour Rainfall, P ₂	3.5 in	2.5 in	2.5 in
Land Slope, s	0.018 ft/ft	0.0000 ft/ft	0.0000 ft/ft
OUTPUT			
Travel Time	0.86 hr	0.00 hr	0.00 hr
SHALLOW CONCENTRATED FLOW			
INPUT	VALUE	VALUE	VALUE
Surface Description	Unpaved	Unpaved	Unpaved
Flow Length, L	538 ft	0 ft	0 ft
Watercourse Slope*, s	0.0124 ft/ft	0 ft/ft	0 ft/ft
OUTPUT			
Average Velocity, V	1.80 ft/s	0.00 ft/s	0.00 ft/s
Travel Time	0.083 hr	0.000 hr	0.000 hr
CHANNEL FLOW			
INPUT	VALUE	VALUE	VALUE
Cross Sectional Flow Area, a	0 ft ²	0 ft ²	0 ft ²
Wetted Perimeter, P _w	0 ft	0 ft	0 ft
Channel Slope, s	0 ft/ft	0 ft/ft	0 ft/ft
Manning's "n"	0.24	0.24	0.24
Flow Length, L	0 ft	0 ft	0 ft
OUTPUT			
Average Velocity	0.00 ft/s	0.00 ft/s	0.00 ft/s
Hydraulic Radius, r = a / P _w	1.00 ft	1.00 ft	1.00 ft
Travel Time	0.00 hr	0.00 hr	0.00 hr
Watershed or Subarea T _c =	0.94 hr	0.00 hr	0.00 hr
Watershed or Subarea T _c =	57 minutes	0 minutes	0 minutes

PAC Report

Project Name Florence Golf Links-Site A (Biorentention)	Permit No.	Created 1/23/20 1:36 PM
Project Address 18S12W15 700 & 3800 Florence, OR, OR 97439	Designer Joe Conner	Last Modified 4/24/20 10:46 AM
	Company 3J Consulting	Report Generated 4/24/20 10:46 AM

Project Summary

Florence Golf Links-Site A (Biorentention)

Catchment Name	Impervious Area (sq ft)	Native Soil Design Infiltration Rate	Hierarchy Category	Facility Type	Facility Config	Facility Size (sq ft)	Facility Sizing Ratio	PR Results	Flow Control Results
Biorentention Pond	101108	74.00	1	Basin	A	700	2.3%	Pass	Not Used

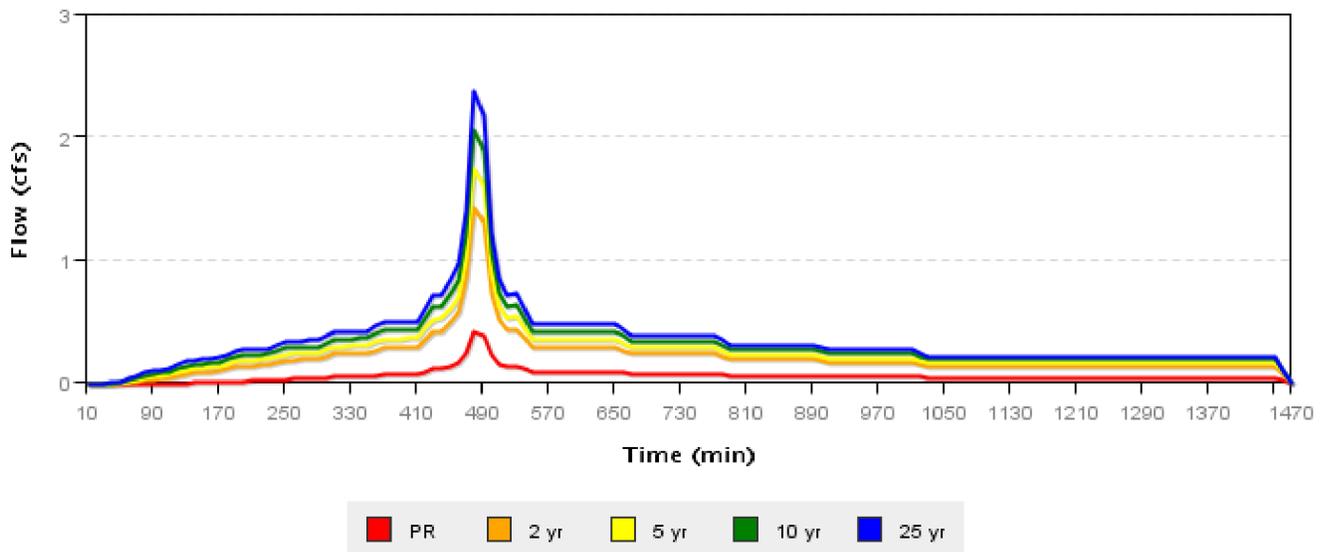
Catchment Biorentention Pond

Site Soils & Infiltration Testing Data

	Infiltration Testing Procedure	Encased Falling Head
	Native Soil Infiltration Rate (I_{test})	74.00 ⚠
Correction Factor	CF_{test}	2
Design Infiltration Rates	Native Soil (I_{dsgn})	20.00 in/hr
	Imported Growing Medium	2.00 in/hr
Catchment Information	Hierarchy Category	1
	Hierarchy Description	On-site infiltration with a surface infiltration facility
	Pollution Reduction Requirement	Pass
	10-year Storm Requirement	Pass
	Flow Control Requirement	Pass
	Impervious Area	101108 sq ft ⚠ 2.321 acre
	Time of Concentration (T_c)	5
	Post-Development Curve Number (CN_{post})	98

⚠ Indicates value is outside of recommended range

SBUH Results



PR

Peak Rate (cfs)
0.417

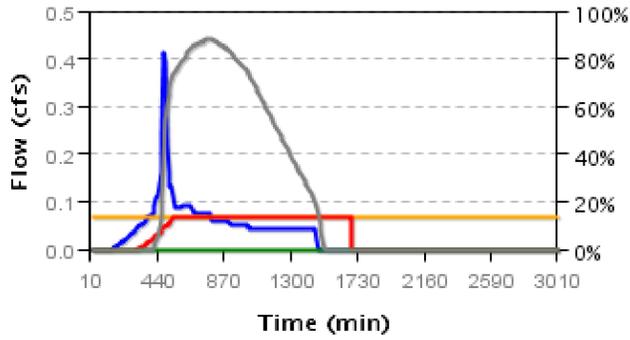
Volume (cf)
5283.177

2 yr	1.428	18295.076
5 yr	1.744	22485.563
10 yr	2.058	26682.322
25 yr	2.371	30883.036

Facility Biorentention Pond

Facility Details	Facility Type	Basin
	Facility Configuration	A: Infiltration (Infl.)
	Facility Shape	Rectangle
	Above Grade Storage Data	
	Bottom Area	700 sq ft
	Bottom Width	4.00 ft
	Side Slope	3.0:1
	Storage Depth 1	12.0 in
	Growing Medium Depth	18 in
	Freeboard Depth	6.00 in
	Surface Capacity at Depth 1	1246.4 cu ft
	Design Infiltration Rate for Native Soil	0.704 in/hr
	Infiltration Capacity	0.070 cfs
Facility Facts	Total Facility Area Including Freeboard	2374.62 sq ft
	Sizing Ratio	2.3%
Pollution Reduction Results	Pollution Reduction Score	Pass
	Overflow Volume	0.000 cf
	Surface Capacity Used	89%
10 Year Results	10 Year Score	Fail
	Overflow Volume	19534.458 cf
	Surface Capacity Used	100%

Pollution Reduction Event Surface Facility Modeling

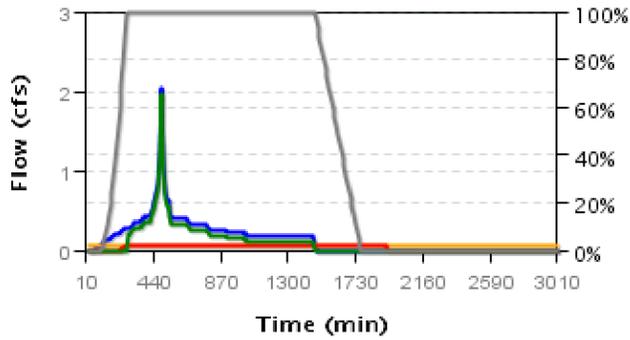


- Inflow from rain
- Infiltration to native soil
- Percent surface capacity
- Infiltration capacity
- Overflow to approved discharge

Pollution Reduction Event Below Grade Modeling



10 Year Event Surface Facility Modeling



- Inflow from rain
- Infiltration to native soil
- Percent surface capacity
- Infiltration capacity
- Overflow to approved discharge

10 Year Event Below Grade Modeling





INFILTRATION BASIN DESIGN

PROJECT NAME	Florence Site A	BY JBC	DATE 4/24/2020
PROJECT NUMBER	19555		

Impervious Catchment Area

Impervious Area	111,908 sq ft
Volume from storm (V _s)	44,963 ft ³

Infiltration Calculation

Measured Infiltration Rate <i>i</i>	73.67 in/hr
Design Infiltration Rate I _D (SF=2)	36.84 in/hr
Drawdown Time (T)	10 hours

Storm Event Information

Return Period (yr)	25	Santa Barbara Unit Hydrograph (See 25-Year Runoff Rate Hydrograph)
24-hr precip. (in)	5.06	
Location	Florence	
Hydrologic Soil Group	A	

Infiltration Trench

Length (L)	150.0 ft	
Width (W)	9 ft	W = A _t /L
Area (A _t)	See Calculation below	
Porosity (n)	0.3	
Depth (D)	3.0 ft	

Infiltration Volume (V_i) V_i=V_s

$$V_i = A_t * i * T * (1/12)$$

$$A_t = \frac{V_i}{((n*D)+I_D * T/12)} = 1423 \text{ sq ft}$$

Bottom surface area required to infiltrate within required drawdown time.

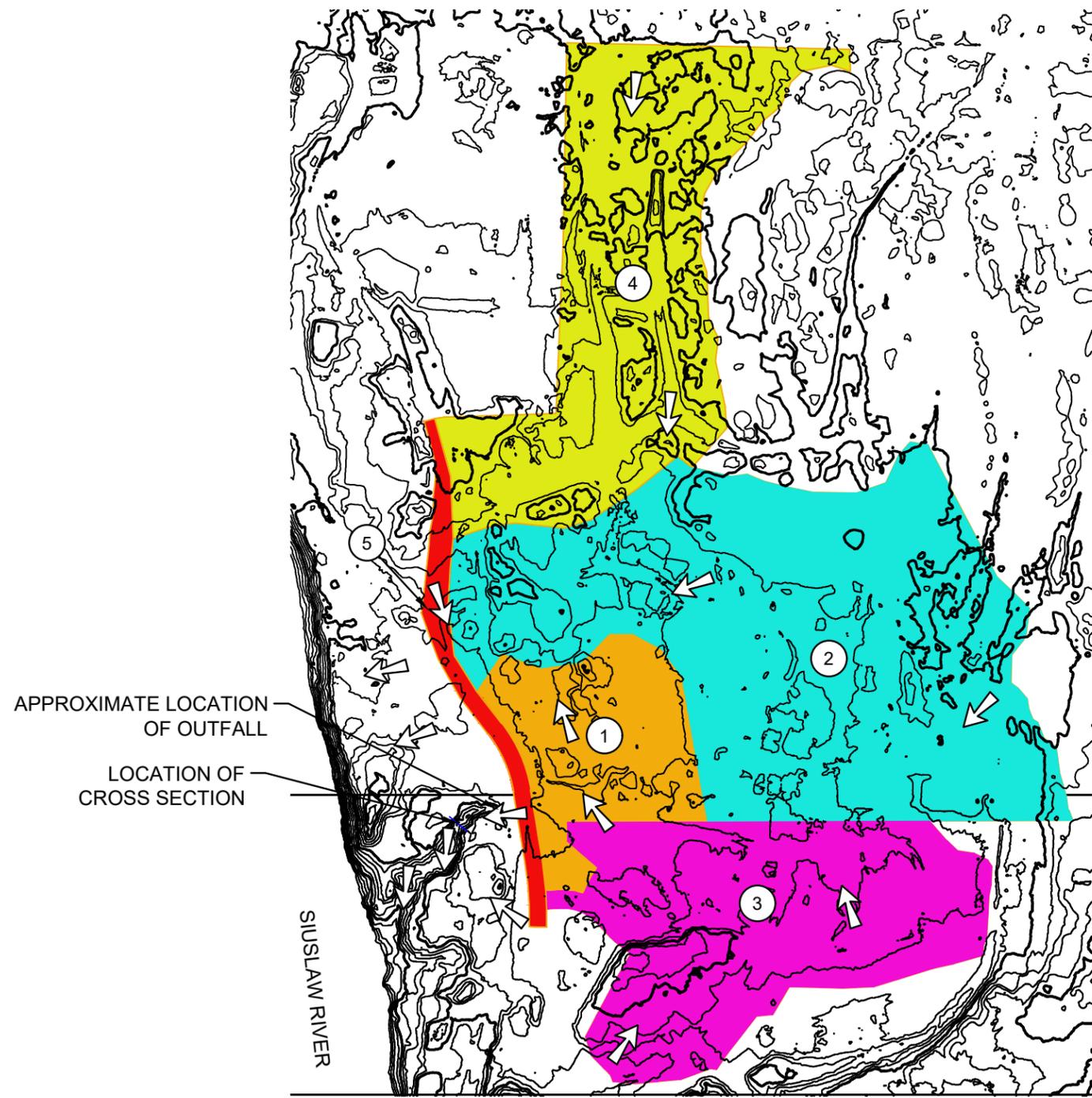
Volume of runoff computed in XPSTORM:

```

*****
* Table R6. Continuity Check for Channel/Pipes *
* You should have zero continuity error *
* if you are not using runoff hydraulics *
*****
Initial Channel/Pipe Storage..... cubic feet      Inches over
                                0.000000E+00      Total Basin
Final Channel/Pipe Storage..... 0.000000E+00      0.000
Surface Runoff from Watersheds..... 4.496258E+04      4.821
Groundwater Subsurface Inflow or Diversion.. 0.000000E+00      0.000
Evaporation Loss from Channels..... 0.000000E+00      0.000
Groundwater Flow Diverted Out of Network.... 0.000000E+00      0.000
Channel/Pipe/Inlet Outflow..... 4.496258E+04      4.821
Initial Storage + Inflow..... 4.496258E+04      4.821
Final Storage + Outflow + Diverted GW..... 4.496258E+04      4.821
*****
* Final Storage + Outflow + Evaporation - *
* Watershed Runoff - Groundwater Inflow - *
* Initial Channel/Pipe Storage *
* ----- *
* Final Storage + Outflow + Evaporation *
*****
Percent Continuity Error..... 0.0000

```

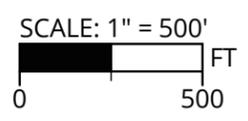
DOWNSTREAM ANALYSIS



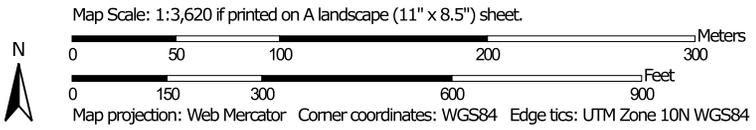
LEGEND
 SURFACE RUN-OFF FLOW ARROW

BASIN	TOTAL AREA (AC)	% IMPERVIOUS	CN	TIME OF CONCENTRATION (MIN)	DRAINS TO
①	PROPOSED SITE (SEE EXHIBIT)				1
②	40.430	45	66.3	45	1
③	20.882	65	49.0	20	2
*④	24.069	65	49.0	20	1
⑤	2.667	100	98.0	5	1

*ASSUMED FULL BUILD.



Hydrologic Soil Group—Lane County Area, Oregon
(BASIN 2)



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lane County Area, Oregon
 Survey Area Data: Version 16, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2007—Sep 15, 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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
44	Dune land		11.3	27.7%
131C	Waldport fine sand, 0 to 12 percent slopes	A	9.4	23.0%
140	Yaquina loamy fine sand	A/D	20.2	49.3%
Totals for Area of Interest			41.0	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

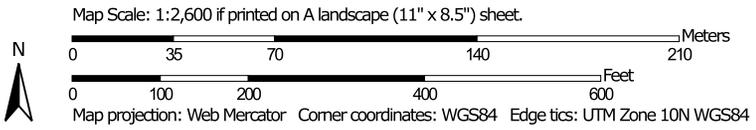
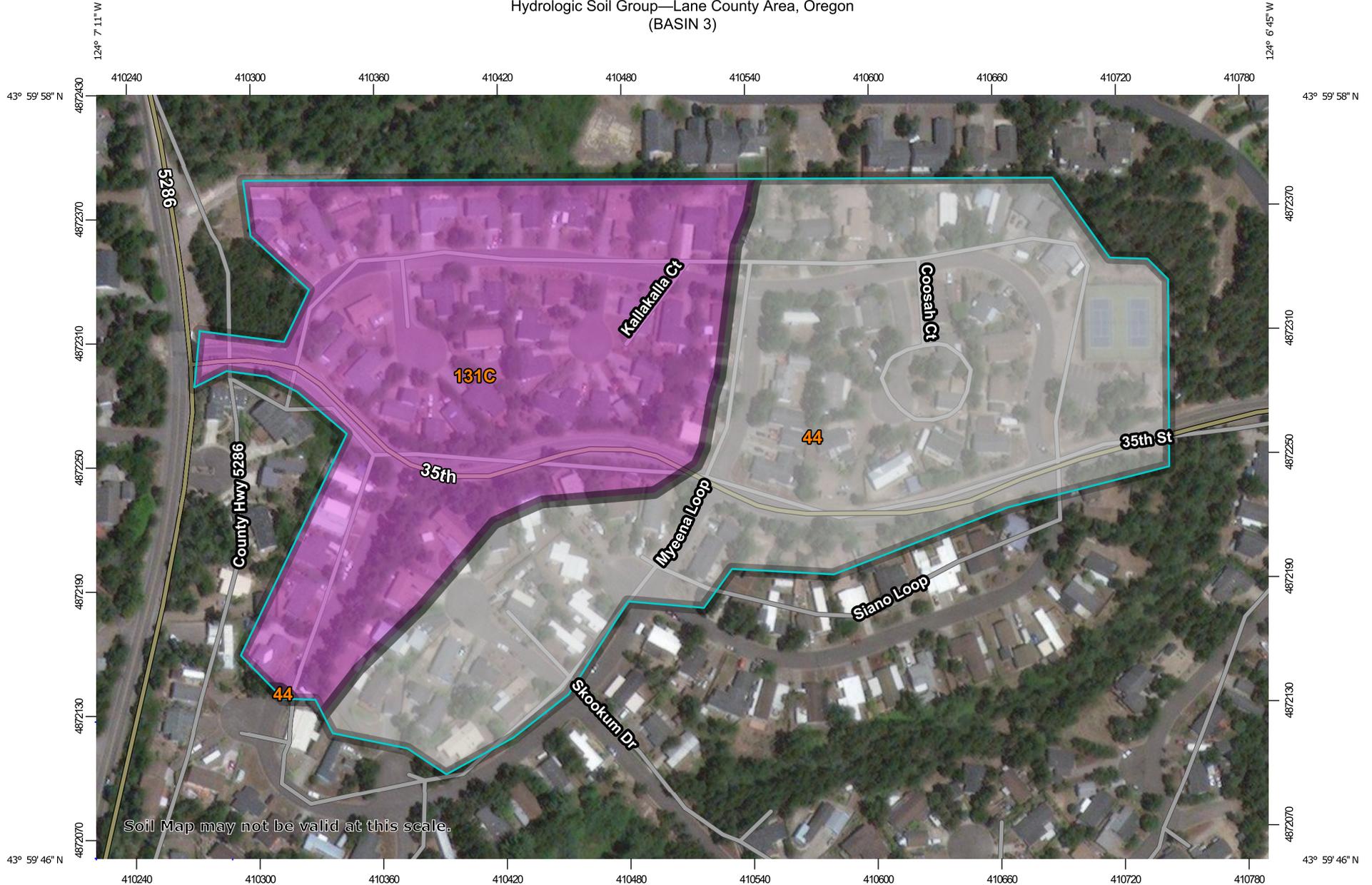
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Hydrologic Soil Group—Lane County Area, Oregon
(BASIN 3)



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lane County Area, Oregon
 Survey Area Data: Version 16, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2007—Sep 15, 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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
44	Dune land		12.1	54.9%
131C	Waldport fine sand, 0 to 12 percent slopes	A	9.9	45.1%
Totals for Area of Interest			22.0	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

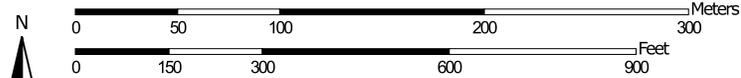
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Hydrologic Soil Group—Lane County Area, Oregon
(BASIN 4)



Map Scale: 1:3,680 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

1/10/2020
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Lane County Area, Oregon
 Survey Area Data: Version 16, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2007—Sep 15, 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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
131C	Waldport fine sand, 0 to 12 percent slopes	A	2.7	10.7%
140	Yaquina loamy fine sand	A/D	22.2	89.3%
Totals for Area of Interest			24.8	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

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Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

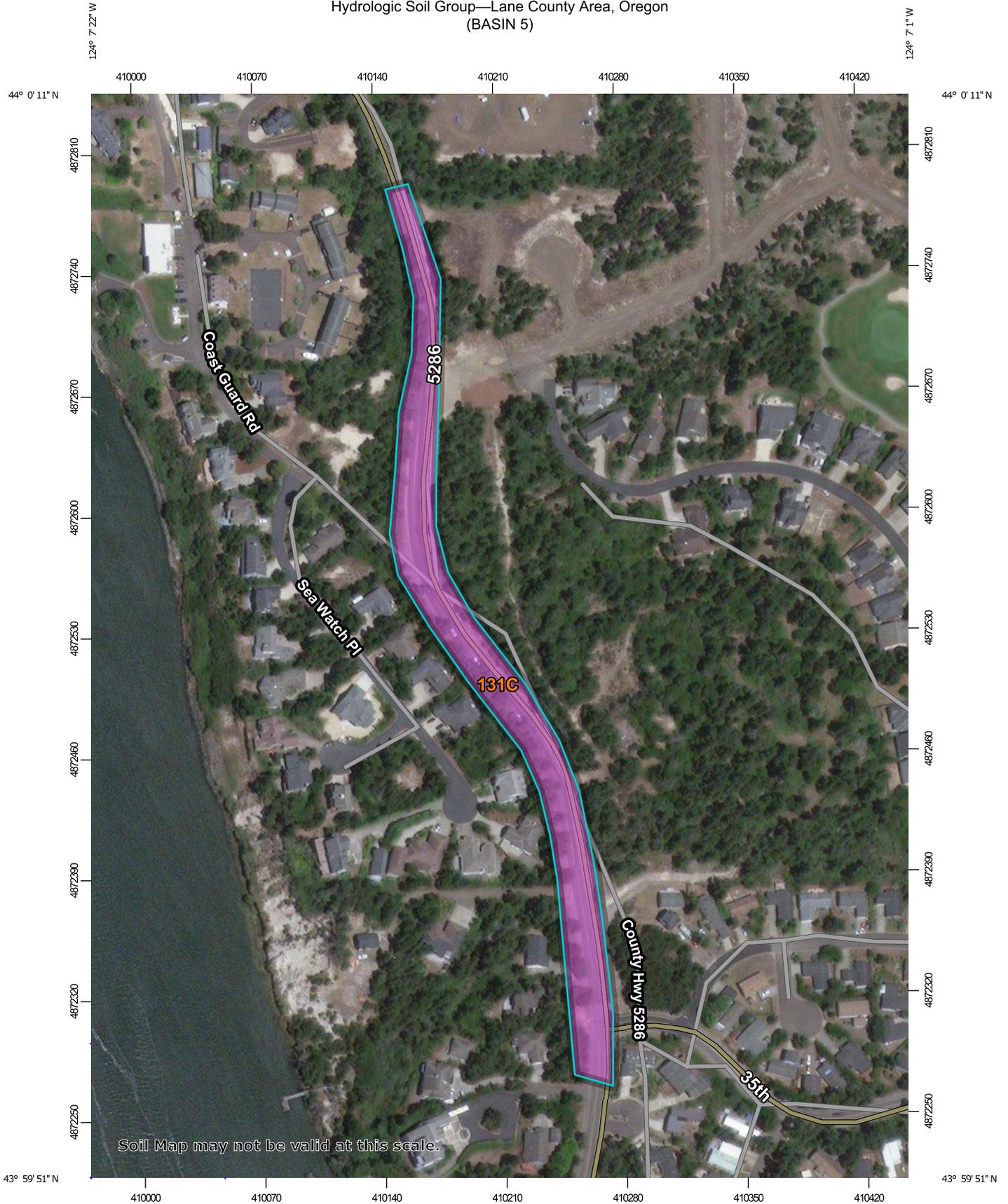
Rating Options

Aggregation Method: Dominant Condition

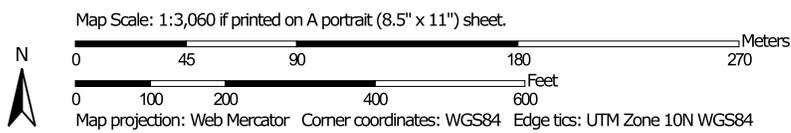
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Hydrologic Soil Group—Lane County Area, Oregon
(BASIN 5)



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lane County Area, Oregon
 Survey Area Data: Version 16, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2007—Sep 15, 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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
131C	Waldport fine sand, 0 to 12 percent slopes	A	3.0	100.0%
Totals for Area of Interest			3.0	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

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If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

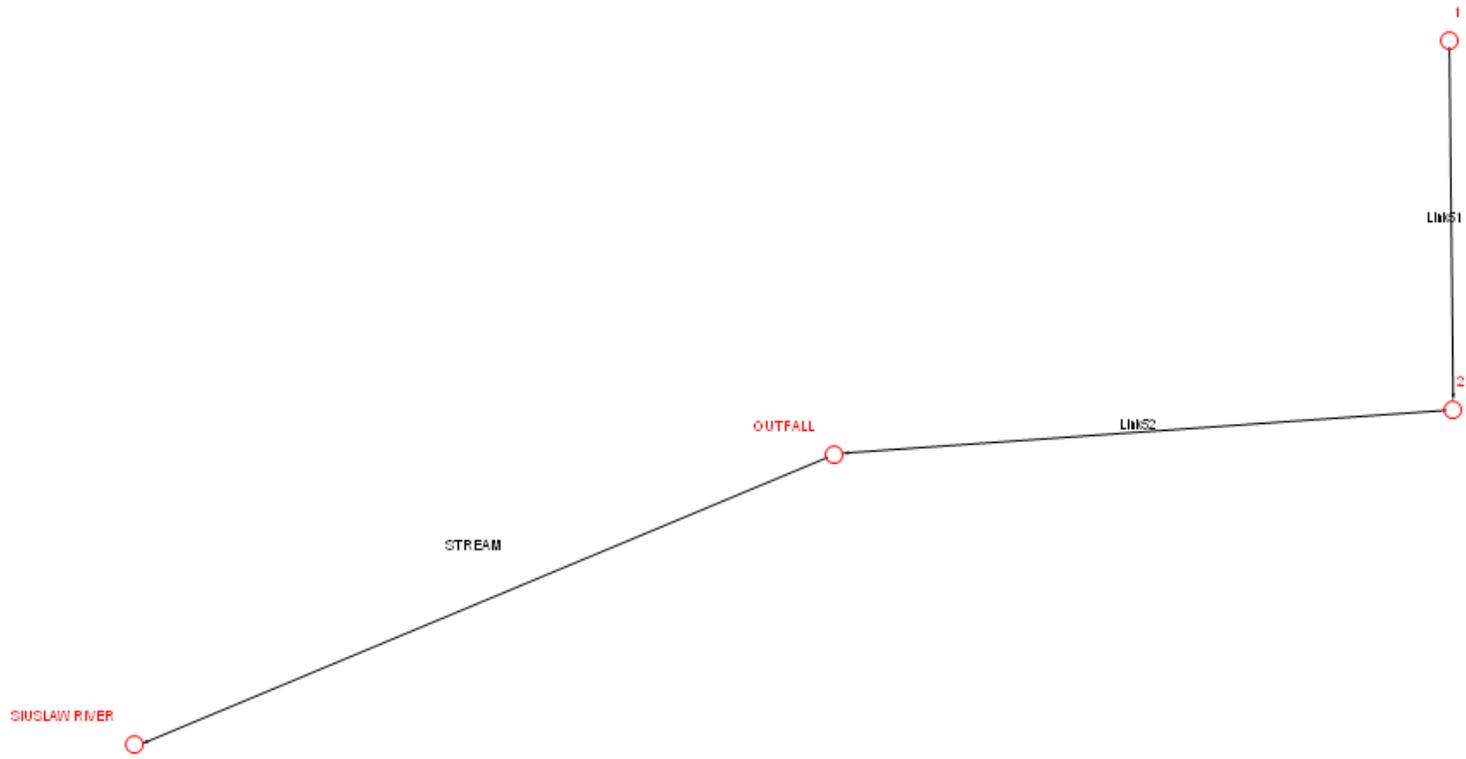
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Downstream Analysis – XPSTORM Hydraulic Layout



XPSTORM-RUNOFF DATA PROPOSED - 25 YR - STORM EVENT**DOWNSTREAM ANALYSIS - FLORENCE MASTER PLAN**

Node Information					Runoff Information			
Node Name	Area	Impervious	Curve	Tc	Rainfall	Infiltration	Surface Runoff	
	acre	%	Number	min.	in	in	in	cfs
1	40.43	45	66.3	45	5.06	1.26	3.80	43.71
	24.067	65	49.0	20				
	2.667	100	98.0	5				
	9.275	80	52.0	5				
2	20.882	65	49.0	20	5.06	2.065	3.00	12.63

XPSTORM-RUNOFF DATA PROPOSED - 100 YR - STORM EVENT**DOWNSTREAM ANALYSIS - FLORENCE MASTER PLAN**

Node Information					Runoff Information			
Node Name	Area	Impervious	Curve	Tc	Rainfall	Infiltration	Surface Runoff	
	acre	%	Number	min.	in	in	in	cfs
1	40.43	45	66.3	45	5.95	1.296	4.65	55.85
	24.067	65	49.0	20				
	2.667	100	98.0	5				
	9.275	80	52.0	5				
2	20.882	65	49.0	20	5.95	2.163	3.79	16.35

XPSTORM CONVEYANCE DATA - PROPOSED CONDITIONS (25-YEAR STORM EVENT)

DOWNSTREAM ANALYSIS - FLORENCE MASTER PLAN

Location		Conduit Properties			Conduit Results							Conduit Profile							
Link	Station		Diameter	Length	Slope	Design Capacity	Qmax/ Qdesign	Max Flow	Max Velocity	Max Flow Depth	y/d0	US Ground Elev.	DS Ground Elev.	US IE	DS IE	US Freeboard	DS Freeboard	US HGL	DS HGL
	From	To										ft	ft	ft	ft	ft	ft	ft	ft
			ft	ft	%	cfs		cfs	ft/s	ft		ft	ft	ft	ft	ft	ft	ft	ft
Link51	1	2	3.00	33.00	12.3	234.24	0.19	43.70	16.89	1.54	0.51	57.18	58.23	53.30	49.23	3.00	7.46	54.18	50.77
Link52	2	OUTFALL	3.00	67.00	2.6	108.41	0.52	56.35	15.49	1.54	0.51	58.23	54.00	49.23	33.77	7.46	18.60	50.77	35.40
STREAM	OUTFALL	SIUSLAW RIVER	CHANNEL	620.00	5.1	22303.77	0.00	55.99	6.56	1.63	0.08	54.00	35.00	33.77	0.00	18.60	33.38	35.40	1.62

XPSTORM CONVEYANCE DATA - PROPOSED CONDITIONS (100-YEAR STORM EVENT)

DOWNSTREAM ANALYSIS - FLORENCE MASTER PLAN

Location		Conduit Properties			Conduit Results							Conduit Profile							
Link	Station		Diameter	Length	Slope	Design Capacity	Qmax/ Qdesign	Max Flow	Max Velocity	Max Flow Depth	y/d0	US Ground Elev.	DS Ground Elev.	US IE	DS IE	US Freeboard	DS Freeboard	US HGL	DS HGL
	From	To										ft	ft	%	cfs		cfs	ft/s	ft
			ft	ft	%	cfs		cfs	ft/s	ft		ft	ft	ft	ft	ft	ft	ft	ft
Link51	1	2	3.00	33.00	12.3	234.24	0.24	55.85	17.95	1.79	0.60	57.18	58.23	53.30	49.23	2.88	7.21	54.30	51.02
Link52	2	OUTFALL	3.00	67.00	2.6	108.41	0.67	72.22	16.42	1.79	0.60	58.23	54.00	49.23	33.77	7.21	18.41	51.02	35.59
STREAM	OUTFALL	SIUSLAW RIVER	CHANNEL	620.00	5.1	22303.77	0.00	71.78	6.98	1.82	0.09	54.00	35.00	33.77	0.00	18.41	33.23	35.59	1.77

GEOTECHNICAL REPORT

January 28, 2020

Ashlee Sorber
American Pacific International Capital
Via Email: asorber@apicincus.com

**RE: GEOTECHNICAL ENGINEERING RECOMMENDATIONS AND SITE EVALUATION
FLORENCE HOUSING DEVELOPMENT – SITE A
RHODODENDRON DRIVE AND 35TH STREET
FLORENCE, OREGON
BRANCH ENGINEERING INC. PROJECT NO. 19-510**

Pursuant to your authorization Branch Engineering Inc. (BEI) performed a geotechnical engineering investigation at the subject site for the proposed development of a multi-family residential apartment complex.

On December 17, 2019 ten (10) exploratory test pits were advanced using a metal tracked excavator to a maximum depth of 10-feet below ground surface (BGS). The subsurface soil conditions in the test pits were logged in accordance the USCS (Unified Soil Classification System) ASTM D2488 and field tests consisting of portable dynamic cone penetrometer (DCP) tests, and falling head infiltration tests were performed. The accompanying report presents the results of our site research, field exploration and testing, data analysis, our conclusions and geotechnical engineering recommendations for the project. The site is suitable for the planned development, provided the recommendations of this report are implemented in the design and construction of the project.

Sincerely,
Branch Engineering Inc.



Digitally signed by Ronald J. Derrick
Date: 2020.01.28 14:16:11 -08'00'

EXPIRES: 12/31/2021

Ronald J. Derrick, P.E., G.E.
Principal Geotechnical Engineer

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1.2 Scope of Work 3
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FIGURE 1 – Site Map

APPENDIX A – Test Pit Logs & Field Test Summaries, Infiltration Testing Data, Well Logs, USDA NRCS Soil Mapping

APPENDIX B – Geotechnical Specifications

1.0 INTRODUCTION

The subject site is located along and east of Rhododendron Drive in Florence, Oregon at latitude 44.000000° north and longitude 124.118365° west. The site consists of vacant land with 7 separate parcels totaling approximately 9.2-acres in size.

This report presents the results and findings of Branch Engineering, Inc. (BEI) field observations, testing, and research for the subject site. Our investigation included the evaluation of the subsurface conditions at the site to provide geotechnical recommendations for the design and construction of proposed residential buildings and site improvements for access and parking.

1.1 Project and Site Description

Our understanding of the project is a residential development consisting of multi-unit and detached housing units with associated site improvements such as utility installation, paved access roads, and parking is proposed. Access to the site is expected to be taken from Rhododendron Drive.

The site is surrounded by single-family residential development with Rhododendron Drive running roughly north-south along the western perimeter of the site and the Florence Golf Links golf course present behind adjacent single-family residences.

At the time of our visit, the site surface was covered with vegetation consisting of scattered shore pines, manzanita, salal, rhododendrons, and other vegetation typical of the Oregon Coast dune ecology. Several partially overgrown former driveways, or pathways were used to access the interior of the site. Review of historical photos available from Google Earth™ indicate that in the 1990's the site was used as an RV park/campground. During our site visit we observed several areas of debris indicating the site had been used for dumping household waste items, and in other areas trash from unauthorized camp sites was observed. Water and wastewater pipes from the former RV park were observed in various locations on the site and there is potential for slabs or septic tanks to remain buried on the property. Areas of undocumented sand fill are also likely to be encountered during site clearing activities.

The site topography is relatively flat, with elevations ranging from 58-feet to 67-feet above sea level. Several swales, or drainage ditches were observed on the southeastern portion of the site and the northwestern portion of the site, north of an existing driveway from Rhododendron Drive. The southeastern drainage features appear to be part of an existing surface drainage pattern transporting surface runoff from the adjacent Wisteria at Sandpines development across the southern portion of the site to a recently (2015 +/-) constructed drainage swale and box culvert crossing Rhododendron Drive to the west.

1.2 Scope of Work

Our scope of work included a site reconnaissance and subsurface investigation on December 17, 2019. Ten (10) exploratory test pits were advanced at the locations shown on the attached Figure-1 Site Exploration Map with the observed soil stratigraphy classified in accordance with the American Society of Testing and Materials (ASTM) Method D-2488.

A portable dynamic cone penetrometer which consists of graduated steel rods driven into the soil by dropping a 35-lb slide hammer a vertical distance of 18-inches was used to assess the consistency of the site soil at select locations and depths in the test pits.

In addition to the exploratory test pits, three (3) Falling Head Infiltration Tests were performed at the locations shown on the attached Figure-1 with results summarized below and field data attached.

Field log summaries of the site exploratory test pits, including field test results, are presented in Appendix A. Also included in Appendix A are copies of nearby well logs from the Oregon Department of Water Resources on-line database, and the soil survey mapping of the site. Field and laboratory test results are summarized on the test pit log summaries.

1.3 Site Information Resources

The following site investigation activities were performed and literature resources were reviewed for pertinent site information:

- Review of the United States Department of the Interior Geological Survey (USGS) 2017 Mercer Lake, Oregon Quadrangle Map and the 2017 Florence, OR Quadrangle Map.
- Ten exploratory test pits were advanced to a maximum depth of 10-feet below ground surface (BGS), and three Falling Head Infiltration Tests were performed on the site at the approximate locations shown on Figure-1.
- Review of the Lane County area Web Soil Survey, United States Department of Agricultural (USDA) Natural Resources Conservation Service (NRCS), see Appendix A.
- Review of the USGS Geologic Map of Oregon, (USGS 1991, Walker & MacLeod).
- Review of Oregon Department of Water Resources Well Logs from nearby locations, see Appendix A.
- Review of DOGAMI online hazard view for the subject site vicinity.

2.0 SITE SUBSURFACE CONDITIONS

The analyses, conclusions and recommendations contained in this report are based on site conditions as they presently exist and assume the exploratory test pit excavations, presented in Appendix A, are representative of the subsurface conditions throughout the site. If, during construction, subsurface conditions differ from those encountered in the exploratory test pits; BEI requests that we be informed to review the site conditions and adjust our recommendations, if necessary.

2.1 Site Soils

The NRCS Web Soil Survey maps two soil units across the site area; Waldport fine sand, 0 to 12 percent slopes and Waldport fine sand is mapped across the majority of the site area with Yaquina

loamy fine sand mapped across the northeast portion of the site. Both soil units are described as well drained fine grain eolian sand.

In the exploratory test pits, medium dense, tan, moist, fine grain sand was observed underlying existing topsoil, or root zones. In several test pits, clayey gravel fill was observed near the ground surface which we attribute to previous development on the site. Sidewall caving was observed as excavation depths increased below approximately 3-feet to 5-feet BGS.

Blow counts recorded during DCP testing at depths from 3-feet to 4-feet BGS indicate a loose consistency of the sand which becomes medium dense with depth.

2.2 Ground Water

No groundwater was observed in the exploratory test pits which were advanced to a maximum of 10-feet BGS or to about a bottom elevation of 50-feet (mean sea level) MSL. Well logs from nearby sites were obtained from the Oregon Water Resources Department and list static water levels at 6.2-feet and 21-feet BGS, see attached logs. Variations in the depth to water is typical in stabilized dune environments with raised dunal areas and deflation zones with water closer to the surface. Historically the subject site had received more surface and near surface water flow before up slope development to the north and west have collected and diverted stormwater away from the site. Ponds remain on the golf course property that also retain water.

We expect that ground water levels (from the regional water table or perched lenses) will fluctuate with the seasons and should be expected to be highest during the late winter and spring months when rainstorms are more intense and frequent, and soils are near saturation. Due to the presence of relatively clean sand on the site, it is likely well drained with remnants of surface water channels in the southeast are of the site.

The presence of ground water is not expected to impact the proposed development, provided the recommendations of this report are implemented in the design and construction of the project. Perched lenses of water may be encountered but impacts can be mitigated by the recommendations within this report. If excavations do encounter the static water table dewatering measures will be required for work such as utility installation below the water table elevation.

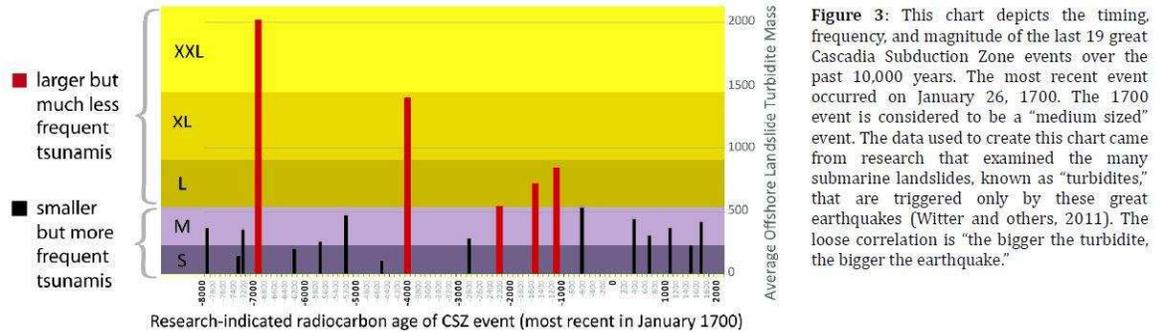
3.0 GEOLOGIC SETTING

The 1991 Geologic map of Oregon by Walker and MacLeod maps the site geology as dune sand. The subject site is located near the northern extent of the longest coastal strip of dunes on the Oregon Coast. The dunes in the area were likely formed post ice-age during the Holocene epoch by eolian processes associated with the activity of wind. The typical pattern seen in the area is transverse dunes (running parallel to the ocean) caused by the varying on, and off shore winds. The area is mapped as sedimentary deposits of the Holocene and or Pleistocene, unconsolidated to poorly consolidated eolian sands. The subject site is underlain by Holocene-aged sedimentary deposits of unconsolidated to poorly consolidated fine-grained sands.

The site is located on the Oregon Coast, the entire Oregon Coast is located near the Cascadia Subduction Zone, which is a zone of converging tectonic plates that historically produces major

earthquake events, a depiction of the historical Subduction Zone earthquake events is shown below.

Occurrence and Relative Size of Cascadia Subduction Zone Megathrust Earthquakes



3.1 Seismic Site Classification

Based on the soil properties encountered in our site pits and on-site well log information, Site Class D (Table 20.1-1 ASCE 7) is recommended for the medium dense sand encountered in the test pits. Pursuant to the 2019 Oregon Structural Specialty Code the following potential geologic and seismic hazards are addressed.

- **Slope Instability:** The site topography is relatively flat with isolated high and low areas typical of stabilized dune topography. Our review of the online Department of Geologic and Mining Industries (DOGAMI) hazard viewer does not map any areas of high landslide hazard risk, or existing landslides in the vicinity of the site, or in a location that may affect the site. Provided the earthwork recommendations in this report are incorporated into design and construction of the project the risk of landslides impacting the site is low.
- **Liquefaction:** Near surface sands are loose and susceptible to liquefaction and settlement if saturated at the time of a seismic event; however, based on our investigation findings and review of area well logs, it appears that the high ground water level is at least 10-feet below most areas of the site, at or below an elevation of 50-feet MSL. The sand at this depth becomes a medium dense consistency. Based on an anticipated lateral acceleration of 0.4g in the event of CSZ earthquake resulting in a cyclic stress ratio of 0.26 the sands within 20-feet BGS, liquefaction may occur (Boulanger & Idriss, University of California, Davis 2014) in saturated conditions; however, the risk of ground surface effects due to liquefaction are considered to be low. The potential from tsunami and ground shaking at the site in the event of a CSZ earthquake are considered to be the primary potential site impacts.
- There are no known active faults on the site, other normal faults are mapped in the hills in the site vicinity, however, these faults are not known to be active. The risk of surface rupture is low.

- There are no abrupt changes in ground elevation on or near the site that would present a potential for lateral spreading to occur during a seismic event; the risk for lateral spread on the site is low, provided any embanked fill on the site is constructed per the recommendations in this report.

4.0 CONCLUSIONS

Based on our field observations, subsurface explorations, and data analyses, we conclude that the site is geologic and geotechnically suitable for the proposed development provided that the recommendations of this report are incorporated into the design and construction of the project. Our investigation did not reveal any specific site features or subsurface conditions that would impede the proposed design and construction of the project. We conclude that no further geotechnical analysis is required on the subject site for the proposed site improvements.

5.0 RECOMMENDATIONS

The following sections present site-specific recommendations and design parameters for site preparation, drainage, foundations, utility excavations, and slab/pavement design. General material and construction specifications for the items discussed herein are provided in Appendix B.

The subsurface conditions observed in our site investigation are consistent; however, our field explorations only represent a very small portion of the site. Should loose or unsuitable soils extend to a depth greater than that described herein, or areas of distinct soil variation be discovered, this office shall be notified to perform site observation and additional excavation may be required.

5.1 Site Preparation and Foundation Subgrade Requirements

The following recommendations are for earthwork in the building foundation areas, roadways, and parking areas. Earthwork shall be performed in general accordance with the standard of practice as described in Appendix J of the 2019 Oregon Structural Specialty Code and as specified in this report.

All areas intended to directly or laterally support structures or roadways shall be stripped of vegetation, organic soil, unsuitable fill, and/or other deleterious material. These stripping's shall be removed from the site or reserved for use in landscaping or non-structural areas. Once subgrade is exposed, expected to be loose to medium dense sand, the recommended subgrade preparation is as follows:

Foundation Subgrade Preparation

In areas of foundation footings, organic topsoil and loose sand shall be removed to consistently medium dense sand either for the placement of foundation forms or structural fill. Upon excavation to suitable subgrade, the subgrade shall be wetted and rolled with a vibratory smooth drum roller until no additional visual settlement of the subgrade is detected. Conventional strip and spread footings may be used for the foundation system of the proposed structures.

Foundation footings shall be placed at least 5-feet from the competent face of downward slopes below footings.

If footings are not constructed immediately upon subgrade preparation, we recommend that the subgrade be covered with a minimum of 3-inches of compacted aggregate to mitigate wind and water erosion. After construction of footings, the perimeter of the footings shall be protected from erosion to mitigate undermining of footings. If structural fill is required to raise subgrade elevations, the fill shall conform to the recommendations in Sections 5.2 below.

Pavement Subgrade Preparation

In areas of pavement for vehicle access or parking, we recommend that the existing vegetation, topsoil, and areas of loose soil be removed to consistent subgrade material as described above. The expected depth of excavation to the subgrade material described above is approximately 10- to 16-inches. Upon excavation to suitable subgrade, the subgrade shall be wetted and rolled with a vibratory smooth drum roller until no additional visual settlement of the subgrade is detected. Fill placed to raise pavement subgrade elevations shall be placed on suitable subgrade, and conform to the recommendations below. We recommend that a minimum of 6-inches of compacted aggregate be placed on the subgrade in light vehicle pavement areas. Heavy construction traffic will require additional aggregate thickness, a minimum of 12-inches, to mitigate rutting of the subgrade.

During subgrade excavation in foundation and pavement areas we recommend the Geotechnical Engineer of Record, or designated representative visit the site to observe the subgrade material prior to placement of structural fill or aggregate.

5.2 Engineered Fill Recommendations

All engineered fill placed on the site shall consist of homogenous material and shall meet the following recommendations. Clean, native sand is suitable for use as structural fill material.

- Areas of structural fill placement shall be stripped of organic material, loose soil, and subgrade approved by the Geotechnical Engineer prior to the placement of fill materials. Sloped areas in excess of 20% shall be properly keyed and benched horizontally into competent material as the fill height progresses. Proof-rolling or hand-probing of the subgrade may be required to assess competence.
- Prior to placement, fill material shall be approved by the Geotechnical Engineer. Acceptable fill shall be free of organics or other deleterious materials. The sand present on the site is acceptable for use as engineered fill upon removal of any organic material.
- The fill shall be moisture conditioned within 2% +/- of optimum moisture content and compacted in lifts with loose lift thickness not exceeding 8- inches with appropriate equipment for the fill material.
- Periodic visits to the site to verify lift thickness, source material, and compaction efforts shall be conducted by the Geotechnical Engineer or designated representative and documented.

- The recommended compaction level for engineered fill is 90% of ASHTO T-180/ASTM 1557-D (modified Proctor) unless otherwise specified. Compaction shall be measured by testing with nuclear densometer ASTM D-6938, or D-1556 sand cone method. If compaction testing by nuclear densometer is not possible due to the nature of the approved fill material, proof rolling with a fully loaded 10 CY dump truck observed by the Geotechnical Engineer or designated representative shall be conducted.

5.3 Cut/Fill Slopes

Fill slopes may be constructed up to a slope of 2:1 (H:V) and should be protected from erosion. See the attached Figure 2, Fill Slope Detail, for benching and drainage details. Fill shall be placed on subgrade consisting of level benches excavated through near surface topsoil or other unsuitable subgrade materials. All fill slopes in excess of 5 feet in height shall contain a keyway as shown on Figure 2. Temporary cut slopes may be excavated up to 1.5:1 (H:V) in steepness, but permanent slopes shall not exceed 2:1. All slopes shall be protected from erosion by timely placement of vegetation, or other means, and runoff should not be allowed to flow down the face of slopes.

Cut and/or fill slopes shall be no steeper than 2:1 and shall be compacted to their outer edge by either back rolling or being over built and cut to grade. All slopes shall be protected with erosion control measures and surface water shall not be allowed to drain over the top of a slope. Foundations shall be placed such that there is at least 5 lateral feet from the face of slope or outside a 1:1 plane projected from the toe of slope; whichever is greater.

5.4 Lateral Earth Pressures and Friction Coefficient

The following equivalent fluid pressure parameters can be used for design of site retaining structures that are free draining with no hydrostatic pressures.

Table-1 Lateral Earth Pressures

Material	Passive Earth Pressure (Kp)*1	Active Earth Pressure (Ka)*3	At-Rest Earth Pressure (Ko)*2
Sand (Level Backfill)	250 pcf	30 pcf	45 pcf
Sand (2:1 Backfill Slope)	250 pcf	40 pcf	55 pcf

*1 - Neglect upper foot of material unless covered by footing or pavement.

*2 - For walls restrained at the top from movement

*3 - For seismic design increase Ka by 0.7 of the peak ground acceleration (PGA) and apply at 0.4H above the base of the wall, where H is the wall height.

The coefficient of friction for concrete poured neat against undisturbed or compacted sand subgrade is 0.45 and 0.5 may be used for concrete poured on a minimum of 12-inches of compacted aggregate.

5.5 Drainage & Infiltration Testing

An on-site storm drainage system is expected to be engineered for this project. Three encased falling head infiltration tests were performed on December 17, 2019. Infiltration tests were conducted with 6-inch diameter pipes set and sealed in native soil. Infiltration test locations are shown on the attached Figures 1. The recorded field test measurements are provided in Appendix A. No factor of safety has been applied to the measured rates of vertical hydraulic conductivity.

<i>Test Location</i>	<i>Test Depth (Inches)</i>	<i>Measured Hydraulic Conductivity, k (in/hr)</i>
IT-1	54	92
IT-2	54	49
IT-3	56	80

Alteration of existing grades for this project will likely change drainage patterns but should not adversely affect adjacent properties. We recommend that areas of structural fill be evaluated to ensure proper drainage away from structures is maintained. Accumulation of drainage near structural fills may result in saturation and softening of material. Final perimeter landscape grades shall slope away from the foundation and surface water shall not be allowed to pond adjacent to foundations.

5.6 Soil Bearing Capacity

Based on our site observations and review of proposed building plans, conventional spread footings or continuous strip footings are suitable for the proposed site development provided the building pad area preparation is in conformance with the recommendations described above in Section 5.1. The allowable bearing capacity for foundation elements placed on undisturbed sand subgrade or prepared structural fill is 1,500 psf. The allowable bearing capacity may be increased by 1/3 for short-term loading such as wind and seismic.

Additionally, structural fill should extend laterally, from all foundation edges, a minimum distance or 5-feet or within a 1:1 plane from at least 1-foot outside the edge of footing. Perimeter landscape grades shall be sloped away from all foundations and water should not be allowed to pond within 10-feet of footings.

The following recommendations shall be implemented in the design and construction of the project. Periodic site observations by a geotechnical representative of Branch Engineering, Inc. are recommended during the construction of the project. The specific phases of construction that should be observed are:

Table 3:

Recommended Construction Phases to be Observed by the Geotechnical Engineer	
<i>Phase</i>	<i>Observation</i>
At completion of street excavation	Subgrade observation by the geotechnical engineer before fabric and aggregate placement.
Imported fill material	Observation of material or information on material type and source.
Placement or compaction of fill material	Observation by geotechnical engineer or test results by qualified testing agency.

5.7 Settlement

The maximum building foundation loads are estimated to be less than 1.5 kip/linear foot for wall loads and/or 3 kips for column loads. Site-specific consolidation testing was not performed; however, based on soil observations and test results in similar soil conditions, the estimated total settlement at the site is not expected to exceed 0.75-inches with a differential settlement up to 0.5-inches over a span of 20 feet. The settlement estimates are based on the building load effects and area expected to occur over a short-term, generally by the time construction is completed. These settlement estimates do not account for seismic induced settlement, which may be as much as 2+ inches, but is expected to be relatively uniform across a building footprint. Foundations should be placed a minimum distance from each other to prevent overlapping of stress distributions defined as a 1:1 (H:V) slope projection from all foundation edges to a minimum depth of two (2) times the foundation width of the largest footing.

5.8 Slabs-On-Grade

After site preparation to expose suitable subgrade prepared in accordance with Section 5.1, load bearing concrete slabs shall be underlain by a compacted sand subgrade or leveling course of compacted, crushed aggregate, if necessary. A modulus of subgrade reaction of 150 pci may be used for design of slabs on approved native subgrade material or structural fill. Non-load bearing slabs or pavements do not require geotechnical design criteria; however, BEI recommends a stable subgrade to mitigate un-controlled cracks. The edges of slabs shall be protected from erosion and undermining of the slab; a vapor barrier system shall be selected by the project architect and may be dependent on slab cover materials.

5.9 Pavement Design Recommendations

The estimated California Bearing Raito (CBR) for the near surface loose sand is 3 based on blow count correlations; however, once the pavement section subgrade is exposed and compacted, the consistency of the sand can typically be increased to at least medium dense to depths of at least 3-feet thereby increasing the CBR of 8, which is a "Fair" classification. Our recommendations used the guidance of the 1993 AASHTO Guide for Design of Pavement Structures, the 2003 revised Asphalt Pavement Design Guide, published by the Asphalt Pavement Association of Oregon, and the 2019 ODOT Pavement Design Guide as well as results from engineered structural pavement sections developed for sites with similar soils and anticipated traffic loads. Based on an estimated

equivalent 18-kip single axle loading (ESAL) of 50,000 over 20-years, a subgrade resilient modulus of 5000 psi, and 90% reliability, a Structural Number of 3.0 has been used for design of the pavement sections for the driveway portions of the site. Pavement may consist of 4-inches of Asphalt Concrete (AC) over 12-inches of base aggregate. The above section is recommended for areas of anticipated heavy traffic, including refuse, delivery, and furniture moving trucks. In areas that will be restricted to light passenger vehicle travel or parking, the recommended pavement section can be reduced to 3-inches of AC pavement over 8-inches of base aggregate. A geotextile separation fabric is recommended in wet areas where pumping of the sand may cause intrusion into the base aggregate.

A bi-axial geogrid system may be used to reduce base aggregate thicknesses, if necessary, for design grades. The surface must then be smooth and free of obstructions, depressions, and debris. Geogrid placement must be in accordance with 2018 ODOT Standard Specifications 00331.41. The aggregate size atop the geogrid shall not exceed 1.5-inches.

The above recommended structural pavement sections are designed for the type of vehicle use on the site after construction completion, not for construction vehicle traffic which is generally heavier, occurs over a short time, and impacts the site before full pavement sections are constructed. The construction traffic may cause subgrade failures and the site contractor should consider over-building designated haul routes through the site to mitigate soft areas at the time of final paving.

5.10 Wet Weather/Dry Weather Construction Practices

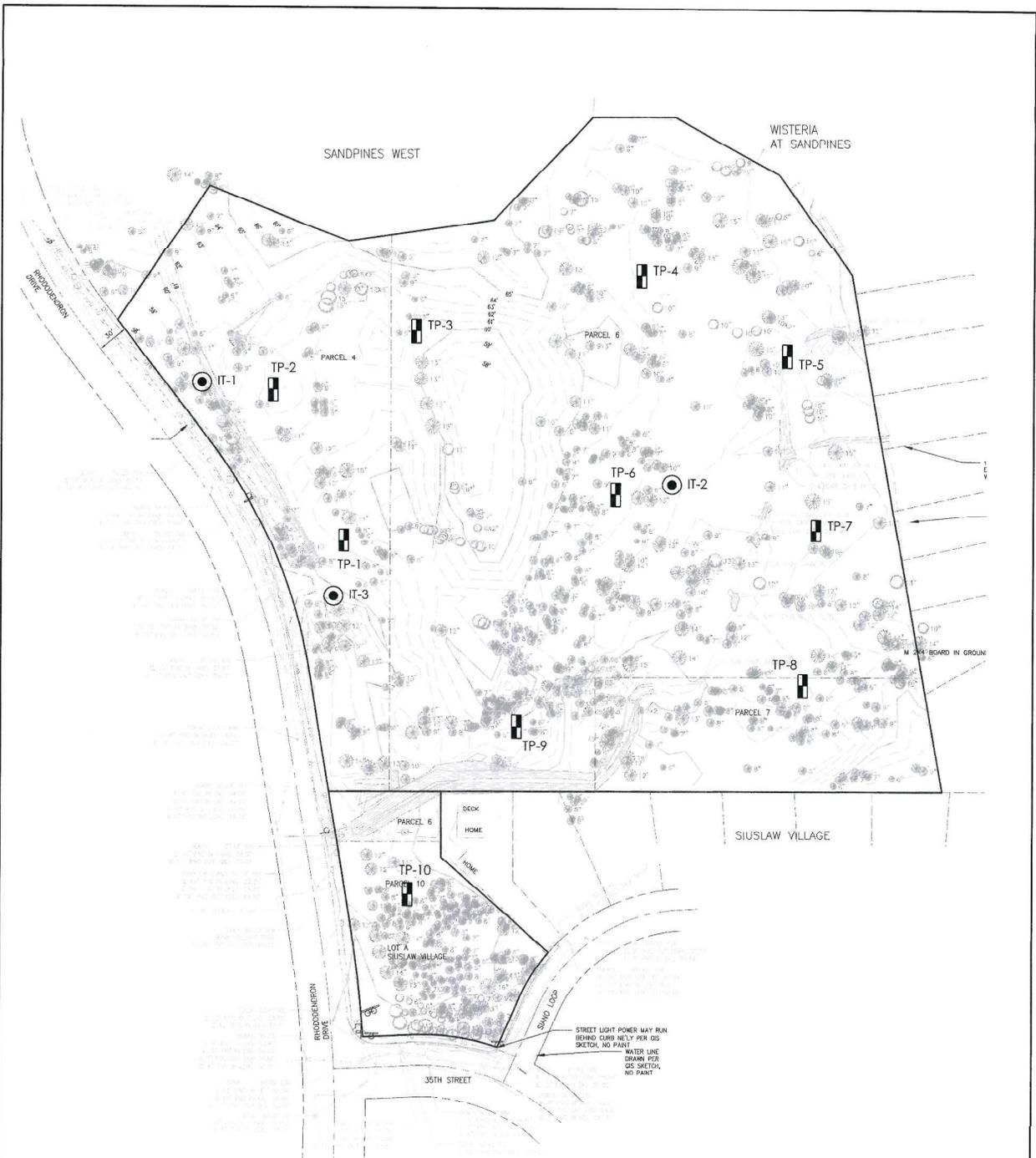
The site material is sand to depths over 70-feet and is relatively free-draining. Precipitation will not adversely impact site earthwork; however, high groundwater levels during the wet season may impact site trenching activities and cause “pumping” of the subgrade with repeated heavy vehicle traffic. Dewatering and/or shoring of excavation sidewalls may be required during construction. Construction traffic routes should have a minimum of 12-inches of aggregate, with preferably 3-inch minus angular aggregate in the lower 8-inches of the temporary road section to mitigate subgrade degradation during wet weather conditions. Final design pavement sections and foundation subgrade recommendations do not account for repeated heavy truck traffic associated with construction.

6.0 REPORT LIMITATIONS

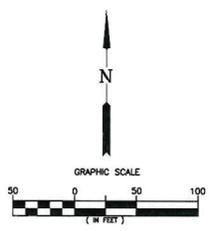
This report has presented BEI’s site observations and research, subsurface explorations, geotechnical engineering analyses, and recommendations for the proposed site development. The conclusions in this report are based on the conditions described in this report and are intended for the exclusive use of American Pacific International Capital and their representatives for use in design and construction of the development described herein. The analysis and recommendations may not be suitable for other structures or purposes.

Services performed by the geotechnical engineer for this project have been conducted with the level of care and skill exercised by other current geotechnical professionals in this area. No warranty is herein expressed or implied. The conclusions in this report are based on the site conditions as they currently exist and it is assumed that the limited site locations that were

physically investigated generally represent the subsurface conditions at the site. Should site development or site conditions change, or if a substantial amount of time goes by between our site investigation and site development, we reserve the right to review this report for its applicability. If you have any questions regarding the contents of this report please contact our office.



SITE SURVEY DRAWING PROVIDED BY S&F LAND SERVICES, 2019



LEGEND

-  TP-4 INDICATES APPROXIMATE LOCATION OF EXPLORATORY TEST PIT EXCAVATION
-  IT-1 INDICATES APPROXIMATE LOCATION OF INFILTRATION TEST



SCALE: 1:100 (11"x17")
 SITE EXPLORATION MAP - APIC - FLORENCE SITE A
 FLORENCE, OREGON

FIGURE-1
 12-17-2019



APPENDIX A:

- TEST PIT SUMMARIES
 - DCP TEST LOGS
 - INFILTRATION TESTING RESULTS
 - OWRD WELL LOGS
 - USDA SOIL SURVEY
-

RELATIVE DENSITY - COARSE GRAINED SOILS

RELATIVE DENSITY	SPT N-VALUE	D&M SAMPLER (140 lbs hammer)	D&M SAMPLER (300 lbs hammer)
VERY LOOSE	< 4	< 11	< 4
LOOSE	4 - 10	11 - 26	4 - 10
MEDIUM DENSE	10 - 30	26 - 74	10 - 30
DENSE	30 - 50	74 - 120	30 - 47
VERY DENSE	> 50	> 120	> 47

USCS GRAIN SIZE

FINES	< #200 (.075 mm)
SAND	Fine #200 - #40 (.425 mm)
	Medium #40 - #10 (2 mm)
	Coarse #10 - #4 (4.75 mm)
GRAVEL	Fine #4 - 0.75 inch
	Coarse 0.75 - 3 inch
COBBLES	3 - 12 inches

CONSISTENCY - FINE GRAINED SOILS

CONSISTENCY	SPT N-VALUE	D&M SAMPLER (140 lbs hammer)	D&M SAMPLER (300 lbs hammer)	POCKET PEN. / UNCONFINED (TSF)	MANUAL PENETRATION TEST
VERY SOFT	< 2	< 3	< 2	< 0.25	Easy several inches by fist
SOFT	2 - 4	3 - 6	2 - 5	0.25 - 0.50	Easy several inches by thumb
MEDIUM STIFF	4 - 8	6 - 12	5 - 9	0.50 - 1.00	Moderate several inches by thumb
STIFF	8 - 15	12 - 25	9 - 19	1.00 - 2.00	Readily indented by thumb
VERY STIFF	15 - 30	25 - 65	19 - 31	2.00 - 4.00	Readily indented by thumbnail
HARD	> 30	> 65	> 31	> 4.00	Difficult by thumbnail

UNIFIED SOIL CLASSIFICATION CHART

MAJOR DIVISIONS		GROUP SYMBOLS AND TYPICAL NAMES			
COARSE-GRAINED SOILS: More than 50% retained on No. 200 sieve	GRAVELS: 50% or more retained on the No. 4 sieve	CLEAN GRAVELS	GW Well-graded gravels and gravel-sand mixtures, little or no fines. GP Poorly-graded gravels and gravel-sand mixtures, little or no fines.		
		GRAVELS WITH FINES	GM Silty gravels, gravel-sand-silt mixtures. GC Clayey gravels, gravel-sand-clay mixtures.		
		CLEAN SANDS	SW Well-graded sands and gravelly sands, little or no fines. SP Poorly-graded sands and gravelly sands, little or no fines.		
			SANDS WITH FINES	SM Silty sands, sand-silt mixtures. SC Clayey sands, sand-clay mixtures.	
	FINE-GRAINED SOILS: Less than 50% retained on No. 200 sieve	SILT AND CLAY	LIQUID LIMIT LESS THAN 50	ML Inorganic silts, rock flour, clayey silts. CL Inorganic clays of low to medium plasticity, lean clays. OL Organic silt and organic silty clays of low plasticity.	
				LIQUID LIMIT 50 OR GREATER	MH Inorganic silts, clayey silts. CH Inorganic clays of high plasticity, fat clays. OH Organic clays of medium to high plasticity.
			HIGHLY ORGANIC SOILS		PT Peat, muck, and other highly organic soil.

MOISTURE CONTENT

DRY: Absence of moisture, dusty, dry to the touch
 DAMP: Some moisture but leaves no moisture on hand
 MOIST: Leaves moisture on hand
 WET: Visible free water, usually saturated

	PLASTICITY	DRY STRENGTH	DILATANCY	TOUGHNESS
ML	Non to Low	Non to Low	Slow to Rapid	Low, can't roll
CL	Low to Med.	Med. to High	None to Slow	Medium
MH	Med. to High	Low to Med.	None to Slow	Low to Med.
CH	Med. to High	High to V.High	None	High

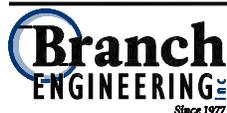
STRUCTURE

STRATIFIED: Alternating layers of material or color > 6mm thick.
 LAMINATED: Alternating layers < 6mm thick.
 FISSURED: Breaks along definite fracture planes.
 SLICKENSIDED: Striated, polished, or glossy fracture planes.
 BLOCKY: Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
 LENSES: Has small pockets of different soils, note thickness.
 HOMOGENEOUS: Same color and appearance throughout.

LIST OF ABBREVIATION & EXPLANATIONS

SPT	Standard Penetration Test split barrel sampler	G	Grab sample
D&M	Dames and Moore sampler	MC	Moisture Content
LL	Atterberg Liquid Limit	MD	Moisture Density
PL	Atterberg Plastic Limit	UC	Unconfined Compressive Strength
PP	Pocket Penetrometer		
VS	Vane Shear		

TABLE A-1





DYNAMIC CONE LOG

PROJECT NUMBER: 19-510
 DATE STARTED: 12-17-2019
 DATE COMPLETED: 12-17-2019

HOLE #: TP-2
 CREW: RJD
 PROJECT: APIC Florence Site A
 ADDRESS: Rhododendron Drive
 LOCATION: Florence, Oregon

SURFACE ELEVATION: 64'
 WATER ON COMPLETION: No
 HAMMER WEIGHT: 35 lbs.
 CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm ²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
1 ft						
2 ft						
1 m	5	22.2	•••••	6	LOOSE	MEDIUM STIFF
	6	26.6	•••••	7	LOOSE	MEDIUM STIFF
	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
4 ft	6	23.2	•••••	6	LOOSE	MEDIUM STIFF
5 ft						
6 ft						
2 m	7 ft					
	8 ft					
9 ft						
3 m	10 ft					
	11 ft					
12 ft						
4 m	13 ft					



DYNAMIC CONE LOG

PROJECT NUMBER: 19-510
 DATE STARTED: 12-17-2019
 DATE COMPLETED: 12-17-2019

HOLE #: TP-4
 CREW: RJD
 PROJECT: APIC Florence Site A
 ADDRESS: Rhododendron Drive
 LOCATION: Florence, Oregon

SURFACE ELEVATION: 63'
 WATER ON COMPLETION: No
 HAMMER WEIGHT: 35 lbs.
 CONE AREA: 10 sq. cm

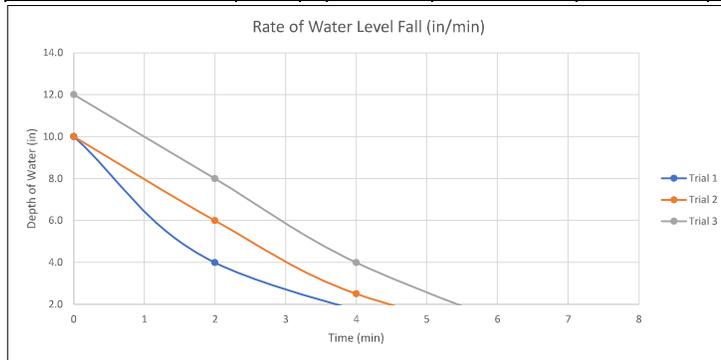
DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm ²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
1 ft						
2 ft						
3 ft						
1 m	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
4 ft	6	23.2	•••••	6	LOOSE	MEDIUM STIFF
5 ft						
6 ft						
2 m						
7 ft						
8 ft						
9 ft						
3 m						
10 ft						
11 ft						
12 ft						
4 m						
13 ft						



Infiltration Test Results

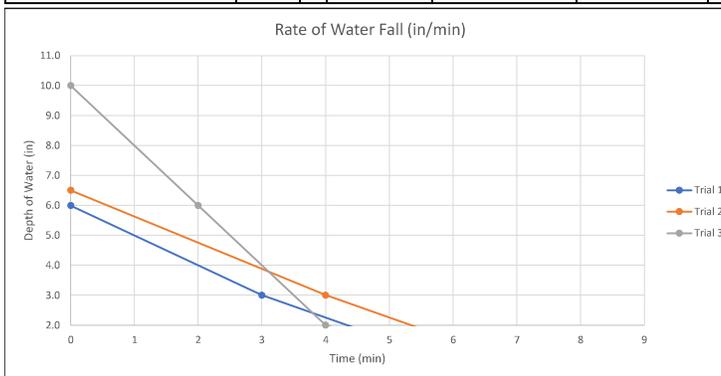
Project: American Pacific International Capital - Florence Site
 Testing Date: December 17, 2019
 BEI Project Number: 19-510
 Test Type: Encased Falling Head Infiltration
 Time = 0 at addition of H2O

Infiltration Test 1 Trial 1		Elapsed Time (min)	Depth to Water Surface (in)	Depth of Water (in)	Rate of Fall (in/min)	Rate of Fall (in/hr)	Avg Rate of Fall T-1 (in/hr)
Standpipe Diameter (in)	6	0	44.0	10.0			
Standpipe Height AGS (in)	0	2	50.0	4.0	3.00	180.0	
Test Depth BGS (in)	54	6	54.0	0.0	1.00	60.0	120.0
Volume of Water Added (gal)	1						
Clocktime at Start	12:08						
ASTM Soil Type	(SW)						
Infiltration Test 1 Trial 2		Elapsed Time (min)	Depth to Water Surface (in)	Depth of Water (in)	Rate of Fall (in/min)	Rate of Fall (in/hr)	Avg Rate of Fall T-2 (in/hr)
Volume of Water Added (gal)	1	0	44.0	10.0			
Clocktime	12:16	2	48.0	6.0	2.00	120.0	
		4	51.5	2.5	1.75	105.0	
		7	54.0	0.0	0.83	50.0	91.7
Infiltration Test 1 Trial 3		Elapsed Time (min)	Depth to Water Surface (in)	Depth of Water (in)	Rate of Fall (in/min)	Rate of Fall (in/hr)	Avg Rate of Fall T-3 (in/hr)
Volume of Water Added (gal)	1	0	42.0	12.0			
Clocktime	12:24	2	46.0	8.0	2.00	120.0	
		4	50.0	4.0	2.00	120	
		7	54.0	0.0	1.33	80.0	106.7



Recommened Rate (in/hr)
92.0

Infiltration Test 2 Trial 1		Elapsed Time (min)	Depth to Water Surface (in)	Depth of Water (in)	Rate of Fall (in/min)	Rate of Fall (in/hr)	Avg Rate of Fall T-1
Standpipe Diameter (in)	6	0	48.0	6.0			
Standpipe Height AGS (in)	0	3	51.0	3.0	1.00	60.0	
Test Depth BGS (in)	54	7	54.0	0.0	0.75	45.0	52.5
Volume of Water Added (gal)	1						
Clocktime	13:09						
ASTM Soil Type	(SW)						
Infiltration Test 2 Trial 2		Elapsed Time (min)	Depth to Water Surface (in)	Depth of Water (in)	Rate of Fall (in/min)	Rate of Fall (in/hr)	AVG Rate of Fall T-2
Volume of Water Added (gal)	0.75	0	47.5	6.5			
Clocktime	13:17	4	51.0	3.0	0.88	52.5	
		8	54.0	0.0	0.75	45.0	48.8
Infiltration Test 2 Trial 3		Elapsed Time (min)	Depth to Water Surface (in)	Depth of Water (in)	Rate of Fall (in/min)	Rate of Fall (in/hr)	AVG Rate of Fall T-2
Volume of Water Added (gal)	1	0	44.0	10.0			
Clocktime	13:33	2	48.0	6.0	2.00	120.0	
		4	52.0	2.0	2.00	120.0	
		7	54.0	0.0	0.67	40.0	120.0



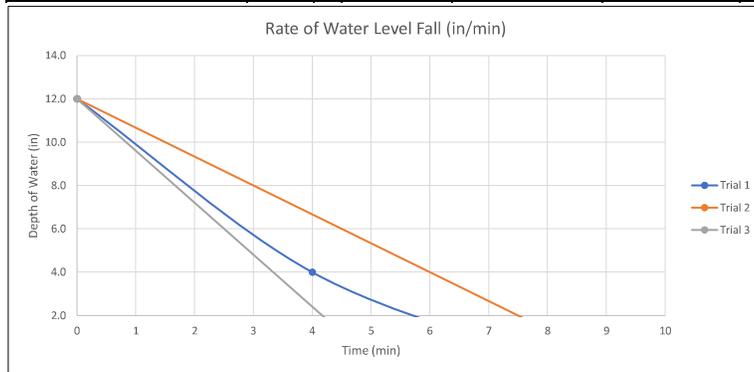
Recommened Rate (in/hr)
49.0



Infiltration Test Results

Project: American Pacific International Capital - Florence Site
 Testing Date: December 17, 2019
 BEI Project Number: 19-510
 Test Type: Encased Falling Head Infiltration
 Time = 0 at addition of H2O

Infiltration Test 3 Trial 1		Elapsed Time (min)	Depth to Water Surface (in)	Depth of Water (in)	Rate of Fall (in/min)	Rate of Fall (in/hr)	Avg Rate of Fall T-1 (in/hr)
Standpipe Diameter (in)	6	0	44.0	12.0			
Standpipe Height AGS (in)	0	4	52.0	4.0	2.00	120.0	
Test Depth BGS (in)	56	8	56.0	0.0	1.00	60.0	90.0
Volume of Water Added (gal)	1						
Clocktime at Start	13:52						
ASTM Soil Type	(SW)						
Infiltration Test 3 Trial 2		Elapsed Time (min)	Depth to Water Surface (in)	Depth of Water (in)	Rate of Fall (in/min)	Rate of Fall (in/hr)	Avg Rate of Fall T-2 (in/hr)
Volume of Water Added (gal)	1	0	44.0	12.0			
Clocktime	14:01	9	56.0	0.0	1.33	80.0	80.0
Infiltration Test 3 Trial 3		Elapsed Time (min)	Depth to Water Surface (in)	Depth of Water (in)	Rate of Fall (in/min)	Rate of Fall (in/hr)	Avg Rate of Fall T-3 (in/hr)
Volume of Water Added (gal)	1	0	44.0	12.0			
Clocktime	14:11	5	56.0	0.0	2.40	144.0	144.0



Recommended Rate (in/hr)
80.0

Replacement Log

RECEIVED

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

LANE
50937

DEC 1 1995

(START CARD) # 41065

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number 2
Name Florence Resort Community
Address 1050 35th St.
City Florence State OR Zip 97439

(2) TYPE OF WORK
 New Well Deepening Alteration (repair/recondition) Abandonment

(3) DRILL METHOD:
 Rotary Air Rotary Mud Cable Auger
 Other

(4) PROPOSED USE:
 Domestic Community Industrial Irrigation
 Thermal Injection Livestock Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes No Depth of Completed Well 105 ft.
Explosives used Yes No Type _____ Amount _____

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
16"	0'	20'	Bentonite	0'	20'	24 sacks
12"	20'	108'				

How was seal placed: Method A B C D E
 Other _____
Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 12"	+2'	33'	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner: 10"	25'	45'	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner: 10"	45'	105'	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations Method _____
 Screens Type V-Wire Material Stainless

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
45'	95'	.008		12"	Tele	<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour
well output may fluctuate

Pump Bailor Air Flowing
 Artesian

Yield gal/min	Drawdown	Drill stem at	Time
430	6.2		10.5 hrs.

Temperature of water 51° Depth Artesian Flow Found _____
Was a water analysis done? Yes By whom _____
Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:
County Lane Latitude _____ Longitude _____
Township 18 S N or S Range 12 W E or W. WM.
Section 15 SW 1/4 SE 1/4
Tax Lot 800 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 1050 35th St.
Florence, OR

(10) STATIC WATER LEVEL:
21 ft. below land surface. Date 9/23/92
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found _____

From	To	Estimated Flow Rate	SWL
21	105	430	21

(12) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
sand brown	0	64	21
sand to blue	64	105	21
sand + blue clay	105	108	21

Date started 5/9/92 Completed 9/22/92

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
Signed _____ WWC Number _____ Date _____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
Signed Mark Chamberlain WWC Number 97 Date 9/29/92

Replacement Log

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

LANE
50936

DEC 1 1992
SALEM, OREGON

(START CARD) # 41058

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number 1
Name Florence Reso + Community
Address 1050 35th St.
City Florence State OR Zip 97439

(2) TYPE OF WORK
 New Well Deepening Alteration (repair/recondition) Abandonment

(3) DRILL METHOD:
 Rotary Air Rotary Mud Cable Auger
 Other

(4) PROPOSED USE:
 Domestic Community Industrial Irrigation
 Thermal Injection Livestock Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes No Depth of Completed Well 70.5 ft.
Explosives used Yes No Type _____ Amount _____

HOLE			SEAL			Sacks or pounds
Diameter	From	To	Material	From	To	
16"	0'	9'	Bentonite	0'	9'	12 Sacks
12"	9'	70.5'				

How was seal placed: Method A B C D E
 Other _____
Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	12"	+2'	26'	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:	10"	22.5'	25.5'	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	10"	65.5'	70.5'	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations Method _____
 Screens Type V. wire Material Stainless

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
25.5'	65.5'	.008		12"	Tele	<input type="checkbox"/>	<input type="checkbox"/>

Steel plate welded on bottom

(8) WELL TESTS: Minimum testing time is 1 hour
well output may fluctuate

Pump Bailer Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
175	42'	---	12# hr.

Temperature of water 51° Depth Artesian Flow Found _____
Was a water analysis done? Yes By whom _____
Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:
County Lane Latitude _____ Longitude _____
Township 18 S N or S Range 12 W E or W. WM.
Section 15 SW 1/4 SE 1/4
Tax Lot 800 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 1050 35th St. Florence, OR

(10) STATIC WATER LEVEL:
6.2 ft. below land surface. Date 2/30/92
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found _____

From	To	Estimated Flow Rate	SWL
12	70	175	6.2

(12) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
Sand	0	41	6.2
Sand w/ peat	41	47	6.2
sand to blue	47	72	6.2

Date started 4/26/92 Completed 9/22/92

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
WVC Number _____ Date _____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
WVC Number 97 Date 9/29/92

Soil Map—Lane County Area, Oregon



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: Lane County Area, Oregon
 Survey Area Data: Version 16, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2007—Sep 15, 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
131C	Waldport fine sand, 0 to 12 percent slopes	10.4	92.5%
140	Yaquina loamy fine sand	0.8	7.5%
Totals for Area of Interest		11.2	100.0%

Lane County Area, Oregon

131C—Waldport fine sand, 0 to 12 percent slopes

Map Unit Setting

National map unit symbol: 234r
Elevation: 0 to 150 feet
Mean annual precipitation: 60 to 100 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 165 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Waldport and similar soils: 85 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Waldport

Setting

Landform: Dunes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian sand of mixed origin

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 3 inches: moderately decomposed plant material
H1 - 3 to 8 inches: fine sand
H2 - 8 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Heceta

Percent of map unit: 4 percent

Landform: Interdunes
Hydric soil rating: Yes

Yaquina

Percent of map unit: 4 percent
Landform: Marine terraces
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Lane County Area, Oregon
Survey Area Data: Version 16, Sep 10, 2019

Lane County Area, Oregon

140—Yaquina loamy fine sand

Map Unit Setting

National map unit symbol: 2359

Elevation: 20 to 130 feet

Mean annual precipitation: 70 to 80 inches

Mean annual air temperature: 50 to 52 degrees F

Frost-free period: 180 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Yaquina and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yaquina

Setting

Landform: Dune slacks

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Eolian sand of mixed origin

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

H1 - 1 to 9 inches: loamy fine sand

H2 - 9 to 30 inches: fine sand

H3 - 30 to 60 inches: fine sand

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): High
(1.98 to 5.95 in/hr)

Depth to water table: About 0 to 24 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: A/D

Forage suitability group: Somewhat Poorly Drained
(G004AY017OR)

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Lane County Area, Oregon
Survey Area Data: Version 16, Sep 10, 2019

APPENDIX B:

Recommended Earthwork Specifications



GEOTECHNICAL SPECIFICATIONS

General Earthwork

1. All areas where structural fills, fill slopes, structures, or roadways are to be constructed shall be stripped of organic topsoil and cleared of surface and subsurface deleterious material, including but limited to vegetation, roots, or other organic material, undocumented fill, construction debris, soft or unsuitable soils as directed by the Geotechnical Engineer of Record. These materials shall be removed from the site or stockpiled in a designated location for reuse in landscape areas if suitable for that purpose. Existing utilities and structures that are not to be used as part of the project design or by neighboring facilities, shall be removed or properly abandoned, and the associated debris removed from the site.
2. Upon completion of site stripping and clearing, the exposed soil and/or rock shall be observed by the Geotechnical Engineer of Record or a designated representative to assess the subgrade condition for the intended overlying use. Pits, depressions, or holes created by the removal of root wads, utilities, structures, or deleterious material shall be properly cleared of loose material, benched and backfilled with fill material approved by the Geotechnical Engineer of Record compacted to the project specifications.
3. In structural fill areas, the subgrade soil shall be scarified to a depth of 4-inches, if soil fill is used, moisture conditioned to within 2% of the materials optimum moisture for compaction, and blended with the first lift of fill material. The fill placement and compaction equipment shall be appropriate for fill material type, required degree of blending, and uncompacted lift thickness. Assuming proper equipment selection, the total uncompacted thickness of the scarified subgrade and first fill lift shall not exceed 8-inches, subsequent lifts of uncompacted fill shall not exceed 8-inches unless otherwise approved by the Geotechnical Engineer of Record. The uncompacted lift thickness shall be assessed based on the type of compaction equipment used and the results of initial compaction testing. Fine-grain soil fill is generally most effectively compacted using a kneading style compactor, such as a sheeps-foot roller; granular materials are more effectively compacted using a smooth, vibratory roller or impact style compactor.
4. All structural soil fill shall be well blended, moisture conditioned to within 2% of the material's optimum moisture content for compaction and compacted to at least 90% of the material's maximum dry density as determined by ASTM Method D-1557, or an equivalent method. Soil fill shall not contain more than 10% rock material and no solid material over 3-inches in diameter unless approved by the Geotechnical Engineer of Record. Rocks shall be evenly distributed throughout each lift of fill that they are contained within and shall not be clumped together in such a way that voids can occur.
5. All structural granular fill shall be well blended, moisture conditioned at or up to 3% above of the material's optimum moisture content for compaction and compacted to at least 90% of the material's maximum dry density as determined by ASTM Method D-1557, or an equivalent method. 95% relative compaction may be required for pavement base rock or in upper lifts of the granular structural fill where a sufficient thickness of the fill section allows for higher compaction percentages to be achieved. The granular fill shall not contain solid particles over 2-inches in diameter unless special density testing methods or proof-rolling is approved by the Geotechnical Engineer of Record. Granular fill is generally considered to be a crushed aggregate with a fracture surface of at least 70% and a maximum size not exceeding 1.5-inches in diameter, well-graded with less than 10%, by weight, passing the No. 200 Sieve.
6. Structural fill shall be field tested for compliance with project specifications for every 2-feet in vertical rise or 500 cy placed, whichever is less. In-place field density testing shall be performed by a competent individual, trained in the testing and placement of soil and aggregate fill placement, using either ASTM Method D-1556/4959/4944 (Sand Cone), D-6938 (Nuclear Densometer), or D-2937/4959/4944 (Drive Cylinder). Should the fill materials not be suitable for testing by the above methods, then observation of placement, compaction and proof-rolling with a loaded 10 cy dump-truck, or equivalent ground pressure equipment, by a trained individual may be used to assess and document the compliance with structural fill specifications.

Utility Excavations

1. Utility excavations are to be excavated to the design depth for bedding and placement and shall not be over-excavated. Trench widths shall only be of sufficient width to allow placement and proper construction of the utility and backfill of the trench.
2. Backfilling of a utility trench will be dependent on its location, use, depth, and utility line material type. Trenches that are required to meet structural fill specifications, such as those under or near buildings, or within pavement areas, shall have granular material strategically compacted to at least the spring-line of the utility conduit to mitigate pipeline movement and deformation. The initial lift thickness of backfill overlying the pipeline will be dependent on the pipeline material, type of backfill, and the compaction equipment, so as not to cause deflection or deformation of the pipeline. Trench backfill shall conform to the General Earthwork specifications for placement, compaction, and testing of structural fill.

Geotextiles

1. All geotextiles shall be resistant to ultraviolet degradation, and to biological and chemical environments normally found in soils. Geotextiles shall be stored so that they are not in direct sunlight or exposed to chemical products. The use of a geotextile shall be specified and shall meet the following specification for each use.

Subgrade/Aggregate Separation

Woven or nonwoven fabric conforming to the following physical properties:

• Minimum grab tensile strength	ASTM Method D-4632	180 lb
• Minimum puncture strength (CBR)	ASTM Method D-6241	371 lb
• Elongation	ASTM Method D-4632	15%
• Maximum apparent opening size	ASTM Method D-4751	No. 40
• Minimum permittivity	ASTM Method D-4491	0.05 s ⁻¹

Drainage Filtration

Woven fabric conforming to the following physical properties:

• Minimum grab tensile strength	ASTM Method D-4632	110 lb
• Minimum puncture strength (CBR)	ASTM Method D-6241	220 lb
• Elongation	ASTM Method D-4632	50%
• Maximum apparent opening size	ASTM Method D-4751	No. 40
• Minimum permittivity	ASTM Method D-4491	0.5 s ⁻¹

Geogrid Base Reinforcement

Extruded biaxially or triaxially oriented polypropylene conforming to the following physical properties:

• Peak tensile strength lb/ft	ASTM Method D-6637	925
• Tensile strength at 2% strain lb/ft	ASTM Method D-6637	300
• Tensile strength at 5% strain lb/ft	ASTM Method D-6637	600
• Flexural Rigidity	ASTM Method D-1388	250,000 mg-cm
• Effective Opening Size rock size	ASTM Method D-4751	1.5x

OPERATIONS & MAINTENANCE

(To be completed in the final design phase)

MEMORANDUM

Date: February 11, 2020

Project #: 24714

To: Mike Miller
City of Florence Public Works
250 Highway 101
Florence, OR 97439

From: Amy Griffiths & Diego Arguea, PE

Project: Florence Residential Subdivision

Subject: Traffic Impact Analysis Report

This traffic impact analysis (TIA) report has been prepared as part of the site plan application for the proposed residential development to be located on a vacant site in Florence, Oregon. A site vicinity map is shown in Figure 1. Based on the analysis provided and documented herein, the proposed residential development can be constructed while maintaining acceptable traffic operations at the study intersections. No capacity-based mitigation needs were identified at the study intersections. Additional details documenting the methodology, proposed development plan, operations results, and recommendations are provided herein.

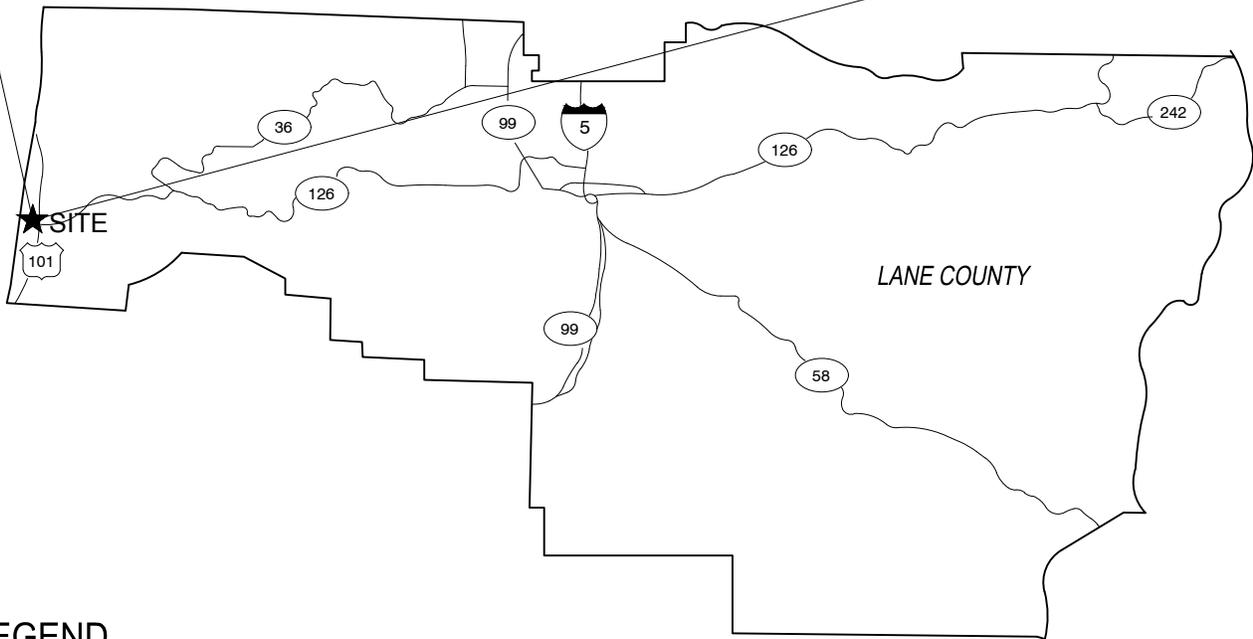
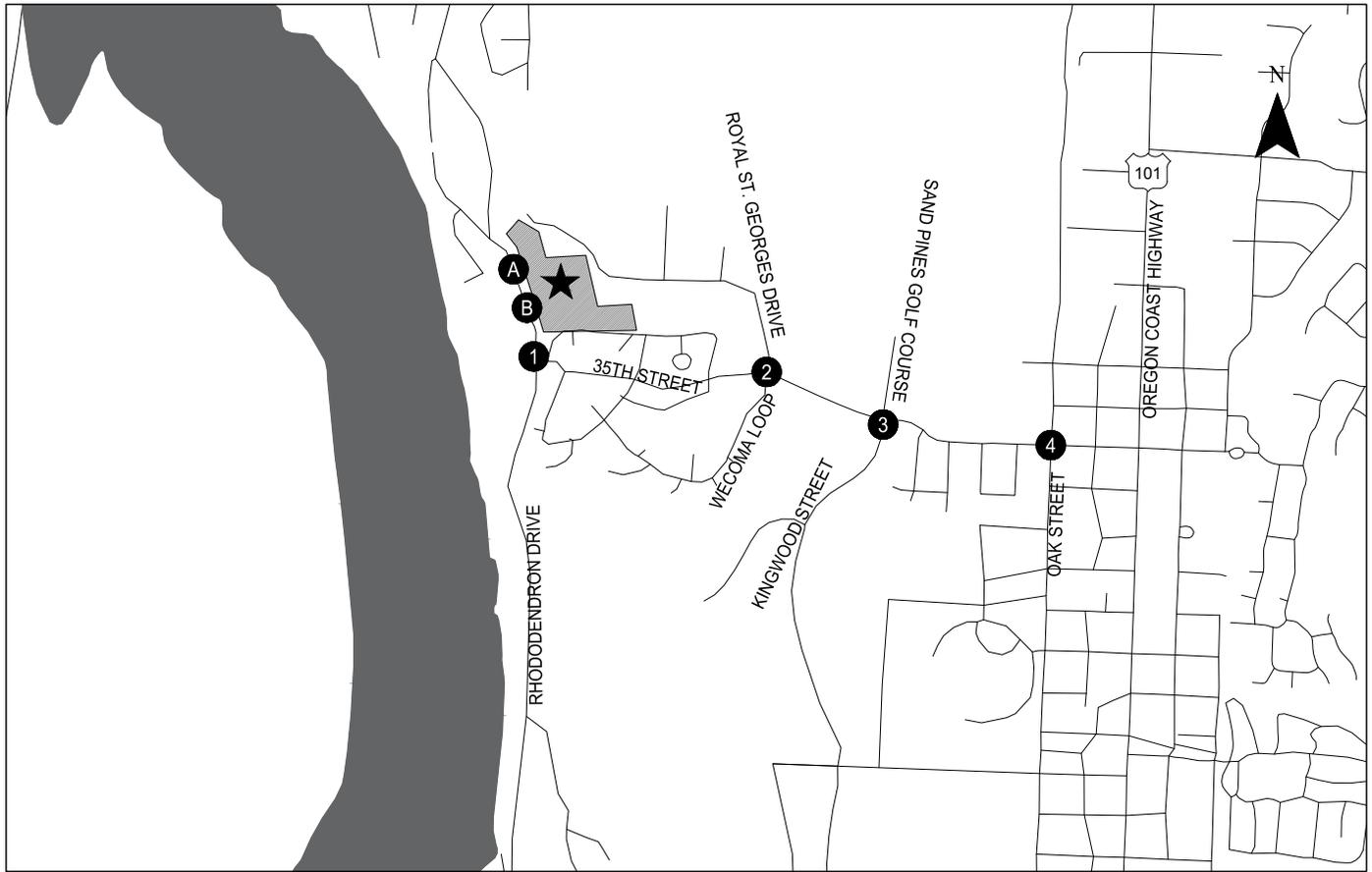
INTRODUCTION

The applicant proposes development of up to 31 detached single-family homes and up to 101 low-rise multi-family homes to be located on a vacant site in north Florence. The site is bounded by Rhododendron Road to the west, 35th Street and Siano Loop Road to the south, and Royal Saint Georges Drive to the east and north. Access to the site is proposed via two full-movement new street connections, spaced approximately 340 feet and 610 feet north of 35th Street. The proposed development is expected to be constructed and occupied in 2021. A site plan is shown in Figure 2.

SCOPE OF WORK

This TIA has been prepared as part of the Florence Residential Subdivision development application. Pursuant to the methodology memorandum provided and the ODOT response (included in Attachment "A"), this report includes the following:

- Operational assessment of study intersections under existing traffic conditions;
- Review of latest five years of reported crash data at study intersections;



LEGEND

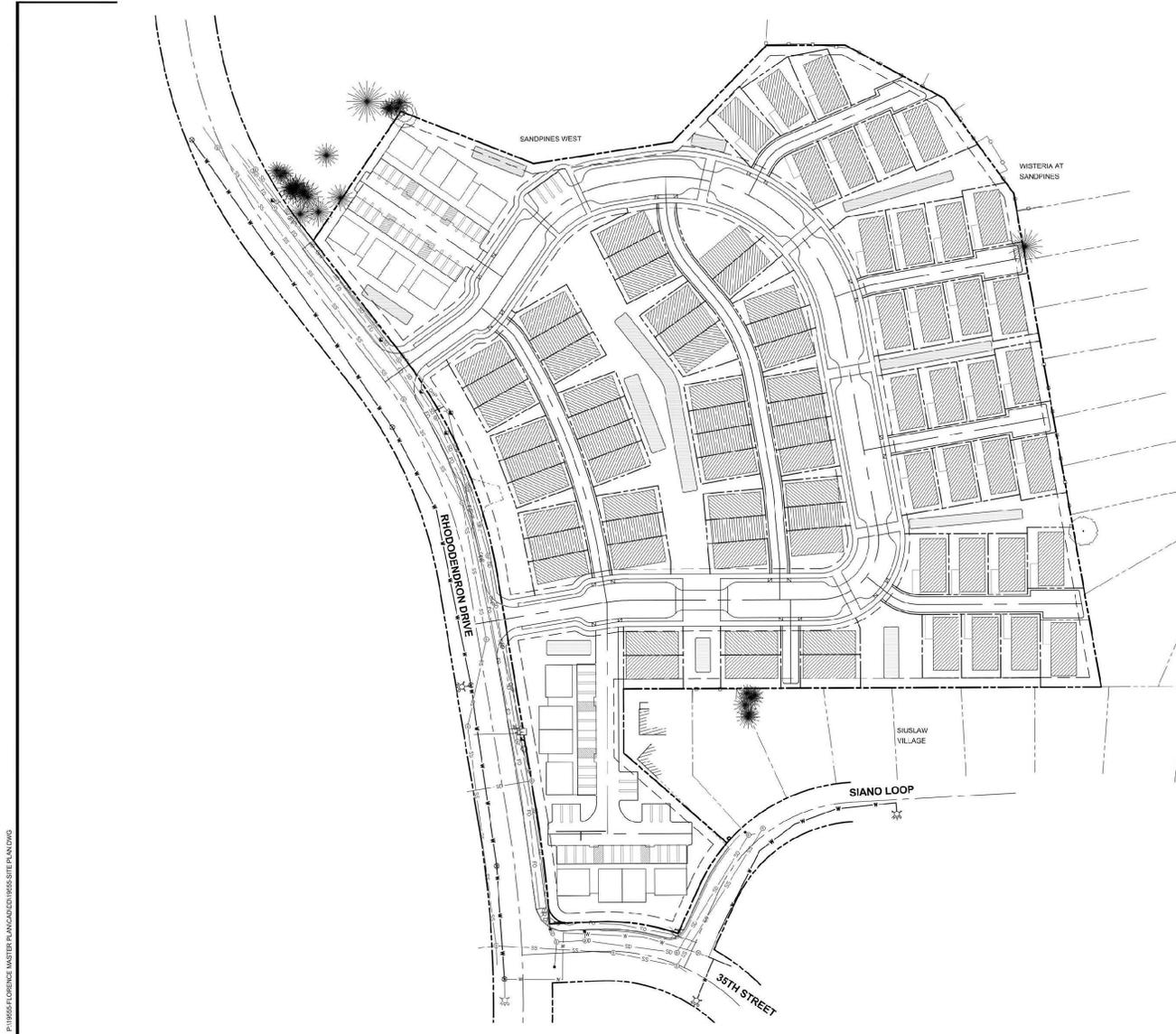
- ★ - SITE LOCATION
- # - STUDY INTERSECTION

Site Vicinity Map
Florence, OR

Figure
1

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H:\2\24714 - Florence Residential Subdivision\report\figs\24714_Figures.dwg Feb 11, 2020 - 8:56am - agriffiths Layout Tab: Proposed Site Plan



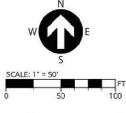
PUBLISH DATE
2020-01-24
ISSUED FOR
SITE PLAN UPDATES
REVISIONS

SITE PLAN
FLORENCE PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR

3J CONSULTING
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
COMMUNITY PLANNING
900 SW WIMBUS AVE., SUITE 100 BEAVERTON, OR 97008

PROJECT INFORMATION
3J PROJECT # | 190255
1904 LOTS | 19512/19170 AND 3800
LAND USE # | T80
DESIGNED BY | JTE, TEG
CHECKED BY | KJM

SHEET NUMBER
C200



Site Plan Provided by 3J Consulting January 24, 2020

Preliminary Proposed Site Plan
Florence, OR

Figure
2

- Background traffic operations assessment for opening year 2021, not including the proposed development traffic volumes;
- Trip generation and trip distribution estimate for the proposed residential development;
- Total traffic operations assessment for opening year 2021, including the proposed development traffic volumes; and,
- Driveway operations and sight distance assessment.

Findings and recommendations are provided at the conclusion of the report.

The study intersections were identified based on the project's trip generation impact on adjacent intersections within the site vicinity and include the following (also shown in Figure 1):

- Site Driveway "A"/Rhododendron Drive
- Site Driveway "B"/Rhododendron Drive
- 35th Street/Rhododendron Drive
- 35th Street/Royal St. Georges Drive
- 35th Street/Kingwood Street
- 35th Street/Oak Street

ANALYSIS METHODOLOGY AND APPLICABLE STANDARDS

All operations analyses described in this report were performed in accordance with the procedures stated in the *Highway Capacity Manual, 6th Edition* (HCM – Reference 1).

All intersection level-of-service evaluations used the peak 15-minute flow rate during the weekday morning and evening commuter peak hours. Using the peak 15-minute flow rate ensures that this analysis is based on a reasonable worst-case scenario. For this reason, the analysis reflects conditions that are only likely to occur for 15 minutes out of each average peak hour. *A description of level-of-service criteria is contained in Attachment "B".*

Operating Standards

The City of Florence has adopted level-of-service (LOS) and volume-to-capacity (V/C) ratio operating standards for signalized and unsignalized intersections as documented in the 2012 Transportation System Plan (TSP). The following operating standards apply to City intersections:

- LOS "D" is considered acceptable at signalized and all-way stop controlled intersections if the V/C ratio is not higher than 1.0 for the sum of critical movements.
- LOS "E" is considered acceptable for the poorest operating approach at two-way stop intersections. LOS "F" is allowed in situations where a traffic signal is not warranted.

EXISTING CONDITIONS

The existing conditions analysis identifies the site conditions and current physical and operational characteristics of the roadways within the study area. These conditions will be compared with future conditions later in this report.

Kittelson & Associates, Inc. (Kittelson) staff visited and inventoried the proposed development site and surrounding study area in February 2020. At that time, Kittelson collected information regarding site conditions, adjacent land uses, existing traffic operations, and transportation facilities in the study area.

SITE CONDITIONS AND ADJACENT LAND USES

The site is currently vacant. The land uses in the site vicinity include residential, community commercial, and recreational.

TRANSPORTATION FACILITIES

Table 1 summarizes the characteristics of the existing transportation facilities in the study area.

Table 1: Existing Transportation Facilities

Roadway	Functional Classification ¹	Number of Lanes	Posted Speed (mph)	Sidewalks	Bicycle Lanes	On-Street Parking
Rhododendron Drive	Minor Arterial	2	40	No	No	No?
35 th Street	Collector	2	25	No	Yes	No
Wecoma Loop – Royal Saint Georges Drive	Local	2	NP	No	No	Yes
Kingwood Street	Local	2	40	Yes	Yes	No
Oak Street	Collector	2	25	Yes	Yes	No

¹Functional Classification from *Florence Transportation System Plan* (December, 2012, Reference 2).

NP: not posted

Roadway Facilities

Figure 3 illustrates the existing lane configurations and traffic control devices at the study intersections. All of the study intersections are two-way stop-controlled (TWSC).

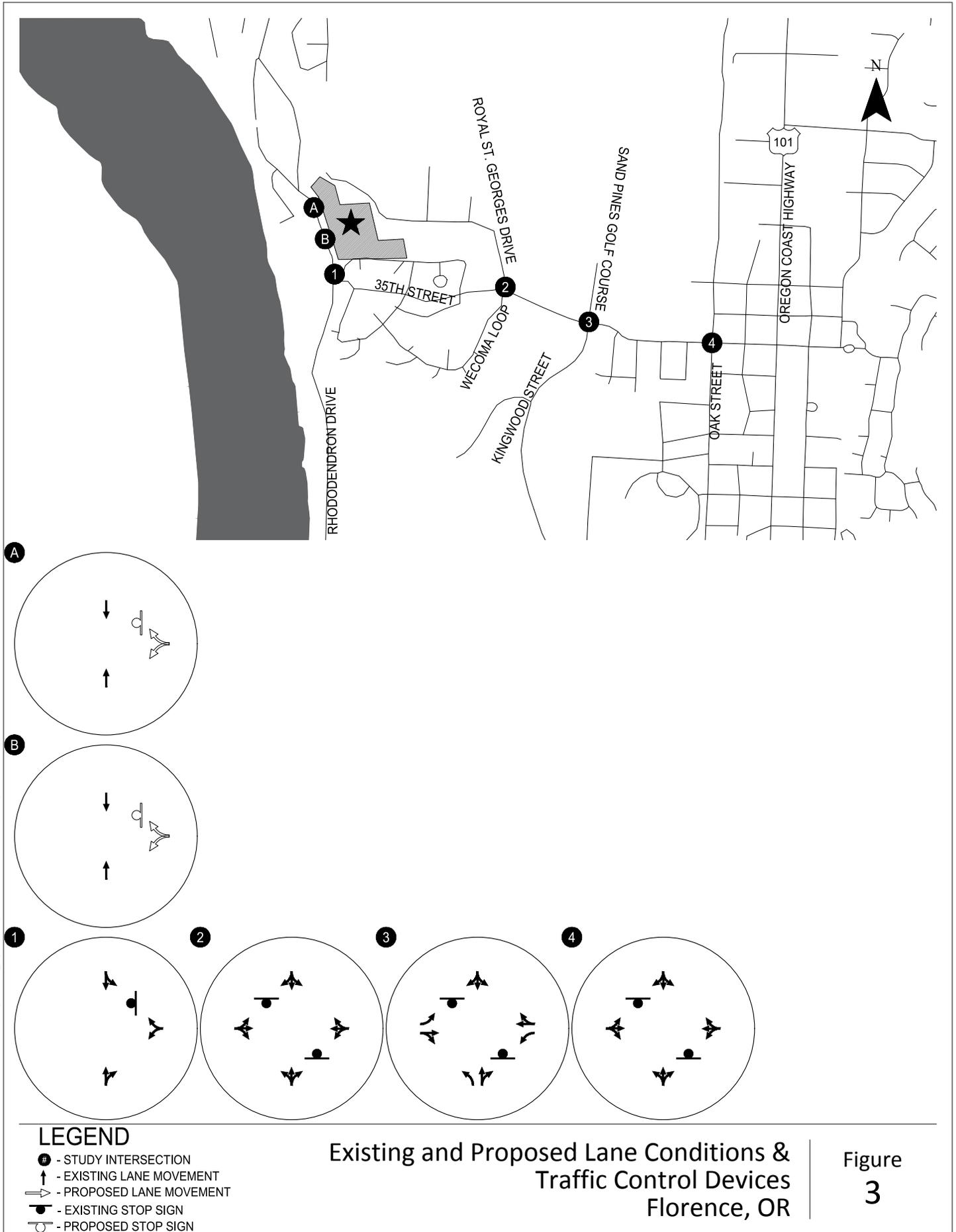


Figure 3

H:\2\24714 - Florence Residential Subdivision\report\figs\24714_Figures.dwg Feb 11, 2020 - 8:56am - agriffiths Layout Tab: ELC & TCD

Pedestrian and Bicycle Facilities

There are sidewalks along Kingwood Street and Oak Street, but not along the rest of the study area. 35th Street, Kingwood Street, and Oak Street have on-street bike lanes.

Transit Facilities

The nearest transit stop is located at Lane Community College at Oak Street/32nd Street, approximately 1 mile away from the site. This stop serves the Rhody Express North Loop, which has 60-minute headways and provides connections to various schools and grocery stores in Florence.

TRAFFIC VOLUMES AND PEAK HOUR OPERATIONS

Turning-movement counts were conducted at the study intersection in December 2019. The counts were conducted on a typical mid-week day during the morning (6:30 to 9:30 AM) and evening (3:30 to 6:30 PM) peak time periods.

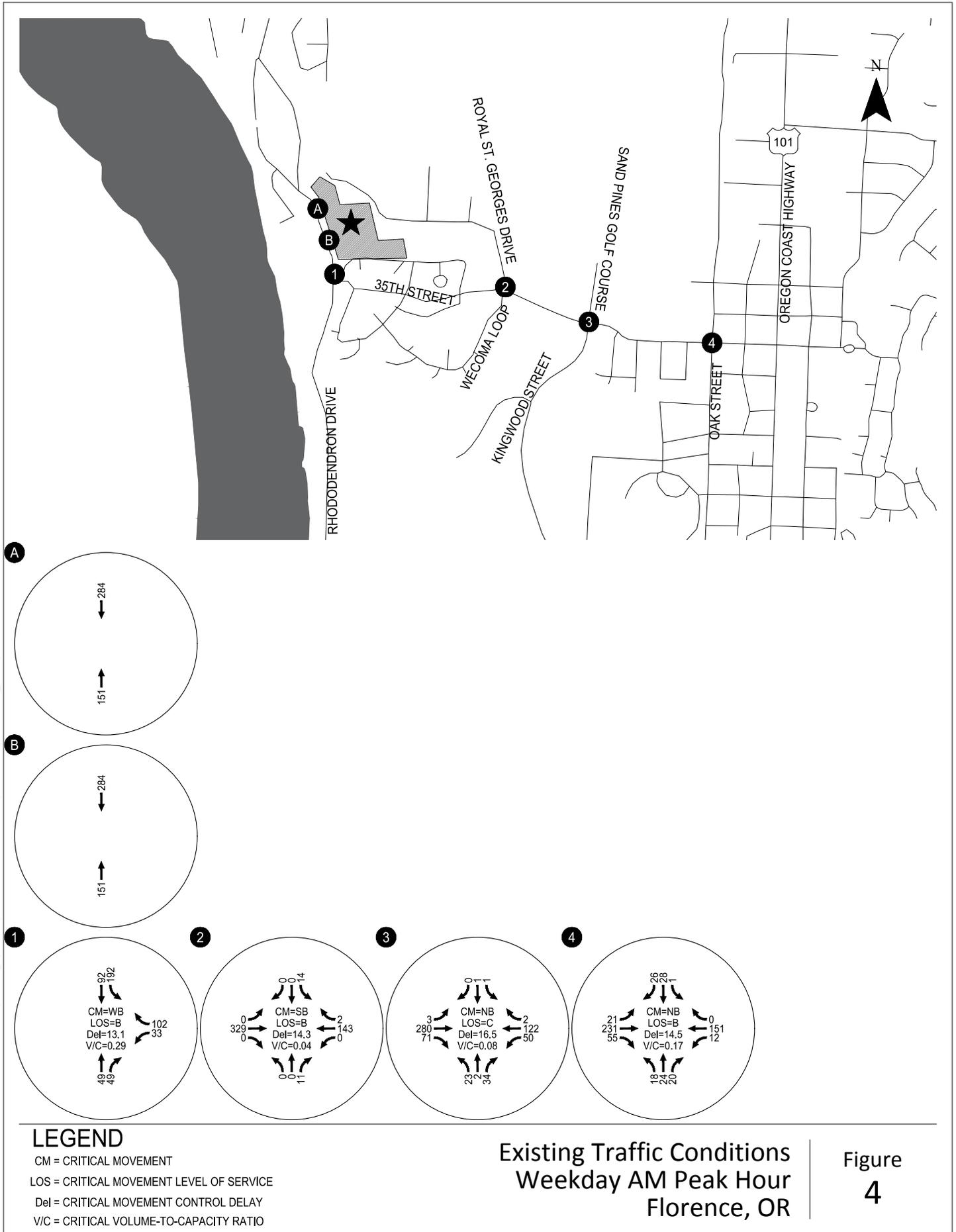
City of Florence engineering staff requested that a seasonal adjustment factor be applied to local street intersections to account for seasonal fluctuations in travel demand. As such, the traffic volumes on Rhododendron Drive and 35th Street were seasonally adjusted to 30th Highest Hour Volumes (30HV) in accordance with the Seasonal Trend Table methodology identified in the ODOT Analysis Procedures Manual (APM – Reference 3). As summarized in the methodology memorandum and ODOT response (Attachment “A”), the local street traffic volumes were increased by a factor of 1.76.

Figure 4 and Figure 5 summarize the year 2019 turning-movement counts after applying the seasonal adjustment factor.

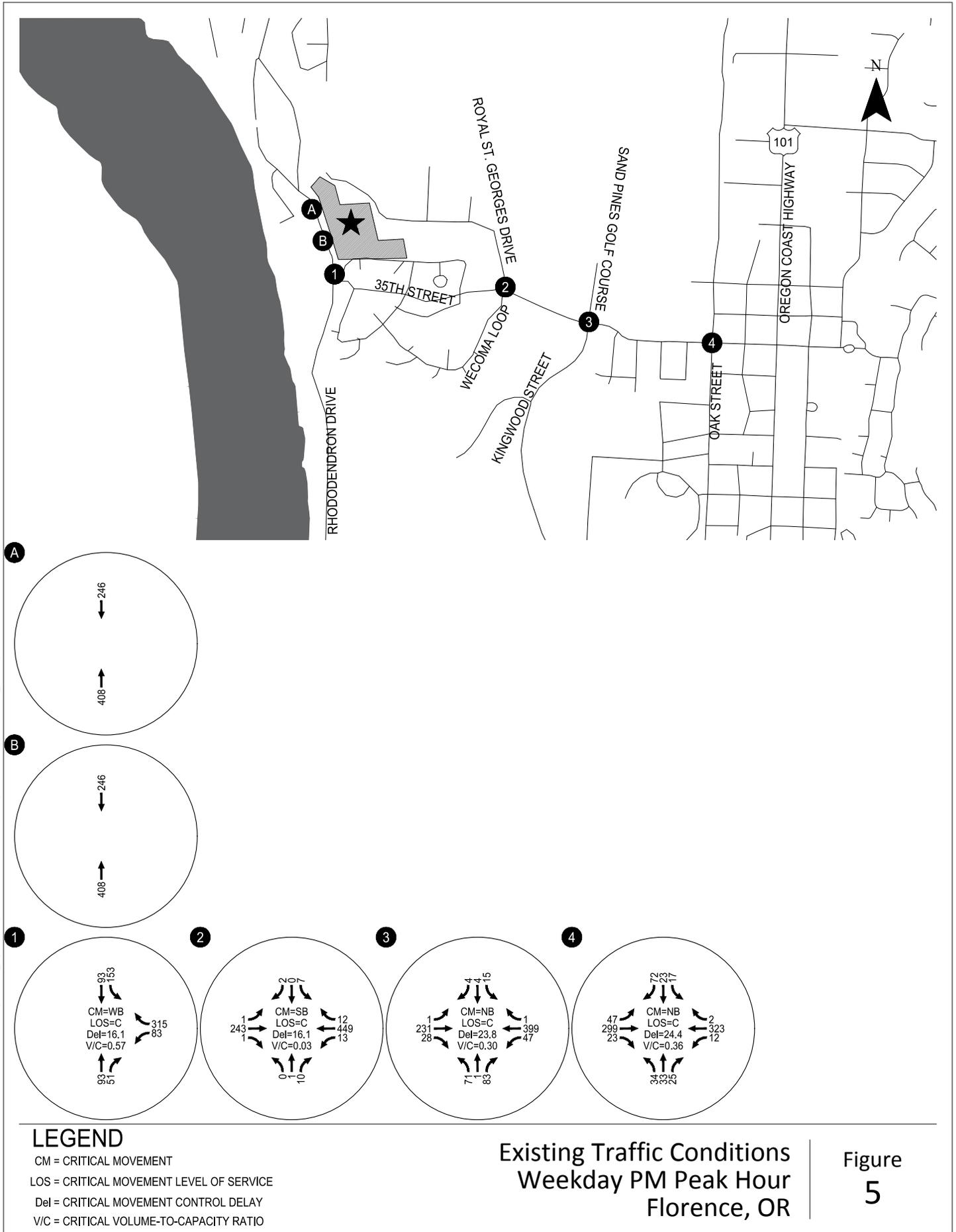
Attachment “C” contains the traffic count worksheets used in this study and details of the 30HV methodology and ODOT response are included in Attachment “A”.

As shown in Figure 4 and Figure 5, traffic operations satisfy the City of Florence operating standards for unsignalized intersections.

Attachment “D” contains the year 2019 existing traffic conditions worksheets.



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Traffic Safety

The crash history of the study intersections was reviewed to identify crash patterns. ODOT provided five years of crash data available for the study intersections, which includes all reported crashes from January 1, 2013 through December 31, 2017. Table 2 summarizes the crash data provided by ODOT.

Table 2: Study Intersection Crash Summary (January 1, 2013 through December 31, 2017)

Intersection	Crash Type				Crash Severity			Total
	Rear-End	Turn	Angle	Ped	PDO	Injury	Fatal	
35 th Street/ Rhododendron Drive	0	0	0	0	0	0	0	0
35 th Street / Royal St. Georges Drive-Wecoma Loop	0	0	0	0	0	0	0	0
35 th Street / Sand Pines Golf Course-Kingwood Street	0	0	0	0	0	0	0	0
35 th Street / Oak Street	0	1	4	0	4	1	0	5

PDO=Property Damage Only

As shown in Table 2, the only intersection with crashes reported over the five-year period is the 35th Street/Oak Street intersection. At this intersection, angle crashes were the most common crash type. No other intersections in the study area had reported crashes in the most recent five years. No crash patterns were identified that would warrant mitigation as a result of the proposed development.

Attachment "E" contains the crash data provided by ODOT.

TRAFFIC IMPACT ANALYSIS

The TIA identifies how the study area’s transportation system will operate in the year the proposed development is expected to be fully built, year 2021. The impact of traffic generated by the proposed residential subdivision during the typical weekday AM and PM peak hours was examined as follows:

- Developments and transportation improvements planned in the site vicinity were identified.
- Year 2021 and background traffic conditions were analyzed at the study intersection during the weekday AM and PM peak hours.
- Site-generated trips were estimated for build-out of the site.
- Site trip-distribution patterns were derived based on surrounding land uses.
- Year 2021 total traffic conditions were analyzed at the study intersections and site-access points during the weekday AM and PM peak hours.
- Driveway operations and sight distance were assessed.

YEAR 2021 BACKGROUND TRAFFIC CONDITIONS

The year 2021 background traffic conditions analysis identifies how the study area’s transportation system will operate without the proposed residential subdivision. This analysis includes traffic attributed to planned developments within the study area and to general growth in the region but does not include traffic from the proposed development.

Planned Developments and Transportation Improvements

Based on conversations and direction provided by City of Florence staff, no planned in-process developments in the area are included in the analysis. There are plans for a mixed-use path along 35th Street, however there are no expected changes to the study intersections.

Traffic Volumes

Regional traffic volume growth was evaluated based upon the ODOT Future Volume Tables which identify the average annual daily traffic (AADT). Two locations near the study area were identified on Oregon Coast Highway (US 101, ODOT Highway No. 009): 0.02 miles south of 36th Street and 0.02 miles south of 29th Street. Table 3 provides the base year (2018) and forecast year (2038) model AADTs for computation of the growth rate.

Table 3. ODOT Future Volume Table

Highway	Milepost	Description	Year 2018 AADT	Year 2038 AADT	R ²	Growth Rate
009	188.64	0.02 miles south of 36 th Street	12,500	12,600	0.4298	0.00040
009	21.34	0.02 miles south of 29 th Street	14,100	14,200	0.8050	0.00035

Growth rate calculation example: $(12,600 / 12,500 - 1) / (2038 - 2018) = 0.00040$

Based on the volumes in Table 3, traffic volumes along the state highway in the vicinity of the study area are anticipated to increase by approximately 100 daily vehicles over a period of 20 years. This growth is negligible, and no annual background growth rate is proposed to be applied to the existing volumes for the 2021 buildout year analysis. Similarly, no regional growth factor will be applied to local streets.

With no in-process developments and no regional growth factor, the 2021 background conditions are expected to reflect the same conditions presented in Figure 4 and Figure 5.

Intersection Operations

As stated previously, the 2021 background traffic intersection analysis is expected to be the same as the adjusted 2019 traffic operations. Therefore, the results of the analysis match that of the 2019 existing traffic analysis and the study intersections are forecast to satisfy the TSP operating standards during the weekday AM and PM peak hours. Refer to Attachment “D” for the existing (and background) traffic operations worksheets.

PROPOSED DEVELOPMENT PLAN

The applicant proposes to develop up to 31 detached single-family homes, 55 attached townhome-style cottages, and 46 apartments.

Trip Generation

A trip generation estimate was prepared for the proposed residential subdivision based on information provided in the standard reference manual, *Trip Generation, 10th Edition*, published by the Institute of Transportation Engineers (ITE – Reference 4). Based on the land use data provided by ITE, the proposed townhome-style cottages and the apartments are both classified as low-rise multi-family homes. As such, ITE Land Use Code 220 (Multifamily Housing – Low Rise) is applied for the combined 101 units. Land Use Code 210 (Single-Family Detached Housing) is applied for the 31 single-family homes. Table 4 summarizes the trip generation estimate for the weekday daily, morning, and evening peak hours.

Table 4. Land Use Trip Generation

Land Use	ITE Code	Units	Daily Trips	AM			PM		
				Total	In	Out	Total	In	Out
Single Family Detached Housing	210	31	354	27	7	20	33	21	12
Apartment	220	101	723	48	11	37	60	38	22
Total Net New			1,077	75	18	57	93	59	34

As shown in Table 4, the proposed development is estimated to generate approximately 1,077 net new weekday daily trips, with 75 net new trips (18 in, 57 out) occurring during the weekday AM peak hour and 93 net new trips (59 in, 34 out) occurring during the weekday PM peak hour.

Site Trip Distribution/Trip Assignment

A trip distribution pattern was developed for the proposed development based existing traffic patterns and the location of major trip origins and destinations in the Florence area. Figure 6 and Figure 7 illustrate the estimated trip distribution pattern and assignment for the site-generated trips shown in Table 4 during weekday AM and PM peak hours.

YEAR 2021 TOTAL TRAFFIC CONDITIONS

The year 2021 total traffic conditions analysis forecasts how the study area's transportation system will operate with the traffic generated by the proposed residential subdivision. The year 2021 background traffic volumes shown in Figure 4 and Figure 5 were added to the site-generated traffic shown in Figure 6 and Figure 7 to arrive at the total traffic volumes that are shown in Figure 8 and Figure 9.

Intersection Operations

The weekday AM and PM peak hour turning-movement volumes shown in Figure 8 and Figure 9 were used to conduct an operational analysis at the study intersections and site accesses to determine the year 2021 total traffic conditions. The results of the analysis indicate that the study intersections and site accesses are projected to continue to meet the City's TSP operating standards during the weekday AM and PM peak hours.

Attachment "F" contains the year 2021 total traffic conditions worksheets.

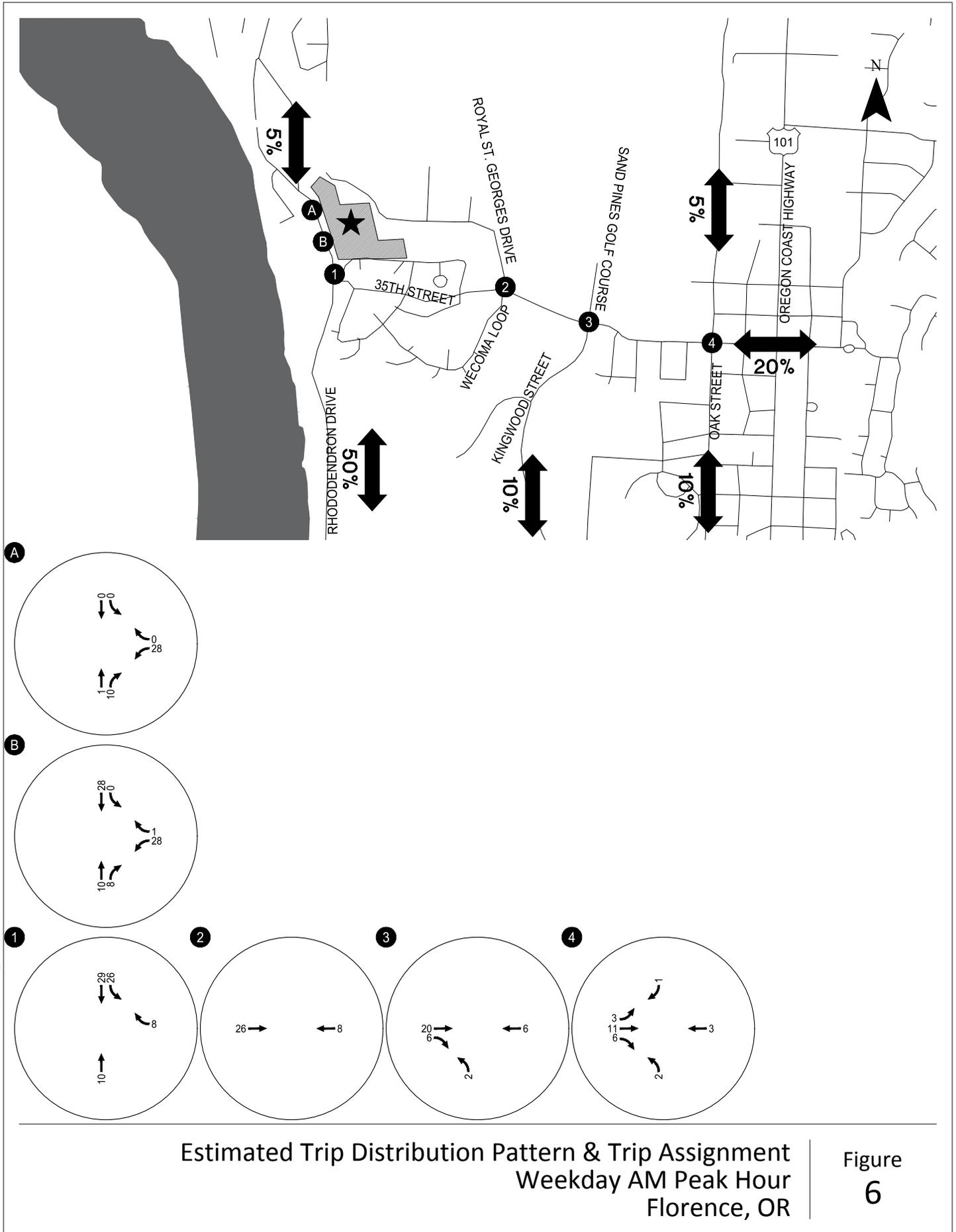
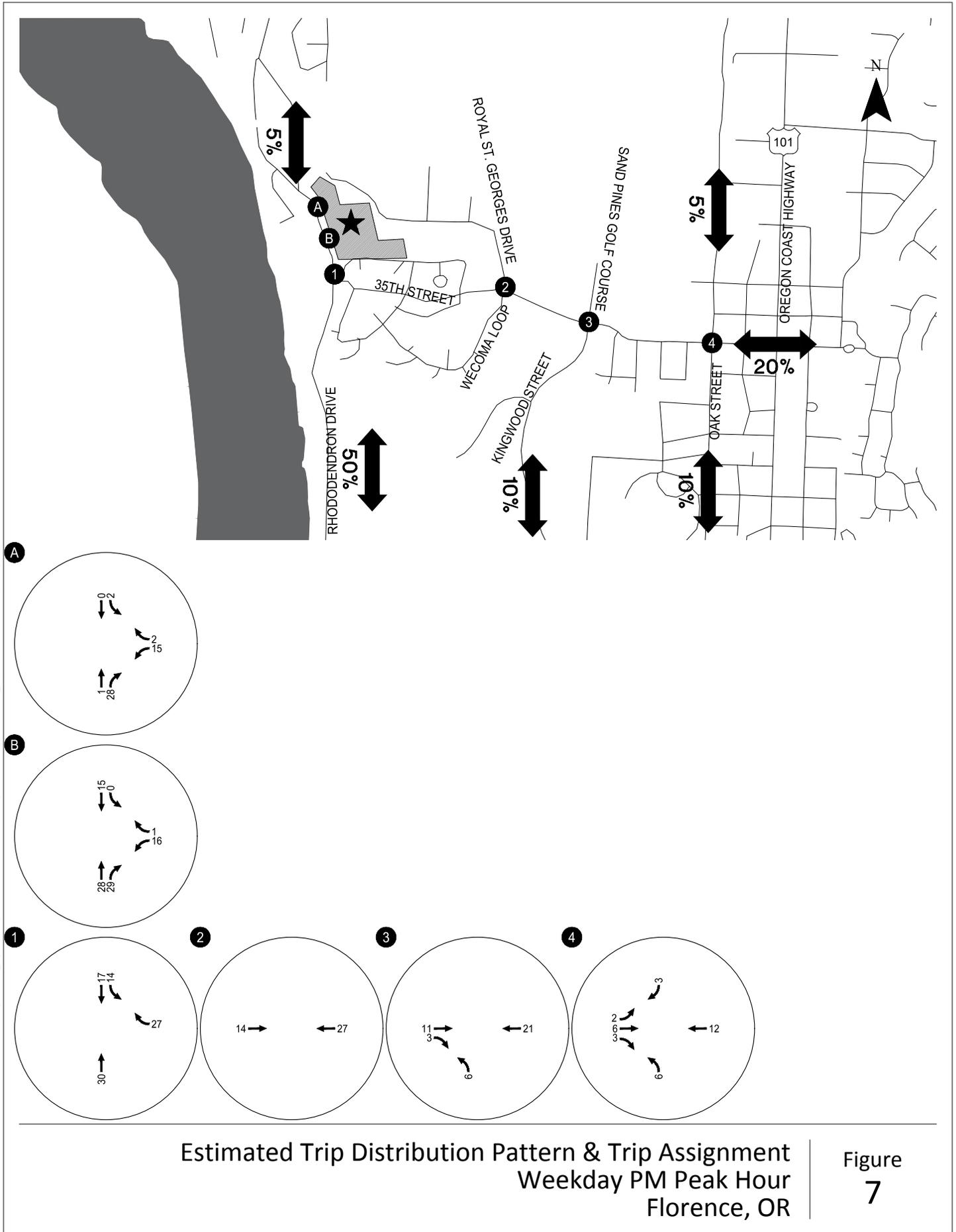
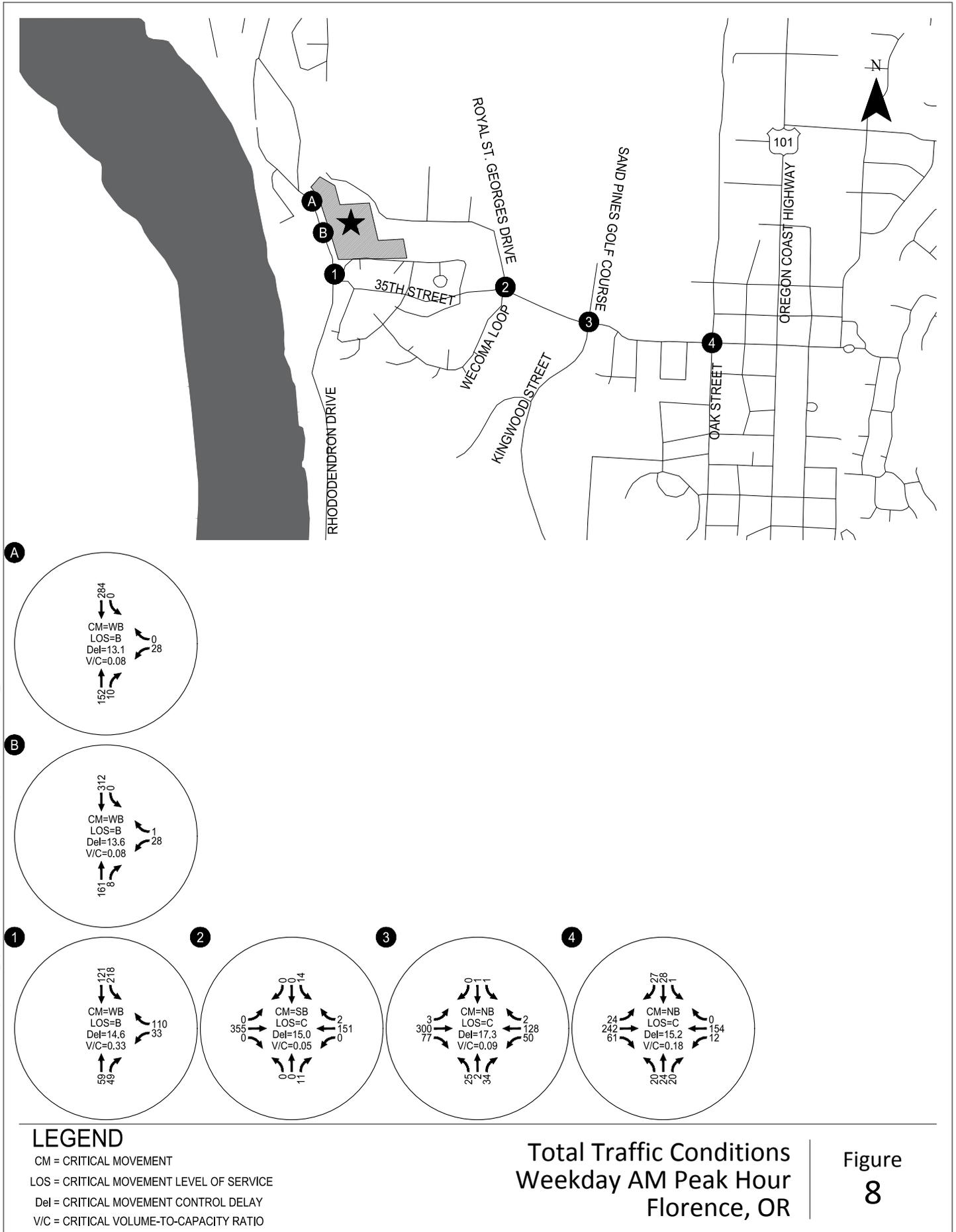


Figure 6

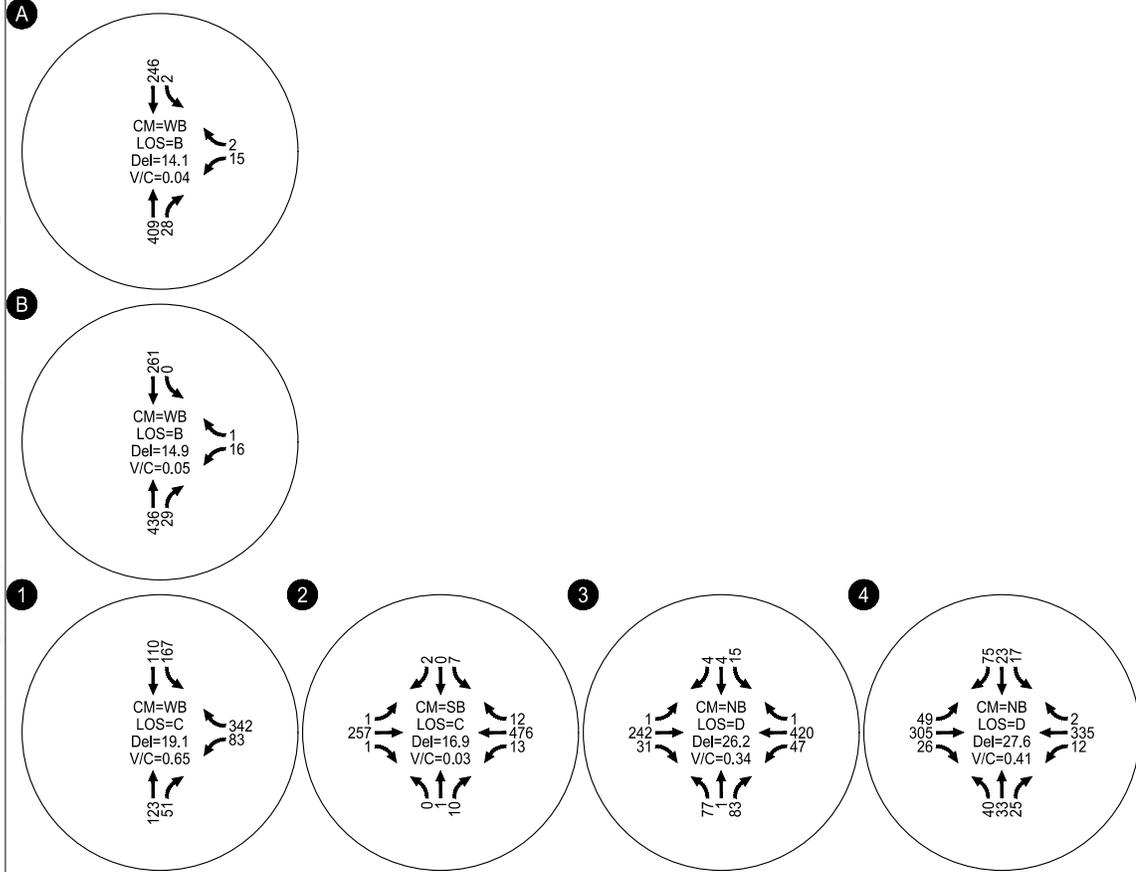
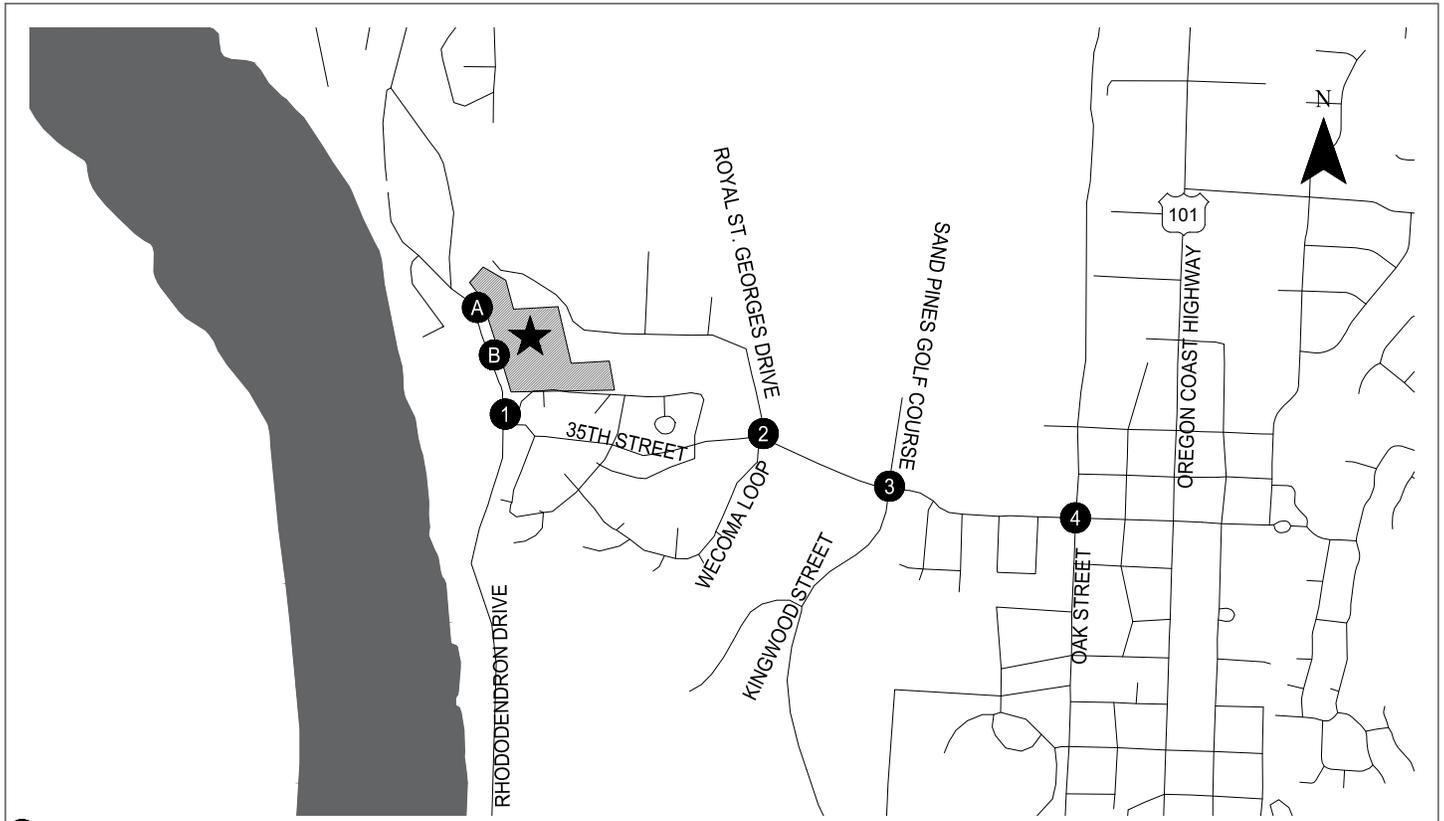
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LEGEND

- CM = CRITICAL MOVEMENT
- LOS = CRITICAL MOVEMENT LEVEL OF SERVICE
- Del = CRITICAL MOVEMENT CONTROL DELAY
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

**Total Traffic Conditions
Weekday PM Peak Hour
Florence, OR**

**Figure
9**

SIGHT DISTANCE ASSESSMENT

A preliminary sight distance analysis was conducted at the existing site accesses based on review of the proposed site plan. We recommend final sight distance certification be confirmed upon buildout. Preliminary site plan review of available sight distance indicates that both intersection and stopping sight distance (ISD and SSD) are expected to meet the design guidance presented in *A Policy on Geometric Design of Highways and Streets* (AASHTO, Reference 5) upon buildout.

AASHTO Design Guidelines

One of the primary inputs in determining safe sight distance metrics according to AASHTO guidelines is the design speed of the respective roadway. The posted speed along Rhododendron Drive is 40 miles per hour and the advisory speed along the frontage of the property is posted at 35 miles per hour.

For an assumed design speed of the 40 mile-per-hour facility, Table 5 below summarizes the recommended minimum design guidance.

Table 5. Sight Distance Summary (Case B1 – Left Turn from the Minor Road)

Access Locations	Direction of Travel	AASHTO Design Guideline (feet) (ISD / SSD)
Access A (north)	Northbound (facing south from access)	445 / 305
	Southbound (facing north from access)	445 / 305
Access B (south)	Northbound (facing south from access)	445 / 305
	Southbound (facing north from access)	445 / 305

ISD: Intersection Sight Distance
 SSD: Stopping Sight Distance

The following Exhibit 1 and Exhibit 2 illustrate a preliminary sight distance triangle for up to 445 feet of intersection sight distance. The red lines indicate the sightline from a vehicle at each corresponding site access while the yellow line indicates the on-road distance (445 feet) recommended for a design speed of 40 miles per hour.

Exhibit 1 Sight Triangle for Driveway A (approximate)



Exhibit 2 Sight Triangle for Driveway B (approximate)



Based on the preliminary assessment in Exhibits 1 and 2, no vertical curvature or horizontal curvature of Rhododendron Drive is expected to limit sight distances. However, there may be some foliage and low hanging branches that may be partially obstructing sight lines within the right-of-way – we recommend these be cleared upon construction of the site. Site landscaping, signage or above-ground utilities along the site frontages should be installed and maintained to provide adequate sight distance per City requirements.

FINDINGS AND RECOMMENDATIONS

The results of this analysis indicate that the proposed residential subdivision can be constructed while maintaining acceptable traffic operations at the study intersections and site-accesses. The primary findings and recommendations of this study are summarized below.

- The proposed residential development is estimated to generate approximately 1,077 net new weekday daily trips, with 75 net new trips (18 in, 57 out) occurring during the weekday AM peak hour and 93 net new trips (59 in, 34 out) occurring during the weekday PM peak hour.
- All study intersections were found to operate acceptably under existing and forecast future conditions.
- No transportation capacity or safety-related mitigations are recommended as a result of the proposed development impacts.
- Landscaping, signage or above-ground utilities along the site frontages should be installed and maintained to provide adequate sight distance.

We trust this report adequately addresses the traffic impacts associated with the proposed residential subdivision. Please contact us if you have any questions.

REFERENCES

1. Transportation Research Board. *Highway Capacity Manual, 6th Edition*. 2019.
2. City of Florence, Oregon. *Florence Transportation System Plan*. 2012.
3. Oregon Department of Transportation. *Analysis Procedures Manual*. Updated in 2019.
4. Institute of Transportation Engineers. *Trip Generation, 10th Edition*, 2017.
5. American Association of State Highway and Transportation Officials. *A Policy on Geometric Design of Highways and Streets*. 2011 Edition.

ATTACHMENTS

- A. Scoping Memorandum
- B. Level-of-Service Criteria
- C. Traffic Count Data
- D. Existing Traffic Operations Worksheets
- E. Crash Data
- F. Year 2021 Total Traffic Operations Worksheets



Attachment A
Scoping Memorandum

MEMORANDUM - DRAFT

Date: December 25, 2019

Project #: 24714

To: Mike Miller, Public Works Director
City of Florence Public Works
250 Highway 101
Florence, OR 97439

Cc: Matt Caswell, PE, ODOT

From: Diego Arguea, PE & Amy Griffiths

Project: Florence Residential Subdivision

Subject: Traffic Impact Study Scoping

This memorandum documents the methodology and key assumptions to be used in preparation of the traffic impact analysis (TIA) for a residential development in Florence, Oregon.

PROPOSED DEVELOPMENT PLAN

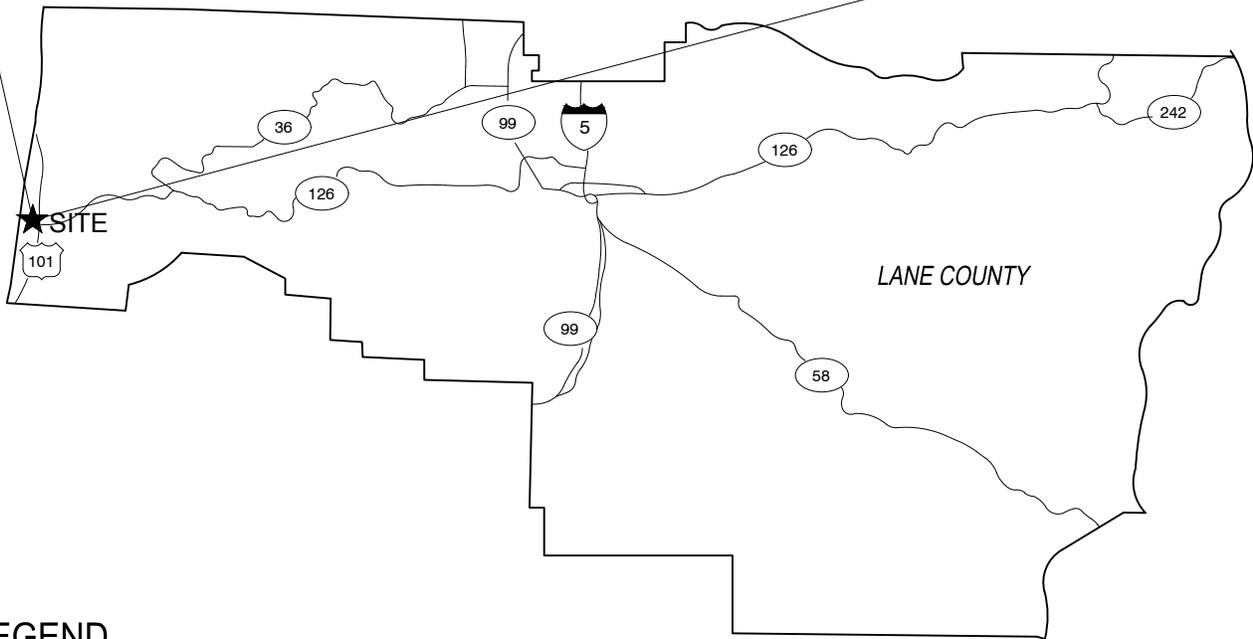
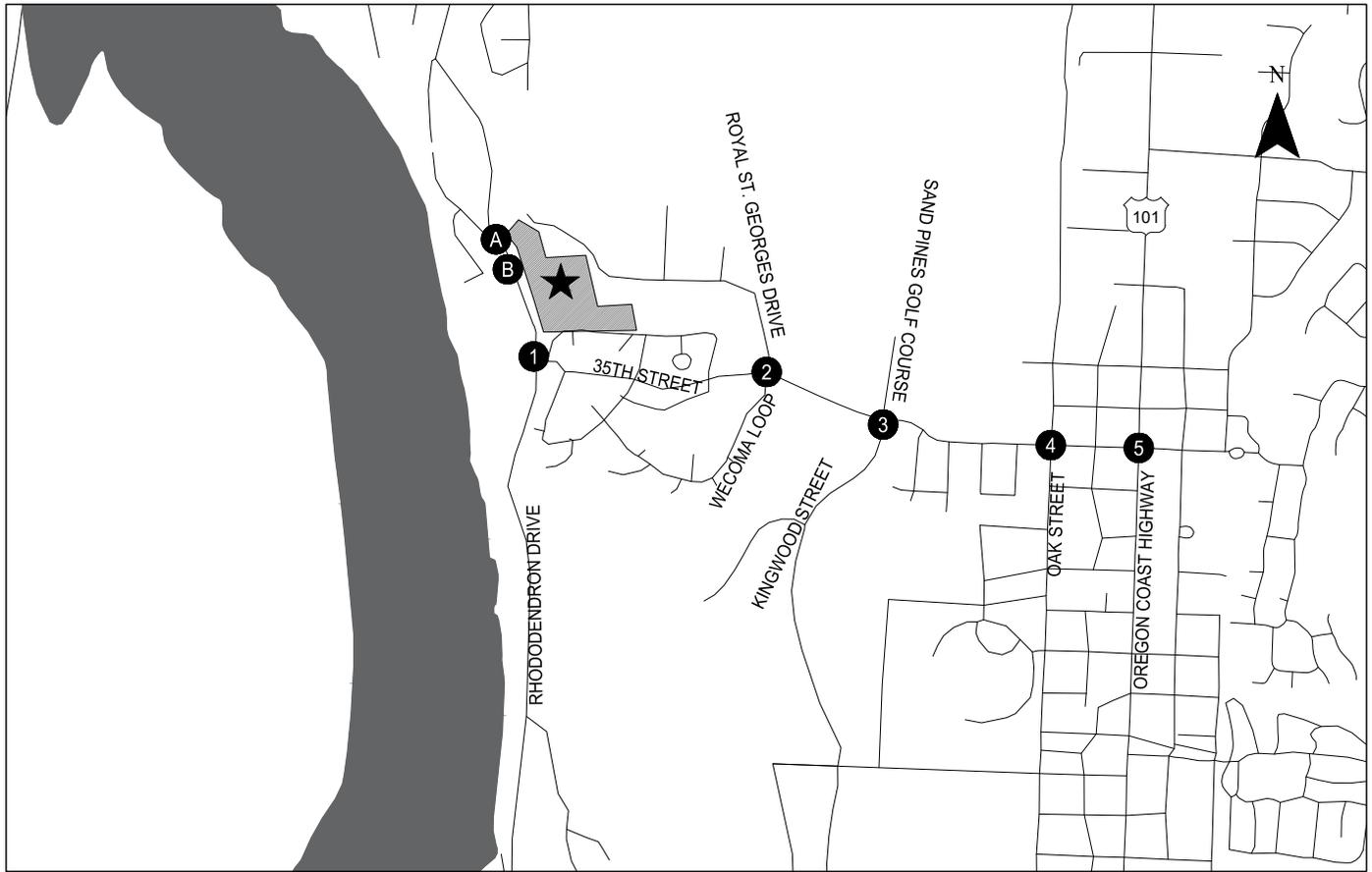
The applicant proposes development of 91 single-family homes and up to 48 low-rise¹ apartments to be located on a vacant site in north Florence, Oregon. The site is bounded by Rhododendron Road to the west, 35th Street and Siano Loop Road to the south, and Royal Saint Georges Drive to the east and north. Access to the site is proposed via two driveways, spaced at approximately 340 feet and 610 feet north of 35th Street. A site vicinity map is shown in Figure 1.

The proposed development is expected to be constructed in 2021. A site plan is shown in Figure 2.

TRIP GENERATION AND DISTRIBUTION

Table 1 summarizes the estimated site-generated trips for the proposed development. Trip generation rates for the single-family and apartment land uses are based on the standard reference *Trip Generation*, 10th Edition. For each land use, the regression equation is used to estimate trip generation if there are more than 20 data points and the coefficient of correlation (R^2 value) is 0.75 or higher. If these criteria are not met, the average rate is used.

¹ Defined by ITE *Trip Generation* as containing one or two floors of residential units.



LEGEND

- ★ - SITE LOCATION
- - STUDY INTERSECTION

Site Vicinity Map
Florence, OR

Figure
1

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Site Plan Provided by 3J Consulting November 19, 2019

Preliminary Proposed Site Plan
Florence, OR

Figure
2



Table 1. Proposed Land Use Trip Generation

Land Use	ITE Code	Units	Daily Trips	AM			PM		
				Total	In	Out	Total	In	Out
Single Family Detached Housing	210	91	953	69	17	52	93	59	34
Multifamily Housing (Low-Rise)	220	48	322	24	6	18	31	19	12
Total Net New			1,275	93	23	70	124	78	46

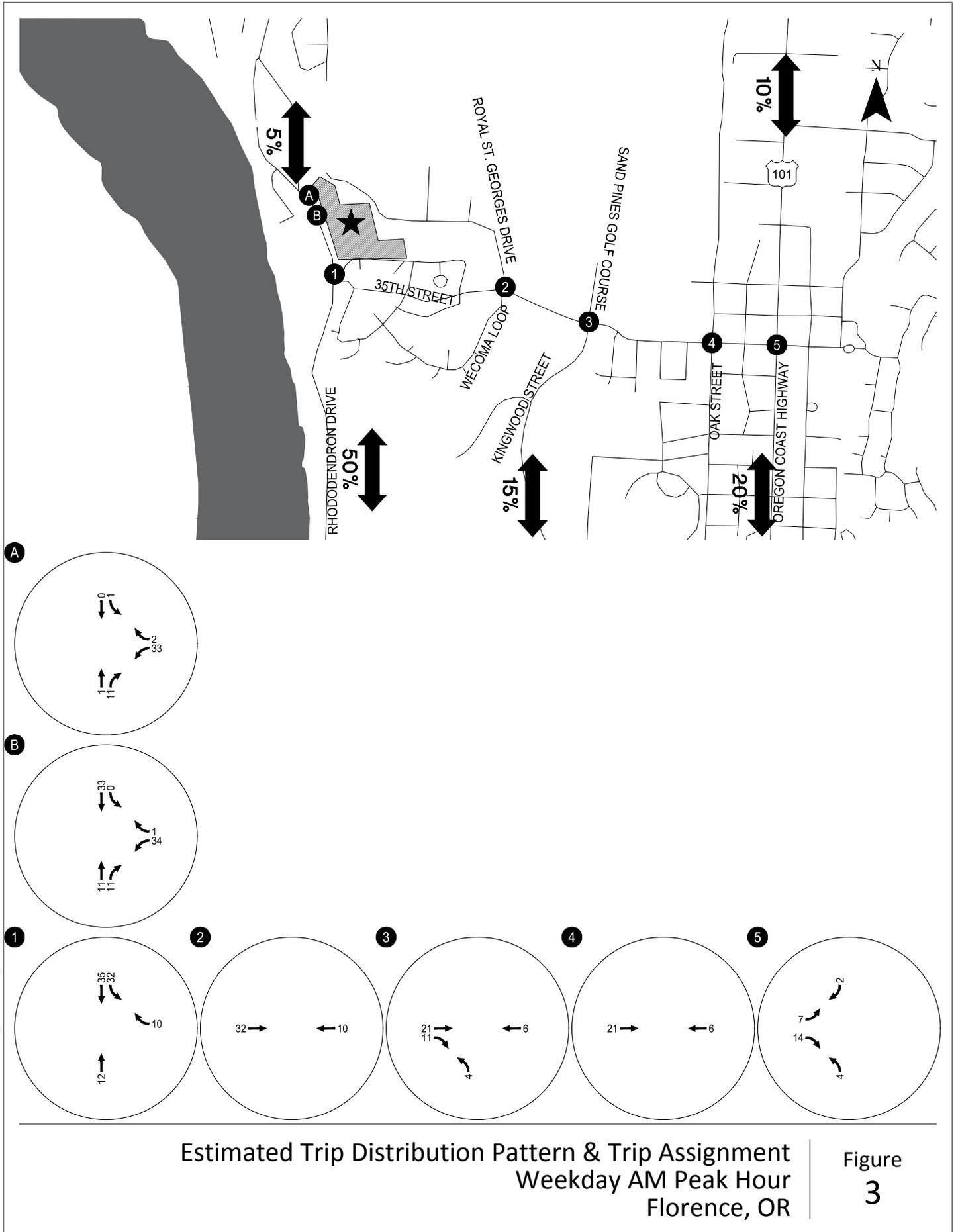
Figure 3 and Figure 4 display a preliminary trip distribution and assignment based on review of surrounding land uses and the roadway network. The trip distribution pattern used in the formal traffic impact analysis may be revised based on traffic volume data to be collected at the study intersections as well as agency review comments.

STUDY INTERSECTIONS

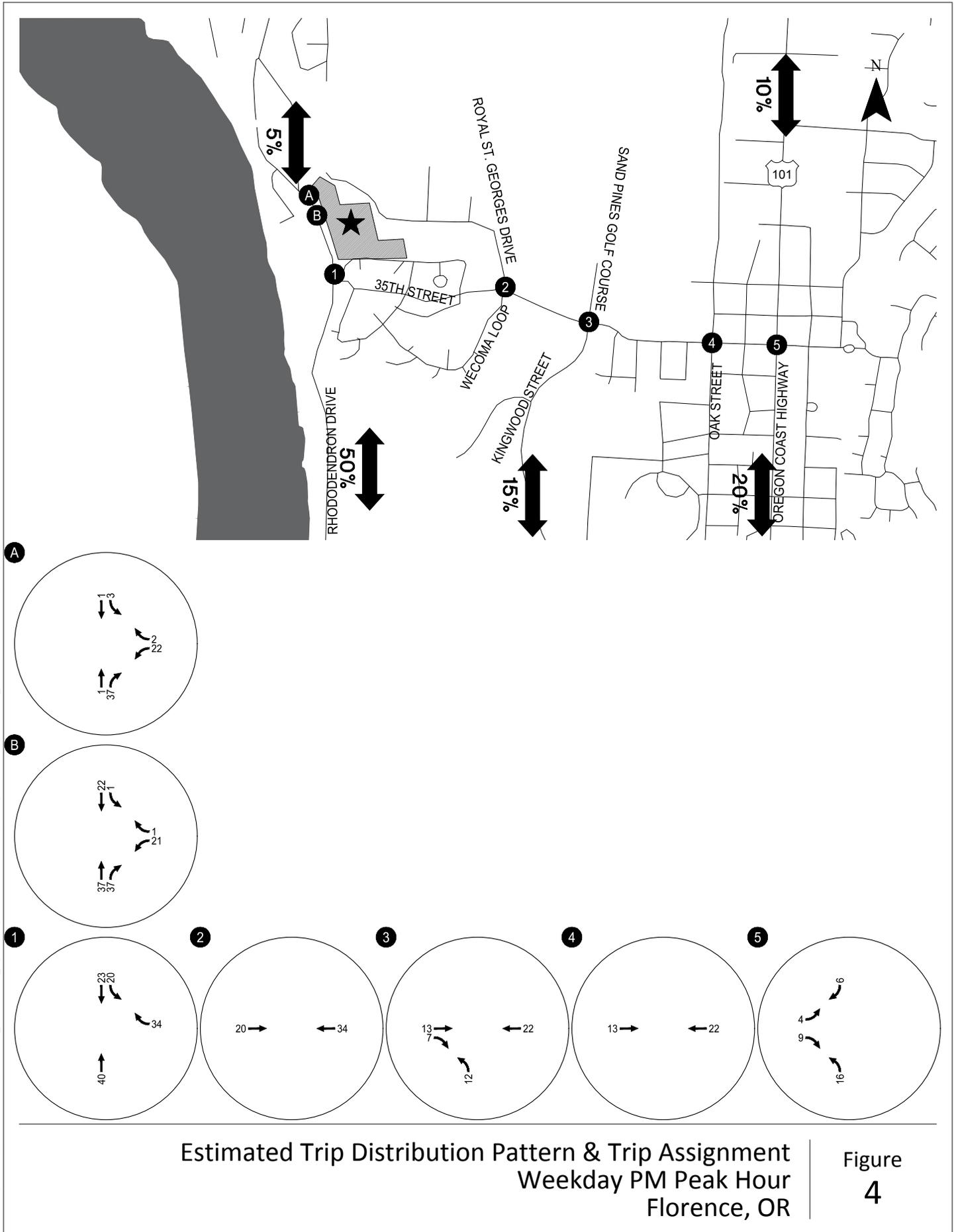
Proposed study intersections were identified based on the project’s anticipated trip generation impact on adjacent intersections within the site vicinity. One intersection under ODOT² jurisdiction was identified to be impacted – however, under both weekday AM and PM peak hours, this intersection is forecast to be impacted by fewer than 50 trips (see Figures 3 and 4). As such, the intersection of 35th Avenue/Oregon Coast Highway (Hwy 101) has been included in the study area to address City requirements. All proposed study intersections are summarized below.

- Site Driveway “A”/Rhododendron Drive
- Site Driveway “B”/Rhododendron Drive
- 35th Street/Rhododendron Drive
- 35th Street/Royal St. Georges Drive
- 35th Street/Kingwood Street
- 35th Street/Oak Street
- 35th Street/Oregon Coast Highway (Hwy 101)

² Oregon Department of Transportation



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Estimated Trip Distribution Pattern & Trip Assignment
Weekday PM Peak Hour
Florence, OR

Figure
4

OPERATIONS ANALYSIS

The traffic operations analysis will include evaluation of the following performance measures for the study intersections:

- Turning movement counts;
- Volume-to-capacity (V/C) ratio;
- Level-of-service (LOS) and delay; and,
- 95th percentile queuing.

Individual study intersection performance will be documented in tables, figures, and/or technical appendices using the measures of effectiveness listed above. Study intersection performance will then be compared to applicable City and ODOT performance thresholds.

Analysis Years

We will report performance measures for the following analysis years:

- Existing year 2019 traffic analysis;
- Opening year 2021 background traffic analysis (without added trips from the proposed development); and,
- Forecast year 2021 total traffic analysis (including added trips from the proposed development).

Mobility Standards

ODOT assesses intersection operations based on v/c ratio. Table 6 of the *Oregon Highway Plan* (OHP) provides v/c ratio targets statewide. These OHP ratios are used to evaluate existing and future no-build conditions, and the mobility standard is based on characteristics of the state highway.

Within the study area, the Oregon Coast Highway (Hwy 101) is classified as a statewide highway (not a freight route), located within the urban growth boundary (non-MPO), and has a posted speed limit of 35 miles per hour. As such, the ODOT required mobility standard for the 35th Street/Oregon Coast Highway (Hwy 101) intersection is a v/c ratio of 0.90.

Table 6 of the *Oregon Highway Plan* (OHP) is shown on the following page.

VOLUME TO CAPACITY RATIO TARGETS OUTSIDE METRO ^{17A, B, C, D}							
Highway Category	Inside Urban Growth Boundary					Outside Urban Growth Boundary	
	STA ^E	MPO	Non-MPO Outside of STAs where non-freeway posted speed ≤ 35 mph, or a Designated UBA	Non-MPO outside of STAs where non-freeway speed > 35 mph but < 45 mph	Non-MPO where non-freeway speed limit ≥ 45 mph	Unincorporated Communities ^F	Rural Lands
Interstate Highways	N/A	0.85	N/A	N/A	0.80	0.70	0.70
Statewide Expressways	N/A	0.85	0.85	0.80	0.80	0.70	0.70
Freight Route on a Statewide Highway	0.90	0.85	0.85	0.80	0.80	0.70	0.70
Statewide (not a Freight Route)	0.95	0.90	0.90	0.85	0.80	0.75	0.70
Freight Route on a regional or District Highway	0.95	0.90	0.90	0.85	0.85	0.75	0.70
Expressway on a Regional or District Highway	N/A	0.90	N/A	0.85	0.85	0.75	0.70
Regional Highways	1.0	0.95	0.90	0.85	0.85	0.75	0.70
District/Local Interest Roads	1.0	0.95	0.95	0.90	0.90	0.80	0.75

Table 6: Volume to Capacity Ratio Targets for Peak Hour Operating Conditions

We request that the City of Florence provide us with the applicable mobility standards for the other study intersections.

SEASONAL ADJUSTMENT FACTOR

Peak hour traffic counts will be collected in December 2019 and will subsequently be adjusted to reflect 30th highest hour design volumes, based on applicable adjustment factors. Version 2 of the APM identifies three methods for identifying seasonal adjustment factors for highway traffic volumes:

- On-Site ATR Method
- ATR Characteristic Table Method
- Seasonal Trend Method

All three methods utilize information provided by Automatic Traffic Recorders (ATRs) situated in select locations throughout the State Highway System that collect traffic data 24-hours a day/365 days a year.

The On-Site ATR Method meets the criteria that the ATR be located within or near the project area. ATR Florence (20-026) was identified on Highway 101 and located 0.77 miles north of Heceta Beach Road, and 2.21 miles north of the 35th Street/Highway 101 study intersection. No major intersections that would impact seasonal trends are located between the study intersection and the ATR location. As such, we propose using ATR 20-026 data to seasonally adjust traffic volume data collected in December 2019.

Table 2 displays the ATR data used to develop the seasonal adjustment factor for the study area.

Table 2. Seasonal Adjustment Factor Calculation (weekday daily data)

Year	2014	2015	2016	2017	2018	Average
Peak Month (July) % of ADT	136%	136%	134%	142%	140%	137%
Month of Data Collection (December) % of ADT	76%	75%	78%	78%	77%	77%

Note: Shaded values removed from average calculation per ODOT methodology.

Cells highlighted in grey reflect the highest and lowest values and were excluded from the average per ODOT guidelines. From this data, the seasonal factor can be computed as $137\% \div 77\% = 1.78$.

Based on direction provided in the ODOT Analysis Procedures Manual, a seasonal adjustment greater than 30% should not be used. To supplement the ATR methodology, the most up-to-date seasonal trend tables³ were reviewed – for the count month December, the seasonal adjustments shown for the following routes are as follows:

- Coastal Destination: 1.1636
- Coastal Destination Route: 1.2836

Averaging the seasonal trend table values for December results in a 1.2236 seasonal adjustment.

We welcome you providing historic traffic count data that may be available for the study intersections that could help further inform the seasonal adjustment. If no additional data is available, and subject to ODOT and City feedback, we propose to adjust the through movements on Highway 101 by a factor of 1.22 to reflect the 30th highest hour volumes.

CRASH DATA REVIEW

The most-recent three-year period of reported crash data (January 1, 2016 through December 31, 2018) will be reviewed at the study intersections. Any study intersections that are identified as a Safety Priority Index System sites (top 5- or 10-percent) will be included in the crash data and highlighted in the analysis.

³ Updated June 26, 2019

The data will be analyzed for a variety of factors to include type, severity, general conditions, and location to identify potential crash patterns or anomalies.

FORECAST YEAR VOLUME DEVELOPMENT

Growth rates for opening year background traffic volumes will be based upon the ODOT Future Volume Tables. Two locations near the study area were identified on Oregon Coast Highway (US 101, ODOT Highway No. 009): 0.02 miles south of 36th Street and 0.02 miles south of 29th Street. Table 3 provides the base year (2018) and forecast year (2038) model AADTs for computation of the growth rate.

Table 3. ODOT Future Volume Table

Highway	Milepost	Description	2018	2038	R ²	Growth Rate
009	188.64	0.02 miles south of 36 th Street	12,500	12,600	0.4298	0.00040
009	21.34	0.02 miles south of 29 th Street	14,100	14,200	0.8050	0.00035

Growth rate calculation example: $(12,600 / 12,500 - 1) / (2038 - 2018) = 0.00040$

Based on the volumes in Table 3, traffic volumes along the state highway in the vicinity of the study area are anticipated to increase by approximately 100 daily vehicles over a period of 20 years. This growth is negligible and suggests it may not be necessary to apply an annual background growth rate to the existing volumes for the 2021 buildout year analysis. We would appreciate receipt of in-process development and/or annual growth rate data that may be available. In the absence of additional data, we propose to not apply a regional growth factor to the local streets.

NEXT STEPS

Please review the information presented in this memorandum and provide us your feedback regarding the study assumptions and methodology. Please also provide confirmation of the City of Florence mobility standards. We would be pleased to schedule a conference call to discuss if desired.

Amy Griffiths

From: BLAIR Keith P <Keith.P.BLAIR@odot.state.or.us>
Sent: Friday, January 3, 2020 7:19 AM
To: BAUMGARTNER Douglas G; Diego Arguea
Cc: Mike.Miller@ci.florence.or.us; Amy Griffiths; UPTON Dorothy J; NELSON Brian S * Scott
Subject: RE: Development Review Contact for ODOT Region 2 District 5

Doug and Diego:

Thank you for passing along this scoping letter. My comments are:

1. Traffic study should be consistent with ODOT's Analysis Procedures Manual (APM) <https://www.oregon.gov/ODOT/Planning/Pages/APM.aspx>
2. Does the City concur with the proposed Trip Distribution? It appears the assumed 30% (10% to/from north, 20% to/from south) of the total trips accessing the US-101/35th Street intersection is low, but I concur that it appears this intersection will not trigger ODOT's 50 peak hour net trip increase threshold to recommend study of the intersection. That said, I am still available and willing to review the draft traffic study as a resource for the City.
3. The OHP mobility target for the US-101/35th Street intersection is actually 0.85 rather than 0.90 as cited within the scoping letter (statewide highway, non-OHP freight route, 40 MPH).
4. The citation within ODOT's APM about avoiding the use of seasonal adjustments above 30% is not intended to limit the adjustment itself, but rather identify the least appropriate months during the year to conduct traffic counts. Due to the seasonal trending nature of the local transportation network, traffic counts at the US-101/35th Street intersection should be collected between March 1 and November 15. However, if the City will accept December counts for the purpose of this traffic study, Region Traffic recommends a seasonal adjustment of 1.76 for the US-101/35th Street intersection based on an average of the following trends:
 - a. 1.84 using Florence ATR 20-026 and the Average Daily Traffic method (as opposed to the Average Weekday Traffic method)
 - b. 1.49 using the Coastal Destination trend (the proposed calculation must have included an error)
 - c. 1.96 using the Coastal Destination Route trend (the proposed calculation must have included an error)
5. Per Table 3.3 of ODOT's Development Review Guidelines, for a development of this size (1,000 – 2,999 ADT), Region Traffic recommends the following analysis scenario years:
 - a. Existing (2019)
 - b. Opening Year (2021)
 - i. Background
 - ii. Total
 - c. Opening Year + 5 Years (2026)
 - i. Background
 - ii. Total

I hope the above information will help, but please let me know if there are any more questions or if I may be of any further assistance. Thanks!

Keith P. Blair, P.E.

Interim Traffic Analysis Engineer | ODOT Region 2

455 Airport Rd SE, Bldg. A | Salem, Oregon 97301
(503) 986-2857 | Keith.P.Blair@odot.state.or.us

ODOT's mission is to provide a safe and reliable multimodal transportation system that connects people and helps Oregon's communities and economy thrive.

From: Diego Arguea <darguea@kittelson.com>

Sent: Friday, December 27, 2019 3:24 PM

To: NELSON Brian S * Scott <Brian.S.NELSON@odot.state.or.us>

Cc: BAUMGARTNER Douglas G <Douglas.G.BAUMGARTNER@odot.state.or.us>; Mike.Miller@ci.florence.or.us; Amy Griffiths <agriffiths@kittelson.com>; BLAIR Keith P <Keith.P.BLAIR@odot.state.or.us>

Subject: RE: Development Review Contact for ODOT Region 2 District 5

Hi Scott –

Thanks for email. I was also told that Keith Blair is someone who has been involved in development review? We are currently scoping, but we are on a fast track to deliver this project by end of January. I have included the scoping memorandum attached for your reference. Note that the only intersection under ODOT jurisdiction is 35th Ave/Hwy 101, but we do not estimate more than 50 peak hour trips to this intersection, so, ultimately, it may even not be required for study – I will defer to you. If it is required, please confirm the seasonal adjustment methodology.

Thanks!
Diego

[Diego Arguea](mailto:Diego.Arguea), P.E. | Associate Engineer | [Kittelson & Associates, Inc.](http://www.kittelson.com)
d: 503.535.7462 - 1462 (ext) | o: 503.228.5230 | c: 503.334.3183

From: NELSON Brian S * Scott <Brian.S.NELSON@odot.state.or.us>

Sent: Thursday, December 26, 2019 2:57 PM

To: Diego Arguea <darguea@kittelson.com>

Cc: BAUMGARTNER Douglas G <Douglas.G.BAUMGARTNER@odot.state.or.us>

Subject: Development Review Contact for ODOT Region 2 District 5

Hello Diego, I here you are working on a TIS in Florence. Doug Baumgartner is our development review coordinator for that area, however Doug is out until January 6th. In the meantime I can help you get started. Are you looking for a scope or are you beyond that?

thanks

B Scott Nelson, P.E.

Region 2 Access Management Engineer



455 Airport Rd SE, Bldg. B
Salem, OR 97301
Office 503.986.2882

Amy Griffiths

From: Mike Miller <mike.miller@ci.florence.or.us>
Sent: Thursday, January 9, 2020 9:49 AM
To: BLAIR Keith P; Diego Arguea
Cc: Amy Griffiths; BAUMGARTNER Douglas G; Wendy Farley-Campbell
Subject: RE: Florence - revision in site plan

Thanks Keith! I agree, since we know what the mix is using ITE codes 210 and 220 will be more accurate.

Mike

From: BLAIR Keith P <Keith.P.BLAIR@odot.state.or.us>
Sent: Thursday, January 9, 2020 9:07 AM
To: 'Diego Arguea' <darguea@kittelson.com>; Mike Miller <mike.miller@ci.florence.or.us>
Cc: Amy Griffiths <agriffiths@kittelson.com>; BAUMGARTNER Douglas G <Douglas.G.BAUMGARTNER@odot.state.or.us>
Subject: RE: Florence - revision in site plan

Diego and Mike:

My recommendation would be to utilize trip generation for land uses 210 and 220 as opposed to 270 for the combination of the following reasons:

- it appears the proposed land use mix is known, as opposed to a general PUD application
- ITE data sample sizes for land uses 210 and 220 are significantly larger than that for 270 and, as a result, likely more accurate
- trip generation results for land uses 210 and 220 are slightly larger (more conservative) for the daily and PM peak hour

Please let me know if I may be of further assistance. Thanks!

Keith Blair
(503) 986-2857

From: Diego Arguea <darguea@kittelson.com>
Sent: Wednesday, January 8, 2020 6:01 PM
To: Mike Miller <mike.miller@ci.florence.or.us>; BLAIR Keith P <Keith.P.BLAIR@odot.state.or.us>
Cc: Amy Griffiths <agriffiths@kittelson.com>
Subject: Florence - revision in site plan

Mike, Keith,

Thank you both for your time in coordination and working through the project assumptions. We have recently had a change (reduction) in the site plan units, and I wanted to share an updated trip generation prior to moving forward with our analysis. Please review and let us know if you are comfortable using the PUD trip generation rate.

In our scoping memorandum, the site plan identified 91 single family home lots and 48 apartments. The revised unit mix is as follows:

31 single family lots

46 apartments

55 attached townhome/cottage 2-story homes (owner occupied not rentals)

132 total units

The 9th edition of Trip Generation included a category for 'townhomes' which does not exist in the 10th edition. Rather, the townhome data has been lumped together with the rate in the Low Rise Residential data. As such, one potential trip generation estimate shown below includes 31 single family lots and 101 low rise residential (46 apartments + 55 attached homes).

Land Use	ITE Code	Units	Daily Trips	Weekday AM			Weekday PM		
				Total	In	Out	Total	In	Out
Residential									
Single-Family Detached Housing (AVG)	210	31	354	27	7	20	33	21	12
<i>Internal Trips (0% Daily, 0% AM, Saturday 0%)</i>			0	0	0	0	0	0	
Multifamily Housing (Low-Rise)	220	101	723	48	11	37	60	38	22
<i>Internal Trips (0% Daily, 0% AM, Saturday 0%)</i>			0	0	0	0	0	0	
Net Trip Generation			1,077	75	18	57	93	58	34

Alternatively, the 10th edition also has a new land use category called PUD Residential (Land Use 270). This rate is intended for developments that are PUDs and the final land use mix may or may not be known. The second table represents the revised trip generation assuming all 132 units are run as PUD.

Land Use	ITE Code	Units	Daily Trips	Weekday AM			Weekday PM		
				Total	In	Out	Total	In	Out
Residential									
Planned Unit Development (PUD) Average Rate	270	132	974	75	17	59	91	59	32
<i>Internal Trips (0% Daily, 0% AM, Saturday 0%)</i>			0	0	0	0	0	0	
Net Trip Generation			974	75	17	59	91	59	32

As you'll note, the differences in net trip generation are very marginal – please review and let us know if you are both more comfortable with one over the other. Because this development application is going in as a PUD, I am comfortable with the trip generation and it seems appropriate to use this land use. But, given that we know the land use mix, I am open to either approach. Thanks in advance – please let us know your thoughts.

Thanks in advance,
Diego and Amy

[Diego Arguea](#), P.E. | Associate Engineer | [Kittelson & Associates, Inc.](#)
d: 503.535.7462 - 1462 (ext) | o: 503.228.5230 | c: 503.334.3183

From: Mike Miller <mike.miller@ci.florence.or.us>
Sent: Tuesday, January 07, 2020 10:21 AM
To: Diego Arguea <darguea@kittelson.com>
Cc: Amy Griffiths <agriffiths@kittelson.com>
Subject: RE: Development Review Contact for ODOT Region 2 District 5

Hi Diego,

Just left you a message. Sorry that yesterday did not work. I was just stepping into a meeting when you called and then I had an executive session with City Council plus our regular Council meeting last night.

I will be on the road traveling to Eugene to meet with Lane County at 11am and will be back in Florence after 3:30pm. I have a meeting scheduled with the City Manager, but should be available later after 4:30pm today.

If that doesn't work, I do have time available after 10am Wednesday.

Thank you,

Mike

From: Diego Arguea <darguea@kittelson.com>
Sent: Monday, January 6, 2020 2:44 PM
To: Mike Miller <mike.miller@ci.florence.or.us>
Cc: Amy Griffiths <agriffiths@kittelson.com>
Subject: FW: Development Review Contact for ODOT Region 2 District 5

Hi Mike,

Just left a message with Sandy (receptionist?) regarding our transportation work in Florence. I am available the rest of the afternoon and have some flexibility tomorrow afternoon. Please let me know when is a good time to chat about the scope of the transportation work – thanks in advance!

Thanks,
Diego

[Diego Arguea](#), P.E. | Associate Engineer | [Kittelson & Associates, Inc.](#)
d: 503.535.7462 - 1462 (ext) | o: 503.228.5230 | c: 503.334.3183

From: BLAIR Keith P <Keith.P.BLAIR@odot.state.or.us>
Sent: Friday, January 03, 2020 7:19 AM
To: BAUMGARTNER Douglas G <Douglas.G.BAUMGARTNER@odot.state.or.us>; Diego Arguea <darguea@kittelson.com>
Cc: Mike.Miller@ci.florence.or.us; Amy Griffiths <agriffiths@kittelson.com>; UPTON Dorothy J <Dorothy.J.UPTON@odot.state.or.us>; NELSON Brian S * Scott <Brian.S.NELSON@odot.state.or.us>
Subject: RE: Development Review Contact for ODOT Region 2 District 5

Doug and Diego:

Thank you for passing along this scoping letter. My comments are:

1. Traffic study should be consistent with ODOT's Analysis Procedures Manual (APM) <https://www.oregon.gov/ODOT/Planning/Pages/APM.aspx>
2. Does the City concur with the proposed Trip Distribution? It appears the assumed 30% (10% to/from north, 20% to/from south) of the total trips accessing the US-101/35th Street intersection is low, but I concur that it appears this intersection will not trigger ODOT's 50 peak hour net trip increase threshold to recommend study of the intersection. That said, I am still available and willing to review the draft traffic study as a resource for the City.
3. The OHP mobility target for the US-101/35th Street intersection is actually 0.85 rather than 0.90 as cited within the scoping letter (statewide highway, non-OHP freight route, 40 MPH).
4. The citation within ODOT's APM about avoiding the use of seasonal adjustments above 30% is not intended to limit the adjustment itself, but rather identify the least appropriate months during the year to conduct traffic counts. Due to the seasonal trending nature of the local transportation network, traffic counts at the US-101/35th Street intersection should be collected between March 1 and November 15. However, if the City will accept December counts for the purpose of this traffic

study, Region Traffic recommends a seasonal adjustment of 1.76 for the US-101/35th Street intersection based on an average of the following trends:

- a. 1.84 using Florence ATR 20-026 and the Average Daily Traffic method (as opposed to the Average Weekday Traffic method)
 - b. 1.49 using the Coastal Destination trend (the proposed calculation must have included an error)
 - c. 1.96 using the Coastal Destination Route trend (the proposed calculation must have included an error)
5. Per Table 3.3 of ODOT's Development Review Guidelines, for a development of this size (1,000 – 2,999 ADT), Region Traffic recommends the following analysis scenario years:
- a. Existing (2019)
 - b. Opening Year (2021)
 - i. Background
 - ii. Total
 - c. Opening Year + 5 Years (2026)
 - i. Background
 - ii. Total

I hope the above information will help, but please let me know if there are any more questions or if I may be of any further assistance. Thanks!

Keith P. Blair, P.E.

Interim Traffic Analysis Engineer | ODOT Region 2
455 Airport Rd SE, Bldg. A | Salem, Oregon 97301
(503) 986-2857 | Keith.P.Blair@odot.state.or.us

ODOT's mission is to provide a safe and reliable multimodal transportation system that connects people and helps Oregon's communities and economy thrive.

From: Diego Arguea <darguea@kittelton.com>

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thanks

B Scott Nelson, P.E.
Region 2 Access Management Engineer



455 Airport Rd SE, Bldg. B
Salem, OR 97301
Office 503.986.2882
Cell 503.602.0703

Attachment B
Level-of-Service Criteria

DESCRIPTION OF LEVEL OF SERVICE

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various level of service from “A” to “F”.¹

SIGNALIZED INTERSECTIONS

The six level-of-service grades are described qualitatively for signalized intersections in Table B1. Additionally, Table B2 identifies the relationship between level of service and average control delay per vehicle. Control delay is defined to include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Using this definition, Level of Service “D” is generally considered to represent the minimum acceptable design standard.

Table B1: Level-of-Service Definitions (Signalized Intersections)

Level of Service	Average Delay per Vehicle
A	Very low average control delay, less than 10 seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average control delay is greater than 10 seconds per vehicle and less than or equal to 20 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a level of service A, causing higher levels of average delay.
C	Average control delay is greater than 20 seconds per vehicle and less than or equal to 35 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average control delay is greater than 35 seconds per vehicle and less than or equal to 55 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average control delay is greater than 55 seconds per vehicle and less than or equal to 80 seconds per vehicle. This is usually considered to be the limit of acceptable delay. These high delay values generally (but not always) indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average control delay is more than 80 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.

¹ Most of the material in this appendix is adapted from the Transportation Research Board, *Highway Capacity Manual*, (2010).

Table B2: Level-of-Service Criteria for Signalized Intersections

Level of Service	Average Control Delay per Vehicle (Seconds)
A	<10.0
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

UNSIGNALIZED INTERSECTIONS

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. *The Highway Capacity Manual, 6th edition* (HCM) provides models for estimating control delay at both TWSC and AWSC intersections. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B3. A quantitative definition of level of service for unsignalized intersections is presented in Table B4. Using this definition, Level of Service “E” is generally considered to represent the minimum acceptable design standard.

Table B3: Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	<ul style="list-style-type: none"> Nearly all drivers find freedom of operation. Very seldom is there more than one vehicle in queue.
B	<ul style="list-style-type: none"> Some drivers begin to consider the delay an inconvenience. Occasionally there is more than one vehicle in queue.
C	<ul style="list-style-type: none"> Many times there is more than one vehicle in queue. Most drivers feel restricted, but not objectionably so.
D	<ul style="list-style-type: none"> Often there is more than one vehicle in queue. Drivers feel quite restricted.
E	<ul style="list-style-type: none"> Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. There is almost always more than one vehicle in queue. Drivers find the delays approaching intolerable levels.
F	<ul style="list-style-type: none"> Forced flow. Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table B4: Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay per Vehicle (Seconds)
A	<10.0
B	>10.0 and ≤ 15.0
C	>15.0 and ≤ 25.0
D	>25.0 and ≤ 35.0
E	>35.0 and ≤ 50.0
F	>50.0

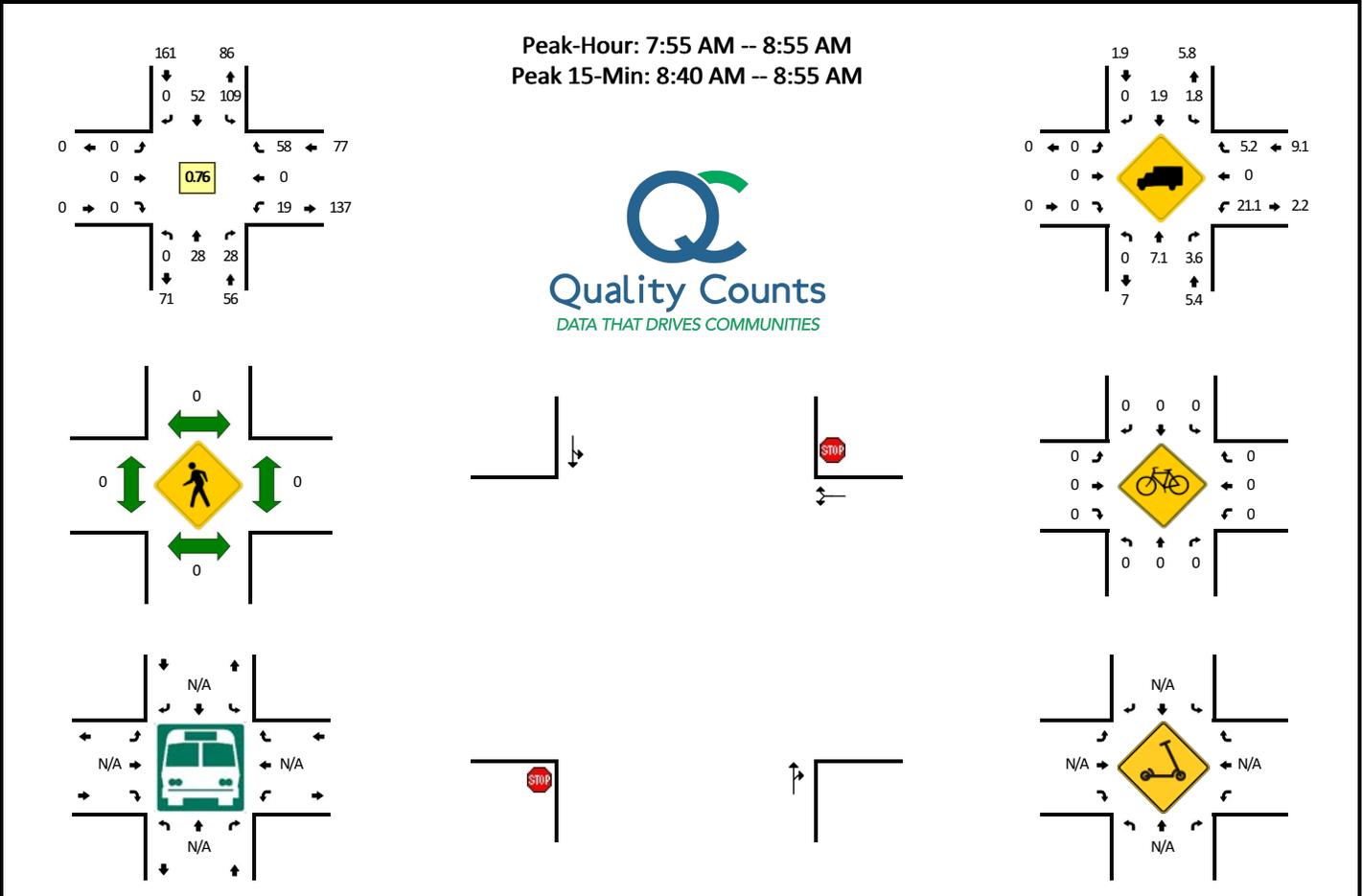
It should be noted that the level-of-service criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less galling than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the control delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. While overall intersection level of service is calculated for AWSC intersections, level of service is only calculated for the minor approaches and the major street left turn movements at TWSC intersections. No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection level of service remains undefined: level of service is only calculated for each minor street lane.

In the performance evaluation of TWSC intersections, it is important to consider other measures of effectiveness (MOEs) in addition to delay, such as v/c ratios for individual movements, average queue lengths, and 95th-percentile queue lengths. By focusing on a single MOE for the worst movement only, such as delay for the minor-street left turn, users may make inappropriate traffic control decisions. The potential for making such inappropriate decisions is likely to be particularly pronounced when the HCM level-of-service thresholds are adopted as legal standards, as is the case in many public agencies.

Attachment C
Traffic Count Data

LOCATION: Rhododendron Dr -- 35th St
CITY/STATE: Lane, OR

QC JOB #: 15139501
DATE: Wed, Dec 4 2019



Peak-Hour: 7:55 AM -- 8:55 AM
 Peak 15-Min: 8:40 AM -- 8:55 AM

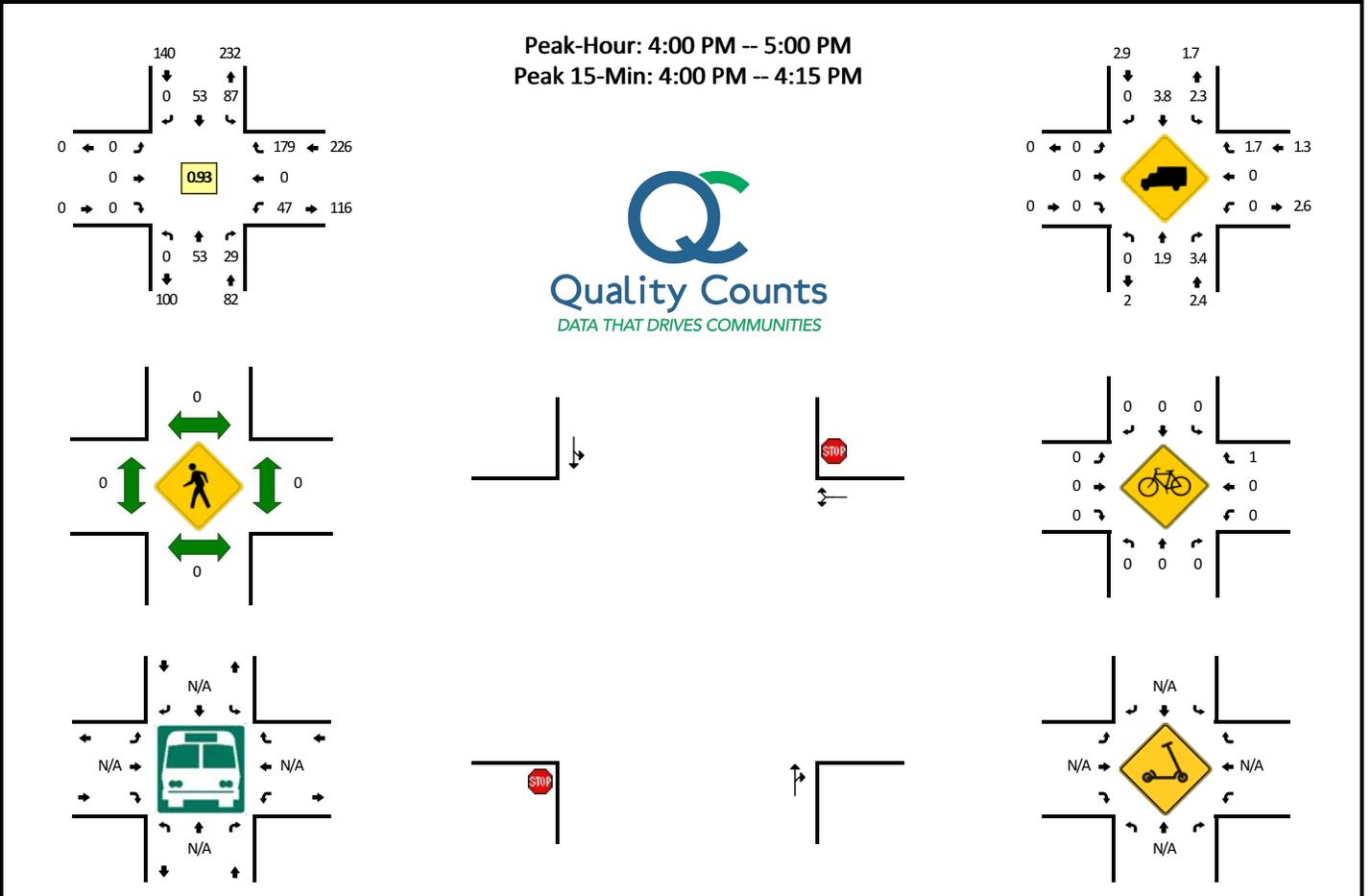


5-Min Count Period Beginning At	Rhododendron Dr (Northbound)				Rhododendron Dr (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	6	3	0	0	0	0	0	0	3	0	2	0	14	
7:05 AM	0	2	0	0	3	3	0	0	0	0	0	0	0	0	2	0	10	
7:10 AM	0	0	1	0	2	4	0	0	0	0	0	0	0	0	2	0	9	
7:15 AM	0	1	0	0	3	1	0	0	0	0	0	0	1	0	1	0	7	
7:20 AM	0	1	0	0	6	0	0	0	0	0	0	0	2	0	2	0	11	
7:25 AM	0	6	0	0	1	1	0	0	0	0	0	0	0	0	3	0	11	
7:30 AM	0	3	1	0	5	2	0	0	0	0	0	0	3	0	3	0	17	
7:35 AM	0	1	3	0	7	1	0	0	0	0	0	0	1	0	3	0	16	
7:40 AM	0	1	1	0	13	6	0	0	0	0	0	0	0	0	3	0	24	
7:45 AM	0	0	0	0	8	5	0	0	0	0	0	0	3	0	7	0	23	
7:50 AM	0	2	4	0	12	7	0	0	0	0	0	0	2	0	6	0	33	
7:55 AM	0	1	6	0	12	7	0	0	0	0	0	0	2	0	4	0	32	207
8:00 AM	0	1	1	0	5	3	0	0	0	0	0	0	4	0	4	0	18	211
8:05 AM	0	2	0	0	9	3	0	0	0	0	0	0	1	0	6	0	21	222
8:10 AM	0	2	2	0	11	2	0	0	0	0	0	0	1	0	3	0	21	234
8:15 AM	0	2	2	0	9	2	0	0	0	0	0	0	2	0	2	0	19	246
8:20 AM	0	0	2	0	14	2	0	0	0	0	0	0	1	0	6	0	25	260
8:25 AM	0	4	1	0	9	3	0	0	0	0	0	0	0	0	3	0	20	269
8:30 AM	0	1	0	0	9	10	0	0	0	0	0	0	0	0	6	0	26	278
8:35 AM	0	2	2	0	4	3	0	0	0	0	0	0	0	0	4	0	15	277
8:40 AM	0	3	3	0	5	5	0	0	0	0	0	0	3	0	3	0	22	275
8:45 AM	0	5	3	0	10	5	0	0	0	0	0	0	1	0	11	0	35	287
8:50 AM	0	5	6	0	12	7	0	0	0	0	0	0	4	0	6	0	40	294
8:55 AM	0	3	3	0	9	5	0	0	0	0	0	0	4	0	3	0	27	289
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	52	48	0	108	68	0	0	0	0	0	0	32	0	80	0	388	
Heavy Trucks	0	4	0	0	0	0	0	0	0	0	0	0	8	0	4	0	16	
Buses																	0	
Pedestrians		0				0					0			0			0	
Bicycles	0	0	0		0	0	0			0	0	0	0	0	0		0	
Scoters																	0	

Comments:

LOCATION: Rhododendron Dr -- 35th St
CITY/STATE: Lane, OR

QC JOB #: 15139502
DATE: Wed, Dec 4 2019

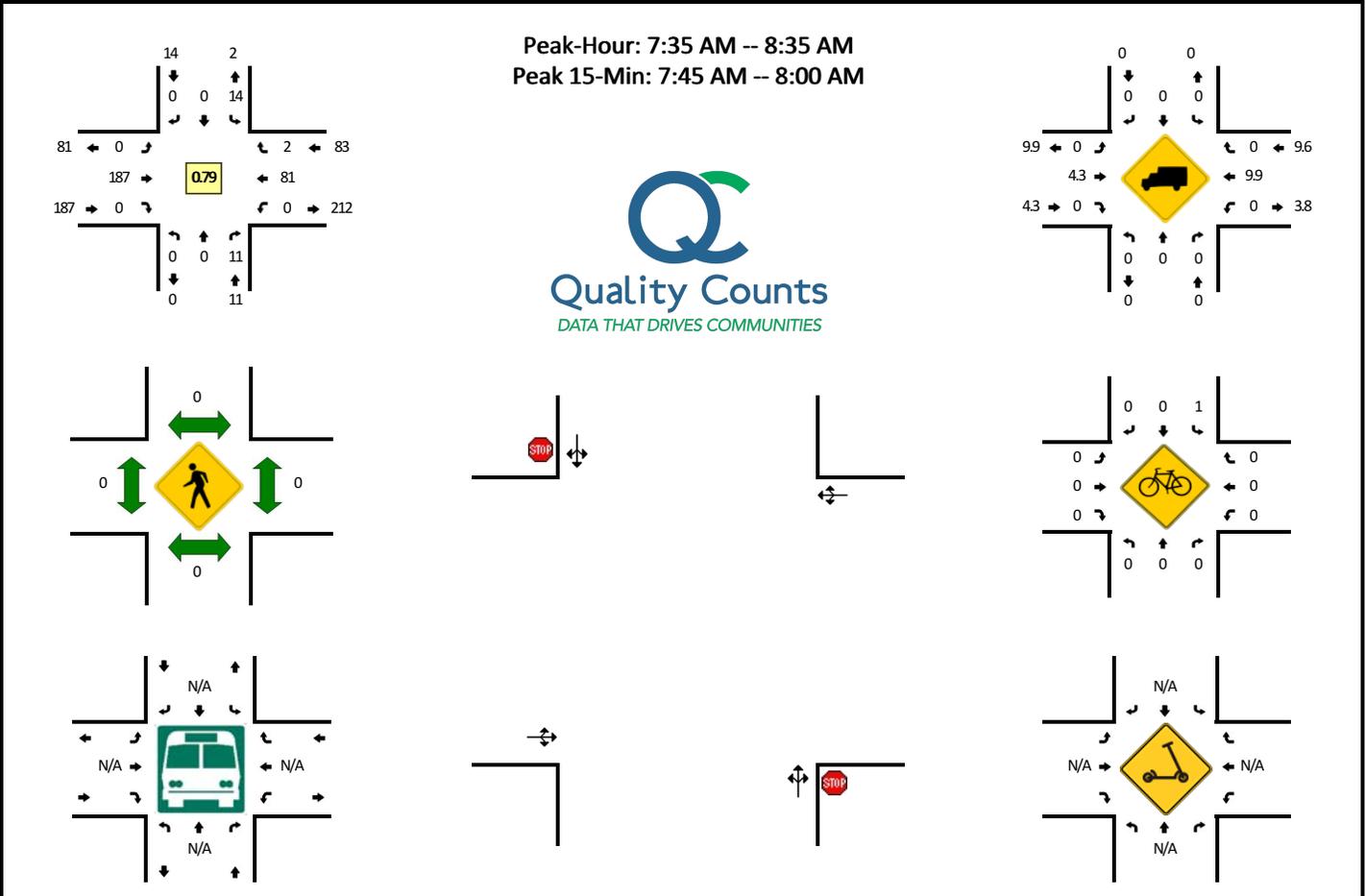


5-Min Count Period Beginning At	Rhododendron Dr (Northbound)				Rhododendron Dr (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	3	3	0	6	5	0	0	0	0	0	0	5	0	13	0	35	
4:05 PM	0	5	5	0	8	5	0	0	0	0	0	0	6	0	16	0	45	
4:10 PM	0	7	2	0	8	1	0	0	0	0	0	0	1	0	22	0	41	
4:15 PM	0	2	0	0	7	7	0	0	0	0	0	0	5	0	13	0	34	
4:20 PM	0	4	1	0	8	0	0	0	0	0	0	0	4	0	14	0	31	
4:25 PM	0	6	4	0	9	10	0	0	0	0	0	0	5	0	13	0	47	
4:30 PM	0	3	3	0	6	5	0	0	0	0	0	0	1	0	20	0	38	
4:35 PM	0	5	2	0	4	4	0	0	0	0	0	0	3	0	11	0	29	
4:40 PM	0	7	2	0	7	5	0	0	0	0	0	0	4	0	14	0	39	
4:45 PM	0	2	1	0	5	5	0	0	0	0	0	0	6	0	15	0	34	
4:50 PM	0	4	3	0	9	3	0	0	0	0	0	0	6	0	19	0	44	
4:55 PM	0	5	3	0	10	3	0	0	0	0	0	0	1	0	9	0	31	448
5:00 PM	0	8	0	0	10	4	0	0	0	0	0	0	2	0	6	0	30	443
5:05 PM	0	5	5	0	8	1	0	0	0	0	0	0	1	0	8	0	28	426
5:10 PM	0	5	5	0	4	6	0	0	0	0	0	0	1	0	6	0	27	412
5:15 PM	0	5	4	0	10	3	0	0	0	0	0	0	4	0	10	0	36	414
5:20 PM	0	3	3	0	7	5	0	0	0	0	0	0	0	0	11	0	29	412
5:25 PM	0	2	1	0	7	2	0	0	0	0	0	0	3	0	9	0	24	389
5:30 PM	0	1	0	0	5	4	0	0	0	0	0	0	1	0	8	0	19	370
5:35 PM	0	7	3	0	6	1	0	0	0	0	0	0	1	0	7	0	25	366
5:40 PM	0	4	1	0	5	1	0	0	0	0	0	0	4	0	5	0	20	347
5:45 PM	0	2	0	0	3	2	0	0	0	0	0	0	5	0	8	0	20	333
5:50 PM	0	2	0	0	5	5	0	0	0	0	0	0	0	0	7	0	19	308
5:55 PM	0	2	2	0	3	3	0	0	0	0	0	0	1	0	7	0	18	295
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	60	40	0	88	44	0	0	0	0	0	0	48	0	204	0	484	
Heavy Trucks	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0	8	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:

LOCATION: Royal St Georges Dr -- 35th St
CITY/STATE: Lane, OR

QC JOB #: 15139503
DATE: Wed, Dec 4 2019

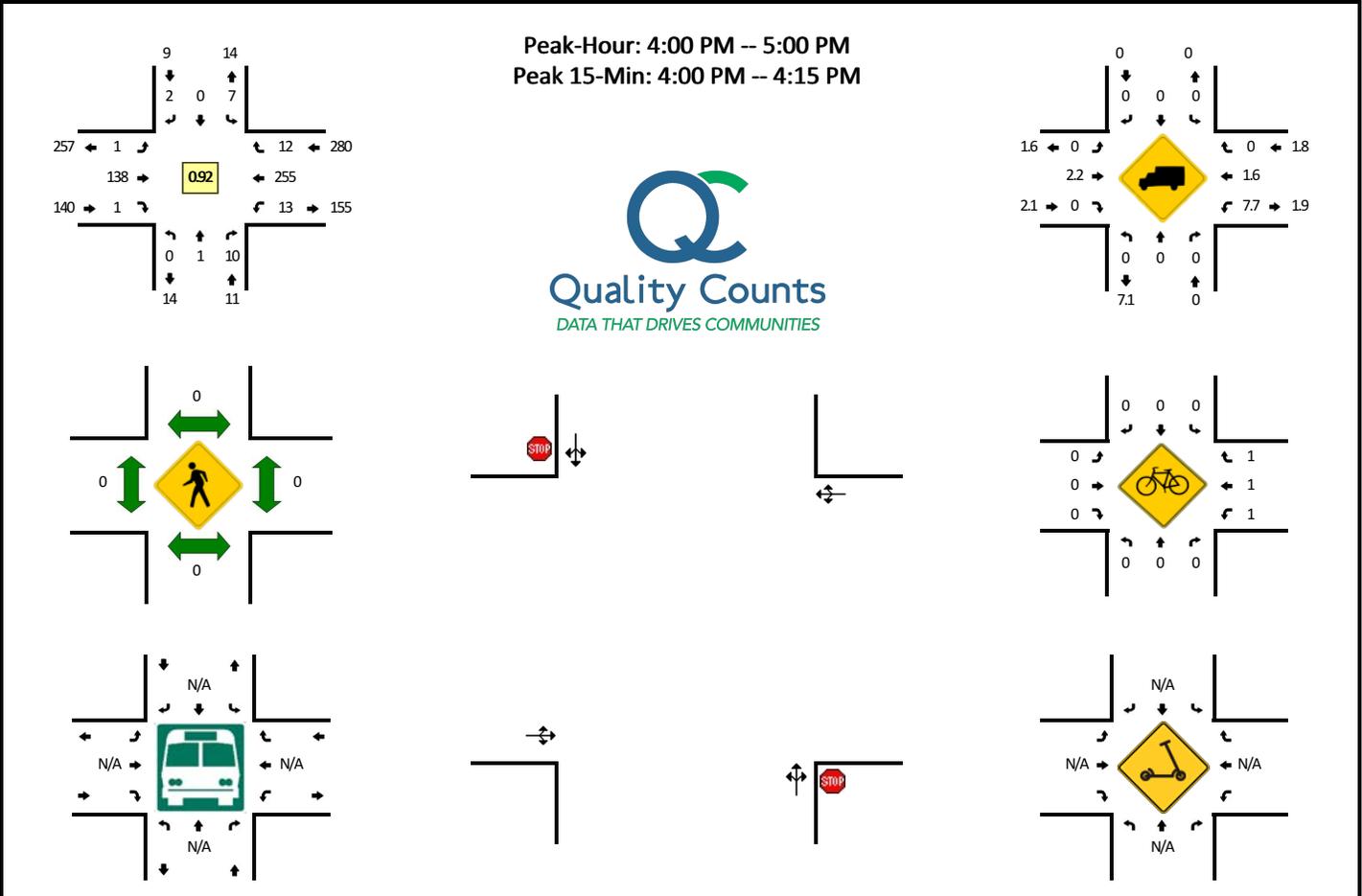


5-Min Count Period Beginning At	Royal St Georges Dr (Northbound)				Royal St Georges Dr (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	1	0	0	0	0	0	0	4	0	0	0	4	0	0	9	
7:05 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	2	0	0	8	
7:10 AM	0	0	1	0	0	0	0	0	0	5	0	0	0	3	0	0	9	
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5	
7:20 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	3	0	0	11	
7:25 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6	
7:30 AM	0	0	0	0	1	0	0	0	0	7	0	0	0	6	0	0	14	
7:35 AM	0	0	0	0	0	0	0	0	0	17	0	0	0	5	0	0	22	
7:40 AM	0	0	0	0	1	0	0	0	0	17	0	0	0	6	0	0	24	
7:45 AM	0	0	2	0	0	0	0	0	0	16	0	0	0	11	0	0	29	
7:50 AM	0	0	2	0	2	0	0	0	0	19	0	0	0	8	0	0	31	
7:55 AM	0	0	2	0	3	0	0	0	0	21	0	0	0	7	0	0	33	201
8:00 AM	0	0	0	0	3	0	0	0	0	10	0	0	0	10	0	0	23	215
8:05 AM	0	0	1	0	1	0	0	0	0	15	0	0	0	9	0	0	26	233
8:10 AM	0	0	1	0	0	0	0	0	0	15	0	0	0	3	0	0	19	243
8:15 AM	0	0	1	0	1	0	0	0	0	17	0	0	0	6	0	0	25	263
8:20 AM	0	0	1	0	1	0	0	0	0	17	0	0	0	9	1	0	29	281
8:25 AM	0	0	1	0	2	0	0	0	0	11	0	0	0	2	1	0	17	292
8:30 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	5	0	0	17	295
8:35 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	9	1	0	21	294
8:40 AM	0	0	1	0	0	0	0	0	0	9	0	0	0	7	1	0	18	288
8:45 AM	0	0	2	0	0	0	0	0	0	15	0	0	0	14	0	0	31	290
8:50 AM	0	0	0	0	2	0	1	0	1	20	0	0	1	10	0	0	35	294
8:55 AM	0	0	0	0	1	0	0	0	0	12	0	0	0	7	0	0	20	281
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	24	0	20	0	0	0	0	224	0	0	0	104	0	0	372	
Heavy Trucks	0	0	0	0	0	0	0	0	0	8	0	0	0	12	0	0	20	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0			0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Royal St Georges Dr -- 35th St
CITY/STATE: Lane, OR

QC JOB #: 15139504
DATE: Wed, Dec 4 2019

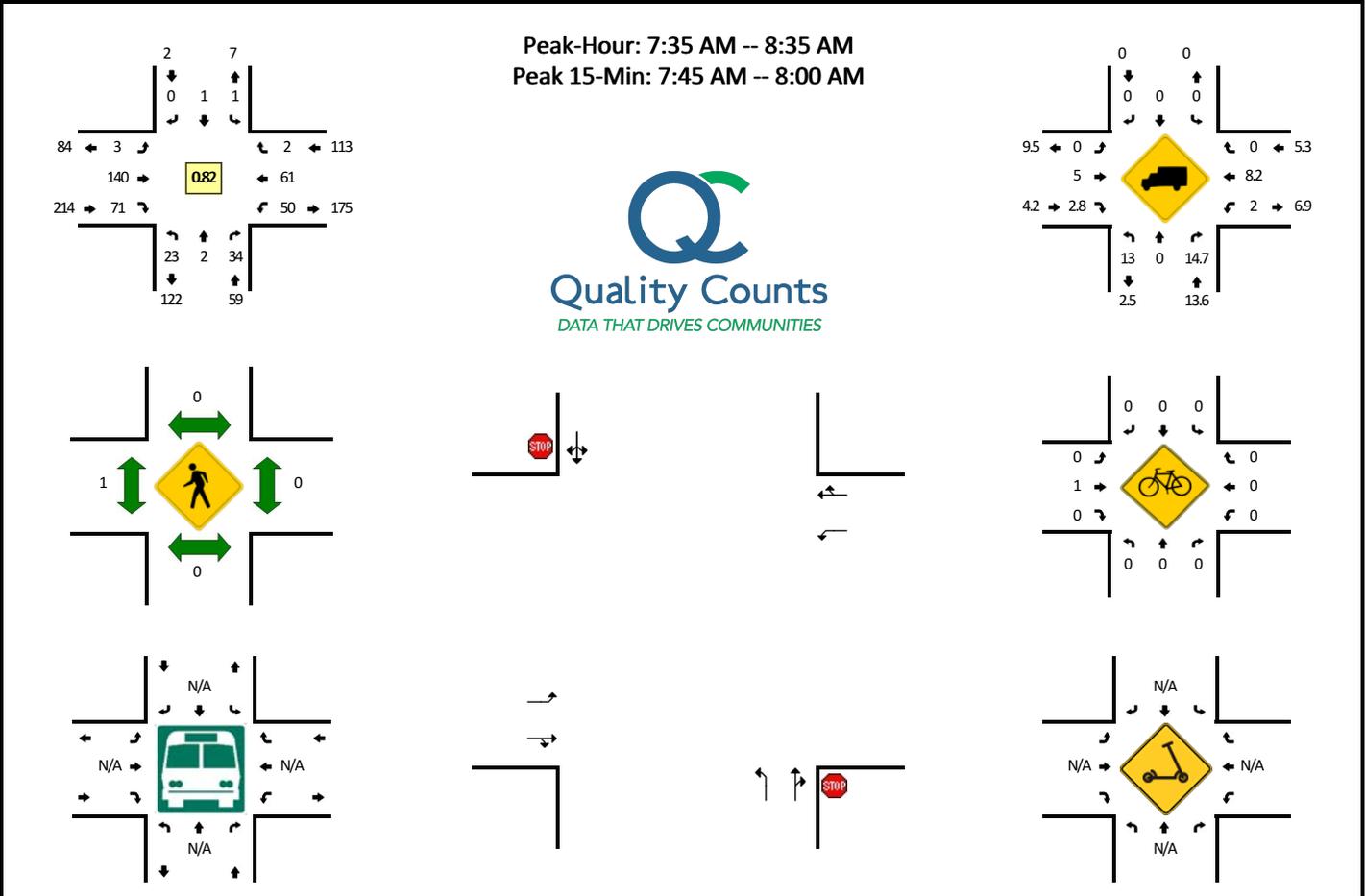


5-Min Count Period Beginning At	Royal St Georges Dr (Northbound)				Royal St Georges Dr (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	1	0	1	0	0	0	0	10	0	0	2	20	1	0	35	
4:05 PM	0	0	0	0	1	0	0	0	0	16	0	0	0	24	0	0	41	
4:10 PM	0	0	1	0	2	0	0	0	0	11	0	0	1	28	0	0	43	
4:15 PM	0	0	2	0	0	0	0	0	0	13	0	0	2	17	1	0	35	
4:20 PM	0	0	1	0	1	0	0	0	0	9	0	0	0	20	0	0	31	
4:25 PM	0	0	1	0	0	0	0	0	0	14	0	0	1	24	0	0	40	
4:30 PM	0	0	0	0	0	0	0	0	0	13	0	0	2	25	1	0	41	
4:35 PM	0	0	0	0	0	0	1	0	0	4	0	0	1	18	3	0	27	
4:40 PM	0	1	1	0	0	0	0	0	0	13	1	0	0	25	3	0	44	
4:45 PM	0	0	1	0	1	0	0	0	0	7	0	0	2	22	0	0	33	
4:50 PM	0	0	1	0	0	0	1	0	0	12	0	0	2	19	3	0	38	
4:55 PM	0	0	1	0	1	0	0	0	1	16	0	0	0	13	0	0	32	440
5:00 PM	0	0	0	0	1	0	0	0	0	18	0	0	1	15	1	0	36	441
5:05 PM	0	0	1	0	0	0	0	0	0	12	0	0	2	12	1	0	28	428
5:10 PM	0	0	0	0	0	0	0	0	0	11	0	0	1	11	1	0	24	409
5:15 PM	0	0	2	0	1	0	0	0	0	11	0	0	1	15	2	0	32	406
5:20 PM	0	0	1	0	0	0	0	0	0	15	0	0	0	14	0	0	30	405
5:25 PM	0	0	0	0	1	0	0	0	0	8	0	1	0	12	0	0	22	387
5:30 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	12	2	0	20	366
5:35 PM	0	0	2	0	0	0	0	0	0	7	0	0	4	15	0	0	28	367
5:40 PM	0	0	0	0	1	0	0	0	0	5	0	0	1	8	0	0	15	338
5:45 PM	0	0	1	0	1	0	0	0	0	8	0	0	1	14	0	0	25	330
5:50 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	13	0	0	17	309
5:55 PM	0	0	0	0	0	0	0	0	0	5	0	0	2	15	0	0	22	299
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	8	0	16	0	0	0	0	148	0	0	12	288	4	0	476	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	1		1	
Scoters																		

Comments:

LOCATION: Kingwood St -- 35th St
CITY/STATE: Lane, OR

QC JOB #: 15139505
DATE: Wed, Dec 4 2019



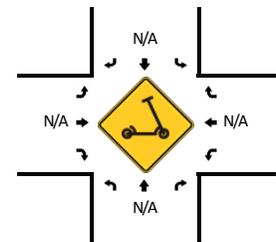
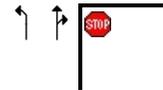
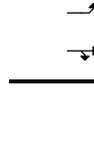
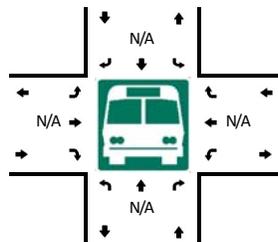
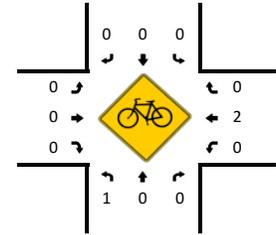
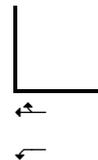
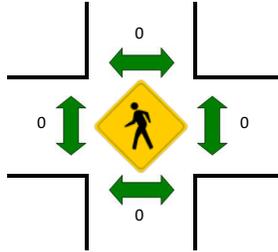
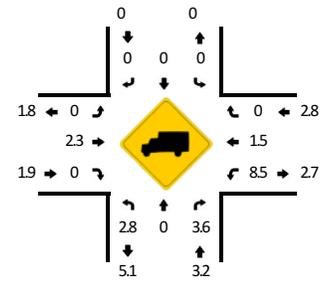
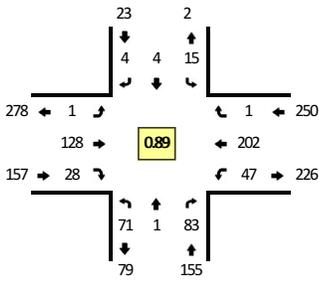
5-Min Count Period Beginning At	Kingwood St (Northbound)				Kingwood St (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	2	0	0	0	0	0	1	4	0	0	4	1	0	0	14	
7:05 AM	1	0	2	0	0	0	0	0	0	3	2	0	1	1	0	0	10	
7:10 AM	0	0	2	0	0	0	0	0	0	6	0	0	2	3	0	0	13	
7:15 AM	2	0	3	0	0	0	0	0	0	2	1	0	0	1	0	0	9	
7:20 AM	0	1	0	0	0	0	0	0	0	7	1	0	5	3	1	0	18	
7:25 AM	0	0	0	0	0	0	0	0	0	2	1	0	2	3	0	0	8	
7:30 AM	1	0	3	0	0	0	0	0	0	6	1	0	4	6	1	0	22	
7:35 AM	0	0	0	0	0	0	0	0	0	9	7	0	4	4	0	0	24	
7:40 AM	3	0	0	0	0	0	0	0	1	12	7	0	7	3	0	0	33	
7:45 AM	2	0	3	0	0	0	0	0	0	13	5	0	6	14	0	0	43	
7:50 AM	1	1	4	0	0	0	0	0	0	14	9	0	4	3	0	0	36	
7:55 AM	2	0	1	0	0	1	0	0	0	16	9	0	5	6	0	0	40	270
8:00 AM	3	0	6	0	0	0	0	0	0	9	5	0	2	7	0	0	32	288
8:05 AM	2	0	4	0	0	0	0	0	0	12	4	0	2	6	0	0	30	308
8:10 AM	2	0	7	0	0	0	0	0	2	11	5	0	4	3	1	0	35	330
8:15 AM	2	0	1	0	0	0	0	0	0	10	6	0	3	4	0	0	26	347
8:20 AM	5	0	4	0	0	0	0	0	0	15	8	0	5	5	0	0	42	371
8:25 AM	0	0	0	0	1	0	0	0	0	9	3	0	3	3	0	0	19	382
8:30 AM	1	1	4	0	0	0	0	0	0	10	3	0	5	3	1	0	28	388
8:35 AM	4	0	1	0	0	0	0	0	1	6	5	0	0	5	1	0	23	387
8:40 AM	3	0	0	0	0	0	0	0	0	6	3	0	3	5	0	0	20	374
8:45 AM	9	0	2	0	0	0	0	0	0	16	2	0	1	6	1	0	37	368
8:50 AM	1	0	2	0	1	0	0	0	0	16	4	0	5	8	2	0	39	371
8:55 AM	4	0	1	0	0	0	0	0	0	11	1	0	0	5	0	0	22	353
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	20	4	32	0	0	4	0	0	0	172	92	0	60	92	0	0	476	
Heavy Trucks	4	0	4		0	0	0		0	8	0		0	8	0		24	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:

LOCATION: Kingwood St -- 35th St
CITY/STATE: Lane, OR

QC JOB #: 15139506
DATE: Wed, Dec 4 2019

Peak-Hour: 4:00 PM -- 5:00 PM
 Peak 15-Min: 4:05 PM -- 4:20 PM



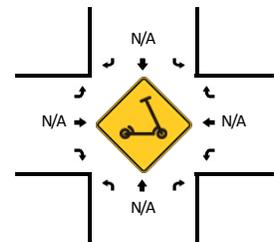
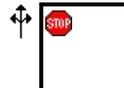
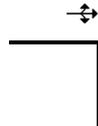
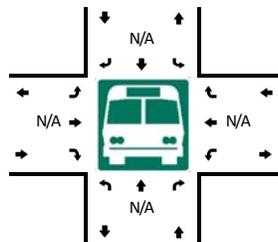
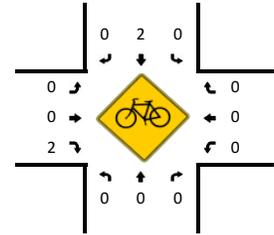
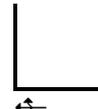
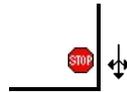
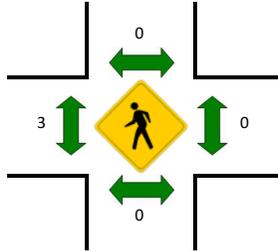
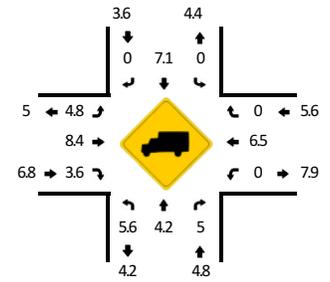
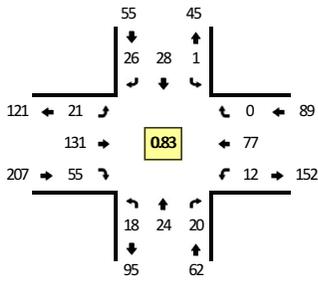
5-Min Count Period Beginning At	Kingwood St (Northbound)				Kingwood St (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	0	6	0	0	0	0	0	0	8	4	0	4	18	0	0	43	
4:05 PM	5	0	9	0	2	2	1	0	0	15	2	0	5	18	0	0	59	
4:10 PM	11	0	7	0	4	0	0	0	0	11	3	0	2	18	1	0	57	
4:15 PM	6	0	10	0	1	0	0	0	0	13	3	0	3	13	0	0	49	
4:20 PM	3	0	5	0	1	0	0	0	0	7	4	0	5	20	0	0	45	
4:25 PM	2	0	11	0	2	0	0	0	0	9	2	0	4	23	0	0	53	
4:30 PM	11	0	9	0	2	0	0	0	0	15	0	0	4	14	0	0	55	
4:35 PM	5	0	7	0	0	0	0	0	0	4	1	0	5	18	0	0	40	
4:40 PM	7	0	4	0	2	1	3	0	0	11	4	0	5	18	0	0	55	
4:45 PM	6	0	3	0	0	0	0	0	0	8	1	0	6	18	0	0	42	
4:50 PM	7	1	4	0	0	1	0	0	0	12	1	0	3	16	0	0	45	
4:55 PM	5	0	8	0	1	0	0	0	0	15	3	1	1	8	0	0	42	585
5:00 PM	7	0	8	0	0	0	0	0	0	14	5	0	1	8	0	0	43	585
5:05 PM	2	0	14	0	1	0	0	0	1	9	2	0	5	13	0	0	47	573
5:10 PM	4	0	10	0	0	1	1	0	0	8	4	0	4	10	1	0	43	559
5:15 PM	3	0	10	0	0	0	0	0	0	13	2	0	2	14	0	0	44	554
5:20 PM	8	1	6	0	0	0	0	0	0	14	2	0	3	8	0	0	42	551
5:25 PM	1	0	5	0	0	0	0	0	0	8	1	0	2	10	0	0	27	525
5:30 PM	5	0	3	0	0	0	0	0	0	7	0	0	3	7	0	0	25	495
5:35 PM	5	0	2	0	0	0	0	0	0	9	0	0	2	14	0	0	32	487
5:40 PM	1	0	7	0	0	0	0	0	0	4	2	0	1	9	0	0	24	456
5:45 PM	3	0	4	0	0	0	0	0	0	10	0	0	2	11	0	0	30	444
5:50 PM	5	0	5	0	0	0	0	0	0	3	1	0	4	9	0	0	27	426
5:55 PM	2	0	3	0	0	0	0	0	0	4	1	0	1	16	0	0	27	411
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	88	0	104	0	28	8	4	0	0	156	32	0	40	196	4	0	660	
Heavy Trucks	4	0	12		0	0	0		0	0	0		4	4	0		24	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	1	0	0		0	0	0		0	0	0		0	1	0		2	
Scoters																		

Comments:

LOCATION: Oak St -- 35th St
CITY/STATE: Lane, OR

QC JOB #: 15139507
DATE: Wed, Dec 4 2019

Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:55 AM -- 8:10 AM



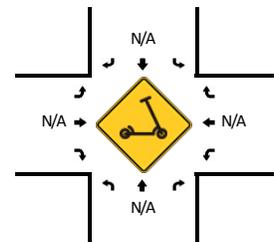
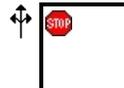
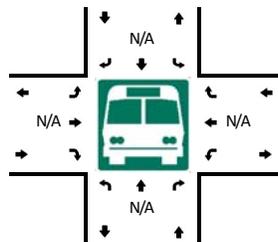
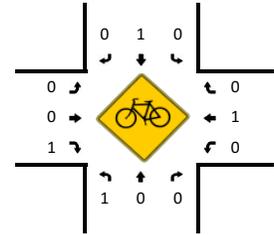
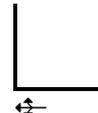
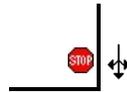
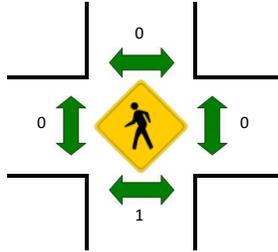
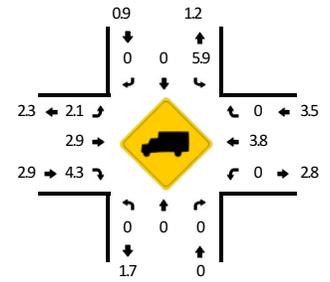
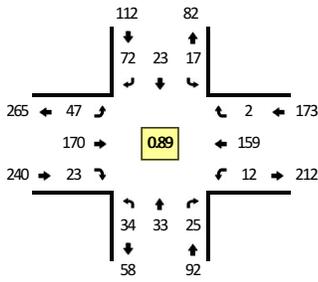
5-Min Count Period Beginning At	Oak St (Northbound)				Oak St (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U														
7:00 AM	0	0	1	0	0	0	0	0	1	6	1	0	0	4	0	0	13	
7:05 AM	1	0	0	0	0	0	0	0	1	5	0	0	0	1	0	0	8	
7:10 AM	0	0	0	0	0	1	2	0	4	3	0	0	0	4	0	0	14	
7:15 AM	1	0	0	0	0	0	0	0	0	6	1	0	0	2	0	0	10	
7:20 AM	0	0	0	0	0	1	1	0	4	6	1	0	0	8	0	0	21	
7:25 AM	1	0	2	0	0	2	3	0	0	2	1	0	0	7	0	0	18	
7:30 AM	0	1	0	0	0	2	2	0	1	7	0	0	0	2	5	0	20	
7:35 AM	1	4	0	0	0	1	2	0	1	7	3	0	1	7	0	0	27	
7:40 AM	0	1	1	0	0	2	1	0	1	8	3	0	1	7	0	0	25	
7:45 AM	4	1	0	0	0	1	1	0	3	11	7	0	3	14	0	0	45	
7:50 AM	0	2	1	0	0	2	1	0	4	9	3	0	2	6	0	0	30	
7:55 AM	1	2	1	0	1	2	7	0	0	17	8	0	1	4	0	0	44	275
8:00 AM	3	3	2	0	0	3	2	0	1	10	9	0	1	8	0	0	42	304
8:05 AM	1	4	3	0	0	4	2	0	2	9	8	0	0	5	0	0	38	334
8:10 AM	2	0	2	0	0	7	0	0	4	13	7	0	1	6	0	0	42	362
8:15 AM	0	2	2	0	0	3	1	0	0	8	3	0	1	7	0	0	27	379
8:20 AM	4	1	5	0	0	0	1	0	4	14	2	0	1	6	0	0	38	396
8:25 AM	2	1	2	0	0	1	4	0	1	9	1	0	0	1	0	0	22	400
8:30 AM	0	3	1	0	0	2	4	0	0	16	1	0	0	6	0	0	33	413
8:35 AM	0	1	1	0	0	0	2	0	3	8	0	0	0	6	0	0	21	407
8:40 AM	0	1	0	0	1	1	4	0	2	4	1	0	1	4	1	0	20	402
8:45 AM	1	1	0	0	1	1	0	0	1	14	1	0	0	5	0	0	25	382
8:50 AM	2	2	1	0	0	1	2	0	4	16	1	0	0	11	0	0	40	392
8:55 AM	1	1	1	0	0	2	0	0	2	11	1	0	2	3	0	0	24	372
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U														
All Vehicles	20	36	24	0	4	36	44	0	12	144	100	0	8	68	0	0	496	
Heavy Trucks	0	0	0		0	4	0		0	16	8		0	8	0		36	
Buses																		
Pedestrians		0				0				8				0			8	
Bicycles	0	0	0		0	0	0		0	0	1		0	0	0		1	
Scoters																		

Comments:

LOCATION: Oak St -- 35th St
CITY/STATE: Lane, OR

QC JOB #: 15139508
DATE: Wed, Dec 4 2019

Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:05 PM -- 4:20 PM



5-Min Count Period Beginning At	Oak St (Northbound)				Oak St (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U														
4:00 PM	0	4	2	0	0	0	7	0	2	11	1	0	2	16	0	0	45	
4:05 PM	3	3	1	0	4	3	10	0	8	17	3	0	0	15	0	0	67	
4:10 PM	2	2	2	0	3	3	6	0	5	15	4	0	2	11	1	0	56	
4:15 PM	3	2	6	0	1	1	6	0	4	13	2	0	1	12	0	0	51	
4:20 PM	4	1	0	0	2	3	4	0	2	17	2	0	0	12	0	0	47	
4:25 PM	4	2	2	0	1	1	6	0	7	15	0	0	1	22	0	0	61	
4:30 PM	3	5	5	0	0	3	5	0	3	20	7	0	1	12	0	0	64	
4:35 PM	6	3	2	0	0	0	4	0	1	10	1	0	1	16	0	0	44	
4:40 PM	1	4	1	0	0	1	7	0	1	12	3	0	1	13	0	0	44	
4:45 PM	3	2	1	0	2	1	8	0	5	13	0	0	1	16	0	0	52	
4:50 PM	3	2	1	0	4	6	7	0	3	12	0	0	1	8	0	0	47	
4:55 PM	2	3	2	0	0	1	2	0	6	15	0	0	1	6	1	0	39	617
5:00 PM	0	1	0	0	1	1	2	0	8	11	4	0	0	9	0	0	37	609
5:05 PM	4	2	3	0	0	1	2	0	9	15	2	0	1	14	0	0	53	595
5:10 PM	2	2	0	0	0	2	4	0	6	10	2	0	1	12	0	0	41	580
5:15 PM	1	3	2	0	0	4	4	0	6	16	3	0	0	10	0	0	49	578
5:20 PM	4	1	3	0	3	2	5	0	4	16	1	0	2	10	0	0	51	582
5:25 PM	1	5	1	0	0	0	4	0	5	11	1	0	1	7	0	0	36	557
5:30 PM	0	4	4	0	0	3	4	0	2	8	3	0	0	6	1	0	35	528
5:35 PM	1	1	3	0	0	2	5	0	2	11	0	0	1	14	1	0	41	525
5:40 PM	1	2	3	0	1	4	4	0	4	6	0	0	1	10	0	0	36	517
5:45 PM	0	0	1	0	2	1	1	0	1	14	1	0	0	10	0	0	31	496
5:50 PM	3	2	3	0	2	0	2	0	1	6	3	0	0	9	2	0	33	482
5:55 PM	4	0	0	0	1	2	7	0	3	4	1	0	1	10	0	0	33	476
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U														
All Vehicles	32	28	36	0	32	28	88	0	68	180	36	0	12	152	4	0	696	
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	8	0		16	
Buses																		
Pedestrians		4				0				0				0			4	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

Attachment D
Existing Traffic Operations
Worksheets

Intersection						
Int Delay, s/veh	6.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	33	102	49	49	192	92
Future Vol, veh/h	33	102	49	49	192	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	21	5	7	4	2	2
Mvmt Flow	43	134	64	64	253	121

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	723	96	0	0	128	0
Stage 1	96	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.61	6.25	-	-	4.12	-
Critical Hdwy Stg 1	5.61	-	-	-	-	-
Critical Hdwy Stg 2	5.61	-	-	-	-	-
Follow-up Hdwy	3.689	3.345	-	-	2.218	-
Pot Cap-1 Maneuver	366	952	-	-	1458	-
Stage 1	882	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	298	952	-	-	1458	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	405	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	5.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	620	1458
HCM Lane V/C Ratio	-	-	0.287	0.173
HCM Control Delay (s)	-	-	13.1	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0.6

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	329	0	0	143	2	0	0	11	14	0	0
Future Vol, veh/h	0	329	0	0	143	2	0	0	11	14	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	4	0	0	10	0	0	0	0	0	0	0
Mvmt Flow	0	416	0	0	181	3	0	0	14	18	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	184	0	0	416	0	0	599	600	416	606	599	183
Stage 1	-	-	-	-	-	-	416	416	-	183	183	-
Stage 2	-	-	-	-	-	-	183	184	-	423	416	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1403	-	-	1154	-	-	416	417	641	412	418	865
Stage 1	-	-	-	-	-	-	618	595	-	823	752	-
Stage 2	-	-	-	-	-	-	823	751	-	613	595	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1403	-	-	1154	-	-	416	417	641	403	418	865
Mov Cap-2 Maneuver	-	-	-	-	-	-	416	417	-	403	418	-
Stage 1	-	-	-	-	-	-	618	595	-	823	752	-
Stage 2	-	-	-	-	-	-	823	751	-	600	595	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			10.7			14.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	641	1403	-	-	1154	-	-	403
HCM Lane V/C Ratio	0.022	-	-	-	-	-	-	0.044
HCM Control Delay (s)	10.7	0	-	-	0	-	-	14.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗			↕	
Traffic Vol, veh/h	3	280	71	50	122	2	23	2	34	1	1	0
Future Vol, veh/h	3	280	71	50	122	2	23	2	34	1	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	150	-	-	150	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	5	3	2	8	0	13	0	15	0	0	0
Mvmt Flow	4	341	87	61	149	2	28	2	41	1	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	151	0	0	428	0	0	666	666	386	687	708	150
Stage 1	-	-	-	-	-	-	393	393	-	272	272	-
Stage 2	-	-	-	-	-	-	273	273	-	415	436	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.23	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.23	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.23	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.617	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	1442	-	-	1131	-	-	358	383	634	364	362	902
Stage 1	-	-	-	-	-	-	610	609	-	738	688	-
Stage 2	-	-	-	-	-	-	710	688	-	619	583	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1442	-	-	1131	-	-	342	361	633	324	341	902
Mov Cap-2 Maneuver	-	-	-	-	-	-	342	361	-	324	341	-
Stage 1	-	-	-	-	-	-	608	607	-	736	651	-
Stage 2	-	-	-	-	-	-	670	651	-	574	581	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			2.4			13.4			15.9		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	342	608	1442	-	-	1131	-	-	332
HCM Lane V/C Ratio	0.082	0.072	0.003	-	-	0.054	-	-	0.007
HCM Control Delay (s)	16.5	11.4	7.5	-	-	8.4	-	-	15.9
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.2	0	-	-	0.2	-	-	0

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	21	231	55	12	151	0	18	24	20	1	28	26
Future Vol, veh/h	21	231	55	12	151	0	18	24	20	1	28	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	5	8	4	0	6	0	6	4	5	0	7	0
Mvmt Flow	25	278	66	14	182	0	22	29	24	1	34	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	182	0	0	344	0	0	604	571	314	601	604	182
Stage 1	-	-	-	-	-	-	361	361	-	210	210	-
Stage 2	-	-	-	-	-	-	243	210	-	391	394	-
Critical Hdwy	4.15	-	-	4.1	-	-	7.16	6.54	6.25	7.1	6.57	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.54	-	6.1	5.57	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.54	-	6.1	5.57	-
Follow-up Hdwy	2.245	-	-	2.2	-	-	3.554	4.036	3.345	3.5	4.063	3.3
Pot Cap-1 Maneuver	1375	-	-	1226	-	-	405	428	719	415	406	866
Stage 1	-	-	-	-	-	-	649	622	-	797	719	-
Stage 2	-	-	-	-	-	-	752	725	-	637	597	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1375	-	-	1226	-	-	355	413	717	368	391	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	355	413	-	368	391	-
Stage 1	-	-	-	-	-	-	634	608	-	779	710	-
Stage 2	-	-	-	-	-	-	681	716	-	571	583	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.6			14.5			12.8		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	454	1375	-	-	1226	-	-	527
HCM Lane V/C Ratio	0.165	0.018	-	-	0.012	-	-	0.126
HCM Control Delay (s)	14.5	7.7	0	-	8	0	-	12.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.4

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	0	151	0	0	284
Future Vol, veh/h	0	0	151	0	0	284
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	199	0	0	374

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	573	199	0	0	199
Stage 1	199	-	-	-	-
Stage 2	374	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	484	847	-	-	1385
Stage 1	839	-	-	-	-
Stage 2	700	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	484	847	-	-	1385
Mov Cap-2 Maneuver	484	-	-	-	-
Stage 1	839	-	-	-	-
Stage 2	700	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1385
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	151	0	0	284
Future Vol, veh/h	0	0	151	0	0	284
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	199	0	0	374

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	573	199	0	0	199
Stage 1	199	-	-	-	-
Stage 2	374	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	484	847	-	-	1385
Stage 1	839	-	-	-	-
Stage 2	700	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	484	847	-	-	1385
Mov Cap-2 Maneuver	484	-	-	-	-
Stage 1	839	-	-	-	-
Stage 2	700	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1385	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	9.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	83	315	93	51	153	93
Future Vol, veh/h	83	315	93	51	153	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	2	3	2	4
Mvmt Flow	89	339	100	55	165	100

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	558	128	0	0	155	0
Stage 1	128	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	494	922	-	-	1425	-
Stage 1	903	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	433	922	-	-	1425	-
Mov Cap-2 Maneuver	433	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	579	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.1	0	4.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	746	1425
HCM Lane V/C Ratio	-	-	0.574	0.115
HCM Control Delay (s)	-	-	16.1	7.9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	3.7	0.4

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	243	1	13	449	12	0	1	10	7	0	2
Future Vol, veh/h	1	243	1	13	449	12	0	1	10	7	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	8	2	0	0	0	0	0	0	0
Mvmt Flow	1	264	1	14	488	13	0	1	11	8	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	501	0	0	265	0	0	791	796	265	796	790	495
Stage 1	-	-	-	-	-	-	267	267	-	523	523	-
Stage 2	-	-	-	-	-	-	524	529	-	273	267	-
Critical Hdwy	4.1	-	-	4.18	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.272	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1074	-	-	1265	-	-	310	322	779	307	325	579
Stage 1	-	-	-	-	-	-	743	692	-	541	534	-
Stage 2	-	-	-	-	-	-	540	530	-	737	692	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1074	-	-	1265	-	-	305	317	779	298	320	579
Mov Cap-2 Maneuver	-	-	-	-	-	-	305	317	-	298	320	-
Stage 1	-	-	-	-	-	-	742	691	-	540	526	-
Stage 2	-	-	-	-	-	-	530	522	-	725	691	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.2			10.3			16.1		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	688	1074	-	-	1265	-	-	334
HCM Lane V/C Ratio	0.017	0.001	-	-	0.011	-	-	0.029
HCM Control Delay (s)	10.3	8.4	0	-	7.9	0	-	16.1
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Florence Residential Subdivision
 3: Kingswood Street/Sand Pines Gold Course & 35th Street

Existing PM
 02/11/2020

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗			↕	
Traffic Vol, veh/h	1	231	28	47	399	1	71	1	83	15	4	4
Future Vol, veh/h	1	231	28	47	399	1	71	1	83	15	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	150	-	-	150	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	2	0	9	1	0	3	0	4	0	0	0
Mvmt Flow	1	260	31	53	448	1	80	1	93	17	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	449	0	0	291	0	0	837	833	276	880	848	449
Stage 1	-	-	-	-	-	-	278	278	-	555	555	-
Stage 2	-	-	-	-	-	-	559	555	-	325	293	-
Critical Hdwy	4.1	-	-	4.19	-	-	7.13	6.5	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.281	-	-	3.527	4	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1122	-	-	1232	-	-	285	307	758	270	301	614
Stage 1	-	-	-	-	-	-	726	684	-	520	516	-
Stage 2	-	-	-	-	-	-	512	516	-	692	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1122	-	-	1232	-	-	270	293	758	228	288	614
Mov Cap-2 Maneuver	-	-	-	-	-	-	270	293	-	228	288	-
Stage 1	-	-	-	-	-	-	725	683	-	519	494	-
Stage 2	-	-	-	-	-	-	482	494	-	605	673	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.8			16.6			19.9		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	270	744	1122	-	-	1232	-	-	267
HCM Lane V/C Ratio	0.295	0.127	0.001	-	-	0.043	-	-	0.097
HCM Control Delay (s)	23.8	10.5	8.2	-	-	8.1	-	-	19.9
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.2	0.4	0	-	-	0.1	-	-	0.3

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	47	299	23	12	323	2	34	33	25	17	23	72
Future Vol, veh/h	47	299	23	12	323	2	34	33	25	17	23	72
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	3	4	0	4	0	0	0	0	6	0	0
Mvmt Flow	53	336	26	13	363	2	38	37	28	19	26	81

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	366	0	0	362	0	0	899	847	349	879	859	365
Stage 1	-	-	-	-	-	-	455	455	-	391	391	-
Stage 2	-	-	-	-	-	-	444	392	-	488	468	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.16	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.554	4	3.3
Pot Cap-1 Maneuver	1193	-	-	1208	-	-	262	301	699	264	296	685
Stage 1	-	-	-	-	-	-	589	572	-	625	611	-
Stage 2	-	-	-	-	-	-	597	610	-	554	565	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1192	-	-	1208	-	-	203	280	699	216	275	684
Mov Cap-2 Maneuver	-	-	-	-	-	-	203	280	-	216	275	-
Stage 1	-	-	-	-	-	-	556	540	-	589	602	-
Stage 2	-	-	-	-	-	-	497	601	-	467	533	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.3			24.4			17.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	287	1192	-	-	1208	-	-	419
HCM Lane V/C Ratio	0.36	0.044	-	-	0.011	-	-	0.3
HCM Control Delay (s)	24.4	8.2	0	-	8	0	-	17.2
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.6	0.1	-	-	0	-	-	1.2

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	408	0	0	246
Future Vol, veh/h	0	0	408	0	0	246
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	439	0	0	265

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	704	439	0	0	439	0
Stage 1	439	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	406	622	-	-	1132	-
Stage 1	654	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	406	622	-	-	1132	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	654	-	-	-	-	-
Stage 2	784	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1132	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	0	408	0	0	246
Future Vol, veh/h	0	0	408	0	0	246
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	439	0	0	265

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	704	439	0	0	439	0
Stage 1	439	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	406	622	-	-	1132	-
Stage 1	654	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	406	622	-	-	1132	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	654	-	-	-	-	-
Stage 2	784	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1132
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Attachment E
Crash Data

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Intersectional Crashes at 35th St & Rhododendron Dr
 January 1, 2013 through December 31, 2017

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR:														
TOTAL														
FINAL TOTAL														

Disclaimers: Effective 2016, collection of “Property Damage Only” (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Intersectional Crashes at 35th St & Royal St Georges Dr / Wecoma Lp
 January 1, 2013 through December 31, 2017

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR:														
TOTAL														
FINAL TOTAL														

Disclaimers: Effective 2016, collection of “Property Damage Only” (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Intersectional Crashes at 35th St & Kingwood St
 January 1, 2013 through December 31, 2017

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR:														
TOTAL														
FINAL TOTAL														

Disclaimers: Effective 2016, collection of “Property Damage Only” (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Intersectional Crashes at 35th St & Oak St
 January 1, 2013 through December 31, 2017

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2016														
ANGLE	0	0	2	2	0	0	0	1	1	1	1	2	0	0
2016 TOTAL	0	0	2	2	0	0	0	1	1	1	1	2	0	0
YEAR: 2015														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
2015 TOTAL	0	1	1	2	0	1	0	2	0	1	1	2	0	0
YEAR: 2013														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2013 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FINAL TOTAL	0	1	4	5	0	1	0	4	1	3	2	5	0	0

Disclaimers: Effective 2016, collection of “Property Damage Only” (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
000	NONE	NO ACTION OR NON-WARRANTED
001	SKIDDED	SKIDDED
002	ON/OFF V	GETTING ON OR OFF STOPPED OR PARKED VEHICLE
003	LOAD OVR	OVERHANGING LOAD STRUCK ANOTHER VEHICLE, ETC.
006	SLOW DN	SLOWED DOWN
007	AVOIDING	AVOIDING MANEUVER
008	PAR PARK	PARALLEL PARKING
009	ANG PARK	ANGLE PARKING
010	INTERFERE	PASSENGER INTERFERING WITH DRIVER
011	STOPPED	STOPPED IN TRAFFIC NOT WAITING TO MAKE A LEFT TURN
012	STP/L TRN	STOPPED BECAUSE OF LEFT TURN SIGNAL OR WAITING, ETC.
013	STP TURN	STOPPED WHILE EXECUTING A TURN
014	EMR V PKD	EMERGENCY VEHICLE LEGALLY PARKED IN THE ROADWAY
015	GO A/STOP	PROCEED AFTER STOPPING FOR A STOP SIGN/FLASHING RED.
016	TRN A/RED	TURNED ON RED AFTER STOPPING
017	LOSTCTRL	LOST CONTROL OF VEHICLE
018	EXIT DWY	ENTERING STREET OR HIGHWAY FROM ALLEY OR DRIVEWAY
019	ENTR DWY	ENTERING ALLEY OR DRIVEWAY FROM STREET OR HIGHWAY
020	STR ENTR	BEFORE ENTERING ROADWAY, STRUCK PEDESTRIAN, ETC. ON SIDEWALK OR SHOULDER
021	NO DRVR	CAR RAN AWAY - NO DRIVER
022	PREV COL	STRUCK, OR WAS STRUCK BY, VEHICLE OR PEDESTRIAN IN PRIOR COLLISION BEFORE ACC. STABILIZED
023	STALLED	VEHICLE STALLED OR DISABLED
024	DRVR DEAD	DEAD BY UNASSOCIATED CAUSE
025	FATIGUE	FATIGUED, SLEEPY, ASLEEP
026	SUN	DRIVER BLINDED BY SUN
027	HDLGHTS	DRIVER BLINDED BY HEADLIGHTS
028	ILLNESS	PHYSICALLY ILL
029	THRU MED	VEHICLE CROSSED, PLUNGED OVER, OR THROUGH MEDIAN BARRIER
030	PURSUIT	PURSUIING OR ATTEMPTING TO STOP A VEHICLE
031	PASSING	PASSING SITUATION
032	PRKOFFRD	VEHICLE PARKED BEYOND CURB OR SHOULDER
033	CROS MED	VEHICLE CROSSED EARTH OR GRASS MEDIAN
034	X N/SGNL	CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT
035	X W/ SGNL	CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT
036	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
037	BTWN INT	CROSSING BETWEEN INTERSECTIONS
038	DISTRACT	DRIVER'S ATTENTION DISTRACTED
039	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
040	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
041	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
042	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
043	PLAYINRD	PLAYING IN STREET OR ROAD
044	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
045	WORK ON	WORKING IN ROADWAY OR ALONG SHOULDER
046	W/ TRAFIC	NON-MOTORIST WALKING, RUNNING, RIDING, ETC. WITH TRAFFIC
047	A/ TRAFIC	NON-MOTORIST WALKING, RUNNING, RIDING, ETC. FACING TRAFFIC
050	LAY ON RD	STANDING OR LYING IN ROADWAY
051	ENT OFFRD	ENTERING / STARTING IN TRAFFIC LANE FROM OFF ROAD

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
052	MERGING	MERGING
055	SPRAY	BLINDED BY WATER SPRAY
088	OTHER	OTHER ACTION
099	UNK	UNKNOWN ACTION

CAUSE CODE TRANSLATION LIST

CAUSE CODE	SHORT DESCRIPTION	LONG DESCRIPTION
00	NO CODE	NO CAUSE ASSOCIATED AT THIS LEVEL
01	TOO-FAST	TOO FAST FOR CONDITIONS (NOT EXCEED POSTED SPEED
02	NO-YIELD	DID NOT YIELD RIGHT-OF-WAY
03	PAS-STOP	PASSED STOP SIGN OR RED FLASHER
04	DIS SIG	DISREGARDED TRAFFIC SIGNAL
05	LEFT-CTR	DROVE LEFT OF CENTER ON TWO-WAY ROAD; STRADDLING
06	IMP-OVER	IMPROPER OVERTAKING
07	TOO-CLOS	FOLLOWED TOO CLOSELY
08	IMP-TURN	MADE IMPROPER TURN
09	DRINKING	ALCOHOL OR DRUG INVOLVED
10	OTHR-IMP	OTHER IMPROPER DRIVING
11	MECH-DEF	MECHANICAL DEFECT
12	OTHER	OTHER (NOT IMPROPER DRIVING)
13	IMP LN C	IMPROPER CHANGE OF TRAFFIC LANES
14	DIS TCD	DISREGARDED OTHER TRAFFIC CONTROL DEVICE
15	WRNG WAY	WRONG WAY ON ONE-WAY ROAD; WRONG SIDE DIVIDED RO
16	FATIGUE	DRIVER DROWSY/FATIGUED/SLEEPY
17	ILLNESS	PHYSICAL ILLNESS
18	IN RDWY	NON-MOTORIST ILLEGALLY IN ROADWAY
19	NT VISBL	NON-MOTORIST NOT VISIBLE; NON-REFLECTIVE CLOTHIN
20	IMP PKNG	VEHICLE IMPROPERLY PARKED
21	DEF STER	DEFECTIVE STEERING MECHANISM
22	DEF BRKE	INADEQUATE OR NO BRAKES
24	LOADSHFT	VEHICLE LOST LOAD OR LOAD SHIFTED
25	TIREFAIL	TIRE FAILURE
26	PHANTOM	PHANTOM / NON-CONTACT VEHICLE
27	INATTENT	INATTENTION
28	NM INATT	NON-MOTORIST INATTENTION
29	F AVOID	FAILED TO AVOID VEHICLE AHEAD
30	SPEED	DRIVING IN EXCESS OF POSTED SPEED
31	RACING	SPEED RACING (PER PAR)
32	CARELESS	CARELESS DRIVING (PER PAR)
33	RECKLESS	RECKLESS DRIVING (PER PAR)
34	AGGRESV	AGGRESSIVE DRIVING (PER PAR)
35	RD RAGE	ROAD RAGE (PER PAR)
40	VIEW OBS	VIEW OBSCURED
50	USED MDN	IMPROPER USE OF MEDIAN OR SHOULDER
51	FAIL LN	FAILED TO MAINTAIN LANE
52	OFF RD	RAN OFF ROAD

COLLISION TYPE CODE TRANSLATION LIST

COLL CODE	SHORT DESCRIPTION	LONG DESCRIPTION
&	OTH	MISCELLANEOUS
-	BACK	BACKING
0	PED	PEDESTRIAN
1	ANGL	ANGLE
2	HEAD	HEAD-ON
3	REAR	REAR-END
4	SS-M	SIDESWIPE - MEETING
5	SS-O	SIDESWIPE - OVERTAKING
6	TURN	TURNING MOVEMENT
7	PARK	PARKING MANEUVER
8	NCOL	NON-COLLISION
9	FIX	FIXED OBJECT OR OTHER OBJECT

CRASH TYPE CODE TRANSLATION LIST

CRASH TYPE	SHORT DESCRIPTION	LONG DESCRIPTION
&	OVERTURN	OVERTURNED
0	NON-COLL	OTHER NON-COLLISION
1	OTH RDWY	MOTOR VEHICLE ON OTHER ROADWAY
2	PRKD MV	PARKED MOTOR VEHICLE
3	PED	PEDESTRIAN
4	TRAIN	RAILWAY TRAIN
6	BIKE	PEDALCYCLIST
7	ANIMAL	ANIMAL
8	FIX OBJ	FIXED OBJECT
9	OTH OBJ	OTHER OBJECT
A	ANGL-STP	ENTERING AT ANGLE - ONE VEHICLE STOPPED
B	ANGL-OTH	ENTERING AT ANGLE - ALL OTHERS
C	S-STRGHT	FROM SAME DIRECTION - BOTH GOING STRAIGHT
D	S-1TURN	FROM SAME DIRECTION - ONE TURN, ONE STRAIGHT
E	S-1STOP	FROM SAME DIRECTION - ONE STOPPED
F	S-OTHER	FROM SAME DIRECTION-ALL OTHERS, INCLUDING PARKING
G	O-STRGHT	FROM OPPOSITE DIRECTION - BOTH GOING STRAIGHT
H	O-1 L-TURN	FROM OPPOSITE DIRECTION-ONE LEFT TURN,ONE STRAIGHT
I	O-1STOP	FROM OPPOSITE DIRECTION - ONE STOPPED
J	O-OTHER	FROM OPPOSITE DIRECTION-ALL OTHERS INCL. PARKING

DRIVER LICENSE CODE TRANSLATION LIST

LIC CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NOT LICENSED (HAD NEVER BEEN LICENSED)
1	OR-Y	VALID OREGON LICENSE
2	OTH-Y	VALID LICENSE, OTHER STATE OR COUNTRY
3	SUSP	SUSPENDED/REVOKED
4	EXP	EXPIRED
8	N-VAL	OTHER NON-VALID LICENSE
9	UNK	UNKNOWN IF DRIVER WAS LICENSED AT TIME OF CRASH

DRIVER RESIDENCE CODE TRANSLATION LIST

RES CODE	SHORT DESC	LONG DESCRIPTION
1	OR<25	OREGON RESIDENT WITHIN 25 MILE OF HOME
2	OR>25	OREGON RESIDENT 25 OR MORE MILES FROM HOME
3	OR-?	OREGON RESIDENT - UNKNOWN DISTANCE FROM HOME
4	N-RES	NON-RESIDENT
9	UNK	UNKNOWN IF OREGON RESIDENT

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
000	NONE	NO ERROR
001	WIDE TRN	WIDE TURN
002	CUT CORN	CUT CORNER ON TURN
003	FAIL TRN	FAILED TO OBEY MANDATORY TRAFFIC TURN SIGNAL, SIGN OR LANE MARKINGS
004	L IN TRF	LEFT TURN IN FRONT OF ONCOMING TRAFFIC
005	L PROHIB	LEFT TURN WHERE PROHIBITED
006	FRM WRNG	TURNUED FROM WRONG LANE
007	TO WRONG	TURNUED INTO WRONG LANE
008	ILLEG U	U-TURNUED ILLEGALLY
009	IMP STOP	IMPROPERLY STOPPED IN TRAFFIC LANE
010	IMP SIG	IMPROPER SIGNAL OR FAILURE TO SIGNAL
011	IMP BACK	BACKING IMPROPERLY (NOT PARKING)
012	IMP PARK	IMPROPERLY PARKED
013	UNPARK	IMPROPER START LEAVING PARKED POSITION
014	IMP STRT	IMPROPER START FROM STOPPED POSITION
015	IMP LGHT	IMPROPER OR NO LIGHTS (VEHICLE IN TRAFFIC)
016	INATTENT	INATTENTION (FAILURE TO DIM LIGHTS PRIOR TO 4/1/97)
017	UNSF VEH	DRIVING UNSAFE VEHICLE (NO OTHER ERROR APPARENT)
018	OTH PARK	ENTERING/EXITING PARKED POSITION W/ INSUFFICIENT CLEARANCE; OTHER IMPROPER PARKING MANEUVER
019	DIS DRIV	DISREGARDED OTHER DRIVER'S SIGNAL
020	DIS SGNL	DISREGARDED TRAFFIC SIGNAL
021	RAN STOP	DISREGARDED STOP SIGN OR FLASHING RED
022	DIS SIGN	DISREGARDED WARNING SIGN, FLARES OR FLASHING AMBER
023	DIS OFCR	DISREGARDED POLICE OFFICER OR FLAGMAN
024	DIS EMER	DISREGARDED SIREN OR WARNING OF EMERGENCY VEHICLE
025	DIS RR	DISREGARDED RR SIGNAL, RR SIGN, OR RR FLAGMAN
026	REAR-END	FAILED TO AVOID STOPPED OR PARKED VEHICLE AHEAD OTHER THAN SCHOOL BUS
027	BIKE ROW	DID NOT HAVE RIGHT-OF-WAY OVER PEDALCYCLIST
028	NO ROW	DID NOT HAVE RIGHT-OF-WAY
029	PED ROW	FAILED TO YIELD RIGHT-OF-WAY TO PEDESTRIAN
030	PAS CURV	PASSING ON A CURVE
031	PAS WRNG	PASSING ON THE WRONG SIDE
032	PAS TANG	PASSING ON STRAIGHT ROAD UNDER UNSAFE CONDITIONS
033	PAS X-WK	PASSED VEHICLE STOPPED AT CROSSWALK FOR PEDESTRIAN
034	PAS INTR	PASSING AT INTERSECTION
035	PAS HILL	PASSING ON CREST OF HILL
036	N/PAS ZN	PASSING IN "NO PASSING" ZONE
037	PAS TRAF	PASSING IN FRONT OF ONCOMING TRAFFIC
038	CUT-IN	CUTTING IN (TWO LANES - TWO WAY ONLY)
039	WRNGSIDE	DRIVING ON WRONG SIDE OF THE ROAD (2-WAY UNDIVIDED ROADWAYS)

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
040	THRU MED	DRIVING THROUGH SAFETY ZONE OR OVER ISLAND
041	F/ST BUS	FAILED TO STOP FOR SCHOOL BUS
042	F/SLO MV	FAILED TO DECREASE SPEED FOR SLOWER MOVING VEHICLE
043	TOO CLOSE	FOLLOWING TOO CLOSELY (MUST BE ON OFFICER'S REPORT)
044	STRDL LN	STRADDLING OR DRIVING ON WRONG LANES
045	IMP CHG	IMPROPER CHANGE OF TRAFFIC LANES
046	WRNG WAY	WRONG WAY ON ONE-WAY ROADWAY; WRONG SIDE DIVIDED ROAD
047	BASCRULE	DRIVING TOO FAST FOR CONDITIONS (NOT EXCEEDING POSTED SPEED)
048	OPN DOOR	OPENED DOOR INTO ADJACENT TRAFFIC LANE
049	IMPEDING	IMPEDING TRAFFIC
050	SPEED	DRIVING IN EXCESS OF POSTED SPEED
051	RECKLESS	RECKLESS DRIVING (PER PAR)
052	CARELESS	CARELESS DRIVING (PER PAR)
053	RACING	SPEED RACING (PER PAR)
054	X N/SGNL	CROSSING AT INTERSECTION, NO TRAFFIC SIGNAL PRESENT
055	X W/SGNL	CROSSING AT INTERSECTION, TRAFFIC SIGNAL PRESENT
056	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
057	BTWN INT	CROSSING BETWEEN INTERSECTIONS
059	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
060	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
061	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
062	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
063	PLAYINRD	PLAYING IN STREET OR ROAD
064	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
065	WORK IN RD	WORKING IN ROADWAY OR ALONG SHOULDER
070	LAY ON RD	STANDING OR LYING IN ROADWAY
071	NM IMP USE	IMPROPER USE OF TRAFFIC LANE BY NON-MOTORIST
073	ELUDING	ELUDING / ATTEMPT TO ELUDE
079	F NEG CURV	FAILED TO NEGOTIATE A CURVE
080	FAIL LN	FAILED TO MAINTAIN LANE
081	OFF RD	RAN OFF ROAD
082	NO CLEAR	DRIVER MISJUDGED CLEARANCE
083	OVRSTEER	OVER-CORRECTING
084	NOT USED	CODE NOT IN USE
085	OVRLOAD	OVERLOADING OR IMPROPER LOADING OF VEHICLE WITH CARGO OR PASSENGERS
097	UNA DIS TC	UNABLE TO DETERMINE WHICH DRIVER DISREGARDED TRAFFIC CONTROL DEVICE

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
001	FEL/JUMP	OCCUPANT FELL, JUMPED OR WAS EJECTED FROM MOVING VEHICLE
002	INTERFER	PASSENGER INTERFERED WITH DRIVER
003	BUG INTF	ANIMAL OR INSECT IN VEHICLE INTERFERED WITH DRIVER
004	INDRCT PED	PEDESTRIAN INDIRECTLY INVOLVED (NOT STRUCK)
005	SUB-PED	"SUB-PED": PEDESTRIAN INJURED SUBSEQUENT TO COLLISION, ETC.
006	INDRCT BIK	PEDALCYCLIST INDIRECTLY INVOLVED (NOT STRUCK)
007	HITCHIKR	HITCHHIKER (SOLICITING A RIDE)
008	PSNGR TOW	PASSENGER OR NON-MOTORIST BEING TOWED OR PUSHED ON CONVEYANCE
009	ON/OFF V	GETTING ON/OFF STOPPED/PARKED VEHICLE (OCCUPANTS ONLY; MUST HAVE PHYSICAL CONTACT W/ VEHICLE)
010	SUB OTRN	OVERTURNED AFTER FIRST HARMFUL EVENT
011	MV PUSHD	VEHICLE BEING PUSHED
012	MV TOWED	VEHICLE TOWED OR HAD BEEN TOWING ANOTHER VEHICLE
013	FORCED	VEHICLE FORCED BY IMPACT INTO ANOTHER VEHICLE, PEDALCYCLIST OR PEDESTRIAN
014	SET MOTN	VEHICLE SET IN MOTION BY NON-DRIVER (CHILD RELEASED BRAKES, ETC.)
015	RR ROW	AT OR ON RAILROAD RIGHT-OF-WAY (NOT LIGHT RAIL)
016	LT RL ROW	AT OR ON LIGHT-RAIL RIGHT-OF-WAY
017	RR HIT V	TRAIN STRUCK VEHICLE
018	V HIT RR	VEHICLE STRUCK TRAIN
019	HIT RR CAR	VEHICLE STRUCK RAILROAD CAR ON ROADWAY
020	JACKKNIFE	JACKKNIFE; TRAILER OR TOWED VEHICLE STRUCK TOWING VEHICLE
021	TRL OTRN	TRAILER OR TOWED VEHICLE OVERTURNED
022	CN BROKE	TRAILER CONNECTION BROKE
023	DETACH TRL	DETACHED TRAILING OBJECT STRUCK OTHER VEHICLE, NON-MOTORIST, OR OBJECT
024	V DOOR OPN	VEHICLE DOOR OPENED INTO ADJACENT TRAFFIC LANE
025	WHEELOFF	WHEEL CAME OFF
026	HOOD UP	HOOD FLEW UP
028	LOAD SHIFT	LOST LOAD, LOAD MOVED OR SHIFTED
029	TIREFAIL	TIRE FAILURE
030	PET	PET: CAT, DOG AND SIMILAR
031	LVSTOCK	STOCK: COW, CALF, BULL, STEER, SHEEP, ETC.
032	HORSE	HORSE, MULE, OR DONKEY
033	HRSE&RID	HORSE AND RIDER
034	GAME	WILD ANIMAL, GAME (INCLUDES BIRDS; NOT DEER OR ELK)
035	DEER ELK	DEER OR ELK, WAPITI
036	ANML VEH	ANIMAL-DRAWN VEHICLE
037	CULVERT	CULVERT, OPEN LOW OR HIGH MANHOLE
038	ATENUATN	IMPACT ATTENUATOR
039	PK METER	PARKING METER
040	CURB	CURB (ALSO NARROW SIDEWALKS ON BRIDGES)
041	JIGGLE	JIGGLE BAR OR TRAFFIC SNAKE FOR CHANNELIZATION
042	GDRL END	LEADING EDGE OF GUARDRAIL
043	GARDRAIL	GUARD RAIL (NOT METAL MEDIAN BARRIER)
044	BARRIER	MEDIAN BARRIER (RAISED OR METAL)
045	WALL	RETAINING WALL OR TUNNEL WALL
046	BR RAIL	BRIDGE RAILING OR PARAPET (ON BRIDGE OR APPROACH)
047	BR ABUTMNT	BRIDGE ABUTMENT (INCLUDED "APPROACH END" THRU 2013)
048	BR COLMN	BRIDGE PILLAR OR COLUMN
049	BR GIRDR	BRIDGE GIRDER (HORIZONTAL BRIDGE STRUCTURE OVERHEAD)
050	ISLAND	TRAFFIC RAISED ISLAND
051	GORE	GORE
052	POLE UNK	POLE - TYPE UNKNOWN
053	POLE UTL	POLE - POWER OR TELEPHONE
054	ST LIGHT	POLE - STREET LIGHT ONLY
055	TRF SGNL	POLE - TRAFFIC SIGNAL AND PED SIGNAL ONLY
056	SGN BRDG	POLE - SIGN BRIDGE
057	STOPSIGN	STOP OR YIELD SIGN

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT
060	MARKER	DELINEATOR OR MARKER (REFLECTOR POSTS)
061	MAILBOX	MAILBOX
062	TREE	TREE, STUMP OR SHRUBS
063	VEG OHED	TREE BRANCH OR OTHER VEGETATION OVERHEAD, ETC.
064	WIRE/CBL	WIRE OR CABLE ACROSS OR OVER THE ROAD
065	TEMP SGN	TEMPORARY SIGN OR BARRICADE IN ROAD, ETC.
066	PERM SGN	PERMANENT SIGN OR BARRICADE IN/OFF ROAD
067	SLIDE	SLIDES, FALLEN OR FALLING ROCKS
068	FRGN OBJ	FOREIGN OBSTRUCTION/DEBRIS IN ROAD (NOT GRAVEL)
069	EQP WORK	EQUIPMENT WORKING IN/OFF ROAD
070	OTH EQP	OTHER EQUIPMENT IN OR OFF ROAD (INCLUDES PARKED TRAILER, BOAT)
071	MAIN EQP	WRECKER, STREET SWEEPER, SNOW PLOW OR SANDING EQUIPMENT
072	OTHER WALL	ROCK, BRICK OR OTHER SOLID WALL
073	IRRGL PVMT	OTHER BUMP (NOT SPEED BUMP), POTHOLE OR PAVEMENT IRREGULARITY (PER PAR)
074	OVERHD OBJ	OTHER OVERHEAD OBJECT (HIGHWAY SIGN, SIGNAL HEAD, ETC.); NOT BRIDGE
075	CAVE IN	BRIDGE OR ROAD CAVE IN
076	HI WATER	HIGH WATER
077	SNO BANK	SNOW BANK
078	LO-HI EDGE	LOW OR HIGH SHOULDER AT PAVEMENT EDGE
079	DITCH	CUT SLOPE OR DITCH EMBANKMENT
080	OBJ FRM MV	STRUCK BY ROCK OR OTHER OBJECT SET IN MOTION BY OTHER VEHICLE (INCL. LOST LOADS)
081	FLY-OBJ	STRUCK BY ROCK OR OTHER MOVING OR FLYING OBJECT (NOT SET IN MOTION BY VEHICLE)
082	VEH HID	VEHICLE OBSCURED VIEW
083	VEG HID	VEGETATION OBSCURED VIEW
084	BLDG HID	VIEW OBSCURED BY FENCE, SIGN, PHONE BOOTH, ETC.
085	WIND GUST	WIND GUST
086	IMMERSED	VEHICLE IMMERSED IN BODY OF WATER
087	FIRE/EXP	FIRE OR EXPLOSION
088	FENC/BLD	FENCE OR BUILDING, ETC.
089	OTHR CRASH	CRASH RELATED TO ANOTHER SEPARATE CRASH
090	TO 1 SIDE	TWO-WAY TRAFFIC ON DIVIDED ROADWAY ALL ROUTED TO ONE SIDE
091	BUILDING	BUILDING OR OTHER STRUCTURE
092	PHANTOM	OTHER (PHANTOM) NON-CONTACT VEHICLE
093	CELL PHONE	CELL PHONE (ON PAR OR DRIVER IN USE)
094	VIOL GDL	TEENAGE DRIVER IN VIOLATION OF GRADUATED LICENSE PGM
095	GUY WIRE	GUY WIRE
096	BERM	BERM (EARTHEN OR GRAVEL MOUND)
097	GRAVEL	GRAVEL IN ROADWAY
098	ABR EDGE	ABRUPT EDGE
099	CELL WTNSD	CELL PHONE USE WITNESSED BY OTHER PARTICIPANT
100	UNK FIXD	FIXED OBJECT, UNKNOWN TYPE.
101	OTHER OBJ	NON-FIXED OBJECT, OTHER OR UNKNOWN TYPE
102	TEXTING	TEXTING
103	WZ WORKER	WORK ZONE WORKER
104	ON VEHICLE	PASSENGER RIDING ON VEHICLE EXTERIOR
105	PEDAL PSGR	PASSENGER RIDING ON PEDALCYCLE
106	MAN WHLCHR	PEDESTRIAN IN NON-MOTORIZED WHEELCHAIR
107	MTR WHLCHR	PEDESTRIAN IN MOTORIZED WHEELCHAIR
108	OFFICER	LAW ENFORCEMENT / POLICE OFFICER
109	SUB-BIKE	"SUB-BIKE": PEDALCYCLIST INJURED SUBSEQUENT TO COLLISION, ETC.
110	N-MTR	NON-MOTORIST STRUCK VEHICLE
111	S CAR VS V	STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM) STRUCK VEHICLE
112	V VS S CAR	VEHICLE STRUCK STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM)
113	S CAR ROW	AT OR ON STREET CAR OR TROLLEY RIGHT-OF-WAY

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
114	RR EQUIP	VEHICLE STRUCK RAILROAD EQUIPMENT (NOT TRAIN) ON TRACKS
115	DSTRCT GPS	DISTRACTED BY NAVIGATION SYSTEM OR GPS DEVICE
116	DSTRCT OTH	DISTRACTED BY OTHER ELECTRONIC DEVICE
117	RR GATE	RAIL CROSSING DROP-ARM GATE
118	EXPNSN JNT	EXPANSION JOINT
119	JERSEY BAR	JERSEY BARRIER
120	WIRE BAR	WIRE OR CABLE MEDIAN BARRIER
121	FENCE	FENCE
123	OBJ IN VEH	LOOSE OBJECT IN VEHICLE STRUCK OCCUPANT
124	SLIPPERY	SLIDING OR SWERVING DUE TO WET, ICY, SLIPPERY OR LOOSE SURFACE (NOT GRAVEL)
125	SHLDR	SHOULDER GAVE WAY
126	BOULDER	ROCK(S), BOULDER (NOT GRAVEL; NOT ROCK SLIDE)
127	LAND SLIDE	ROCK SLIDE OR LAND SLIDE
128	CURVE INV	CURVE PRESENT AT CRASH LOCATION
129	HILL INV	VERTICAL GRADE / HILL PRESENT AT CRASH LOCATION
130	CURVE HID	VIEW OBSCURED BY CURVE
131	HILL HID	VIEW OBSCURED BY VERTICAL GRADE / HILL
132	WINDOW HID	VIEW OBSCURED BY VEHICLE WINDOW CONDITIONS
133	SPRAY HID	VIEW OBSCURED BY WATER SPRAY
134	TORRENTIAL	TORRENTIAL RAIN (EXCEPTIONALLY HEAVY RAIN)

FUNCTIONAL CLASSIFICATION TRANSLATION LIST

FUNC CLASS	DESCRIPTION
01	RURAL PRINCIPAL ARTERIAL - INTERSTATE
02	RURAL PRINCIPAL ARTERIAL - OTHER
06	RURAL MINOR ARTERIAL
07	RURAL MAJOR COLLECTOR
08	RURAL MINOR COLLECTOR
09	RURAL LOCAL
11	URBAN PRINCIPAL ARTERIAL - INTERSTATE
12	URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXP
14	URBAN PRINCIPAL ARTERIAL - OTHER
16	URBAN MINOR ARTERIAL
17	URBAN MAJOR COLLECTOR
18	URBAN MINOR COLLECTOR
19	URBAN LOCAL
78	UNKNOWN RURAL SYSTEM
79	UNKNOWN RURAL NON-SYSTEM
98	UNKNOWN URBAN SYSTEM
99	UNKNOWN URBAN NON-SYSTEM

HIGHWAY COMPONENT TRANSLATION LIST

CODE	DESCRIPTION
0	MAINLINE STATE HIGHWAY
1	COUplet
3	FRONTAGE ROAD
6	CONNECTION
8	HIGHWAY - OTHER

INJURY SEVERITY CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
1	KILL	FATAL INJURY (K)
2	INJA	SUSPECTED SERIOUS INJURY (A)
3	INJB	SUSPECTED MINOR INJURY (B)
4	INJC	POSSIBLE INJURY (C)
5	PRI	DIED PRIOR TO CRASH
7	NO<5	NO INJURY - 0 TO 4 YEARS OF AGE
9	NONE	NO APPARENT INJURY (O)

LIGHT CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	DAY	DAYLIGHT
2	DLIT	DARKNESS - WITH STREET LIGHTS
3	DARK	DARKNESS - NO STREET LIGHTS
4	DAWN	DAWN (TWILIGHT)
5	DUSK	DUSK (TWILIGHT)

MEDIAN TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NO MEDIAN
1	RSDMD	SOLID MEDIAN BARRIER
2	DIVMD	EARTH, GRASS OR PAVED MEDIAN

MILEAGE TYPE CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
0	REGULAR MILEAGE
T	TEMPORARY
Y	SPUR
Z	OVERLAPPING

MOVEMENT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	STRGHT	STRAIGHT AHEAD
2	TURN-R	TURNING RIGHT
3	TURN-L	TURNING LEFT
4	U-TURN	MAKING A U-TURN
5	BACK	BACKING
6	STOP	STOPPED IN TRAFFIC
7	PRKD-P	PARKED - PROPERLY
8	PRKD-I	PARKED - IMPROPERLY
9	PARKNG	PARKING MANEUVER

NON-MOTORIST LOCATION CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
00	AT INTERSECTION - NOT IN ROADWAY
01	AT INTERSECTION - INSIDE CROSSWALK
02	AT INTERSECTION - IN ROADWAY, OUTSIDE CROSSWALK
03	AT INTERSECTION - IN ROADWAY, XWALK AVAIL UNKNWN
04	NOT AT INTERSECTION - IN ROADWAY
05	NOT AT INTERSECTION - ON SHOULDER
06	NOT AT INTERSECTION - ON MEDIAN
07	NOT AT INTERSECTION - WITHIN TRAFFIC RIGHT-OF-WAY
08	NOT AT INTERSECTION - IN BIKE PATH OR PARKING LANE
09	NOT-AT INTERSECTION - ON SIDEWALK
10	OUTSIDE TRAFFICWAY BOUNDARIES
13	AT INTERSECTION - IN BIKE LANE
14	NOT AT INTERSECTION - IN BIKE LANE
15	NOT AT INTERSECTION - INSIDE MID-BLOCK CROSSWALK
16	NOT AT INTERSECTION - IN PARKING LANE
18	OTHER, NOT IN ROADWAY
99	UNKNOWN LOCATION

ROAD CHARACTER CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	INTER	INTERSECTION
2	ALLEY	DRIVEWAY OR ALLEY
3	STRGHT	STRAIGHT ROADWAY
4	TRANS	TRANSITION
5	CURVE	CURVE (HORIZONTAL CURVE)
6	OPENAC	OPEN ACCESS OR TURNOUT
7	GRADE	GRADE (VERTICAL CURVE)
8	BRIDGE	BRIDGE STRUCTURE
9	TUNNEL	TUNNEL

PARTICIPANT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	OCC	UNKNOWN OCCUPANT TYPE
1	DRVR	DRIVER
2	PSNG	PASSENGER
3	PED	PEDESTRIAN
4	CONV	PEDESTRIAN USING A PEDESTRIAN CONVEYAL
5	PTOW	PEDESTRIAN TOWING OR TRAILERING AN OB
6	BIKE	PEDALCYCLIST
7	BTOW	PEDALCYCLIST TOWING OR TRAILERING AN (
8	PRKD	OCCUPANT OF A PARKED MOTOR VEHICLE
9	OTHR	OTHER TYPE OF NON-MOTORIST

TRAFFIC CONTROL DEVICE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
000	NONE	NO CONTROL
001	TRF SIGNAL	TRAFFIC SIGNALS
002	FLASHBCN-R	FLASHING BEACON - RED (STOP)
003	FLASHBCN-A	FLASHING BEACON - AMBER (SLOW)
004	STOP SIGN	STOP SIGN
005	SLOW SIGN	SLOW SIGN
006	REG-SIGN	REGULATORY SIGN
007	YIELD	YIELD SIGN
008	WARNING	WARNING SIGN
009	CURVE	CURVE SIGN
010	SCHL X-ING	SCHOOL CROSSING SIGN OR SPECIAL SIGNAL
011	OFGR/FLAG	POLICE OFFICER, FLAGMAN - SCHOOL PATROL
012	BRDG-GATE	BRIDGE GATE - BARRIER
013	TEMP-BARR	TEMPORARY BARRIER
014	NO-PASS-ZN	NO PASSING ZONE
015	ONE-WAY	ONE-WAY STREET
016	CHANNEL	CHANNELIZATION
017	MEDIAN BAR	MEDIAN BARRIER
018	PILOT CAR	PILOT CAR
019	SP PED SIG	SPECIAL PEDESTRIAN SIGNAL
020	X-BUCK	CROSSBUCK
021	THR-GN-SIG	THROUGH GREEN ARROW OR SIGNAL
022	L-GRN-SIG	LEFT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
023	R-GRN-SIG	RIGHT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
024	WIGWAG	WIGWAG OR FLASHING LIGHTS W/O DROP-ARM GATE
025	X-BUCK WRN	CROSSBUCK AND ADVANCE WARNING
026	WW W/ GATE	FLASHING LIGHTS WITH DROP-ARM GATES
027	OVRHD SGNL	SUPPLEMENTAL OVERHEAD SIGNAL (RR XING ONLY)
028	SP RR STOP	SPECIAL RR STOP SIGN
029	ILUM GRD X	ILLUMINATED GRADE CROSSING
037	RAMP METER	METERED RAMPS
038	RUMBLE STR	RUMBLE STRIP
090	L-TURN REF	LEFT TURN REFUGE (WHEN REFUGE IS INVOLVED)
091	R-TURN ALL	RIGHT TURN AT ALL TIMES SIGN, ETC.
092	EMR SGN/FL	EMERGENCY SIGNS OR FLARES
093	ACCEL LANE	ACCELERATION OR DECELERATION LANES
094	R-TURN PRO	RIGHT TURN PROHIBITED ON RED AFTER STOPPING
095	BUS STPSGN	BUS STOP SIGN AND RED LIGHTS
099	UNKNOWN	UNKNOWN OR NOT DEFINITE

VEHICLE TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
00	PDO	NOT COLLECTED FOR PDO CRASHES
01	PSNGR CAR	PASSENGER CAR, PICKUP, LIGHT DELIVERY, ETC.
02	BOBTAIL	TRUCK TRACTOR WITH NO TRAILERS (BOBTAIL)
03	FARM TRCTR	FARM TRACTOR OR SELF-PROPELLED FARM EQUIPMENT
04	SEMI TOW	TRUCK TRACTOR WITH TRAILER/MOBILE HOME IN TOW
05	TRUCK	TRUCK WITH NON-DETACHABLE BED, PANEL, ETC.
06	MOPED	MOPED, MINIBIKE, SEATED MOTOR SCOOTER, MOTOR BIKE
07	SCHL BUS	SCHOOL BUS (INCLUDES VAN)
08	OTH BUS	OTHER BUS
09	MTRCYCLE	MOTORCYCLE, DIRT BIKE
10	OTHER	OTHER: FORKLIFT, BACKHOE, ETC.
11	MOTRHOME	MOTORHOME
12	TROLLEY	MOTORIZED STREET CAR/TROLLEY (NO RAILS/WIRES)
13	ATV	ATV
14	MTRSCTR	MOTORIZED SCOOTER (STANDING)
15	SNOWMOBILE	SNOWMOBILE
99	UNKNOWN	UNKNOWN VEHICLE TYPE

WEATHER CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	CLR	CLEAR
2	CLD	CLOUDY
3	RAIN	RAIN
4	SLT	SLEET
5	FOG	FOG
6	SNOW	SNOW
7	DUST	DUST
8	SMOK	SMOKE
9	ASH	ASH

Attachment F
Year 2021 Total Traffic
Operations Worksheets

Florence Residential Subdivision
1: Rhododendron Drive & 35th Street

Total AM
02/11/2020

Intersection						
Int Delay, s/veh	6.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	33	110	59	49	218	121
Future Vol, veh/h	33	110	59	49	218	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	21	5	7	4	2	2
Mvmt Flow	43	145	78	64	287	159

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	843	110	0	0	142
Stage 1	110	-	-	-	-
Stage 2	733	-	-	-	-
Critical Hdwy	6.61	6.25	-	-	4.12
Critical Hdwy Stg 1	5.61	-	-	-	-
Critical Hdwy Stg 2	5.61	-	-	-	-
Follow-up Hdwy	3.689	3.345	-	-	2.218
Pot Cap-1 Maneuver	310	935	-	-	1441
Stage 1	869	-	-	-	-
Stage 2	443	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	242	935	-	-	1441
Mov Cap-2 Maneuver	242	-	-	-	-
Stage 1	869	-	-	-	-
Stage 2	346	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	5.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	563	1441
HCM Lane V/C Ratio	-	-	0.334	0.199
HCM Control Delay (s)	-	-	14.6	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.5	0.7

Florence Residential Subdivision
 2: Wecoma Loop/Royal St. Georges Drive & 35th Street

Total AM
 02/11/2020

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	355	0	0	151	2	0	0	11	14	0	0
Future Vol, veh/h	0	355	0	0	151	2	0	0	11	14	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	4	0	0	10	0	0	0	0	0	0	0
Mvmt Flow	0	449	0	0	191	3	0	0	14	18	0	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	194	0	0	449	0	0	642	643	449	649	642	193
Stage 1	-	-	-	-	-	-	449	449	-	193	193	-
Stage 2	-	-	-	-	-	-	193	194	-	456	449	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1391	-	-	1122	-	-	390	394	614	386	395	854
Stage 1	-	-	-	-	-	-	593	576	-	813	745	-
Stage 2	-	-	-	-	-	-	813	744	-	588	576	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1391	-	-	1122	-	-	390	394	614	377	395	854
Mov Cap-2 Maneuver	-	-	-	-	-	-	390	394	-	377	395	-
Stage 1	-	-	-	-	-	-	593	576	-	813	745	-
Stage 2	-	-	-	-	-	-	813	744	-	575	576	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11	15
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	614	1391	-	-	1122	-	-	377
HCM Lane V/C Ratio	0.023	-	-	-	-	-	-	0.047
HCM Control Delay (s)	11	0	-	-	0	-	-	15
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Florence Residential Subdivision
 3: Kingswood Street/Sand Pines Gold Course & 35th Street

Total AM
 02/11/2020

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗			↕	
Traffic Vol, veh/h	3	300	77	50	128	2	25	2	34	1	1	0
Future Vol, veh/h	3	300	77	50	128	2	25	2	34	1	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	150	-	-	150	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	5	3	2	8	0	13	0	15	0	0	0
Mvmt Flow	4	366	94	61	156	2	30	2	41	1	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	158	0	0	460	0	0	701	701	414	723	747	157
Stage 1	-	-	-	-	-	-	421	421	-	279	279	-
Stage 2	-	-	-	-	-	-	280	280	-	444	468	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.23	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.23	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.23	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.617	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	1434	-	-	1101	-	-	339	365	611	344	344	894
Stage 1	-	-	-	-	-	-	589	592	-	732	683	-
Stage 2	-	-	-	-	-	-	703	683	-	597	565	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1434	-	-	1101	-	-	323	344	610	304	324	894
Mov Cap-2 Maneuver	-	-	-	-	-	-	323	344	-	304	324	-
Stage 1	-	-	-	-	-	-	587	590	-	730	645	-
Stage 2	-	-	-	-	-	-	663	645	-	552	563	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			2.4			14			16.6		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	323	585	1434	-	-	1101	-	-	314
HCM Lane V/C Ratio	0.094	0.075	0.003	-	-	0.055	-	-	0.008
HCM Control Delay (s)	17.3	11.7	7.5	-	-	8.5	-	-	16.6
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.2	0	-	-	0.2	-	-	0

Florence Residential Subdivision
4: Oak Street & 35th Street

Total AM
02/11/2020

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	242	61	12	154	0	20	24	20	1	28	27
Future Vol, veh/h	24	242	61	12	154	0	20	24	20	1	28	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	5	8	4	0	6	0	6	4	5	0	7	0
Mvmt Flow	29	292	73	14	186	0	24	29	24	1	34	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	186	0	0	365	0	0	635	601	332	630	637	186
Stage 1	-	-	-	-	-	-	387	387	-	214	214	-
Stage 2	-	-	-	-	-	-	248	214	-	416	423	-
Critical Hdwy	4.15	-	-	4.1	-	-	7.16	6.54	6.25	7.1	6.57	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.54	-	6.1	5.57	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.54	-	6.1	5.57	-
Follow-up Hdwy	2.245	-	-	2.2	-	-	3.554	4.036	3.345	3.5	4.063	3.3
Pot Cap-1 Maneuver	1371	-	-	1205	-	-	386	411	703	397	388	861
Stage 1	-	-	-	-	-	-	629	606	-	793	716	-
Stage 2	-	-	-	-	-	-	747	722	-	618	579	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1371	-	-	1205	-	-	335	395	701	350	372	861
Mov Cap-2 Maneuver	-	-	-	-	-	-	335	395	-	350	372	-
Stage 1	-	-	-	-	-	-	612	590	-	772	707	-
Stage 2	-	-	-	-	-	-	676	713	-	551	563	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.6			15.2			13.1		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	430	1371	-	-	1205	-	-	511
HCM Lane V/C Ratio	0.179	0.021	-	-	0.012	-	-	0.132
HCM Control Delay (s)	15.2	7.7	0	-	8	0	-	13.1
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.5

Florence Residential Subdivision
6: Rhododendron Drive & Access A

Total AM
02/11/2020

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	28	0	152	10	0	284
Future Vol, veh/h	28	0	152	10	0	284
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	37	0	200	13	0	374

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	581	207	0	0	213
Stage 1	207	-	-	-	-
Stage 2	374	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	479	839	-	-	1369
Stage 1	832	-	-	-	-
Stage 2	700	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	479	839	-	-	1369
Mov Cap-2 Maneuver	479	-	-	-	-
Stage 1	832	-	-	-	-
Stage 2	700	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	479	1369
HCM Lane V/C Ratio	-	-	0.077	-
HCM Control Delay (s)	-	-	13.1	0
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	28	1	161	8	0	312
Future Vol, veh/h	28	1	161	8	0	312
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	37	1	212	11	0	411

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	629	218	0	0	223
Stage 1	218	-	-	-	-
Stage 2	411	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	449	827	-	-	1358
Stage 1	823	-	-	-	-
Stage 2	674	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	449	827	-	-	1358
Mov Cap-2 Maneuver	449	-	-	-	-
Stage 1	823	-	-	-	-
Stage 2	674	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	456	1358
HCM Lane V/C Ratio	-	-	0.084	-
HCM Control Delay (s)	-	-	13.6	0
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Florence Residential Subdivision
 1: Rhododendron Drive & 35th Street

Total PM
 02/11/2020

Intersection						
Int Delay, s/veh	10.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	83	342	123	51	167	110
Future Vol, veh/h	83	342	123	51	167	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	2	3	2	4
Mvmt Flow	89	368	132	55	180	118

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	638	160	0	0	187
Stage 1	160	-	-	-	-
Stage 2	478	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.12
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.218
Pot Cap-1 Maneuver	444	885	-	-	1387
Stage 1	874	-	-	-	-
Stage 2	628	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	382	885	-	-	1387
Mov Cap-2 Maneuver	382	-	-	-	-
Stage 1	874	-	-	-	-
Stage 2	541	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.1	0	4.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	704	1387
HCM Lane V/C Ratio	-	-	0.649	0.129
HCM Control Delay (s)	-	-	19.1	8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	4.8	0.4

Florence Residential Subdivision
 2: Wecoma Loop/Royal St. Georges Drive & 35th Street

Total PM
 02/11/2020

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	257	1	13	476	12	0	1	10	7	0	2
Future Vol, veh/h	1	257	1	13	476	12	0	1	10	7	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	8	2	0	0	0	0	0	0	0
Mvmt Flow	1	279	1	14	517	13	0	1	11	8	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	530	0	0	280	0	0	835	840	280	840	834	524
Stage 1	-	-	-	-	-	-	282	282	-	552	552	-
Stage 2	-	-	-	-	-	-	553	558	-	288	282	-
Critical Hdwy	4.1	-	-	4.18	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.272	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1048	-	-	1249	-	-	289	304	764	287	306	557
Stage 1	-	-	-	-	-	-	729	681	-	522	518	-
Stage 2	-	-	-	-	-	-	521	515	-	724	681	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1048	-	-	1249	-	-	284	299	764	278	301	557
Mov Cap-2 Maneuver	-	-	-	-	-	-	284	299	-	278	301	-
Stage 1	-	-	-	-	-	-	728	680	-	521	510	-
Stage 2	-	-	-	-	-	-	511	507	-	712	680	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.2			10.5			16.9		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	669	1048	-	-	1249	-	-	313
HCM Lane V/C Ratio	0.018	0.001	-	-	0.011	-	-	0.031
HCM Control Delay (s)	10.5	8.4	0	-	7.9	0	-	16.9
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Florence Residential Subdivision
 3: Kingswood Street/Sand Pines Gold Course & 35th Street

Total PM
 02/11/2020

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗			↕	
Traffic Vol, veh/h	1	242	31	47	420	1	77	1	83	15	4	4
Future Vol, veh/h	1	242	31	47	420	1	77	1	83	15	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	150	-	-	150	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	2	0	9	1	0	3	0	4	0	0	0
Mvmt Flow	1	272	35	53	472	1	87	1	93	17	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	473	0	0	307	0	0	875	871	290	918	888	473
Stage 1	-	-	-	-	-	-	292	292	-	579	579	-
Stage 2	-	-	-	-	-	-	583	579	-	339	309	-
Critical Hdwy	4.1	-	-	4.19	-	-	7.13	6.5	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.281	-	-	3.527	4	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1099	-	-	1215	-	-	269	291	744	254	285	595
Stage 1	-	-	-	-	-	-	714	675	-	504	504	-
Stage 2	-	-	-	-	-	-	496	504	-	680	663	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1099	-	-	1215	-	-	255	278	744	214	272	595
Mov Cap-2 Maneuver	-	-	-	-	-	-	255	278	-	214	272	-
Stage 1	-	-	-	-	-	-	713	674	-	503	482	-
Stage 2	-	-	-	-	-	-	466	482	-	593	662	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.8			18.1			21		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	255	729	1099	-	-	1215	-	-	251
HCM Lane V/C Ratio	0.339	0.129	0.001	-	-	0.043	-	-	0.103
HCM Control Delay (s)	26.2	10.7	8.3	-	-	8.1	-	-	21
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.4	0.4	0	-	-	0.1	-	-	0.3

Florence Residential Subdivision
4: Oak Street & 35th Street

Total PM
02/11/2020

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	49	305	26	12	335	2	40	33	25	17	23	75
Future Vol, veh/h	49	305	26	12	335	2	40	33	25	17	23	75
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	3	4	0	4	0	0	0	0	6	0	0
Mvmt Flow	55	343	29	13	376	2	45	37	28	19	26	84

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	379	0	0	372	0	0	926	873	358	904	886	378
Stage 1	-	-	-	-	-	-	468	468	-	404	404	-
Stage 2	-	-	-	-	-	-	458	405	-	500	482	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.16	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.554	4	3.3
Pot Cap-1 Maneuver	1179	-	-	1198	-	-	251	291	691	254	286	673
Stage 1	-	-	-	-	-	-	579	565	-	615	603	-
Stage 2	-	-	-	-	-	-	587	602	-	546	557	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1178	-	-	1198	-	-	192	270	691	206	265	672
Mov Cap-2 Maneuver	-	-	-	-	-	-	192	270	-	206	265	-
Stage 1	-	-	-	-	-	-	545	532	-	578	594	-
Stage 2	-	-	-	-	-	-	484	593	-	459	524	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.3			27.6			17.8		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	267	1178	-	-	1198	-	-	409
HCM Lane V/C Ratio	0.412	0.047	-	-	0.011	-	-	0.316
HCM Control Delay (s)	27.6	8.2	0	-	8	0	-	17.8
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.9	0.1	-	-	0	-	-	1.3

Florence Residential Subdivision
6: Rhododendron Drive & Access A

Total PM
02/11/2020

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	15	2	409	28	2	246
Future Vol, veh/h	15	2	409	28	2	246
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	2	440	30	2	265

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	724	455	0	0	470
Stage 1	455	-	-	-	-
Stage 2	269	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	396	609	-	-	1102
Stage 1	643	-	-	-	-
Stage 2	781	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	395	609	-	-	1102
Mov Cap-2 Maneuver	395	-	-	-	-
Stage 1	643	-	-	-	-
Stage 2	779	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	412	1102
HCM Lane V/C Ratio	-	-	0.044	0.002
HCM Control Delay (s)	-	-	14.1	8.3
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Florence Residential Subdivision
7: Rhododendron Drive & Access B

Total PM
02/11/2020

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	16	1	436	29	0	261
Future Vol, veh/h	16	1	436	29	0	261
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	1	469	31	0	281

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	766	485	0	0	500	0
Stage 1	485	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	374	586	-	-	1075	-
Stage 1	623	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	374	586	-	-	1075	-
Mov Cap-2 Maneuver	374	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	771	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	382	1075
HCM Lane V/C Ratio	-	-	0.048	-
HCM Control Delay (s)	-	-	14.9	0
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

LAND USE DOCUMENTS

FOR

RHODODENDRON DR & 35TH ST PLANNED UNIT DEVELOPMENT

PREPARED FOR
APIC FLORENCE HOLDINGS, LLC



PROJECT TEAM

OWNER/APPLICANT

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5 THOMAS MELLON CIR. STE 305
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S&F LAND SERVICES
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SEASIDE, OR 97138
CONTACT: JACK WHITE
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EMAIL: jack.white@sflands.com

GEOTECHNICAL ENGINEER

BRANCH ENGINEERING
310 5TH ST
SPRINGFIELD, OR 97477
CONTACT: RONALD DERRICK
PHONE: 541-746-0637
EMAIL: -

UTILITIES & SERVICES

STORM, SEWER, WATER

FLORENCE PUBLIC WORKS
2675 KINGWOOD ST
FLORENCE, OR 97439
PHONE: 541-997-4106

ROADS, PARKS

FLORENCE PUBLIC WORKS
2675 KINGWOOD ST
FLORENCE, OR 97439
PHONE: 541-997-4106

POWER

CENTRAL LINCOLN POWER
966 HIGHWAY 101
FLORENCE, OR 97439
PHONE: 877-265-3211

TELEPHONE

CENTURYLINK TELECOMMUNICATIONS
440 COBURG RD
EUGENE, OR 97401
PHONE: 877-305-0889

FIRE

SIUSLAW VALLEY FIRE & RESCUE
2625 HIGHWAY 101
FLORENCE, OR 97439
PHONE: 541-997-3212

SHEET INDEX

- C0 COVER SHEET
- C1 EXISTING CONDITIONS PLAN
- C2 OVERALL TENTATIVE PLAT
- C2.1 TENTATIVE PLAT ENLARGEMENT 1
- C2.2 TENTATIVE PLAT ENLARGEMENT 2
- C2.3 TENTATIVE PLAT ENLARGEMENT 3
- C2.4 TENTATIVE PLAT ENLARGEMENT 4
- C2.5 TENTATIVE PLAT ENLARGEMENT 5
- C3 SITE PLAN
- C5 PARKING & CIRCULATION PLAN
- C6 PHOTOMETRICS PLAN
- C7 GRADING PLAN
- C8 COMPOSITE UTILITY PLAN

PUBLISH DATE

04-29-2020

ISSUED FOR

LAND USE SUBMITTAL

REVISIONS



COVER SHEET
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



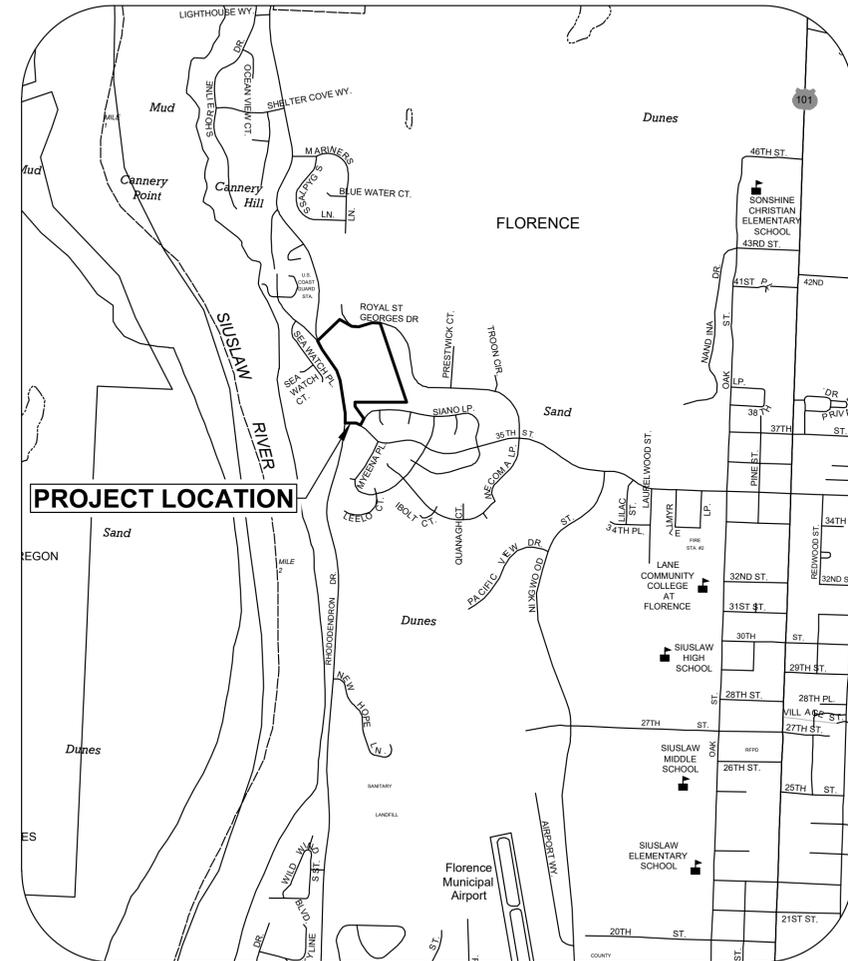
3J CONSULTING

PROJECT INFORMATION

PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER

C0



VICINITY MAP

NOT TO SCALE



SITE MAP

1" = 100'



SITE INFORMATION

SITE ADDRESS

35TH ST & RHODODENDRON DR
FLORENCE, OR 97439

JURISDICTION

CITY OF FLORENCE, OR

TAX LOT(S)

18S12W15 700 AND 3800

ZONING

MANUFACTURED HOME RESIDENTIAL DISTRICT (RMH)

FLOOD HAZARD

MAP NUMBER: 41039C0938F & 41039C1426F

LOCATION

SW 1/4 OF SECTION 15 & NW 1/4 OF SECTION 22, T18S., R.12W., W.M.,
LANE COUNTY, OREGON

Exhibit C



Know what's below.
Call before you dig.

P:\19555-FLORENCE MASTER PLAN\CADD\19555-EXISTING CONDITIONS.DWG



SURVEYOR'S NOTES

- LOCATION OF UNDERGROUND UTILITY FACILITIES SHOWN HEREON ARE BASED ON LOCATE MARKS REQUESTED FOR THIS SURVEY PER ONE CALL PUBLIC LOCATE TICKETS. UTILITY LOCATES MAY NOT BE COMPLETE. THE SURVEYOR MAKES NO GUARANTEE AS TO THE EXACT LOCATION, EXISTENCE, NON-EXISTENCE OR COMPLETENESS OF ANY SUBSURFACE UTILITIES SHOWN, OR NOT SHOWN ON THE MAP. ALL UTILITY LOCATIONS SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION. CALL 811 BEFORE DIGGING.
- FIELD WORK WAS PERFORMED ON AUGUST 19-23 AND SEPTEMBER 10-13, 2019.
- STORM DRAINAGE AND SANITARY SEWER PIPE SIZES AND MATERIALS WERE VISUALLY NOTED AND MEASURED IN THE FIELD FROM THE RIM OF STRUCTURES. NOTED PIPE SIZES MAY VARY.
- EXISTING TAX LOT LINES IF SHOWN ARE FOR REFERENCE FROM RECORD DATA. NOT ALL ADJOINING TAX LOT LINES ARE SHOWN HEREON.
- PROPERTY PARCEL DESIGNATION IS PER THAT PRELIMINARY TITLE REPORT PREPARED BY FIDELITY NATIONAL TITLE HAVING ORDER NO. 60461640170, SUPLT 7, DATED 14, 2019.
- PROPERTY IS SUBJECT TO BLANKET EASEMENTS AND RESTRICTIONS PER DOCUMENTS OF RECORD AS NOTED IN SAID PRELIMINARY TITLE REPORT.
- PROPERTY IN GENERAL IS AN UNDEVELOPED LOT CONSISTING OF SANDY SOIL, DENSE UNDERBRUSH, AND COASTAL PINES OF VARYING SIZES.
- THE PROPERTY IS LOCATED IN THE S.W. 1/4 OF SECTION 15 AND N.W. 1/4 OF SECTION 22, T.18.S., R.12.W., W.M. LANE COUNTY, OREGON
- THE BASIS OF BEARINGS AND HORIZONTAL POSITIONS: OREGON NORTH STATE PLANE COORDINATE SYSTEM NAD 83 (2011) AS MEASURED AND OUTPUTTED ON THE OREGON COORDINATE REFERENCE FRAME, OREGON COAST ZONE.
- ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

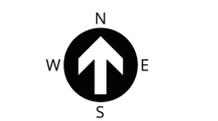
LEGEND

	PROJECT BOUNDARY
	EXISTING RIGHT OF WAY
	EXISTING RIGHT OF WAY CENTERLINE
	EXISTING LOT LINE
	EXISTING EASEMENT LINE
	EXISTING CONCRETE
	EXISTING CURB
	EXISTING FENCE LINE
	EXISTING TELECOM. LINE
	EXISTING GAS LINE
	EXISTING CABLE LINE
	EXISTING OVERHEAD POWER
	EXISTING SANITARY SEWER
	EXISTING STORM DRAIN
	EXISTING WATER MAIN
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING CONIFEROUS TREE
	EXISTING DECIDUOUS TREE
	EXISTING SIGN
	EXISTING STREET LIGHT
	EXISTING UTILITY POLE
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY CLEANOUT
	EXISTING STORM MANHOLE
	EXISTING STORM CATCH BASIN
	REMOVE EXISTING FENCE
	PROPOSED GRADING LIMITS

DEMOLITION GENERAL NOTES

- PROTECT EXISTING PAVEMENT ADJACENT TO WORK LIMITS. REPLACE DAMAGED CONCRETE IN WHOLE PANELS.
- PROTECT EXISTING BUILDING ADJACENT TO WORK LIMITS. REPAIR DAMAGE TO SATISFACTION OF OWNER, AT NO EXPENSE TO OWNER.
- PROTECT EXISTING FENCE ADJACENT TO WORK LIMITS. REPAIR DAMAGE TO SATISFACTION OF OWNER, AT NO EXPENSE TO OWNER.
- CONTRACTOR TO VERIFY PRESENCE, LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO COMMENCING WORK. NOTIFY OWNER AND ENGINEER FOR ANY CONFLICTS WITH PROPOSED DESIGN.
- REMOVE TREES WITHIN GRADING LIMITS.

ZONE X (UN-SHADED) THE SITE IS LOCATED WITHIN ZONE X (UN-SHADED) PER FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY-PANEL NUMBER 41039C0938F & 41039C1426F FEMA'S DEFINITION OF ZONE X (UN-SHADED) IS AN AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRMS AS ABOVE THE 500-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD AND PROTECTED BY LEVEE FROM 100-YEAR FLOOD. IN COMMUNITIES THAT PARTICIPATE IN THE NFIP, FLOOD INSURANCE IS AVAILABLE TO ALL PROPERTY OWNERS AND RENTERS IN THESE ZONES.



811
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EXISTING CONDITIONS PLAN
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



3J CONSULTING

PROJECT INFORMATION
PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER
C1

P:\1955-FLORENCE MASTER PLAN\CADD\19555-OVERALL TENTATIVE PLAT.DWG



LEGEND

	PROJECT BOUNDARY
	RIGHT-OF-WAY LINE
	RIGHT-OF-WAY CENTERLINE
	EXISTING ADJACENT PROP. LINE
	PROPOSED LOT LINE
	PROPOSED EASEMENT LINE
	PROPOSED CENTERLINE
	PROPOSED SETBACK LINE
	PROPOSED 2' WIDE RECIPROCAL ACCESS EASEMENT
	PROPOSED ROW OF DEDICATION, SEE DIMENSIONS



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OVERALL TENTATIVE PLAT
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION
PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER
C2



SCALE: 1" = 60'
0 60 120 FT



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TENTATIVE PLAT ENLARGEMENT 1
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR

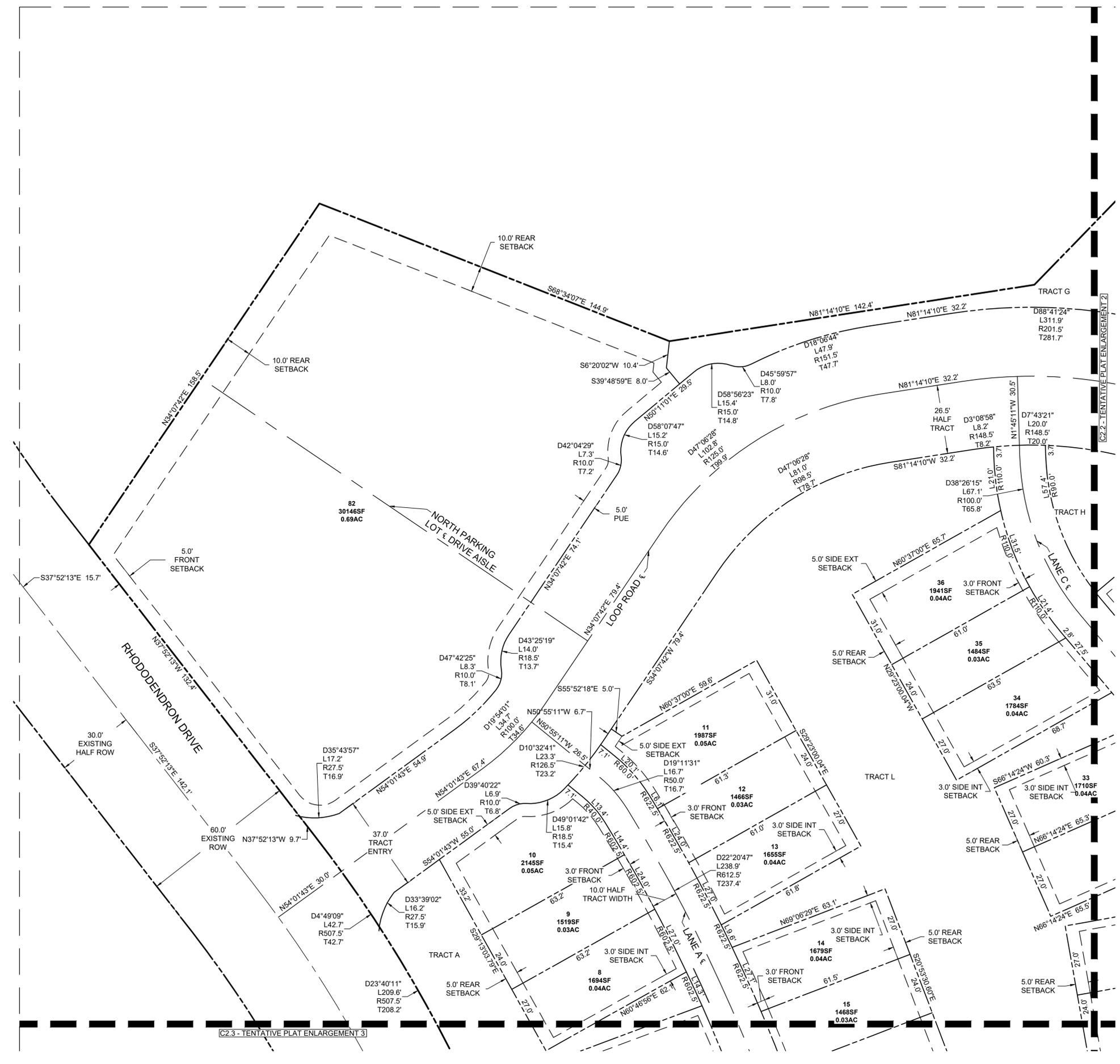


PROJECT INFORMATION
PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER
C2.1

LEGEND

	PROJECT BOUNDARY
	RIGHT-OF-WAY LINE
	RIGHT-OF-WAY CENTERLINE
	EXISTING ADJACENT PROP. LINE
	PROPOSED LOT LINE
	PROPOSED EASEMENT LINE
	PROPOSED CENTERLINE
	PROPOSED SETBACK LINE
	PROPOSED 2' WIDE RECIPROCAL ACCESS EASEMENT
	PROPOSED ROW OF DEDICATION, SEE DIMENSIONS

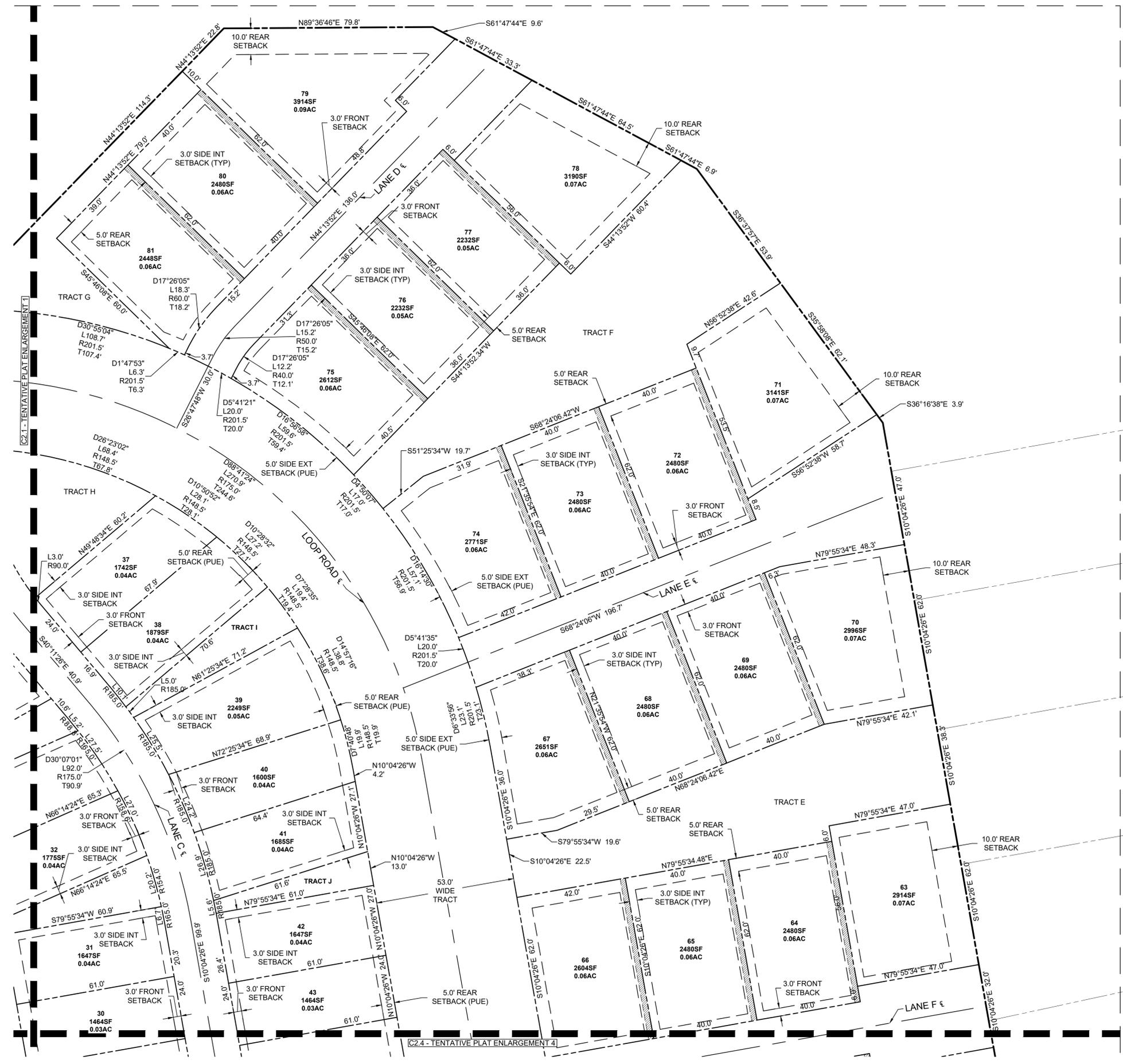


SCALE: 1" = 20'
0 20 40 FT



P:\19555-FLORENCE MASTER PLAN\CADD\19555-TENTATIVE PLAT.DWG

P:\19555-FLORENCE MASTER PLAN\CADD\19555-TENTATIVE PLAT.DWG



LEGEND

	PROJECT BOUNDARY
	RIGHT-OF-WAY LINE
	RIGHT-OF-WAY CENTERLINE
	EXISTING ADJACENT PROP. LINE
	PROPOSED LOT LINE
	PROPOSED EASEMENT LINE
	PROPOSED CENTERLINE
	PROPOSED SETBACK LINE
	PROPOSED 2' WIDE RECIPROCAL ACCESS EASEMENT
	PROPOSED ROW OF DEDICATION, SEE DIMENSIONS



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TENTATIVE PLAT ENLARGEMENT 2
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



3J CONSULTING

PROJECT INFORMATION
PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER
C2.2

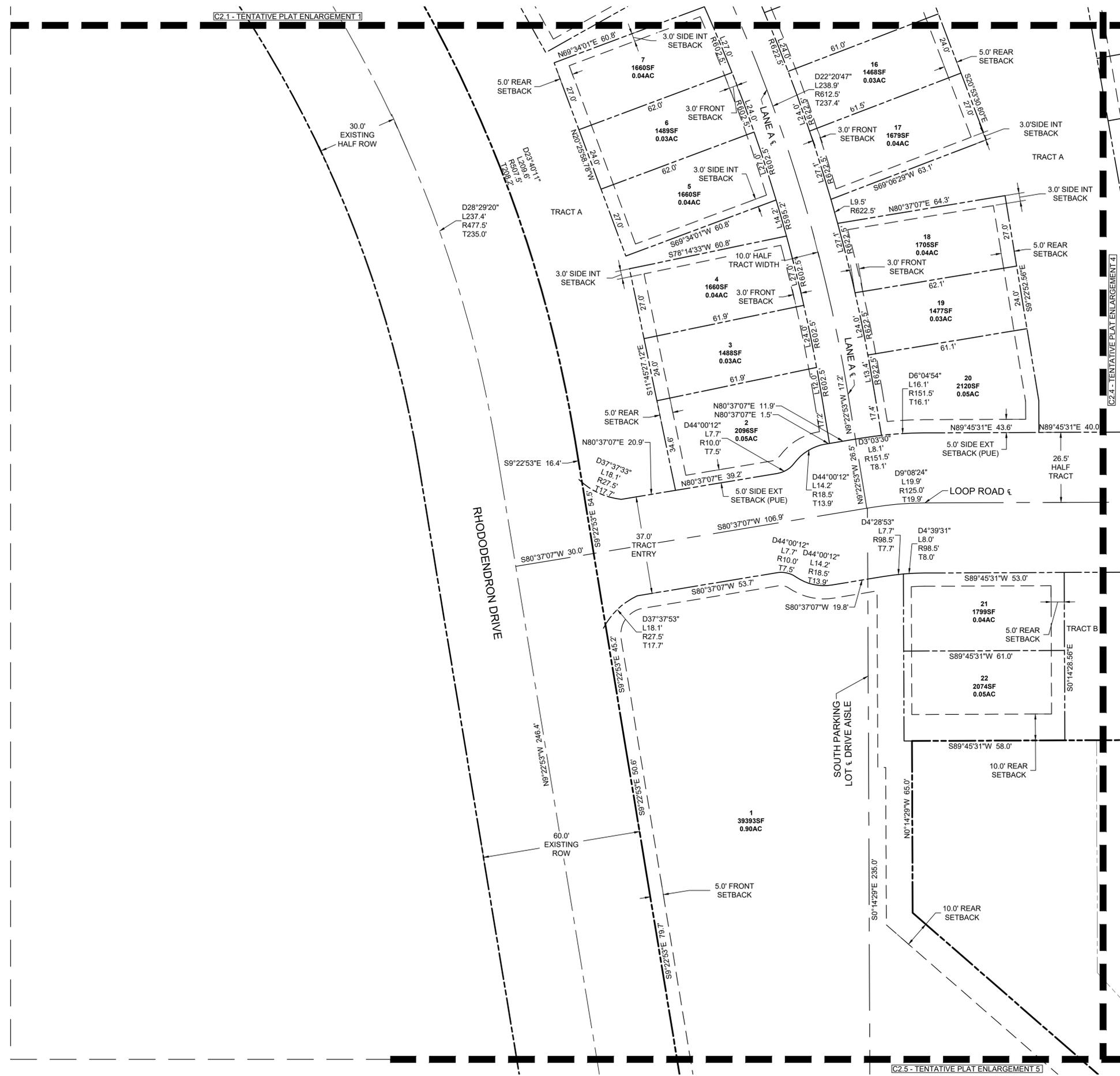


SCALE: 1" = 20'
0 20 40 FT



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LEGEND

	PROJECT BOUNDARY
	RIGHT-OF-WAY LINE
	RIGHT-OF-WAY CENTERLINE
	EXISTING ADJACENT PROP. LINE
	PROPOSED LOT LINE
	PROPOSED EASEMENT LINE
	PROPOSED CENTERLINE
	PROPOSED SETBACK LINE
	PROPOSED 2' WIDE RECIPROCAL ACCESS EASEMENT
	PROPOSED ROW OF DEDICATION, SEE DIMENSIONS



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TENTATIVE PLAT ENLARGEMENT 3
RHODOENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
 APIC FLORENCE HOLDINGS, LLC
 FLORENCE, OR



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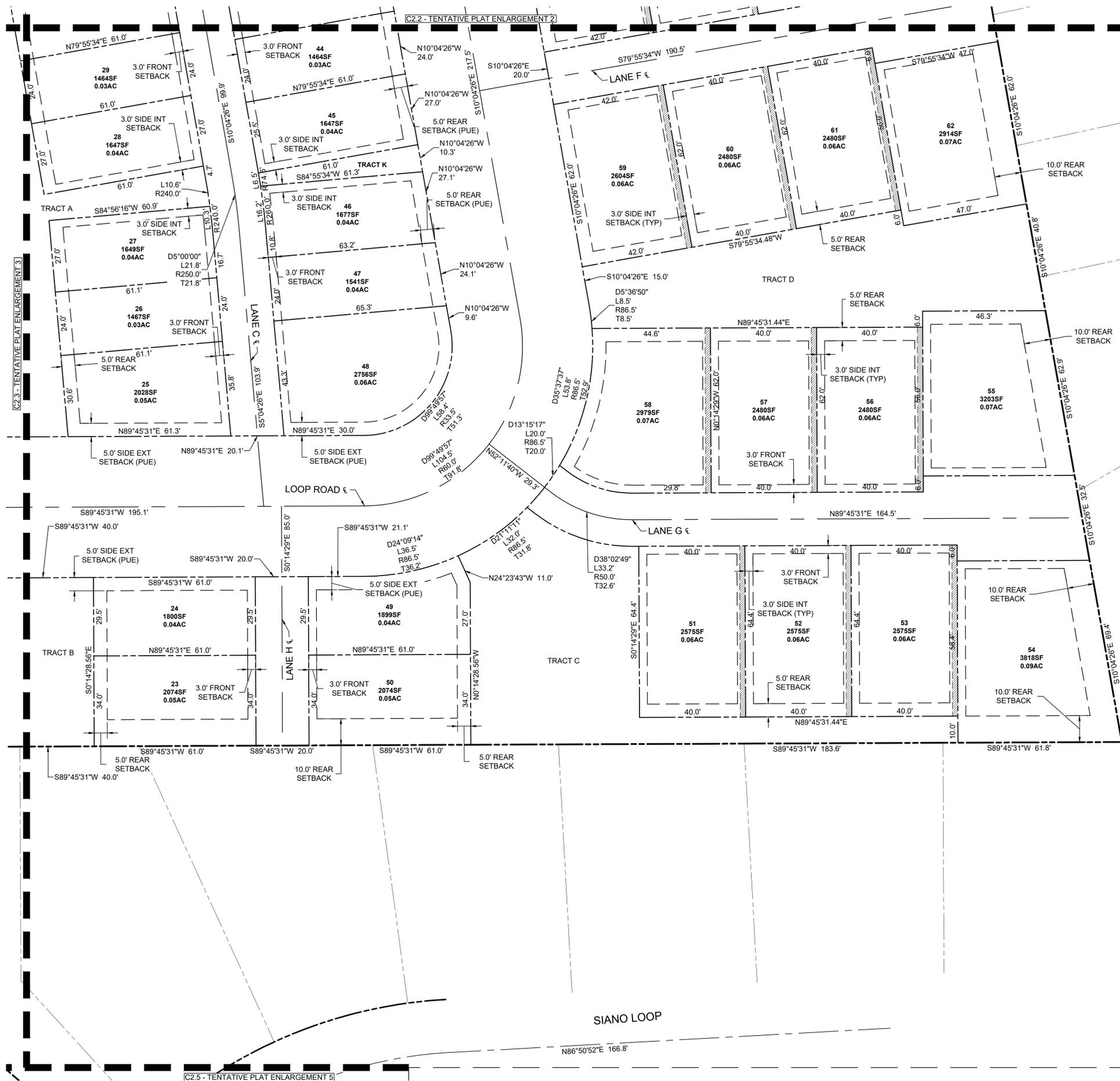
PROJECT INFORMATION

PROJECT # | 19555
 LAND USE # | TBD
 TAX LOT(S) | 18121534 700, 1900, 3800
 DESIGNED BY | JTE, TEG
 CHECKED BY | AJM

SHEET NUMBER
C2.3



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LEGEND

	PROJECT BOUNDARY
	RIGHT-OF-WAY LINE
	RIGHT-OF-WAY CENTERLINE
	EXISTING ADJACENT PROP. LINE
	PROPOSED LOT LINE
	PROPOSED EASEMENT LINE
	PROPOSED CENTERLINE
	PROPOSED SETBACK LINE
	PROPOSED 2' WIDE RECIPROCAL ACCESS EASEMENT
	PROPOSED ROW OF DEDICATION, SEE DIMENSIONS



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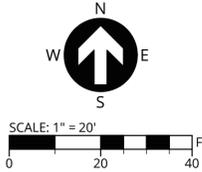


TENTATIVE PLAT ENLARGEMENT 4

RHODODENDRON DR & 35TH ST

PLANNED UNIT DEVELOPMENT

APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR

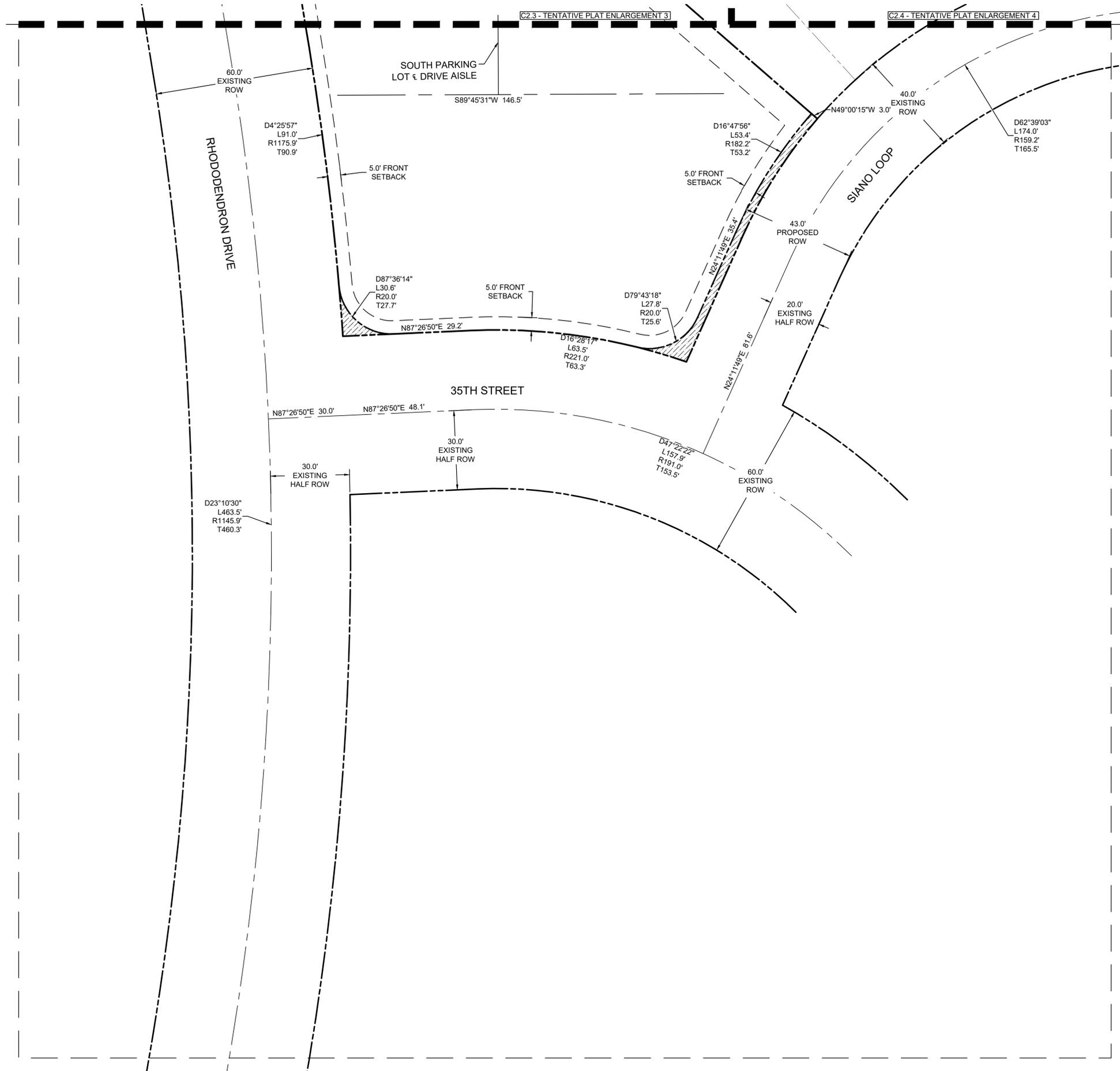


PROJECT INFORMATION

PROJECT # | 19555
 LAND USE # | TBD
 TAX LOT(S) | 18121534 700, 1900, 3800
 DESIGNED BY | JTE, TEG
 CHECKED BY | AJM

SHEET NUMBER
C2.4

P:\19555-FLORENCE MASTER PLAN\CADD\19555-TENTATIVE PLAT.DWG



LEGEND

- PROJECT BOUNDARY
- RIGHT-OF-WAY LINE
- RIGHT-OF-WAY CENTERLINE
- EXISTING ADJACENT PROP. LINE
- PROPOSED LOT LINE
- PROPOSED EASEMENT LINE
- PROPOSED CENTERLINE
- PROPOSED SETBACK LINE
- PROPOSED 2' WIDE RECIPROCAL ACCESS EASEMENT
- PROPOSED ROW OF DEDICATION, SEE DIMENSIONS



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TENTATIVE PLAT ENLARGEMENT 5
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
 APIC FLORENCE HOLDINGS, LLC
 FLORENCE, OR



PROJECT INFORMATION

PROJECT # | 19555
 LAND USE # | TBD
 TAX LOT(S) | 18121534 700, 1900, 3800
 DESIGNED BY | JTE, TEG
 CHECKED BY | AJM

SHEET NUMBER
C2.5



SCALE: 1" = 20'
 0 20 40 FT



Know what's below.
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P:\19555-FLORENCE MASTER PLAN\CADD\19555-SITE PLAN.DWG



CONSTRUCTION KEY NOTES

- 1 CONSTRUCT ASPHALT PAVEMENT WITHIN LIMITS. SEE TYPICAL SECTIONS ON SHEET C4.
- 2 CONSTRUCT STANDARD CURB. SEE TYPICAL SECTIONS ON SHEET C4.
- 3 CONSTRUCT CONCRETE SIDEWALK. SEE TYPICAL SECTIONS ON SHEET C4.
- 4 CONSTRUCT ASPHALT CONCRETE PATHWAY. SEE TYPICAL SECTIONS ON SHEET C4.
- 5 CONSTRUCT HEAVY DUTY CONCRETE WITHIN LIMITS SHOWN.
- 6 CONSTRUCT STORM DETENTION POND.

LEGEND

- PROPOSED LOT LINE
- - - PROPOSED EASEMENT LINE
- PROPOSED RIGHT OF WAY
- PROPOSED CENTERLINE
- - - PROPOSED SETBACK LINE
- PROPOSED CURB FACE
- PROPOSED CURB BACK
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED CONCRETE SCORING
- PROPOSED RETAINING WALL
- PROPOSED SOAKAGE TRENCH
- PROPOSED STORM TOP OF BANK
- PROPOSED STORM BOTTOM OF BANK
- ▲ 20' VISUAL CLEARANCE LIMITS



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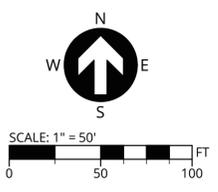


SITE PLAN
RHODOENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION
PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
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SHEET NUMBER
C3





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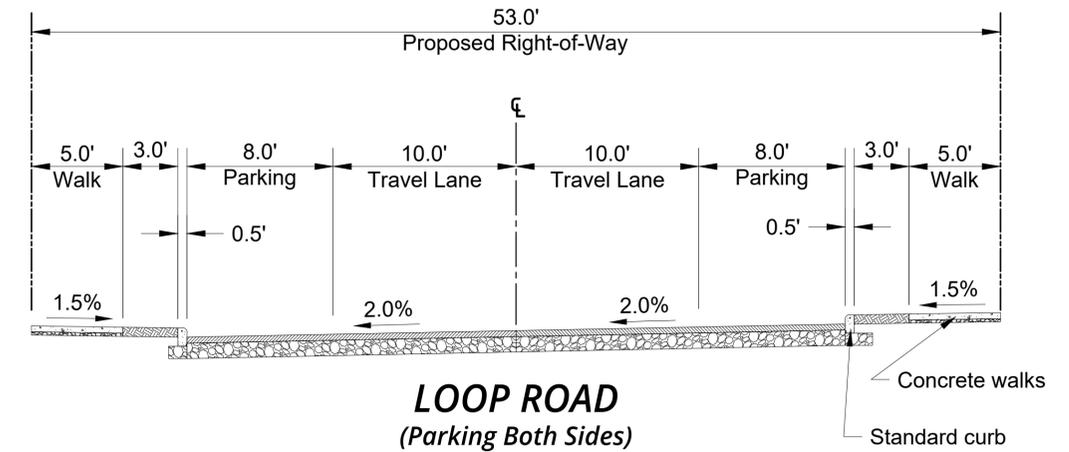
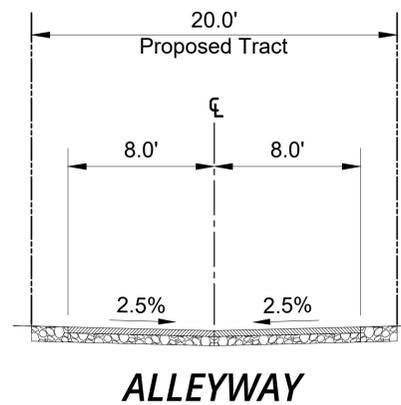
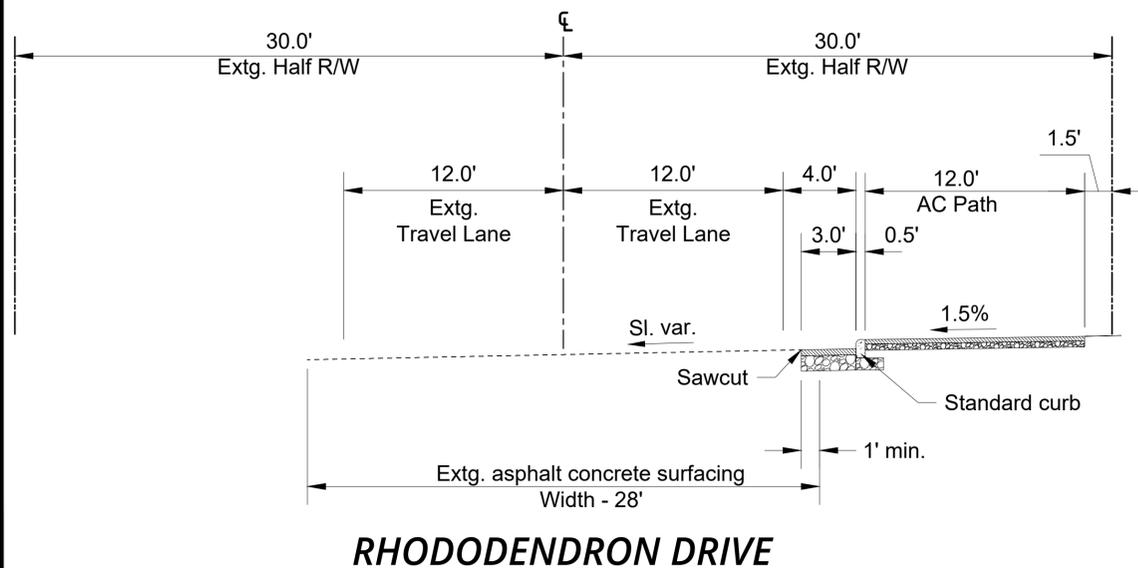
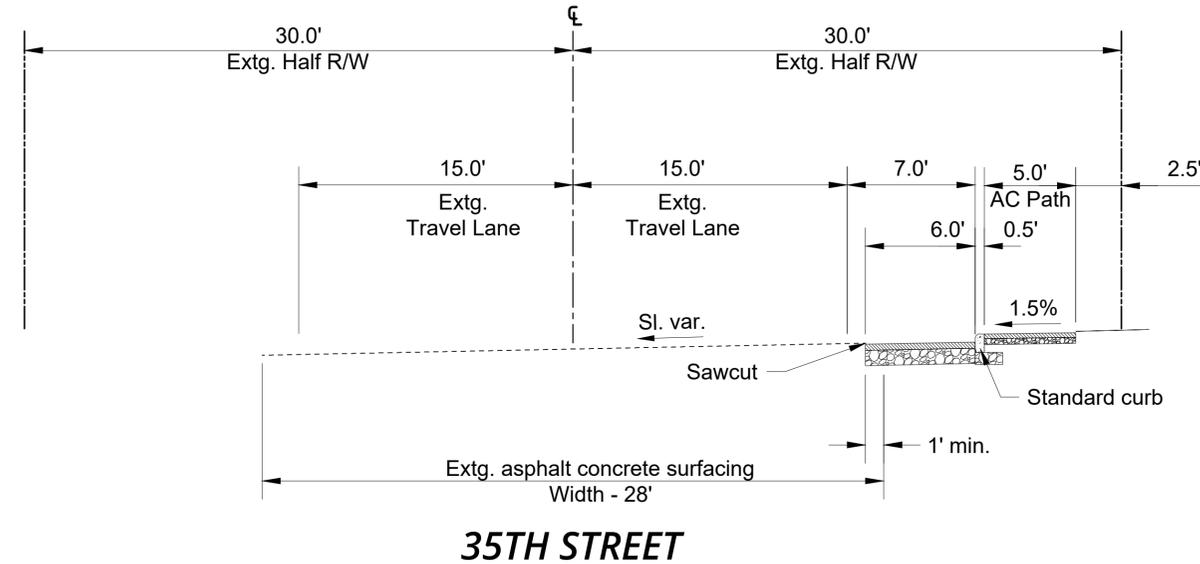
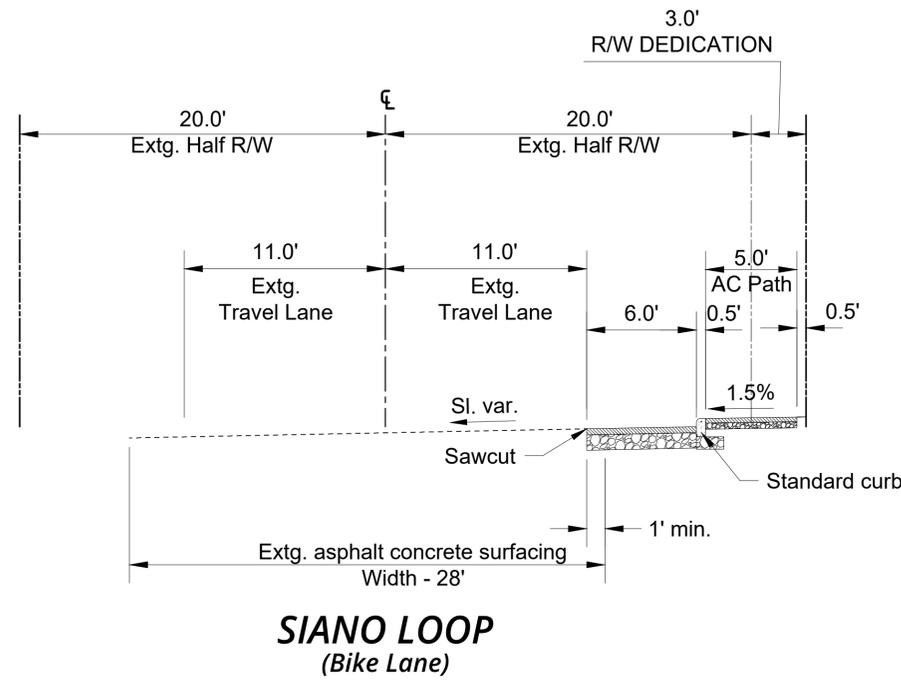
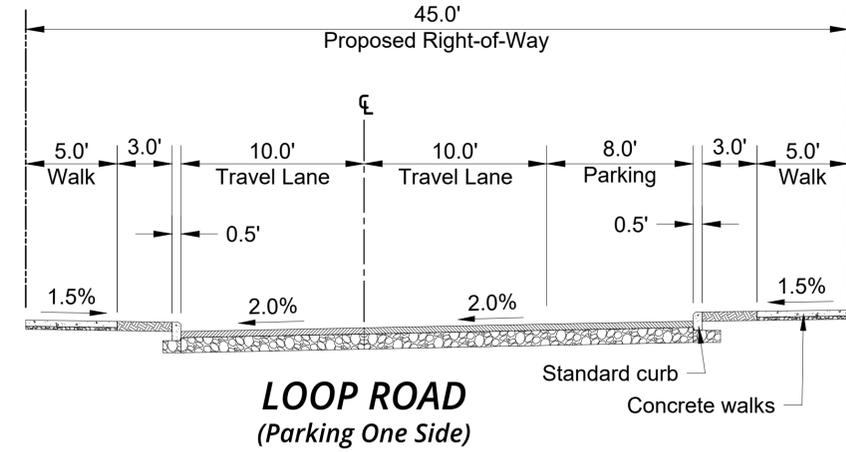
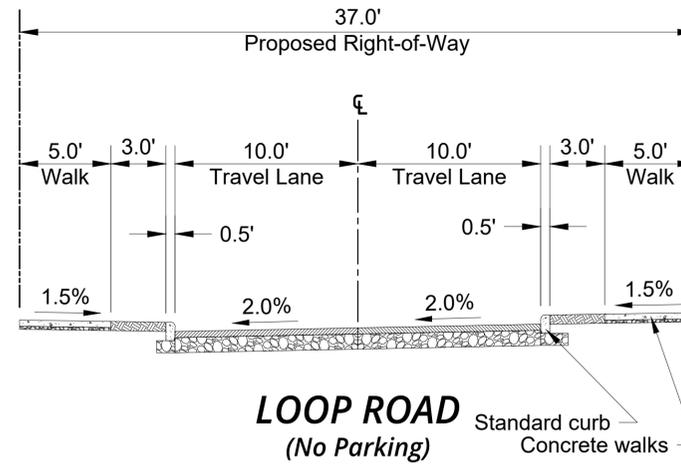


TYPICAL SECTIONS
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR

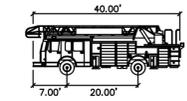
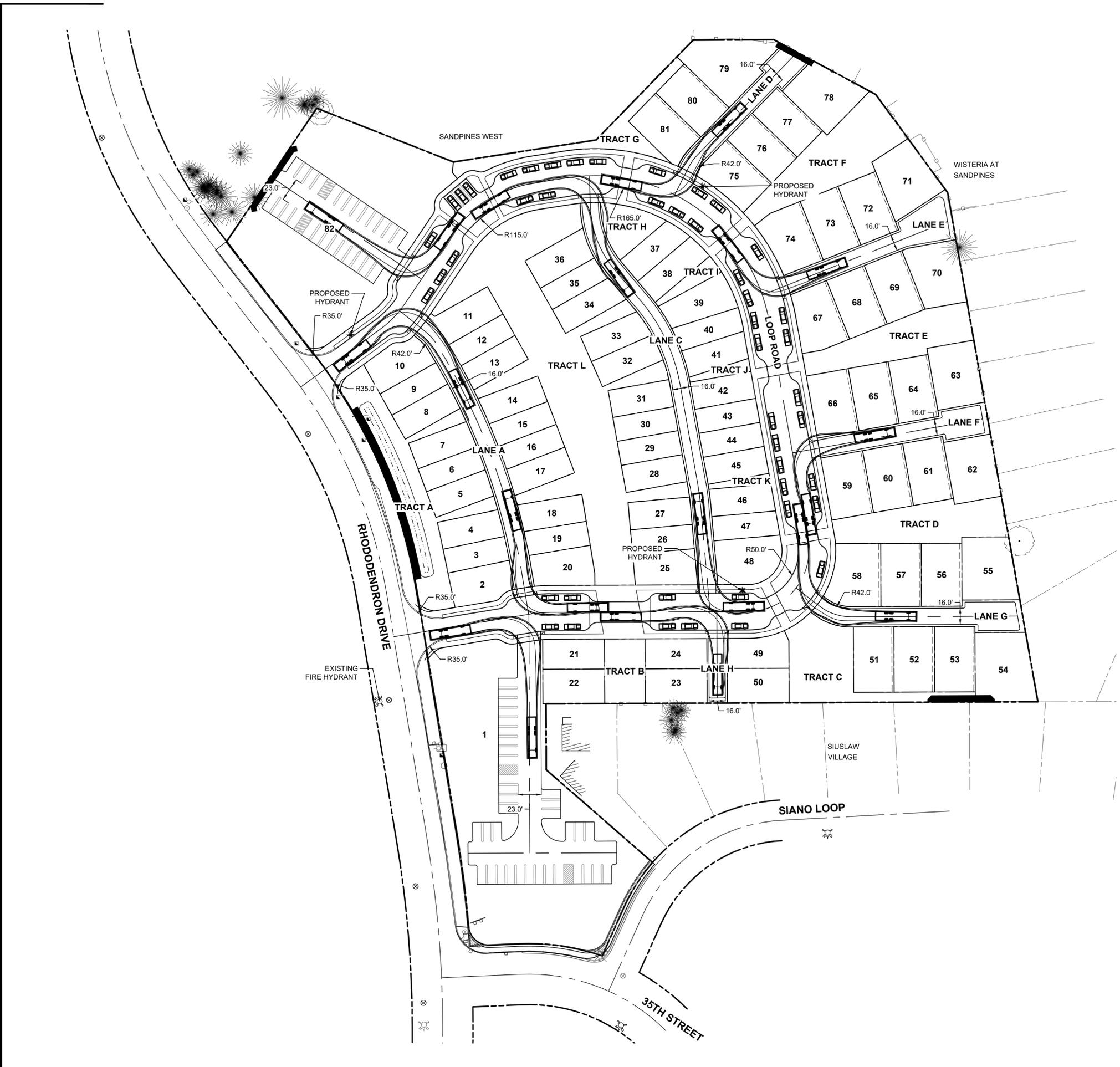


PROJECT INFORMATION
PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER
C4



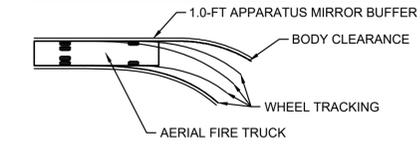
P:\19555-FLORENCE MASTER PLAN\CADD\19555-PARKING & CIRCULATION PLAN.DWG



E-ONE HP100 AERIAL FIRE TRUCK
 OVERALL LENGTH 40.00 ft
 OVERALL WIDTH 7.00 ft
 OVERALL BODY HEIGHT 20.00 ft
 MIN. BODY GROUND CLEARANCE 1.39 ft
 TRACK WIDTH 8.33 ft
 LOCK-TO-LOCK TIME 6.00 s
 MAX. WHEEL ANGLE 45.00°

AUTODRIVE RUN CRITERIA
 1. 10 MPH MINIMUM DESIGN SPEED.
 2. 45° MAX. WHEEL ANGLE.
 3. DYNAMIC EFFECTS ON.

FIRE TRUCK TURNING SIMULATION



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PARKING & CIRCULATION PLAN
RHODOENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
 APIC FLORENCE HOLDINGS, LLC
 FLORENCE, OR



SCALE: 1" = 50'
 0 50 100 FT



PROJECT INFORMATION
 PROJECT # | 19555
 LAND USE # | TBD
 TAX LOT(S) | 18121534 700, 1900, 3800
 DESIGNED BY | JTE, TEG
 CHECKED BY | AJM

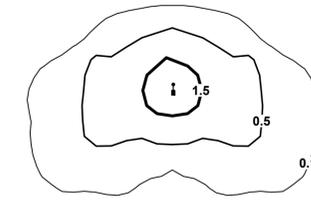
SHEET NUMBER
C5

P:\1955-FLORENCE MASTER PLAN\CADD\19555-PHOTOMETRICS.DWG



LEGEND

- ⊗ EXISTING STREET LIGHT
- 0.7 ILLUMINATION ANALYSIS POINT (Fc)
- Fc FOOT CANDLE UNIT



CONSTRUCTION KEY NOTES

- PROPOSED 6273 LUMEN / 53 WATT LED 16' MOUNTING HEIGHT, UHAM-20001, HAMILTON 1. TOTAL LIGHTS PROPOSED = 40.
- ⦿ PROPOSED 6273 LUMEN / 53 WATT LED 12' MOUNTING HEIGHT, UHAM-20001, HAMILTON 1. TOTAL LIGHTS PROPOSED = 17.
- PROPOSED 4160 LUMEN / 32 WATT LED WALL MOUNT WKP WAL-PAK, BOROSILICATE GLASS DOOR. TOTAL LIGHTS PROPOSED = 86.
- PROPOSED 475 LUMEN / 27 WATT LED LIGHTWAVE BOLLARD STRAIGHT HP LED, ULW-10874. TOTAL LIGHTS PROPOSED = 138.
- PROPOSED 2000 LUMEN LED ROUND DOWNLIGHT, 10' INSTALLATION HEIGHT. TOTAL LIGHTS PROPOSED = 28.

LIGHTING ANALYSIS NOTES

1. AGI32 (BY LIGHTING ANALYSTS INC) WAS USED TO GENERATE PHOTOMETRIC DATA.
2. SEE THIS SHEET FOR FIXTURE AND POLE DATA.

LOOP ROAD (PRIVATE)

LOW PEDESTRIAN CONFLICT AREA	TARGET	CALCULATED
AVERAGE ILLUMINANCE (Fc)	MINIMUM = 0.5	2.58
MAXIMUM / MINIMUM UNIFORMITY	MAXIMUM = 15.0	10.33

LANES AND ALLEYS (PRIVATE)

LOW PEDESTRIAN CONFLICT AREA	TARGET	CALCULATED
AVERAGE ILLUMINANCE (Fc)	MINIMUM = 0.5	4.18
MAXIMUM / MINIMUM UNIFORMITY	MAXIMUM = 15.0	10.0

NORTH APARTMENTS PARKING LOT (PRIVATE)

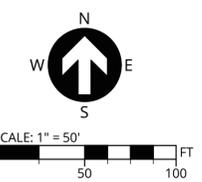
LOW PEDESTRIAN CONFLICT AREA	TARGET	CALCULATED
AVERAGE ILLUMINANCE (Fc)	MINIMUM = 0.5	3.98
MAXIMUM / MINIMUM UNIFORMITY	MAXIMUM = 15.0	14.2

SOUTH APARTMENTS PARKING LOT (PRIVATE)

LOW PEDESTRIAN CONFLICT AREA	TARGET	CALCULATED
AVERAGE ILLUMINANCE (Fc)	MINIMUM = 0.5	2.5
MAXIMUM / MINIMUM UNIFORMITY	MAXIMUM = 15.0	13.67

SHARED SPACES AND WALKS (PRIVATE)

LOW PEDESTRIAN CONFLICT AREA	TARGET	CALCULATED
AVERAGE ILLUMINANCE (Fc)	MINIMUM = 0.5	2.07
MAXIMUM / MINIMUM UNIFORMITY	MAXIMUM = 20.0	14.9



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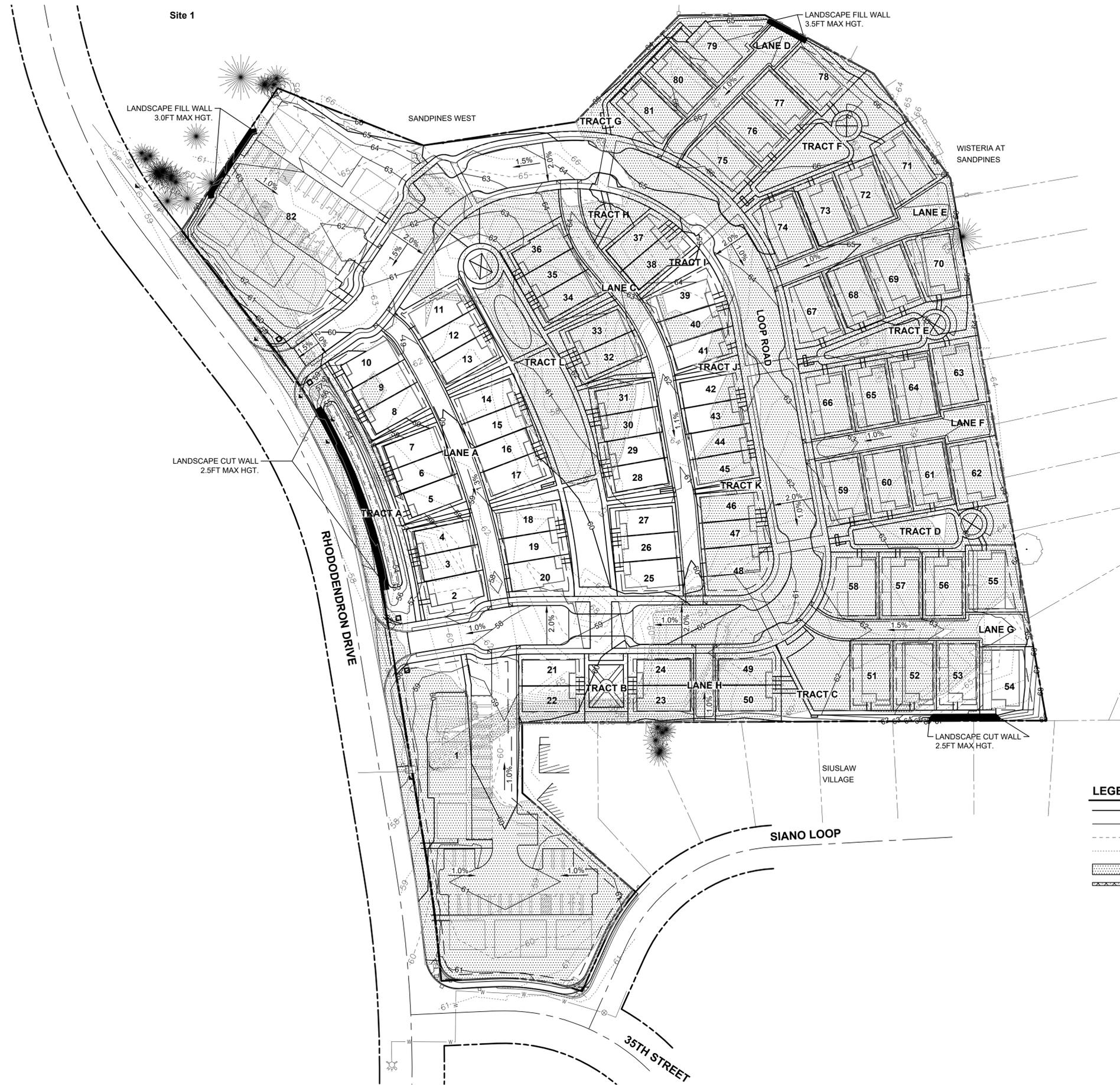
PHOTOMETRICS PLAN
RHODOENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
 APIC FLORENCE HOLDINGS, LLC
 FLORENCE, OR



PROJECT INFORMATION
 PROJECT # | 19555
 LAND USE # | 18121534 700, 1900, 3800
 TAX LOT(S) | TBD
 DESIGNED BY | JTE, TEG
 CHECKED BY | AJM

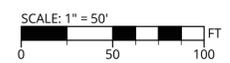
SHEET NUMBER
C6

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LEGEND

	110	PROPOSED MAJOR CONTOUR
	108	PROPOSED MINOR CONTOUR
	110	EXISTING MAJOR CONTOUR
	108	EXISTING MINOR CONTOUR
		ZONE OF PROPOSED FILL
		PROPOSED RETAINING WALL



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GRADING PLAN
RHODOENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



PROJECT INFORMATION

PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER
C7



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COMPOSITE UTILITY PLAN
RHODODENDRON DR & 35TH ST
PLANNED UNIT DEVELOPMENT
APIC FLORENCE HOLDINGS, LLC
FLORENCE, OR



3J CONSULTING

PROJECT INFORMATION
PROJECT # | 19555
LAND USE # | TBD
TAX LOT(S) | 18121534 700, 1900, 3800
DESIGNED BY | JTE, TEG
CHECKED BY | AJM

SHEET NUMBER
C8

LEGEND

- PROPOSED LOT LINE
- PROPOSED EASEMENT LINE
- PROPOSED RIGHT OF WAY
- PROPOSED CENTERLINE
- PROPOSED SETBACK LINE
- PROPOSED CURB FACE
- PROPOSED CURB BACK
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED CONCRETE SCORING
- PROPOSED RETAINING WALL
- PROPOSED SOAKAGE TRENCH
- PROPOSED STORM TOP OF BANK
- PROPOSED STORM BOTTOM OF BANK
- SD --- PROPOSED STORM PIPE
- SS --- PROPOSED BYPASS STORM PIPE
- SS --- PROPOSED SANITARY PIPE
- W --- PROPOSED WATER MAIN
- ⊙ PROPOSED STORM MANHOLE
- ⊙ PROPOSED CURB INLET
- ⊙ PROPOSED ROUND AREA INLET
- ⊙ PROPOSED SEWER MANHOLE
- ⊙ PROPOSED HYDRANT
- ⊙ PROPOSED VALVE
- ⊙ BLOW-OFF / AIR RELEASE ASSY.
- ⊙ PROPOSED LIGHTING

WATER SYSTEM KEY NOTES

- 1 INSTALL 8" WATER MAIN.
- 2 INSTALL 6" WATER MAIN.
- 3 INSTALL 4" WATER MAIN.
- 4 CONNECT PROPOSED 8" WATER MAIN TO EXISTING 8" WATER MAIN.

STORM DRAIN KEY NOTES

- 1 INSTALL 12" PRIVATE STORM MAIN.
- 2 CONSTRUCT INFILTRATION BASIN.
- 3 CONSTRUCT INFILTRATION SOAKAGE TRENCH.
- 4 INSTALL 36" BYPASS STORM MAIN FOR RUN-ON FLOWS.

SANITARY SEWER KEY NOTES

- 1 INSTALL 8" SANITARY SEWER MAIN.
- 2 INSTALL 6" SANITARY SEWER MAIN.
- 3 CONNECT PROPOSED 8" SANITARY SEWER MAIN TO EXISTING 12" SANITARY SEWER VIA PROPOSED SANITARY SEWER MANHOLE.
- 4 CONNECT PROPOSED 8" SANITARY SEWER MAIN TO EXISTING SANITARY SEWER MANHOLE.



TYP. TELEPHONE / CABLE PEDESTAL,
NO LINES MARKED BUT SIGN
INDICATED UNDERGROUND BURIED
CABLE RUNNING BETWEEN UNITS.

SSMH: 60.22' RIM
IE 16" PVC IN (NW): 54.97'
IE 16" PVC OUT (SE): 54.99'

SDMH: 58.88' RIM
IE 14" PVC OUT (SE): 55.35'
IE 14" PVC IN (NW): 55.37'

SDMH: 59.28' RIM
IE 14" PVC IN (NW): 54.79'
IE 14" PVC OUT (SE): 54.75'

SSMH: 58.80' RIM
IE 16" PVC IN (NW): 54.69'
IE 16" PVC OUT (SE): 54.66'

SDMH: 59.33' RIM
IE 14" PVC IN (NW): 54.34'
IE 14" PVC OUT (SW): 54.31'

SDMH: 59.19' RIM
IE 14" PVC IN (NW): 54.30'
IE 14" PVC OUT (SW): 54.27'

SSMH: 59.16' RIM
IE 16" PVC IN (NW): 54.56'
IE 16" PVC OUT (SE): 54.53'

SDMH: 57.35' RIM
IE 14" PVC IN (NW): 53.84'
IE 14" PVC OUT (SW): 53.77'

SSMH: 57.50' RIM
IE 16" PVC IN (NW): 54.41'
IE 16" PVC OUT (SE): 54.37'

SDMH: 57.18' RIM
IE 14" PVC IN (NW): 53.37'
IE 14" PVC OUT (SE): 53.34'

SDMH ON CONC: 57.18' RIM
IE 14" PVC IN (NW): 53.31'
IE 36" PVC IN (NE): 53.30'
IE 36" PVC OUT (SE): 53.30'

SSMH: 56.98' RIM
IE 6" PVC IN (W): 54.08'
IE 6" PVC IN (W): 54.08'
IE 8" PVC OUT (N): 53.98'
IE 6" PVC INT (SW): 53.70'
IE 36" OUTFALL 47.46'

SDMH: 58.23' RIM
SUMP HOLDING TANK
IE 36" PVC OUT (W): 49.23'
SDCB: 60.42' FL
IE 12" PVC
OUT (SE): 57.42'

SDCB: 60.41' FL
IE 12" PVC OUT (N): 55.56'
IE 12" PVC IN (S): 55.71'

SDMH: 60.86' RIM
IE 12" PVC IN (E): 55.96'
IE 12" PVC IN (S): 55.94'
IE 12" PVC OUT (N): 55.92'

SSMH: 59.73'
IE 8" PVC IN (N): 53.67'
IE 8" PVC IN (W): 52.85'
IE 8" PVC OUT (E): 52.60'
IE 6" PVC IN (SW): 53.09'

SDMH: 61.12' RIM
IE 12" PVC IN (N): 56.52'
IE 12" PVC IN (W): 55.82'
IE 12" PVC OUT (E): 55.84'

SDCB: 60.37' FL
IE 12" PVC OUT (NW): 57.52'
IE 8" PVC IN (SW): 58.39'

SSMH: 61.20' RIM
IE 8" PVC IN (N): 54.46'
IE 8" PVC OUT (W): 54.49'
IE 8" PVC IN (E): 54.52'

SDCB: 60.12' FL
IE 12" PVC OUT (SE): 54.44'

SSMH: 60.55' RIM
IE 8" PVC OUT (SW): 55.73'
IE 8" PVC IN (E): 55.84'

SDMH: 60.42' RIM
IE 12" PVC OUT (W): 57.34'
IE 12" PVC IN (E): 56.92'
IE 12" PVC OUT (S): 56.62'

SDMH: 61.52' RIM
IE 12" PVC OUT (W): 56.02'
IE 12" PVC IN (N): 56.03'

NO WTR PAINTED. SEE GIS SKETCH
WATER LINE DRAWN PER GIS SKETCH, NO PAINT

SSMH: 61.53' RIM
IE 8" PVC IN (N): 54.83'
IE 8" PVC OUT (W): 54.81'
IE 8" PVC IN (E): 56.13'

14" PUE AND DRAINAGE
EASEMENT, PLAT OF
WISTERIA AT SANDPINES



SCALE: 1" = 50'
0 50 100 FT



Know what's below.
Call before you dig.

From: [Wendy Farley-Campbell](mailto:Wendy.Farley-Campbell)
To: [Roxanne Johnston](mailto:Roxanne.Johnston)
Subject: FW: PC 20 08 SUB 01– 35th & Rhododendron Dr. Florence Golf Plat & PUD
Date: Monday, June 22, 2020 3:33:19 PM

From: Courtney Krossman <ckrossman@ctclusi.org>
Sent: Monday, June 22, 2020 3:32 PM
To: Wendy Farley-Campbell <wendy.farleycampbell@ci.florence.or.us>
Cc: Stacy Scott <sscott@ctclusi.org>; Jesse Beers <JBeers@ctclusi.org>
Subject: RE: PC 20 08 SUB 01– 35th & Rhododendron Dr. Florence Golf Plat & PUD

Good Afternoon,

The Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians have no objections to the proposed project. Please be aware that the proposed work area is in proximity to known cultural resource sites and so may contain as yet unlocated cultural resources. We request that we be contacted immediately if any known or suspected cultural resources are encountered during the work. **We further request to be given at least 72 hours' notice prior to any ground disturbance activities, to ensure that a staff person or designated Tribal member of the Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians may be present during ground disturbing activities.**

Please also be aware that federal and state laws prohibit intentional excavation of known or suspected cultural resources without an archaeological permit and require that we be notified immediately if resources are discovered, uncovered, or disturbed. 43 CFR 10 applies on tribal and federal lands, federal projects, federal agencies, as well as to federal actions and federally funded (directly or indirectly) projects. ORS 97.745 prohibits the willful removal, mutilation, defacing, injury, or destruction of any cairn, burial, human remains, funerary objects, or objects of cultural patrimony of any native Indian. ORS 358.920 prohibits excavation injury, destruction, or alteration of an archaeological site or object or removal of an archaeological object from public or **private lands.**

Please feel free to contact me if I may be of any further assistance.

Sincerely,

Courtney Krossman

Cultural Resources Protection Assistant
Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians
1245 Fulton Avenue
Coos Bay, Or 97420
(Office) 541.888.9577 ext. 7547
(Cell) 541.808.5085

From: Wendy Farley-Campbell <wendy.farleycampbell@ci.florence.or.us>
Sent: Tuesday, June 16, 2020 12:50 PM
To: Wendy Farley-Campbell <wendy.farleycampbell@ci.florence.or.us>

Exhibit I

Subject: RE: PC 20 08 SUB 01– 35th & Rhododendron Dr. Florence Golf Plat & PUD

Good afternoon,

Please use this attachment in your review. It is conceptually the same but it split into multiple pages and does have a newer creation date.

I apologize for any confusion caused from duplicate emails.

Regards,

Wendy FarleyCampbell

Planning Director | City of Florence

O: 541.997.8237

From: Wendy Farley-Campbell

Sent: Tuesday, June 16, 2020 11:05 AM

To: Wendy Farley-Campbell <wendy.farleycampbell@ci.florence.or.us>

Subject: PC 20 08 SUB 01– 35th & Rhododendron Dr. Florence Golf Plat & PUD

Good morning,

Your agency has been selected to review this application prior to the Community Development Department's decision so that you may have an opportunity to respond.

Land Use Application PC 20 08 SUB 01– 35th & Rhododendron Dr. Florence Golf Tentative Plat

An application from APIC Florence Holdings LLC. for a Tentative Subdivision Plat review in a Planned Unit Development at the NE corner of 35th St. and Rhododendron Dr., Map # 812153300700, 1812153403800, 1812222101900. The site is in the High Density Residential District regulated by Florence City Code Title 10, Chapter 10. The proposed plat is attached.

Additional details, plans, and review criteria information are available on request. Please provide any comments or requests you have for the developer by July 7th in order for your agency's comments to be included in the findings of fact.

Best regards,

Wendy FarleyCampbell

Planning Director | City of Florence

O: 541.997.8237

250 Highway 101, Florence OR 97439

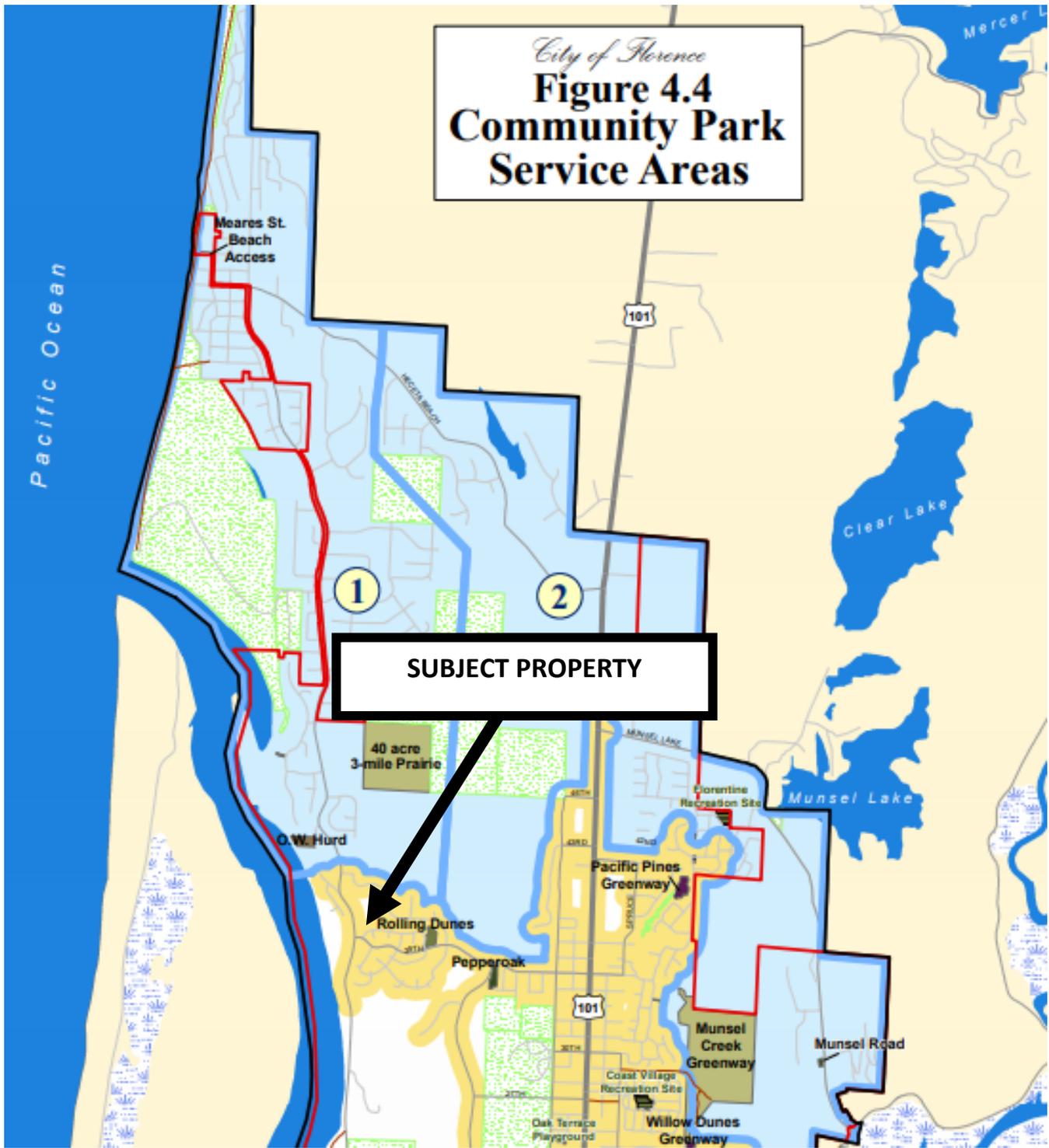
Follow Us! [City Website](#) | [Vimeo](#) | [Facebook](#) | [Twitter](#)

The City of Florence is an equal opportunity employer and service provider.

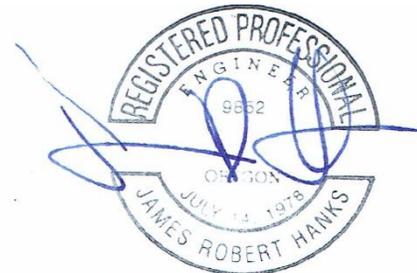
PUBLIC RECORDS LAW DISCLOSURE:

This email is a public record of the City of Florence and is subject to public inspection unless exempt from disclosure under Oregon Public Records Law. This email is also subject to the City's Public Records Retention Schedule.

This email and its attachments are confidential under applicable law and are intended for use of the sender's addressee only, unless the sender expressly agrees otherwise, or unless a separate written agreement exists between Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians and a recipient company governing communications between the parties and any data that may be transmitted. Transmission of email over the Internet is not a secure communications medium. If you are requesting or have requested the transmittal of personal data, as defined in applicable privacy laws, by means of email or in an attachment to email, you may wish to select a more secure alternate means of transmittal that better supports your obligations to protect such personal data. If the recipient of this message is not the recipient named above, and/or you have received this email in error, you must take no action based on the information in this email. You are hereby notified that any dissemination, misuse or copying or disclosure of the communication by a recipient who has received this message in error is strictly prohibited. If this message is received in error, please return this email to the sender and immediately highlight any error in transmittal. Thank You



July 7, 2020



RENEWAL DATE 6/30/21

Wendy FarleyCampbell
Planning Director, City of Florence
250 Highway 101
Florence, Oregon 97439

Subject: Review of Rhododendron Drive – 35th Street PUD Traffic Impact Analysis Report

Dear Ms. FarleyCampbell:

At your request, I have completed a review of the Traffic Impact Analysis (TIA) for the for the Rhododendron Drive – 35 Street Planned Unit Development (PUD). I recommend that further analysis be completed, as described below, to assure that the TIA accurately describes the impacts of the development.

Estimation of Future Background Traffic:

Background Traffic in the TIA is based on an ODOT projection that, between now and the year 2035, there will be virtually no traffic growth on Highway 101 near the 35th Street intersection. In discussions with ODOT Staff, they stated that their projections are not indicative of traffic on nearby local streets.

The ODOT traffic projections used in the TIA are not intended to project for traffic growth on other facilities. They do not use land-use growth but rather rely on historic traffic trends. In newly developing areas, such as north Florence, historical data does not apply. In these newly developing areas, a no growth history is not an indicator of future growth. Even zero traffic growth on Highway 101 does not seem to be credible. There are projects under construction or approved that would increase traffic on Highway 101 beyond their projection for 2035.

Roads do not generate traffic. Development does. The model used for the ODOT projections do include growth or development input. The City has a number of approved

James R Hanks PE -- 3672 RIVERPOINTE DR EUGENE, OR 97408
541 953-65474

Exhibit K

projects that affect the TIA analysis area. Florence has been growing at a rate of about 40 homes a year. The City's 2017 Buildable Lands Inventory projects that there will be about 1024 additional building units in the City by the year 2035. A significant portion of this growth will occur in the vacant land near the PUD. All of this development will affect traffic.

On the other hand, future traffic volumes projected in the Florence Transportation System Plan (TSP) take planned future development into account. The TSP is based directly on growth potential, what size developments will be, and when they will happen.

The TIA should be revised to reflect expected background growth. In the absence of anything else, the consultants preparing the TIA should review Traffic Impact Studies of projects near-by and use growth rates that are more plausible than zero. Traffic from approved, but not yet constructed should be added.

Use of December Counts for Traffic Analysis:

Intersection counts in the TIA were taken in early December of 2019 and then seasonally adjusted to reflect peak traffic – known by traffic engineers as the 30th hour volume. In Florence, this peak volume occurs in the summer. Traffic counts taken between Thanksgiving and the first full week in January are generally inappropriate for use in TIA's unless holiday traffic itself is the subject for analysis. Traffic fluctuates from day to day differently in the holiday season than in other times of the year, so turning movements and traffic flows vary unpredictably and cannot be accurately seasonally adjusted. It would be useful for the consultants preparing the Rhododendron Drive – 35th Street TIA to compare their counts with other TIA's covering the same locations to see if adjustments to their seasonal adjustments are appropriate.

Right and Left Turn Lanes:

All right and left turns onto and off of Rhododendron Drive and 35th Street should be evaluated for the need for right and left turn lanes.

Additional Analysis May Be Needed:

Depending on the extent of changes in background or peak traffic discussed above, Signal warrant analysis may be needed.

A related, but slightly different, issue involves meeting the City's Level-of-Service (LOS) standard. Additional traffic may result in a different LOS. In the TIA technical modeling analysis, there are a number of intersection approaches that are projected to operate at LOS "D". LOS on minor-street left-turns is very sensitive to traffic volumes.

LOS “E” is the adopted standard for those approaches; however, they can exceed LOS “F” (this actually means that there is no standard) if the intersection does not warrant a signal. This means that if an approach is projected to exceed LOS “F” a signal warrant study will be required to see if it is acceptable or mitigation is required.

Closure:

Thank you for asking me to perform this review. I would be happy to answer any questions or provide additional information you may request.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'J. Hanks', is written over a light blue horizontal line.

James R, Hanks, PE

Florence Golf PUD and Subdivision Testimony List and Summary

Exhibit	Name	Address	Date Received	Comments
I	CTCLUSI	1245 Fulton Avenue, Coos Bay, 97420	6/22/2020	Does not object however, requested to be contacted immediately if any known or suspected cultural resources are encountered during the work and to be given at least 72 hours' notice prior to any ground disturbance activities, to ensure that a staff person or designated Tribal member of the CTCLUSI may be present during ground disturbing activities.
M	Century Link - Pilon, Luke	1762 W 2nd Avenue, Eugene, 97402	6/22/2020	Buried cable runs directly under proposed development. Replacement will need to be billed to property owner.
L1	Farrell, Linda	10 Seawatch Place	6/26/2020	Concerns regarding increased traffic flow, inadequate lighting on an already dangerous section of the road. Concerned about lighting from the proposed development projecting on to neighboring residences, vegetation removal, increased noise, ped traffic, and potential for criminal activity. Feels the development would be best situated in a larger, better accessed area of the City.
L2	Matisoff, Alan	30 Mariners Lane	6/28/2020	Concerns that proposal is too densely populated and for traffic safety, questions regarding traffic study, street enhancements to include turning lane, traffic signal & speed reduction, "field of view" from driveways, flood control, 2018 Stormwater Master Plan priority.
L3	Plunkett, Gary	17 Seawatch Place	6/29/2020	Feels inappropriate zoning for property, require street improvements to include turning lane, underground utilities for safety and esthetics, concern for storm water runoff as risk for adjacent property damage, and native greenbelt setback requirements on development frontage. Traffic concerns, require engineer evaluation, and traffic signal with fair share of cost of installation
L4	Williams, Steve - Seawatch HOA	18 Seawatch Place	6/29/2020	Feels not in best interest of the City, traffic/safety & water drainage design concerns that include required 5-year performance bond, speed limit reduction & turning lane, independent traffic study, and vegetation removal impacting Rhododendron Drive as a natural landmark
L5	Wilson, Tom & Karen	5 Seawatch Place	6/29/2020	Concerns regarding traffic, water management & runoff, noise, property value, and quality of life. Does not feel there are good enough paying jobs in the area to support the proposed construction and the project does not fit in.
L6	Fenstermaker, Cathy & Larry	25 Coast Guard Road	6/30/2020	Concerns regarding safety on the already dangerous road with increased traffic flow.
L7	Balston, Sondra & Dafydd	1549 N Siano Loop	7/2/2020	Concerns regarding the change of character & architectural tone of the area. Increased traffic and limited visibility issues.
L8	Florence Habitat for Humanity - Harkleroad, Mike - BOD President	P.O. Box 3302	7/3/2020	Support of the affordable housing for at or above median incomes. Lack of housing could equate to loss of living-wage workers.
L9	Sea Watch Estates BOD - Thomas, Jim	P.O. Box 741	7/4/2020	Drainage - concerns of flooding & erosion on the river bank and feel a study from outside firm should be done. Traffic - concerns regarding added congestion with no road improvements or speed reduction. Quality of Life/Safety - out of character with SFR, concerns regarding pedestrian & bicycle safety, and the potential of wandering children and dogs. Feels some of the negative impact could be avoided by eliminating the apartment structures.
L10	Thomas, Nikki		7/6/2020	Concerns regarding safety / feels traffic report provided a narrow scope of information and stressed the need for street improvements. Regarding livability and quality of life / has concerns about noise, the "walkable Community", vegetation removal. Feels that the project could be improved by reducing the number of apartment units.
L11	Walters, Janice	Mariners Village, directly north of project	7/4/2020	Concerns regarding the impact of stormwater runoff and increased traffic.
L12	Rhodes, Nancy	9 Mariners Lane	7/6/2020	Concerns regarding increased traffic and safety for pedestrians and bicyclists. Recommends installation of signal @ 35th & Rhododendron.
L13	Allen, Michael	Rhododendron Drive - Lane County	7/6/2020	Supportive but wants safety for possible Tsunami evacuations to be addressed. Would like to see Rhodo speed limit reduced.
L14	Denton, Marshall	3545 N. Rhododendron Drive	7/1/2020	Does not object however, feels that the density of the project is not cohesive to the surrounding SFR properties. He also feels there are safety hazards with the current speed limit and is concerned about increased traffic flow.

Exhibit L

From: [Linda Farrell](#)
To: [planningdepartment](#)
Subject: [Suspected SPAM] PROPOSED 80 UNIT PUD DEVELOPMENT AT RHODODENDRON AND 35TH STREETS.
Date: Friday, June 26, 2020 5:16:09 PM
Importance: Low

June 26, 2020

Gentlemen,

Having just received the written information regarding the Proposed 80 PUD Development at Rhododendron and 35th Streets, I wish to express the following:

This Development is planned at a precarious length of Rhododendron Drive. There is an already increased amount of existing traffic utilizing Rhododendron, and vehicle activity increases with summer months. Placing this Development in close proximity to the entrance of the two residences at 35th and Rhododendron, access to 3545 Rhododendron and one other residence, the Coast Guard Station Road, and the subsequent entrance to Sea Watch Estates, will make it difficult to access those already stressed areas during the day time. Lighting is inadequate at night making existing residential access even more difficult. Any additional lighting to facilitate this new Development will only reflect into Sea Watch Estates residences directly across from this proposed development.

There is a dangerous bend on Rhododendron Drive at Coast Guard Station Road which causes a 'blind spot' for drivers and cyclists, and Rhododendron Drive is not suited to support any additional motor vehicle activity. Several accidents have occurred along this stretch of Rhododendron and will occur more frequently by situating this Development and its ingress and egress almost immediately adjacent to those areas. Homes and developments all along Rhododendron Drive are recessed from the road maintaining natural foliage exposure as opposed to seeing 'big city housing' which is what this development and its frontage will bring, along with noise, additional motor vehicle activity, pedestrian traffic and potential criminal activity. This development should not be permitted at this juncture of Rhododendron drive and would be best situated in a larger, better accessed area of Florence. Please reconsider the approval of this development.

Thank you.

**Sincerely,
Mrs. Linda Farrell
10 Sea Watch Place**

Florence, Oregon

Exhibit L1

Linda

Those Who Walk With God

Always Get To Their Destination!

From: [Alan Matisoff](#)
To: [planningdepartment](#)
Cc: [Jan Walters](#); [Eva Pinkavova](#); [Nancy Rhodes](#); [Brian Holmes](#)
Subject: Resolution PC 20 07 PUD 01 & Resolution PC 20 08 SUB 01-Tentative Subdivision (SUB) Plat
Date: Sunday, June 28, 2020 1:24:23 PM

My wife and I are residents of Mariners Village HOA and have some serious concerns about the new Planned Development at 35th & Rhododendron Drive. The plan copy shows a total of 126 residences on 9.28 acres, which is quite a densely populated area. The plan does not show any changes to the current roadways (35th St. & Rhododendron Drive). I would request the following questions be answered during the meeting on July 14th.

1. Has a traffic study been completed?
2. If so, can a copy of that study be made public on the City website?
3. Will Rhododendron Drive or 35th St. be widened?
4. Will Rhododendron Drive have a center lane?
5. Will a signal be installed at the intersection of Rhododendron Drive & 35th St. or will there be North & South stop signs at that intersection?
6. Will the speed limit be reduced on Rhododendron Drive?
7. How many feet of "Field of View" will there be from either of the 2 new driveways into the proposed community?
8. What is being done for flood control in that area? (new development, Fairway Estates & Mariners Village)
9. In the 2018 Stormwater Master Plan, the Mariners Lane, Spyglass Lane & Royal St. George Drive Project was the #2 priority project behind the Coastal Highlands Development, which has been completed. Will the Mariners Lane project be moved into the #1 priority? If not, why?

Currently, the wait to turn left onto Rhododendron Drive from Westbound 35th St. is taking longer & longer. The addition of the new proposed dense community will make that wait even longer, and unsafe. The addition of 2 new community driveways in that curvy part of the road will definitely make the drive from 35th St. to Mariners Lane very unsafe for cars, bicycles and pedestrians. I would hope that the City of Florence has already had Traffic Engineers look closely at this plan and make some recommendations. I do not think this new community plan can be granted approval until all these issues have been resolved.

Sincerely,

Exhibit L2

Alan Matisoff
30 Mariners Lane
Florence, OR 97439
(714) 552-6182

From: [Gary plunkett](#)
To: [planningdepartment](#)
Subject: Regarding Resolution PC 20 07 PUD 01 Rhododendron Drive at 35th Street
Date: Monday, June 29, 2020 10:20:59 AM

Comments in response to the Proposed Development:

1. The existing Mobile - Manufactured Home zoning is inappropriate for this property. Florence already has excessive amounts of mobile - manufactured home developments. The city should consider rezoning this property for single family residential use consistent with land uses adjacent to the North and West of this parcel.

The proposal envisions 126 residential units on this 9.28 acre property. This is an outrageous density level which, if approved, would result in degraded values of existing nearby single family residences due to noise, traffic, and other nuisances associated with such densely populated residential areas. Florence is not Central Chicago, and has no need for a development of this proposed density.

2. Any development proposal for this property should be conditioned upon construction of curbs, gutters and sidewalks along both sides of Rhododendron Drive fronting the property, and the realignment of Coast Guard Road to form a single perpendicular intersection access from the property rather than the two accesses shown on the map as proposed. The intersection construction should also include left turn lanes for traffic safety. This section of Rhododendron Drive has a record of more than a normal vehicle accident rate from south bound traffic, and these improvements should help relieve this problem.

In conjunction with the street improvements, the utility lines along the property frontage should also be undergrounded to improve public safety and esthetics.

3. Development of this property will result in increased rates of storm water runoff due to addition of impervious roofs and paved areas. If this rapid runoff is allowed to be managed through infiltration methods, the potential exists for disastrous land sliding of properties to the West along the river bank. Rapid infiltration of surface runoff will provide more intense lubrication of the interface of the overlying sandy soil with the impervious underlying hard pan, which could result in land movement that would leave existing river bank homes unuseable. The risk is too great to accept, and infiltration should not be used as a storm water management technique at this location.

4. Nearly the entire length of Rhododendron Drive is bordered by a natural green belt of native vegetation. To maintain the esthetic natural effect, this green belt should be maintained to a minimum width of ten feet throughout the street frontage of the proposed development.

From: [Gary plunkett](#)
To: [planningdepartment](#)
Subject: Resolution PC 20 07 PUD 01 Rhododendron Drive at 35th Street
Date: Tuesday, June 30, 2020 2:53:49 PM

Further comments in response to the proposed development.

5. The proposed development would add significant traffic volumes on Rhododendron Drive. The need for a traffic signal at the intersection of 35th street with Rhododendron Drive should be evaluated by a traffic engineer. The development should be required to contribute a fair share of the cost of the traffic signal installation.

O. Gary Plunkett, P.E.
17 Sea Watch Place

From: [Steve WILLIAMS](#)
To: [planningdepartment](#)
Subject: Comments for 7/14 hearing
Date: Monday, June 29, 2020 9:07:21 AM
Attachments: [Hearing1.pdf](#)

Dear Planning Department,

Please see attached comments I would like to submit for the upcoming meeting concerning the proposed development on Rhododendron and 35th.

As you can imagine there is a lot of interest from our membership. We had 2 questions for you:

1. Traffic / Safety seems to be a major issue for all. Is there any more information you can give us on this or is there someone we can talk to ?
2. Rhododendron Dr. is very special to many in this city - wherever they live here. This proposed project will dramatically change this landmark feature of Florence. I would hope the city would make every effort to let the city know. Are there any other notification plans for notification other than the local neighborhood notice mailings?

Thanks

Sincerely, Steve Williams Sea Watch HOA

Exhibit L4

6/29/2020

From Steve Williams - 18 Seawatch and Member for Seawatch HOA

Dear City of Florence.

I am writing of my concerns about the proposed project on the corner of 35th street and Rhododendron Dr. - proposed by the Mercedes Serra - 3J Consulting, on behalf of APIC Holdings.

I do not think this proposal as presented is in the best interest of the City of Florence. It also lacks critical information for us to review. I personally have three issues:

1. Traffic

We at Seawatch Estates have gone to the City several times with concerns on traffic issues for Rhododendron Dr. at Coast Guard Road. There have been accidents here, and property damage that has occurred. More importantly, it is a safety concern. We have asked for a traffic study to validate reducing the speed limit. I believe our support of a turn lane has also been suggested. To my knowledge, this has been ignored to date. With 126 new residences - that could mean another 200 plus cars concentrated in the immediate area that already has known issues.

So is the City considering this many residences without a traffic study/plan ? A study should be done, and a road plan should be available for us to review to see if it is reasonable for this many new residences.

The plan should not only include extending the road into the development area to allow a third turn lane - but also include an easement to allow the bike lane to continue. Not doing this before any consideration of proposal is a safety risk to those of us who live here.

Also, we request the traffic study be conducted by independent parties, not associated with parties profiting from the project. This has been an issue in the past.

2. Water Drainage.

The proposed development is 9.28 acres. At 9.28 acres, and 6.5 feet of rain a year - we're talking about 2.6 million cubic feet of water that lands on that property that has to be managed correctly. Now the project is removing about 90% of the vegetation that absorbs much of that water. So where does the water go? Is it to a storm drain system with adequate capacity, or is the plan to return it to the ground (like Fairway Estates) where it will cause imminent blowouts of our sand slope.

In the past, The City has not done this water management correctly and has caused property damage here - I believe twice, once on Coast Guard Road (drainage pipe capacity issue), and the other related to Sand Pines (around 1998 - ground water issue). It seems odd too that the Coast Guard Station has been doing alot of stabilization projects since the Fairway Estates drainage system was put in right across the street.

Shortcuts to maximize the project's profit or to create maximum tax revenue for the City, at the expense of our homes, would not be right.

My suggestion to the City is that they consider they may get this wrong, as they have before (it is their responsibility to protect our existing homes). I suggest the City require a 5 year performance bond of the development in the amount of 3.5 million to cover any remediations, payoffs of property damage, or corrective infrastructure to address any unforeseen issues on the drainage design of this development.

3. Green Belt

Rhododendron Drive is one of the most beautiful streets in Florence. The picture on the proposal shows a lawn and very few trees with multi story buildings in full view. Why not maintain a natural greenbelt or make it more like Fairway Estates?

Personally - this would look like the "strip mined" section of Rhody Drive. I think others would agree - still remembering the many who were against any vegetation removal for the bike path.

I hope you will consider these suggestions.

I can be contacted for any further info or discussion at:

Steve Williams
18 Sea Watch Place
541-902-7840

Stevek.will@yahoo.com

From: [Steve Williams](#)
To: [Wendy Farley-Campbell](#)
Cc: [Mike Miller](#)
Subject: Info Notes for hearing
Date: Sunday, July 5, 2020 11:51:08 AM
Attachments: [Hearing1.pdf](#)

Re: Resolution PC 20 07 PUD 01 Rhododendron drive

Dear Ms. Wendy Farley-Campbell (cc Mr. Miller)

I thank you for Giving us the requested information on Friday.

I had a few notes I'd like to add to what I have submitted from Seawatch Lot 18 (attached).

1. The Storm Water Management Plan

The plan proposes infiltration on site. It only addresses overflow surface runoff. There is no mention or consideration of the underground water flow. This is a known issue which has put homes here in peril multiple times. It is known and well documented. Our Coast Guard neighbors also tell us they have experienced difficulties from the Fairway Estates project using a similar infiltration system.

We have a lot of material that we'd be happy to share with Mr. Miller's department. At the very least, We'd like to have some coordination with the City to monitor changes the proposed development may have on us from increase underground head pressure going through our community, and a joint mitigation approach. Would the City be open to this?

2. The Traffic Study

Table 1 indicates that the intersection of Rhododendron Dr and Coast Guard road was excluded - including any accident data over the past 5 years (I know of at least 2)

Looking at the AASHTO guidelines for sight distance, I paced North on Rhododendron from our intersection for sight distance - I believe it's about 330 ft - not recommended for a 40 mph. Our existing problem may not be directly related to the development, but can you understand our concern about adding traffic to a area already problematic.

Perhaps this could be addressed as a separate issue for speed reduction?

Please let me know.

Thanks - Sincerely, Steve Williams - Seawatch Lot 18

My wife and I are very concerned about 3J Consulting's intent to build a planned community of 136 units off Rhododendron, north between 35th Street and Fairway Estates. These units would consist of single family homes, triplexes, duplexes and two or three story apartment buildings. We think that this is a very bad idea at this location. The following are concerns we have regarding this project.

Traffic on Rhododendron is already bad and 35th Street is the only access to highway 101 for several miles in either direction. This requires everyone living north or south of 35th Street to pass by this area to get to highway 101. Keeping in mind that Fairway Estates will be adding 80 new homes and now 136 homes from this new project. Traffic would increase considerably on Rhododendron and 35th Street. This area is currently plagued by traffic accidents, due mainly to the amount of traffic, speed and the lack of a turning lane onto Coast Guard Road. Please keep in mind that more than fifty families live and work at the Coast Guard Station and Sea Watch Estates. These families come and go on a daily basis with no turning lane into that area.

There is a problem with water management and runoff in this area. All ground water here impacts the river bank and causes erosion. Adding additional hardscape would increase runoff and possibly impact an already fragile situation for the river bank. Our understanding is that the Coast Guard Station recently spent approximately twelve million dollars rebuilding and improving their riverbank partially because of water runoff from Fairway Estates. What will water runoff from this proposed project do to the Coast Guard Station and Sea Watch Estates?

These new units are being built with a, build them and they will come, philosophy. It seems to us that there aren't enough good paying jobs in this area to support the amount of construction planned. These aren't the type of homes that people who are retiring and moving to this area will buy. These homes are more in line with young working age people and unfortunately there aren't jobs for these people that would provide income adequate to afford these homes. They also could be used as vacation rental property which would take business away from our existing motels and hotels possibly causing these businesses to fail. We don't think Florence needs more failed businesses adding to the blight already here.

Our suggestion would be to build single family housing similar to Fairway

Estates or maybe a transitional senior retirement community. This would result in older retired people moving from existing housing throughout Florence into the new community. The housing they vacate would be less expensive and would be available for younger families moving into Florence.

Personally my wife and I are concerned about traffic, noise, property values and quality of life. To us the current project does not fit into the area. This proposed project is surrounded on three sides by upscale single family homes.

Many are in gated communities and are occupied by retirees. We hope you will consider the information we have provided and make the right decision for Florence and its citizens.

Tom and Karen Wilson
5 Sea Watch Place
Florence Oregon
541-997-3909
wilsonk@q.com

From: [Larry and Cathy Fenstermaker](#)
To: [planningdepartment](#)
Subject: Planned development at 35th & Rhododendron
Date: Tuesday, June 30, 2020 10:31:53 AM

To whom it may concern, we are residents of Sea Watch Estates, which is directly across the street from the new planned development. We oppose this plan due to increased traffic concerns. There is a sharp curve in front of the proposed entrance that seems it would be dangerous for cars exiting onto Rhododendron from the new homes. There have been several accidents involving drivers missing the curve & hitting trees, especially during any period of ice on the pavement. There is & will be more traffic just from the new homes being built in Fairway Estates without adding this new subdivision. Please do not consider approving this new subdivision.

Thank you for your consideration,
Cathy & Larry Fenstermaker
25 Coast Guard Rd.
Florence

Exhibit L6

From: asklitz@aol.com
To: [planningdepartment](#)
Subject: Public Hearing Letter Resolution PC 20 07 PUD 01-Preliminary Planned Unit Development (PUD), & Resolution PC 20 08 SUB 01-Tentative Subdivision(SUB) plat
Date: Thursday, July 02, 2020 10:37:35 PM

July 2, 2020

Dear Planning Commission:

A few days ago we received the letter regarding Resolution PC 20 07 PUD 01-Preliminary Planned Unit Development (PUD), & Resolution PC 20 08 SUB 01-Tentative Subdivision(SUB) plat. We live on N. Siano Loop in the Siuslaw Village subdivision. We are very concerned about this proposed development. We have looked at the proposal and oppose changing the character and architectural tone of our neighborhood by allowing high-density multifamily units. Here are our objections:

- <!--[if !supportLists]-->1) <!--[endif]-->Our neighborhood consists of custom homes and manufactured homes on large lots zoned RMH. No multi-family units are allowed(see Residential Districts 10-10-2) The character and original plan for this neighborhood would be drastically changed if on just 9.28 acres 126 units are built! (45 multifamily, 31 single family detached, and 49 single family attached units) The 31 detached single family homes would be in keeping with the character of the neighborhood and we are not opposed if they are on 50x80 foot lots as required in the current zoning regulations(see Title 10-10-4 Residential District Lot and Yard Provisions) In the RMH residential district attached single family units are permitted only with site review.
- <!--[if !supportLists]-->2) <!--[endif]-->Even if zoning were changed to allow multifamily units, it does not look like there is room for 30 feet between each building when side by side required by Chapter 10 Residential Districts Density Page 12 unless they decrease the number.
- <!--[if !supportLists]-->3) <!--[endif]-->TRAFFIC: We read the Traffic Impact Study and were shocked by the amount of traffic the PUD will add to an already congested intersection at Rhododendron and 35th. It is the only way to get to Hwy 101 for miles. A city plan to put New Hope St. through to Kingwood never being completed. Their study estimates up to 1200 vehicles more per day and state this would cause no safety hazard and no mitigation measures are necessary. This seems totally unrealistic to someone who uses the intersection every day and is familiar with the low visibility around the northern curve of Rhododendron with the high speed of 40 mph+. Cars come fast around that curve and even now you put your life at risk trying to turn left. If this is approved and the traffic increased by 1200 per day we would need a lower speed limit, a traffic light, or a multi-way stop for safety's sake. Building multi-story apartments right on that NE corner will further limit visibility especially if there is a fence or shrubs. Visibility on that corner must be taken into consideration and addressed realistically.

We understand the need for more high-density housing in Florence, but oppose it in this semi-rural single-family neighborhood. Plans appear to build multi-story buildings right up to the corner limiting visibility and adding vast amounts of daily traffic. Please consider the negative impact this would have on the hundreds of folks living in this area in your decision as it will change the character, architectural tone, ambiance, and density of it forever. Hopefully we can come to some sort of compromise that is agreeable to the residents and the builders. Thank you.

Exhibit L7

Sincerely,

Sondra and Dafydd Balston, 1549 N. Siano Loop, Florence, OR 97439 (copy mailed also)



To: City of Florence Leadership

Re: Rhododendron

At the June meeting of the Florence Habitat for Humanity Board of Directors, our board was made aware of the proposed housing development at 35th and Rhododendron.

As president of the Florence Habitat for Humanity affiliate, I am keenly aware of the challenges current market conditions present for working families. The market is, and has been for some time, beyond the reach of far too many families in our community. Prior to the COVID-19 pandemic, the local economy supported a number of new housing developments. However, very few have served to increase the availability of affordable homes for households at or slightly above the median income level.

My role as a school administrator also affords me a unique perspective on the local housing market. In a typical year, I hire three to five new professionals to join our staff. Each year, securing housing is a significant hurdle. On more than one occasion, our school, and our community, have lost potential living-wage workers due to the lack of housing options.

Due to the high "livability" of our community, Florence has a robust market for homes at the upper end of the affordability scale. We also benefit from multiple subsidized housing developments. What is missing is an opportunity for those entering the middle class to gain a foothold on the American dream by securing a home in which to live while pursuing greater fortunes.

This development has the full support of our Board of Directors and we encourage City of Florence leadership to pursue this venture with vigor and expedience. If Habitat can be of any support, please let us know. We are eager to support projects and policies that increase the availability of affordable housing in our community.

Sincerely,

Mike Harklerode

President, Florence Habitat for Humanity Board of Directors

SEA WATCH ESTATES HOMEOWNERS ASSOCIATION

City of Florence
250 Hwy 101
Florence, Or 97439

July 2, 2020

Florence Planning Commission

The Sea Watch Estates Board of Directors, on behalf of the members of the association, wishes to go on record as opposing Resolution PC 20 07 PUD 01- Preliminary Planned Unit Development/ Resolution PC 20 08 Sub 01- Tentative Subdivision Plat as presented to the Planning Commission.

We have three areas of concern that will directly impact Sea Watch Estates, a subdivision of 27 lots, 25 of which contain single family homes, situated west of the proposed development and bounded by Rhododendron Drive and the Siuslaw River.

Drainage

The City of Florence and the Planning Commission are well aware of the existing drainage issues in this area. Flooding in the mid 1990s led to an extensive study explaining the extreme problems associated with runoff from impervious surfaces in high density developments such as the one proposed by 3J Consulting and Mercedes Serra. The Siuslaw River bank is vulnerable to erosion caused by the concentration of excess runoff. Before any permits are issued the City needs to complete a thorough engineering study by an outside firm not connected to the City, the consulting company, or any investors in the proposed development. The study should determine that drainage from this development not cause undue harm to the Siuslaw River bank or the existing homes in Sea Watch Estates.

Traffic

That traffic will be a problem when this development is completed without extensive road improvements is an understatement. As proposed this development will add 252 cars from 126 families plus delivery vehicles and visitors to what is already becoming a dangerous situation on Rhododendron drive and 35th street. Multiple accidents have occurred near the intersection of Coast Guard Road and Rhododendron Drive due to excess speed. With the completion of Phase 1 and Phase 2 of Fairway Estates another 160+ cars will contribute to congestion and safety issues. The City should consider reducing the speed limit to 30 mph from 35th street to Shelter Cove, adding a continuous turn lane, side walks, and bike lane from 35th Street to Fairway Estates, complete the reconfiguring of the intersection of Coast Guard Road and Rhododendron Drive as previously designed, and create a 3 way stop at the intersection of 35th Street and Rhododendron Drive.

Exhibit L9

Quality of Life/Safety

The proposed high density development seems out of character with the existing single family homes in the immediate area. This could be described as a semi-rural part of the City of Florence. Although within the City limits, proximity to commercial and city services is limited. With additional traffic on 35th Street and Rhododendron Drive it will be dangerous to walk or ride bikes to connect with highway 101 or Old Town. Although the developers propose providing playgrounds, hiking trails, picnic areas, and a dog park the preliminary design clearly shows limited open space especially when open drainage areas are added. Since this development is designed to attract families, wandering children and dogs could become a problem for nearby homes mostly occupied by retired seniors. The consulting firm should recommend the elimination of the apartment structures and focus on single family attached and detached residences.

With design revisions made and infrastructure built to reduce the negative impact on the surrounding community this development could become a model for small cities such as Florence. Without the necessary changes problems that could have been avoided will likely become headaches in the future.

Sincerely

Sea Watch Estates BOD

Jim Thomas, President
Tom Wilson, Vice President
Cathy Dupont, Secretary
Allen Brooks, Treasurer
Steve Williams, Member at Large

Contact address is PO Box 741 Florence, Or 97439

July 6, 2020

To: Florence Planning Commission

From: Nikki Thomas

Re: RESOLUTION PC 20 07 PUD-Preliminary Planned Unit Development (PUD), & Resolution PC 20 08 SUB 01 – Tentative Subdivision (SUB) Plat.

While a City must balance competing interests such as the need for affordable housing for working families and generating revenue, as well as considering the safety of it's citizens and maintaining if not improving the quality of life for said citizens, I am afraid the above project, as submitted, cannot strike such a balance.

I have two primary concerns regarding the proposed development: Safety. Livability.

Regarding Safety:

To accommodate 126 living units, the architect of this proposed PUD plans to include three story apartment buildings adjacent to Rhododendron Drive and 35th Street. It is likely that families with children will be renting those apartments, and perhaps many of the other units. With only a small playground and "bike trail" provided by the developer for play, narrower than usual streets that include on-street parking, variances that will need to be granted to existing codes, as well as no existing or proposed gutters and sidewalks on Rhododendron to connect the development to the rest of the city, the idea of a **safe** "walkable community" remains just that, an idea, not realized by this project.

Exhibit L10

It is my understanding that a traffic mitigation report regarding this project was submitted to the City of Florence in February 2020. The narrow scope of the report, i.e.

gathering of information regarding accidents that; 1. occur at intersections; 2. are reported to ODOT, ignores a dangerous section of Rhododendron Drive, adjacent to the proposed PUD where numerous accidents have occurred due to excessive speed.

The impact of an additional 1000 or more vehicles daily on Rhododendron, and 35th St., so close to Siano Loop and Coast Guard Road **will** impact safety, no matter the machinations of a fast-tracked report.

Livability

In spite of my ever-present wish for a more walkable community, I love Florence, however more vehicles a day along this section of road will make it more difficult for pedestrians to safely cross Rhododendron, create more noise, and make the area **less** walkable.

While few communities are without their flaws or blighted areas, the natural vegetation along Rhododendron Drive and in many developments provides a lovely visual barrier to those flaws.

Please do not allow more natural vegetation to be removed from along Rhododendron Drive.

I believe use of a PUD **could** be in keeping with the City's Goals if the City enhances its own infrastructure (turning lane from 35th to Fairway Estates, paved bike trail as well as curbed road and sidewalks that connect the proposed development to the larger community, a bus stop at the development, etc.) **prior** to onset of the project or require the developer to do so.

A PUD could also be in keeping with the City's goals if the number of apartment units is reduced from 46 to 26, allowing for more parking and play space (greater quality of life for those children) as well as contributing ever so slightly to less of a traffic problem.

In conclusion, while it has become "business as usual" for the City to allow developers to remove all vegetation and grant set-back variances, make changes to their submitted plans, or just not follow through with such, only mitigated by a fine or fee; each time the City does so it compromises its own goal of "Sustaining and Improving the City's livability and quality of life." In a series of a thousand little cuts, quality of life, rather than being enhanced is diminished.

As you make your decision to approve the developer's proposal as submitted or with changes please keep in mind the following statements quoted from Florence City Code and City Goals. Goal number Two of the City of Florence Work Plan is: "Sustaining and Improving the City's livability and quality of life."

Florence City Code Title 10 Sec 1 states the zoning regulations exist "...to promote public **health, safety and welfare...**" "To provide for desirable, appropriately located living areas...with adequate provision for sunlight, fresh air, and usable open space." "To promote **safe, fast, and efficient** movement of people and goods **without sacrifice to the quality of Florence's environment**, and to provide **adequate off-street parking.**", and to" **...preserve the natural beauty of Florence's setting.**"

Nikki Thomas

From: [Janice C. Walters](#)
To: [planningdepartment](#)
Subject: proposed development
Date: Saturday, July 04, 2020 12:01:14 PM

I was recently notified that the planning commission was going to be looking at the tentative subdivision termed Resolution PC 20 07 and 08 PUD 01. I will be logging into the live session on July 14, 2020. I live in Mariners Village, just north of the proposed development. I have great concerns about the fact that we are not yet hooked into any system for stormwater runoff and this development could greatly impact that issue in our neighborhood. Also the increase in traffic in this area of 35th St. and Rhododendren is also of great concern. I hope that the commissioners will address these issues. I know that a great number of our community are going to be logging in to hear how the planning department is taking into consideration the neighboring communities.

Janice Walters

Exhibit L11

From: [Nancy Rhodes](#)
To: [planningdepartment](#)
Subject: PC 20 07 PUD 01 & Resolution PC 20 08 SUB 01-Tentative Subdivision (SUB) Plat
Date: Monday, July 06, 2020 5:06:35 PM

To whom it may concern,
I live in Mariner's Village and have recently heard about the above referenced subdivision plan. As an active adult I'm very concerned about the increase of traffic on Rhododendron once the development is completed. I run and bicycle on that windy road and, as you know, there is very little space to do so safely until you get to Wild Winds. The situation is critically unsafe now, but will worsen substantially after 100+ dwellings are added.

If approval is given for this development, I believe that a signal should be installed at the intersection of Rhododendron Drive and 35th.

I also hope that the city gives serious study and consideration to the risks for cyclists, walkers and runners along Rhododendron. Besides the planned sidewalks which are proposed only for the subdivision, consideration should be given to the people of nearby communities. The ideal would be a bike path but I understand the near-complete unlikelihood of that ever happening. At the very least, the city should widen Rhododendron to provide a minimum of 4-ft beyond the exterior solid white line.

Thank you.
Nancy Rhodes
9 Mariners Ln.

Exhibit L12

Florence
415-497-4083



Virus-free. www.avg.com

From: [Michael Allen](#)
To: [planningdepartment](#)
Subject: Resolution PC 20 07 PUD 01 & Resolution PC 20 08 SUB 01 - Tentative Subdivision Plat
Date: Monday, July 06, 2020 3:18:23 PM

To Whom It May Concern:

I live off Rhododendron Drive just outside the city limits. My comment regarding the above development is that if we have a tsunami, people who live off Rhododendron have limited egress (35th St. and Heceta Beach Rd.) to escape. I am not opposed to much needed moderately priced housing, but I think this issue needs to be seriously considered and addressed before proceeding.

Also, I hope that the increased traffic on Rhododendron necessitates lowering the speed limit on Rhododendron "Speedway".

Pat Allen
87490 Rhodowood Drive
Florence, OR
505-401-7762

Exhibit L13



June 29, 2020

Florence Planning Commission
Florence City Hall
250 Highway 101
Florence, OR. 97439

RE: NE Intersection 35th St & Rhododendron Drive

My property at 3545 N. Rhododendron Drive is adjacent to your proposed project above. As I am sure you are aware that the current speed limit on Rhododendron Drive at your proposed site is 40 MPH which currently makes it a safety hazard for me and others in this area to enter Rhododendron Drive in a safe manner. The project being considered will add greatly to the current traffic flow as you well know. I do not object to the development of the project but do want to raise concerns about the average of 13.57 units per acre which is proposed. This proposed density is not cohesive with the current single family residences which are closer to an average of 4.5 units per acre.

My suggestion would be to have the owners file a revised application to reflect a development similar to the connecting development (Fairway Estates) which would be a lot more conducive and blend with the current neighborhood.

It would surprise me if my concerns or recommendations will be entertained as I am sure minds have already been made up and the public hearings are a futile exercise required by the city in order to proceed. But I am sending this in spite of that so I can feel that at least my voice was heard.

Please feel free to contact me if you have any questions about this letter.

Thank You

A handwritten signature in blue ink, appearing to read "Marshall Denton".

Marshall Denton
Ph # 916-521-8757
Em: mmdenton2014@gmail.com

Exhibit L14

From: Pilon, Luke <Luke.Pilon@centurylink.com>

Sent: Monday, June 22, 2020 2:49 PM

To: Wendy Farley-Campbell <wendy.farleycampbell@ci.florence.or.us>

Subject: RE: PC 20 08 SUB 01– 35th & Rhododendron Dr. Florence Golf Plat & PUD

Hi Wendy,

CTL shows a buried cable running directly under the proposed area of development. The relocation of this line and any other conflicts would need to be billed to the owner of the development for an alternate route prior to construction.

You can use me as a point of contact if that needs to get started.

Thank you!

(See attachment!)

Luke Pilon

ENGINEER II

CenturyLink

1762 W. 2nd Ave. Eugene, OR 97402

| Eugene | Springfield | Blue River | Florence | Mapleton | Veneta |

| Oakridge | Lowell | Jasper | Marcola | Roseburg | Winston |

| Sutherlin | Junction City | Harrisburg | Culp Creek | Cottage Grove |

Voice: 541-484-7827 | 716-238-6610

Email: Luke.Pilon@CenturyLink.com

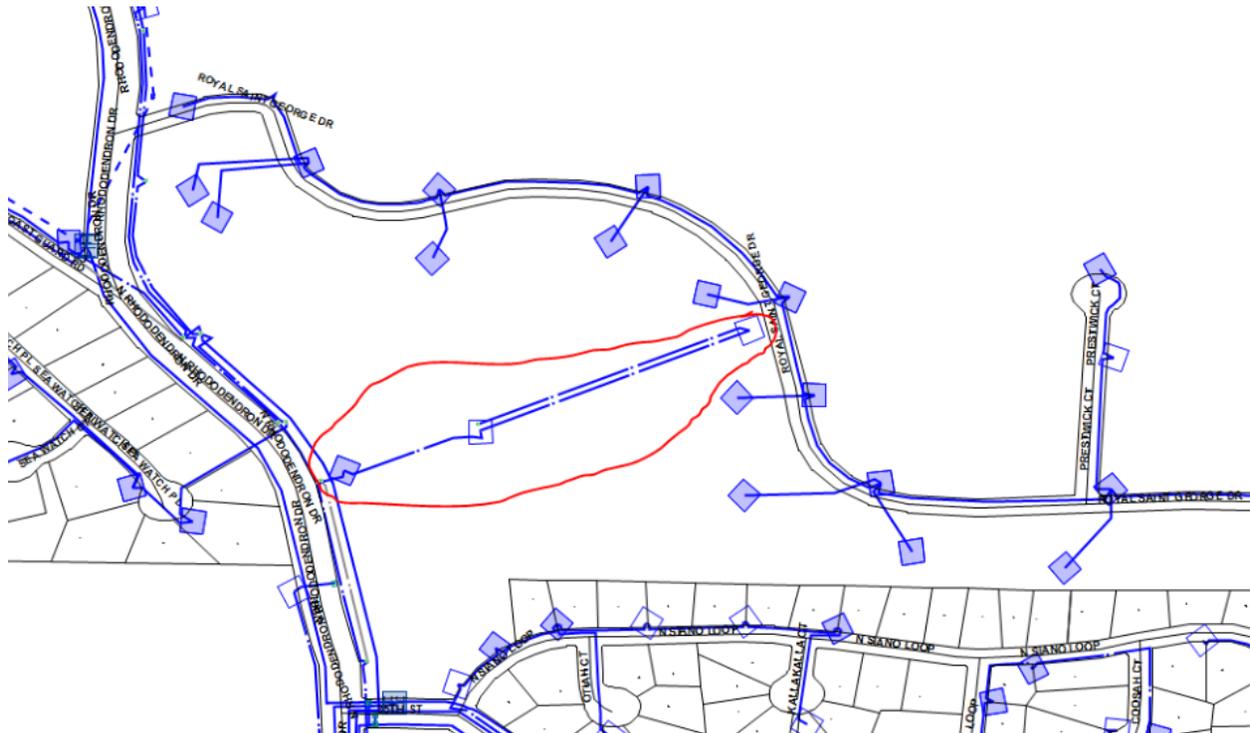
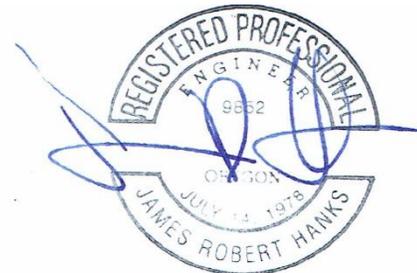


Exhibit M

July 7, 2020



RENEWAL DATE 6/30/21

Wendy FarleyCampbell
Planning Director, City of Florence
250 Highway 101
Florence, Oregon 97439

Subject: Review of Rhododendron Drive – 35th Street PUD Traffic Impact Analysis Report

Dear Ms. FarleyCampbell:

At your request, I have completed a review of the Traffic Impact Analysis (TIA) for the for the Rhododendron Drive – 35 Street Planned Unit Development (PUD). I recommend that further analysis be completed, as described below, to assure that the TIA accurately describes the impacts of the development.

Estimation of Future Background Traffic:

Background Traffic in the TIA is based on an ODOT projection that, between now and the year 2035, there will be virtually no traffic growth on Highway 101 near the 35th Street intersection. In discussions with ODOT Staff, they stated that their projections are not indicative of traffic on nearby local streets.

The ODOT traffic projections used in the TIA are not intended to project for traffic growth on other facilities. They do not use land-use growth but rather rely on historic traffic trends. In newly developing areas, such as north Florence, historical data does not apply. In these newly developing areas, a no growth history is not an indicator of future growth. Even zero traffic growth on Highway 101 does not seem to be credible. There are projects under construction or approved that would increase traffic on Highway 101 beyond their projection for 2035.

Roads do not generate traffic. Development does. The model used for the ODOT projections do include growth or development input. The City has a number of approved

James R Hanks PE -- 3672 RIVERPOINTE DR EUGENE, OR 97408
541 953-65474

Exhibit N

projects that affect the TIA analysis area. Florence has been growing at a rate of about 40 homes a year. The City's 2017 Buildable Lands Inventory projects that there will be about 1024 additional building units in the City by the year 2035. A significant portion of this growth will occur in the vacant land near the PUD. All of this development will affect traffic.

On the other hand, future traffic volumes projected in the Florence Transportation System Plan (TSP) take planned future development into account. The TSP is based directly on growth potential, what size developments will be, and when they will happen.

The TIA should be revised to reflect expected background growth. In the absence of anything else, the consultants preparing the TIA should review Traffic Impact Studies of projects near-by and use growth rates that are more plausible than zero. Traffic from approved, but not yet constructed should be added.

Use of December Counts for Traffic Analysis:

Intersection counts in the TIA were taken in early December of 2019 and then seasonally adjusted to reflect peak traffic – known by traffic engineers as the 30th hour volume. In Florence, this peak volume occurs in the summer. Traffic counts taken between Thanksgiving and the first full week in January are generally inappropriate for use in TIA's unless holiday traffic itself is the subject for analysis. Traffic fluctuates from day to day differently in the holiday season than in other times of the year, so turning movements and traffic flows vary unpredictably and cannot be accurately seasonally adjusted. It would be useful for the consultants preparing the Rhododendron Drive – 35th Street TIA to compare their counts with other TIA's covering the same locations to see if adjustments to their seasonal adjustments are appropriate.

Right and Left Turn Lanes:

All right and left turns onto and off of Rhododendron Drive and 35th Street should be evaluated for the need for right and left turn lanes.

Additional Analysis May Be Needed:

Depending on the extent of changes in background or peak traffic discussed above, Signal warrant analysis may be needed.

A related, but slightly different, issue involves meeting the City's Level-of-Service (LOS) standard. Additional traffic may result in a different LOS. In the TIA technical modeling analysis, there are a number of intersection approaches that are projected to operate at LOS "D". LOS on minor-street left-turns is very sensitive to traffic volumes.

LOS “E” is the adopted standard for those approaches; however, they can exceed LOS “F” (this actually means that there is no standard) if the intersection does not warrant a signal. This means that if an approach is projected to exceed LOS “F” a signal warrant study will be required to see if it is acceptable or mitigation is required.

Closure:

Thank you for asking me to perform this review. I would be happy to answer any questions or provide additional information you may request.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'J. Hanks', is written over a light blue horizontal line.

James R, Hanks, PE