#### CITY OF FLORENCE PLANNING COMMISSION

#### RESOLUTION PC 19 22 PUD 03 RESOLUTION PC 19 23 SUB 04 RESOLUTION PC 19 25 CUP 08

A REQUEST FOR PRELIMINARY PLANNED UNIT DEVELOPMENT PLAN, TENTATIVE SUBDIVISION PLAT, AND CONDITIONAL USE PERMIT FOR A PROPOSED DEVELOPMENT OF 12 AFFORDABLE, SINGLE-FAMILY, DETACHED DWELLINGS, ON THE CORNER OF 15<sup>TH</sup> AND NOPAL STREET.

WHEREAS, application was made by Willamette Neighborhood Housing Services, Owner, for approval of a Preliminary PUD Plan, Tentative Subdivision Plan, and Conditional Use Permit for DevNW Airport Road, as required by FCC 10-1-1-4, FCC 10-1-1-6-3, FCC 10-23, FCC 10-4, and FCC 11-3; and

**WHEREAS,** the Planning Commission met in a duly-advertised public hearing on November 26, 2019, as outlined in Florence City Code 10-1-1-6-3, to consider the application, evidence in the record, and testimony received; and

**WHEREAS,** the Planning Commission of the City of Florence, per FCC 10-1-1-4, FCC 10-1-1-6-3, FCC 10-23, FCC 10-4, and FCC 11-3, finds, based on the Findings of Fact, application, staff recommendation, evidence and testimony presented to them, that the application meets the applicable criteria through compliance with certain Conditions of Approval.

**NOW THEREFORE BE IT RESOLVED** that the Planning Commission of the City of Florence finds, based on the Findings of Fact and the evidence in record that:

The request for a Preliminary PUD Plan, Tentative Subdivision Plan, and Conditional Use Permit for 12 affordable, single family detached dwellings on the corner of 15<sup>th</sup> and Nopal Streets meets the applicable criteria in Florence City Code and the Florence Realization 2020 Comprehensive Plan with the conditions of approval as listed below.

#### **Conditions of Approval:**

The application, as presented, meets or can meet applicable City codes and requirements, provided that the following conditions of approval are met.

"A"	Findings of Fact
"B"	Prelim. PUD and Tent. Subdivision Plan Application
"C"	Conditional Use Permit Application
"D"	Site Plan
"E"	Tentative Subdivision Plat
"F"	Utility & Stormwater Plan
"G"	Survey
"H"	Landscape Plan

Approval shall be shown on conditions of approval as supported by the following record:

DevNW Airport Road Preliminary PUD, Tent. Subdivision, & Conditional Use Permit11/19/2019PC 19 22 PUD 03, 19 23 SUB 04, 19 25 CUP 081 / 5

"["	Elevations for Lot 1
"J"	Elevations for Lots 2, 3, 5, 6, 8, 9
"K"	Elevations for Lots 4, 10
"L"	Elevations for Lots 7, 12
"M"	Stormwater Report
"N"	Phase 1 Site Investigation Report
"O"	Florence Stormwater Management Plan Map
"P"	Applicant's Written Statement
"Q"	Applicant's Completeness Review Response
"R"	Testimony: Chuck Trent, Boys & Girls Club
"S"	Referral 1: Public Works
"T"	Referral 2: Public Works

Findings of Fact attached as Exhibit "A" are incorporated by reference and adopted in support of this decision.

- 1. Any modifications to the approved plans or changes of use, except those changes relating to Building Codes, will require approval by the Community Development Director or Planning Commission/Design Review Board.
- 2. Regardless of the content of material presented, including application text and exhibits, staff reports, testimony and/or discussions, the applicant agrees to comply with all regulations and requirements of the Florence City Code which are current on this date, EXCEPT where variance or deviation from such regulations and requirements has been specifically approved by formal Planning Commission action as documented by the records of this decision and/or the associated Conditions of Approval. The applicant shall submit to the Community Development Department a signed "Agreement of Acceptance" of all conditions of approval prior to issuance of a building permit.
- **3.** Upon encountering any cultural or historic resources during construction, the applicant shall immediately contact the State Historic Preservation Office and the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians. Construction shall cease immediately and shall not continue until permitted by either a SHPO or CTCLUSI representative.

# Title 10, Chapter 4, Conditional Uses

4. The applicant shall be required to construct a fence spanning from the northwestern corner of Lot 1, along the 15<sup>th</sup> Street frontage, ending at the northeastern corner of Lot 5. The proposed design of the fence shall meet the requirements of 10-34-5, the details of which shall be included on the site plan or another document submitted to the Florence Planning Department prior to approval of the final PUD.

#### Title 10, Chapter 7, Special Development Standards

5. The applicant shall be required to submit a Phase 2 Site Evaluation Report, a geotechnical report, and a detailed bank stabilization plan prior to receiving any relevant building permit.

### Title 10, Chapter 13, Multi-Family Residential District

- 6. The applicant shall be required to submit a revised site plan and tentative plat prior to a decision regarding the final PUD and plat.
- 7. The minimum vision clearance at the proposed driveway entrances shall be 10 feet.
- **8.** There are currently no parking signs proposed along the 15<sup>th</sup> Street frontage. Should a parking lane be installed along 15<sup>th</sup> Street, the applicant shall remove those signs.

### Title 10, Chapter 23, Planned Unit Developments

- **9.** The applicant shall be required to submit a copy of the Covenants, Conditions and Restrictions for the development prior to the issuance of any relevant building permits. The developer shall be responsible for the maintenance of the common space areas.
- **10.** The applicant shall submit a development schedule consisting of a through e, above, prior to the approval of the final PUD and subdivision plat.
- **11.** By November 26, 2020, the applicant shall file with the Planning Commission a final development plan containing in final form the information required in the preliminary plan, or a request for extension.

#### Title 10, Chapter 34, Landscaping

- **12.** The applicant shall update their landscaping plan to include the species, sizes and locations throughout the development, including in the proposed rain gardens and parking areas.
- **13.** Specifications for soil at time of planting, irrigation and anticipated planting schedule shall be furnished by the applicant prior to any site disturbance, final PUD, final plat, and/or with each associated building permit.
- **14.** An irrigation plan is required prior to final PUD approval.
- **15.** The landscaping plan shall detail the location and species of each of the three trees required throughout the parking lot: 1 at the 15<sup>th</sup> Street entrance, 1 near the trash enclosure, and 1 along the Nopal entrance.

#### Title 10, Chapter 35, Access and Circulation

- **16.** The applicant shall be required to obtain a "Construction Permit in Right-of-Way prior to their construction of their access to and improvements of 15<sup>th</sup> Street.
- **17.** The applicant shall include an easement for joint use of the proposed driveway and parking lot on the Tentative Subdivision Plat.
- **18.** Driveway approaches shall receive a Right of Way Excavation Work Permit prior to construction.

DevNW Airport Road Preliminary PUD, Tent. Subdivision, & Conditional Use Permit11/19/2019PC 19 22 PUD 03, 19 23 SUB 04, 19 25 CUP 083 / 5

- **19.** The applicant shall widen the proposed driveway to 23 feet in areas adjoining parking stalls.
- **20.** The applicant shall obtain a Right of Way Excavation Work Permit prior to sidewalk construction.

### Title 10, Chapter 36, Public Facilities

- **21.** If requested by Fire Marshal, applicant shall add an emergency access easement along the driveway to the plat, prior to the approval of the final plat.
- **22.** Should a parking lane be installed along 15<sup>th</sup> Street, the applicant shall update the site plan and signage plan accordingly.
- **23.** The applicant shall submit a plan for mail boxes, approved by the United States Postal Service, prior to the issuance of any building permits for residential structures.
- 24. The sanitary sewer manhole located within the 15 foot public sewer easement needs to be accessible in order for the City to maintain and service the system. The City will need to be able to drive to and set up its combination sewer cleaner over the manhole as well as ability to set up the TVI equipment. The applicant shall relocate the manhole approximately 30 additional feet to the west.
- **25.** The applicant shall increase the width of the proposed public sewer easement from 15 to 20 feet, and center the public sanitary sewer line in the easement.
- **26.** There appears to be an irrigation water meter located in a concrete pad location north west of Lot 12 (just outside of the parking area).
- **27.** The applicant shall relocate the irrigation water meter to the east of the bicycle parking area.
- **28.** The water meter shall be located in a landscaped area, not in hardscape areas.
- **29.** On Nopal Street towards the existing fire turn around (the future street stub that the proposed development will be utilizing) there is an existing water service. The applicant shall verify the location of the water service, and utilize it for one of the proposed homes if possible.
- **30.** On 15<sup>th</sup> Street, there are two existing water services. If they cannot be utilized for the project, the applicant shall properly abandon them.
- **31.** The proposed connection to the existing water main on 15<sup>th</sup> Street, to loop the water system, shall be a cut-in connection complete with three water valves in a 'T' configuration. The existing water main in 15<sup>th</sup> Street is a 6-inch water main, so the connection will need to allow for an 8-inch water main connection and the new 8-inch extending to the south of the proposed fire hydrant, then reduce to 6-inch to continue the water system to the south with connection to the existing water main that is stubbed from Nopal Street.

**32.** Locate and cap the two existing sanitary sewer laterals that serviced the former Senior Center and the undeveloped area to the east.

#### Title 10, Chapter 36, Public Facilities

- **33.** A grading plan and erosion control plan shall be submitted prior to site disturbance or construction in the right-of-way. It shall meet the standards of the Portland Erosion and Sediment Control Manual.
- **34.** The applicant shall grant a 20-foot waterline easement from Nopal to 15th Street, for the 6-inch water main.

### Title 10, Chapter 37, Lighting

**35.** Locations for general site lighting are shown on the landscape and site plans. A photometric plan shall be submitted and approved prior to the issuance of any relevant building permit(s), and parking lot construction.

#### Title 11, Chapter 3, Major Partition, Tentative Plan Procedure

- **36.** The applicant shall revise their subdivision plat to include existing and proposed easements, including their exact locations and dimensions, prior to approval of the final plat.
- **37.** Lot A shall be renamed on the plat as "Tract A;" it is not a legal lot.
- **38.** Tract A shall be divided into multiple tracts on the plat, to delineate the areas which are common ownership and the areas which are open space.

#### Title 11, Chapter 5, Platting and Mapping Standards

**39.** Final construction plans and utility facility specifications are required to be submitted for City review and approval prior to commencing construction. Stamped approval will be shown on the utility plans.

# Title 9, Chapter 5, Stormwater Management

**40.** Final construction plans and utility facility specifications are required to be submitted for City review and approval prior to commencing construction. Stamped approval will be shown on the utility plans.

# ADOPTED BY THE FLORENCE PLANNING COMMISSION/DESIGN REVIEW BOARD the 26<sup>th</sup> day of November, 2019.

John Murphey, Chairperson Florence Planning Commission Date

#### STAFF REPORT & FINDINGS OF FACT FLORENCE COMMUNITY DEVELOPMENT DEPARTMENT Planning Commission Exhibit "A"

Public Hearin	g Date:	November 26, 2019	Planner: Hailey Sheldon	
Date of Report:		November 19, 2019		
Application:		PC 19 22 PUD 03 – Preliminary Planned Unit Development PC 19 23 SUB 04 – Tentative Subdivision PC 19 25 CUP 08 – Conditional Use Permit		
1. I KOI (				
Proposal:	A request for Plat, and Cor single-family,	Preliminary Planned Unit Dev ditional Use Permit for a prop detached dwellings.	elopment Plan, Tentative Subdivision posed development of 12 affordable,	
Applicant:	Josh Shafer			

Applicant: Josh Shafer 935 Oak Street Eugene, Oregon 97401

Applicant's Representative	: Renee Clough, Branch Engineering
Property Owners:	Willamette Neighborhood Housing Services
Location:	Undeveloped property on the corner of $15^{\rm th}$ and Nopal Streets. Map # 18-12-27-10 Taxlot 15400

#### Site Characteristics:

	Use(s)	Zoning	Comp. Plan Designation	Streets / TSP Classification
Site	Northern Portion: Former Senior Center Site (Demolished). Southern Portion: Forested Slope	Multi-Family Residential	High Density Residential	N/A
North	Mobile and Manufactured Homes, Single-Family Dwellings, the Boys & Girls Club	Mobile Home / Manufactured Home Residential, Multi- Family Residential, and Commercial	High Density Residential	15 <sup>th</sup> Street (Collector)
South	Vacant Forested Land and Vacant Portion of Office Building (Old Hospital)	Multi-Family Residential	Commercial	Proposed Driveway/Parking Lot
East	Keener Place Phase 1 (Single-Family Attached Dwellings)	Multi-Family Residential	High Density Residential	Nopal Street (Local)
West	Single-Family Dwellings	Restricted Residential	Low Density Residential	Proposed Driveway/Parking Lot

#### II. NARRATIVE

The DevNW Airport Road project is located on a site planned for Phase 2 of an affordable housing Planned Unit Development. Phase 1, "Keener Place" (a Habitat for Humanity funded project) was approved October 27, 2009 (PC 09 26 FPUD 01). Keener Place has since been constructed, and is situated on the lot to the east of the proposed DevNW Airport Road site.

Although the PUD for Phase 1 was approved, no tentative plat or preliminary PUD was submitted or approved for Phase 2 (in addition, any approvals related to the development would have expired per FCC 10-23-11 and 11-4-6). As such, the evaluation of this application shall follow the complete process for final plat and PUD approval, as outlined in FCC 10-23 and FCC 11-3. However, the City of Florence is in the process of revising its housing code, and while at present the process available to the applicant is the PUD process – a Type 1 process for cluster developments will be available by January 2020. The applicant's request is for a cluster development. This is pertinent, because the evaluation of this application includes several exceptions which would not be granted to a traditional PUD.

This type of development is consistent with the *Housing Needs Analysis and Economic Opportunities Analysis: Volume 1: Summary Report*, which identifies affordable housing, single-family detached housing, and multi-family housing as needs. In addition, the proposed development is consistent with the character of the neighborhood, which consists of the Keener Place (single-family attached dwellings) to the east and mobile/manufactured homes to the north. And finally, as noted above, it is consistent with pending requirements for cluster developments.

#### III. ISSUES

<u>Issue 1</u>: The paved roadway section of 15th Street is 33 feet and 10 inches at the subject property. The nexus for a half street improvement, widening this section of 15<sup>th</sup> Street to either 36 feet (Collector, No Parking) or 38 feet (either Collector, On Street Parking or Collector, On-Street Parking), is present (FCC 10-36-2-5). In addition, Phase A of the PUD (Keener Place) was required to install a parking strip pull-out along their section of the 15<sup>th</sup> Street frontage; as such, there is an issue of proportionality present. There are three potential courses of action: (1) the applicant will enter into a non-remonstrance agreement, consenting to financial participation and granting of easements as needed for future improvements to the section of 15<sup>th</sup> Street adjacent to DevNW Airport Road, (2) the applicant will complete a half-street improvement of the same section of 15<sup>th</sup> Street, widening it 2 feet 2 inches (to meet the criteria of a Collector, No Parking), or (3) the applicant shall complete a half-street improvement of the same section of 15<sup>th</sup> Street, widening 4 feet 2 inches and installing a parking strip pullout (to meet the criteria of Collector, On Street Parking). This issue is discussed in the findings for FCC 10-36-2-5, below in this report.

# IV. NOTICES & REFERRALS

**Notice:** On November 6, 2019, notice was mailed to surrounding property owners within 300 feet of the property, and posted. Notice was published in the Siuslaw News on November 20, 2019.

At the time of this report, the City had received the following public comments on the proposal:

Chuck Trent, Boys & Girls Clubs of Western Lane County: Exhibit R

**Referrals:** Referrals were sent to the Florence Public Works Department, Central Lincoln PUD, Siuslaw Valley Fire and Rescue, the Florence Police Department, and the United States Postal Service.

At the time of this report, the City had received referral comments on the proposal from the following:

Public Works Director Mike Miller, Florence Public Works Department: Exhibits S and T

# V. APPLICABLE REVIEW CRITERIA

### Florence City Code:

### **Title 10: Zoning Regulations**

Chapter 1: Zoning Administration, Sections 1-4, 1-5, and 1-6-3

Chapter 3: Off-Street Parking and Loading, Sections 3 through 11

Chapter 4: Conditional Uses, Sections 10 and 11

Chapter 7: Special Development Standards, Sections 2, 3, 6, and 7

Chapter 13: Multiple Family Residential District, Sections 2, 4, 5, and 10

Chapter 23: Planned Unit Development, Sections 1 through 14

Chapter 34: Landscaping, Sections 3 through 5

Chapter 35: Access and Circulation, Sections 2-2 through 2-14, 3-1 through 3-3, and 4

Chapter 36: Public Facilities, Sections 2-1 through 2-5, 2-8 through 2-23, and 3 through 9

Chapter 37: Lighting, Sections 2 through 6

# Title 9: Utilities

Chapter 5: Stormwater Management Requirements, Sections 1 through 7

# Title 11: Subdivision Regulations

Chapter 1: Subdivision Administration, General Provisions, Sections 1 through 4

Chapter 3: Major Partition, Tentative Plan Procedure, Sections 1 through 7

Chapter 5: Platting and Mapping Standards, Sections 1 through 5

Chapter 7: Modifications, Subdivision Regulations

# VI. PROPOSED FINDINGS

Code criterion are listed in **bold**, with staff response beneath. Only applicable criteria have been listed.

#### FLORENCE CITY CODE

# TITLE 10: CHAPTER 1: ZONING ADMINISTRATION

# 10-1-1-6-3 LAND USE HEARINGS:

- A. Hearings are required for Type III (quasi-judicial) land use matters requiring Planning Commission review. Type III applications include, but are not limited to:
  - 6. Planned Unit Developments, preliminary and final plans.
  - 7. Conditional Use Permits.

# 10. Subdivisions.

A request for Preliminary Planned Unit Development, Tentative Subdivision Plat, and Conditional Use Permit for a proposed development of 12 affordable homes. Review applies as per 10-1-1-6-3 and a hearing is required.

# B. Notification of Hearing:

- 1. At least twenty (20) days prior to a quasi-judicial hearing, notice of hearing shall be posted on the subject property and shall be provided to the applicant and to all owners of record of property within 100 feet of the subject property, except in the case of hearings for Conditional Use Permits, Variance, Planned Unit Development and Zone Change, which notice shall be sent to all owners of record of property within 300 feet of the subject property.
- 2. Prior to a quasi-judicial hearing, notice shall be published one (1) time in a newspaper of general circulation.

Notification of the quasi-judicial land use hearing for this application was mailed on November 6, 2019, 20 days prior to the hearing, to all property owners within 300 feet of the subject property. A notice was also published in the Siuslaw News one time on November 20, 2019.

# C. Notice Mailed to Surrounding Property Owners – Information provided:

- 1. The notice shall:
  - a. Explain the nature of the application and the proposed use or uses which could be authorized;
  - b. List the applicable criterion from the ordinance and the plan that apply to the application at issue;
  - c. Set forth the street address or other easily understood geographical reference to the subject property;
  - d. State the date, time and location of the hearing;
  - e. State that failure of an issue to be raised in a hearing, in person or by letter, or failure to provide sufficient specificity to afford the decision maker an opportunity to respond to the issue precludes further appeal based on that issue;
  - f. State that application and applicable criterion are available for inspection at no cost and will be provided at reasonable cost;
  - g. State that a copy of the staff report will be available for inspection at no cost at least 7 days prior to the hearing and will be provided at reasonable cost;

- h. Include a general explanation of the requirements for submission of testimony and the procedure for conduct of hearings.
- i. Include the name of a local government representative to contact and the telephone number where additional information may be obtained.

The notice mailed, posted and published met these criteria.

D. Hearing Procedure: All quasi-judicial hearings shall conform to the procedures of Florence City Code Title 2 Chapter 10.

The Planning Commission is scheduled to meet, in accordance with FCC 2-10, on November 26, 2019.

- E. Action by the Planning Commission:
  - 1. At the public hearing, the Planning Commission shall receive all evidence deemed relevant to the issue. It shall then set forth in the record what it found to be the facts supported by reliable, probative and substantive evidence.
  - 2. Conclusions drawn from the facts shall state whether the ordinance requirements were met, whether the Comprehensive Plan was complied with and whether the requirements of the State law were met.
  - 3. In the case of a rezoning request, it shall additionally be shown that a public need exists; and that the need will be best served by changing the zoning of the parcel of land in question.
  - 4. There is no duty upon the Planning Commission to elicit or require evidence. The burden to provide evidence to support the application is upon the applicant. If the Planning Commission determines there is not sufficient evidence supporting the major requirements, then the burden has not been met and approval shall be denied.

The Planning Commission will receive all evidence deemed relevant at the public hearing. The Planning Commission may deny approval should they determine that insufficient evidence has been provided to indicate that the application meets the applicable criteria. The burden to supply such evidence is upon the applicant.

H. Consolidated Procedures: Whenever possible an application for development such as a Conditional Use, Variance, or other action requiring Planning Commission, or Design Review Board approvals be consolidated to provide faster service to the applicant. (ORS 227.175(2)), (Amd. by Ord. No. 4, Series 2011)

The applications for Preliminary Planned Unit Development, Tentative Subdivision, and a Conditional Use Permit were filed concurrently, and will be reviewed at the November 26, 2019 Planning Commission public hearing. These three approvals are being processed under a consolidated procedure.

#### CHAPTER 3: OFF-STREET PARKING AND LOADING

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.

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

A. Residential and Commercial Dwelling Types:

Single-Family Dwelling	2 spaces per dwelling unit on a single lot
including attached and detached dwellings and manufactured homes	

The minimum parking requirement in this case is 24 spaces (twelve single-family dwellings, requiring two spaces each, equals 24 spaces). The applicant is proposing a shared lot of 25 spaces (including 1 accessible parking space) meeting this requirement.

# 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;

Table 10-3-2 lists the total minimum number of accessible parking spaces for lots with 1 to 25 spaces as 1. The proposed shared lot meets this minimum number standard, with 1 accessible parking space.

# 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;

The accessible space is located in close proximity to the pedestrian entrance to the development, which includes an ADA compliant access ramp.

#### C. Accessible spaces shall be grouped in pairs where possible;

This standard does not apply; no second space is proposed.

D. Where covered parking is provided, covered accessible spaces shall be provided in the same ratio as covered non-accessible spaces;

No covered parking is proposed.

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.

The sign and pavement markings for the accessible space are shown on the proposed site plan, and appear to meet this criterion. The exact dimensions and placement of the sign will be evaluated again prior to the provision of relevant building permits.

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 dwellings and duplexes shall be provided as 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. Parking for Accessory Dwelling Units may be covered or uncovered.

The applicant is seeking an exception to the covered parking requirement, on the grounds that the goal of the development is to provide affordable housing, and that covered parking will increase the development cost. The provision of affordable housing is in keeping with the *City of Florence Housing Needs Analysis and Economic Opportunities Analysis: Volume 1*, Housing Goal 1: "The Zoning Ordinance shall provide for varying housing types to accommodate development of affordable, decent, safe and sanitary housing opportunities for people at all economic segments of the community."

Moreover, the proposed development is similar to the "cluster" housing type, which is a permitted Multi-Family Building Use (10-13-2), and there is no cover requirement for shared parking areas in cluster developments / multi-family housing developments.

For a discussion of parking stall dimensions, see findings in this report for 10-35-2-12-B and 10-3-9. The proposed driveway serves as a parking lot, and as a result is being evaluated using the standards for a parking lot (listed in Table 10-3-3). Table 10-3-3 lists the required stall width and depth for 90-degree parking spaces as 9.5 and 19 feet, respectably. The applicant meets this criterion, and is not bound by the 9'6'' dimension requirement of 10-3-8-A, above.

B. All parking areas except those required in conjunction with a single-family or duplex dwelling shall be graded so as not to drain storm water over public sidewalks. All drainage systems shall be connected to storm sewers where available. 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.

The proposed lot is graded, sloping downward/westward from the Nopal Street entrance, to the 15<sup>th</sup> Street entrance, which includes a catch basin on its northern edge. The parking lot is not proposed to encroach upon a public right of way.

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

Parking spaces are located so that headlights do not shine onto adjacent residences. Residences are located to the east, west, and southwest. Twenty of the spaces face towards the embankment to the south/southwest; the neighboring residences located to the southwest are screened by this embankment. Five of the spaces face northeast, towards the proposed development, but are distanced from and not directly facing the dwellings.

DevNW Airport Road Preliminary PUD, Tent. Subdivision, & Conditional Use Permit PC 19 22 PUD 03, 19 23 SUB 04, 19 25 CUP 08

- D. Except for parking areas required in conjunction with a single-family or duplex dwelling, 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 D2 of this subsection.

The proposed site plan includes curbs along all abutting streets and interior lot lines: sidewalks+curbs along 15<sup>th</sup> and Nopal, sidewalks+curbs on the northern side of the driveway/parking lot, and curbs along the southern side of the driveway/parking lot.

2. Except for places of ingress and egress, a five foot (5') 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.

The proposed site plan includes at least 5 feet of landscaped area wherever the driveway/parking lot abuts a street: the two rain gardens at the entrance off 15<sup>th</sup> Street, and the landscaped bank at the entrance off Nopal Street. In addition, there is a native planting area near the midway point of the driveway/parking lot, around the trash enclosure.

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

No extension of the lot into the public right of way is proposed.

F. 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.

The proposed lot is designed to minimize disturbance; no space is facing any dwelling on site and the proposed grading on the southern/southwestern boundary will provide to meet this criterion. No additional sight obscurement is warranted in this case.

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

See findings in this report for Title 10, Chapter 37 (Lighting).

H. Except for single-family 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.

The proposed lot design requires no backing movements or other maneuvering within a street right of way.

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

The proposed parking and loading spaces are not located in a required front or side yard.

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

The applicant did not submit a stand-alone parking plan. However, the submitted proposed site plan includes all of the items listed in 1-9 above. (Exhibit D)

- L. 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. (Ord. 625, 6-30-80; re-lettered by Ord. 669, 5-17-82; Ord. 4, Series 1985, 4-23- 85)

10-3-9: PARKING STALL DESIGN AND MINIMUM DIMENSIONS: All off-street parking spaces (except those provided for single-family and duplex homes) 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.

See findings in this report for 10-35-2-12-B. The proposed driveway serves as a parking lot, and as a result is being evaluated using the standards for a parking lot (listed in Table 10-3-3). Table 10-3-3 lists the required stall width and depth for 90-degree parking spaces as 9.5 and 19 feet, respectfully. The applicant meets this criterion.

- 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.

The proposed parking plan shows double striping which appears to meet these criteria.

# D. All parallel motor vehicle parking spaces shall measure eight (8) feet six (6) inches by twenty-two (22) feet;

The applicant proposes no parallel parking spaces.

#### E. Parking area layout shall conform to the dimensions in Figure 10-3(1), and Table 10-3-3, below;

See Condition 19 and findings for 10-35-2-12-B in this report. The proposed driveway width does not meet the width requirement listed in Table 10-3-3; Condition 19 requires the applicant to widen the proposed driveway to 23 feet, to meet the width requirement.

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.

See findings in this report for 10-3-5. The proposed parking plan conforms with the ADA.

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.

The proposed bicycle parking spaces are approximately 2 feet wide by 10 feet long.

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.

By this standard, three bicycle parking spaces are required. The applicant is proposing five, which meets this criterion.

C. Long Term Parking. Long term bicycle parking requirements are only for new development of group living and multiple family uses (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; Multi-Family = 1 per 4 units/ Group Living = 1 per 20 bedrooms/ Dormitory = 1 per 8 bedrooms.

While the dwellings proposed are single-family dwellings, the nature of the development is multifamily (similar to a cluster). As such, it is debatable whether this standard applies to the proposed development. Regardless, the goal of the development is affordable housing. Should an exception be granted to the covered vehicle parking requirement, then by the extension of that same logic, it aught be applied to the covered bicycle parking requirement. Moreover, the intent of the proposed bicycle parking is short term.

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.

The proposed bicycle parking is adjacent to the closest vehicle space and is easily accessible to bicyclists entering the property from either driveway entrance.

# 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;

Proposed bicycle parking is visible from the common area and at least lots 1 and 12, providing 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.

The proposed bicycle parking is at least as well lit as vehicle parking; the proposed site plan includes a decorative pedestal on the southern corner of the bicycle parking lot. It is unclear if this pedestal is lighting. As noted below in the findings for Title 10, Chapter 37 (Lighting), the issuance of any relative building permit shall be conditioned on the submittal and approval of a lighting plan.

# G. Reserved Areas. Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only.

The proposed area for bicycle parking appears on the site plan to be clearly marked and reserved for bicycle parking only.

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.

The proposed bicycle parking appears on the site plan to create no hazard to pedestrians to be located so as to not conflict with vision clearance standards.

Table 10-3-3 – Parking Area Layout							
	Parking Angle <°	Stall Depth		Aisle Width		Stall	Curb
		Single	Double	One Way	Two Way	width	Length
		(C)	(E)	(D)	(D)	(B)	(F)
Space	30°	15.6	26.7	12	18	9.5	19.0
Dimensions	45°	18.4	334	13	18	9.5	13.4
inteet	60°	20	38.8	17	18	9.5	11.0
	<b>70</b> °	20.3	40.6	18	19	9.5	10.1
	80°	20	41.2	22	22	9.5	9.6
	90°	19	40.5	23	23	9.5	9.5

FIGURE 10-3 (1)

K. Such other conditions as will make possible the development of the City in an orderly and efficient manner and in conformity with the intent and purpose of the Florence Comprehensive Plan.

#### **CHAPTER 4: CONDITIONAL USES**

10-4-10: GENERAL CRITERIA: A Conditional Use Permit may be granted only if the proposal conforms to all the following general criteria: (Ord. 669, 5-17-82)

- A. Conformity with the Florence Comprehensive Plan.
- B. Compliance with special conditions established by the Planning Commission to carry out the purpose of this Chapter.
- C. Findings that adequate land is available for uses which are permitted outright in the district where the conditional use is proposed. Available land can be either vacant land or land which could be converted from another use within the applicable zoning district. Land needs for permitted uses may be determined through projections contained in the Florence Comprehensive Plan or other special studies.
- D. Conditional uses are subject to design review under the provisions of Chapter 6 of this Title, except single-family and duplex residential use. (Ord. 625, 6-30-80) See Code Section 10-6-3 for Design Review requirements.
- E. Adequacy of public facilities, public services and utilities to service the proposed development.
- F. Adequacy of vehicle and pedestrian access to the site, including access by fire, police and other vehicles necessary to protect public health and safety. (Ord. 669, 5-17-82).

The applicant is requesting a Conditional Use Permit, to construct single-family homes within the Multi-Family Residential district. Although the proposed are by definition single-family: (1) they are designed to offer affordable housing, (2) the proposed site plan includes a common open space area, a shared parking lot, and shared trash enclosures, and (3) the homes face inward, towards each other and the shared common open space area. These three elements combine to make the visual nature of the development in keeping with the look and feel of multi-family housing; the ownership of the units being the main feature that lumps the development in to the single family category.

The applicant meets standards A through F above.

10-4-11: GENERAL CONDITIONS: The Planning Commission may require any of the following conditions it deems necessary to secure the purpose of this Chapter. Where a proposed conditional use is permitted in another district, the Planning Commission may apply the relevant development standards from the other district. In addition, conditions may be required by the Planning Commission. Such conditions may include: (Ord 625, 6-30-80; amd. Ord 669, 5-17-82).

- A. Regulation of uses, special yard setbacks, coverage and height.
- B. Requiring fences, walls, screens and landscaping plus their maintenance.
- C. Regulation and control of points of vehicular ingress and egress.
- D. Regulation of noise, vibration, odors, and sightliness.

- E. Requiring surfacing of parking areas.
- F. Requiring rehabilitation plans.
- G. Regulation of hours of operation and duration of use or operation.
- H. Requiring a time period within which the proposed use shall be developed.
- I. Requiring bonds to insure performance of special conditions.
- J. Regulation of tree and vegetation removal to maintain soil stability, preserve natural habitat, protect riparian vegetation, buffer conflicting uses, and maintain scenic qualities.

The conditions of approval listed below, and in the accompanying resolution, cover the conditions which the Planning Commission will require of the applicant. The recommendation is for A, B, C, D, E, H, I, and J above.

The applicant shall be required to construct a fence spanning from the northwestern corner of Lot 1, along the 15<sup>th</sup> Street frontage, ending at the northeastern corner of Lot 5. The proposed design of the fence shall meet the requirements of 10-34-5, the details of which shall be included on the site plan or another document submitted to the Florence Planning Department prior to approval of the final PUD. (Condition 4) This condition is in keeping with 10-4-11, above. See also 10-34-5, below.

# TITLE 10: CHAPTER 7: SPECIAL DEVELOPMENT STANDARDS

10-7-2: IDENTIFICATION OF WETLANDS AND RIPARIAN AREAS AND POTENTIAL PROBLEM AREAS: At minimum, the following maps shall be used to identify wetlands and riparian areas and potential problem areas:

- A. "Hazards Map", Florence Comprehensive Plan Appendix 7.
- B. "Soils Map", Florence Comprehensive Plan Appendix 7.
- C. "Beaches and Dunes Overlay Zone." See Chapter 19 for overlay zone requirements. Where conflicts exist between that chapter and this one, the more restrictive requirements shall apply.
- D. 2013 City of Florence Significant Wetlands Map and 2013 City of Florence Significant Riparian Reaches Map in Appendix A of the 2013 Florence Area Wetlands and Riparian Inventory (2013 Inventory) and in the 2013 City of Florence Significant Wetlands and Riparian Corridors Plan (2013 Plan), in Comprehensive Plan Appendix 5.
- E. Other information contained in the plan or adopted by reference into the plan, or more detailed inventory data made available after adoption of the plan may also be used to identify potential problem areas. (Amended Ord. No. 10, Series 2009)

Approximately half of the lot (the northern half) is Waldport fine sand, 0 to 12 percent slope. The southern half of the lot is Waldport fine sand, 12 to 30 percent slopes; this soil type is, according to the National Resources Conservation Service Soils Map, unsuitable or conditionally suitable for development, and calls for a site investigation report to be required before development is permitted.

The applicant is proposing the grade the southern portion of the site at a 2:1, remove existing vegetation, plant new vegetation and potentially construct portions of retaining wall.

Title 10, Chapter 7, Section 6 stipulates that (A) [...] No Development permit (such as building permit or land use permit) subject to the provisions of this Title may be issued except with affirmative findings that: (1) Upon specific examination of the site utilizing a Phase I Site Investigation Report (the checklist from the OCZMA Handbook, as modified by the City of Florence), it is found that the condition identified on the "Hazards Map" or "Soils Map" or "Beaches and Dunes Overlay Zone" or other identified problem area does not exist on the subject property; or (2) As demonstrated by the Phase II Site Investigation Report that harmful effects could be mitigated or eliminated through, for example, foundation of structural engineering, setbacks or dedication of protected natural areas."

The applicant completed a Phase 1 Site Investigation Report (Exhibit N). This report did not demonstrate that the potentially harmful effects of grading and re-planting the slope would necessarily be mitigated or eliminated through structural engineering. As such, the applicant shall be required to submit a Phase 2 Site Evaluation Report, a geotechnical report, and a detailed bank stabilization plan prior to receiving any relevant building permit (Condition 5).

#### CHAPTER 13: MULTI-FAMILY RESIDENTIAL DISTRICT (RM)

#### 10-13-2: PERMITTED BUILDINGS AND USES;

Duplexes

Multiple-family dwellings, including townhouses, apartments, clusters and condominiums.

Planned unit developments (Chapter 23 of this Title).

Home occupations.

Gardens and greenhouses for the raising and harvesting of fruit, vegetables and flowers for noncommercial use.

Accessory buildings and uses to the extent necessary and normal in a residential neighborhood. Accessory buildings are not permitted in the front yard of single family or duplex dwellings. (Ord. 625, 6-30-80; amd. Ord. 669, 5-17-82)

10-13-3: BUILDINGS AND USES PERMITTED CONDITIONALLY: The Planning Commission, subject to the procedures and conditions set forth in Chapters 1 and 4 of this Title, may grant a Conditional Use Permit for the following buildings and uses:

#### Single-Family dwellings.

The applicant is proposing to develop 12 single-family, affordable homes; this is a permitted conditional use within the Multi-Family Residential district.

# 10-13-4: LOT AND YARD PROVISIONS:

A. Minimum Lot Dimensions: To be designated a building site, an existing lot must be at least fifty feet wide and at least eighty feet in depth (50' x 80'). For new subdivisions and newly platted lots, the minimum width shall be sixty five feet and the depth shall be eighty feet (65' x 80').

The applicant is requesting a 32 foot minimum lot width and a 47 foot minimum depth, an exception to this standard of 65 feet wide by 80 feet deep.

B. Minimum Lot Area: To be designated a building site, an existing lot must be comprised of at least six thousand (6,000) square feet. For new subdivisions and newly platted lots, the minimum square feet shall be six thousand five hundred (6,500).

The applicant is requesting a minimum lot area of 1,504 square feet, an exception to this standard of 6,500 square feet.

- C. Lot Coverage:
  - 1. For single-family and duplex dwellings, the maximum coverage by all enclosed buildings shall not exceed thirty five percent (35%) of the lot area. The maximum coverage by all structures, driveways, parking spaces and surfaced area shall not exceed seventy five percent (75%) of the lot area.
  - 2. For multiple-family dwellings and other uses, the maximum coverage by all enclosed buildings shall not exceed fifty percent (50%) of the lot area. The maximum coverage by all storage structures, driveways, parking spaces and surfaced area shall not exceed seventy five percent (75%) of the lot area.

The applicant is proposing building coverages ranging from 37% to 61%, an exception to the maximum building coverage standard of 35%. The total surface coverage proposed ranges from 37% to 61%, meeting the maximum total surface coverage standard of 75%. The entire site coverage proposed is 63%.

- D. Yard Regulations:
  - 1. For single-family and duplex dwellings, front, side and rear yard regulations shall be the same as those in the Single-Family Residential District (Chapter 11 of this Title).
  - 2. For multiple-family dwellings and other uses, the front, side and rear setback shall be five feet (5'). When a multiple use adjoins a single-family use, the multiple use shall be set back from all 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.
  - 3. 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.

FCC 10-10-7 stipulates that the standards of Table 10-10-2 supersede the setback and lot coverages listed within all other residential districts.

TAB Residential Zone Gen	LE 10-10-2 eral Developm	ent Standards	5	
Standard	District			
	Restricted Residential	Single- Family Residential	Multi- Family Residential	Coast Village
Minimum Building Setbacks				
Front Setback				
Primary Building (excludign garages and carports)	10'	10'	5/10'	20'
Garages and Carports	20'	20'	20'	20'
Side Setback			-	
Primary Building	10'	5'	5'	8'
Accessory Buildings, Patio Structures, and Pools	5'	<mark>5</mark> '	5'	5'
Accessory Dwellings	10'	5'	5'	8'
Rear Setback	100		8	
Primary Building	10'	5'	5'	10'
Accessory Buildings, Patio Structures, and Pools	5'	5'	5'	5'
Accessory Dwellings	10'	5'	5'	8'
Maximum Lot Coverage (in percent)				
All Lots, Impervious Surface, except where specifically addressed below	65	65	75	65
Enclosed Building Area, All Lots	35	35	50	35
Enclosed Building Area, Lots with Accessory Dwellings	55	55	70	55
Enclosed Building Area, Multi-Family Dwellings and Other Uses	2	<i>I</i> 1	50	2

"Front," "Rear," and "Side" lot lines are defined in FCC 10-2-13 Definitions. The front lot line is that which faces the street, and the rear lot line as that which is opposite and most distance from the front line.

The applicant is seeking exceptions to the front and rear setbacks for lots 10, 11, and 12. These are the interior lots, adjacent to the driveway/parking lot. This exception is warranted, given the lots in question don't abut a street.

The remaining 9 of the 12 lots meet the Single-Family Residential setback requirements listed in Table 10-10-2.

Each of the lots include storage sheds, attached to the main building (with the exception of lots 1, 4 and 12); these storage sheds meet the setback requirements for accessory buildings listed in Table 10-10-2.

There are 2 shared storage sheds and a trash enclosure on the southern border of the lot; each of these meet the setback requirements for accessory buildings listed in Table 10-10-2.

Note: Conditions 19 (and potentially Issue 1) requires the applicant to widen both their proposed driveway/parking lot, and 15<sup>th</sup> Street. Because the applicant exceeds the open space requirement in the common area, it is the recommended that they shrink the common space area and not the lot dimensions. The applicant shall be required to submit a revised site plan and tentative plat prior to a decision regarding the final PUD and plat. (Condition 6)

#### 10-13-5: SITE AND DEVELOPMENT PROVISIONS:

DevNW Airport Road Preliminary PUD, Tent. Subdivision, & Conditional Use Permit PC 19 22 PUD 03, 19 23 SUB 04, 19 25 CUP 08

- A. Building and Structural Height Limitations:
  - 1. Residential Buildings: The maximum building or structural height shall be twenty eight feet (28').
  - 2. Accessory Buildings: The maximum building or structural height shall be fifteen feet (15').
  - 3. Nonresidential Buildings: The maximum building or structural height shall not exceed twenty eight feet (28').

The proposed residential structures do not exceed 28 feet in height. (Exhibits I through L)

B. Separation Between Buildings: The minimum separation between multiple-family buildings shall be thirty feet (30') unless the buildings are arranged end to end. 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.

While the buildings are not arranged end to end, they are detached and separated by 10 feet.

#### C. Fences: See Chapter 10-34-5 of this Title.

See findings for Title 10, Chapter 34, Section 5 below.

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

No structures or plants are proposed within the vision clearance area. The minimum vision clearance at the proposed driveway entrances shall be 10 feet. (Condition 7)

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

See findings for Title 10, Chapter 3 below.

F. Access and Circulation: Refer to Section 10-35 of this Title for requirements. Additionally, vehicle ingress or egress to a multiple-family dwelling shall not be allowed from less than a fifty foot (50') right of way and thirty two foot (32') paved street. Multiple-family dwellings shall not have vehicle access to and from a cul-desac.

See findings for Title 10, Chapter 35 below.

G. Public Facilities: Refer to Section 10-36 of this Title for requirements. The developer of a multiple-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.

See findings for Title 10, Chapter 36 below.

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

The signage on subject property shall be deemed adequate prior to the issuance of any relevant building permit. It should be noted that Informational 1 in this report discusses the widening of 15<sup>th</sup> Street. There are currently no parking signs proposed along the 15<sup>th</sup> Street frontage. Should a parking lane be installed along 15<sup>th</sup> Street, the applicant shall remove those signs. (Condition 8).

- I. Open Space: Multiple-family developments of four (4) 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:
  - 1. Not less than ten feet (10') in width or depth at any point.
  - 2. Located on land with less than a five percent (5%) slope.
  - 3. Cleared sufficiently of trees, brush and obstructions so that recreational use is possible.
  - 4. Not used for temporary or regular parking of automobiles or other vehicles.
  - 5. Includes at least one hundred (100) square feet of area for each dwelling unit. (Ord. 625, 6-30-80)

The proposed development plan exceeds these open space requirements; it includes 6,154 square feet of common area (the requirement is 1,200 square feet, in this case). See also findings in this report for 10-23-5, Development Standards for a Planned Unit Development; those PUD open space requirements are more extensive, and addressed in that section.

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

See findings for Title 10, Chapter 34 below.

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

See findings for Title 10, Chapter 37 below.

# CHAPTER 23: PLANNED UNIT DEVELOPMENTS

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 life styles.
- 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.

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:

- B. For all other districts:
  - a. All uses normal to the designated zoning district.
  - b. Open Space and Parklands (Ord. No. 2, Series 2011)

- c. Commercial uses.
- d. Temporary use of vacant lots for RV use. (Ord 12, 1998)

See findings for Title 10, Chapter 4 (Conditional Uses) above.

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

The applicant's proposed development plan meets these criteria, A through E. It is also consistent with (1) the *Florence Housing Needs Analysis and Economic Opportunities Analysis: Volume 1: Summary Report,* (2) the character of the neighborhood, and (3) pending code for cluster developments.

As noted in the Narrative section of this report: The City of Florence is in the process of revising its housing code, and while at present the process available to the applicant is the PUD process – a Type 1 process for cluster developments will be available by January 2020. This is pertinent, because many of the exceptions granted in this case would not be granted in the evaluation of a traditional PUD, and as a result, the development proposed will less resemble a traditional PUD than a cluster development.

10-23-5: DEVELOPMENT STANDARDS: To insure 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.

While the total site area is fewer than 2 acres (it is 1.72 acres), because this proposal is for the second phase of a PUD, and the combined area of the two phases is greater than 2 acres, the development is consistent with the spirit of this regulation.

B. Building Coverage: In a residential PUD, not more than fifty percent (50%) of the land area being developed, exclusive of public or private streets, shall be covered by buildings. When the PUD is not entirely residential, maximum building coverage shall

be consistent with the purpose and general criteria of this Chapter as determined by the Planning Commission.

The proposed building/roof coverage is 11,808 square feet, or 16%.

C. 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.

See findings in this report for Title 10, Chapter 13, Section 4: Lot and Yard Dimensions.

D. Maximum Building Height: Primary buildings shall not exceed the height limitations prescribed in the zoning district(s) in which the PUD is located. Accessory buildings shall not exceed the height limitations for primary buildings. (Ord 12, 1998)

See findings in this report for Title 10, Chapter 13, Section 5: Site and Development Provisions.

E. 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)

See findings in this report for Title 10, Chapter 3: Parking. Grouped parking spaces are proposed on the site and are accessible.

F. 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.

See findings in this report for Title 10, Chapter 36: Public Facilities.

- G. 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 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.

- 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.
- 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.
- 4. The following areas are not acceptable for recreation area required as part of a PUD: (Ord. No. 2, Series 2011)
  - a. Hillsides over twenty-five (25) percent slope;
  - 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.

The applicant meets the open space requirement. The net development area (which excludes the southern bank), is 47,639 square feet. Of that, 11,357 square feet is open space (23.8%). Of that open space, all can be considered "recreational area": 6.5% is walkway, 2.4% is paved picnic area, 5.1% open lawn area, 3.3% playground, 4.6% community garden, and 2% is the landscaping surrounding the trash enclosure. This is in addition to the southern bank, which will be landscaped as a method of slope retention.

See also findings for Title 10, Chapter 13 (Multi-Family Residential District) in this report, above.

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.

See findings for Title 10, Chapter 36, Section 3 for findings and conditions related to easements. See findings for Title 10, Chapter 35 for a discussion of circulation (streets, bikeways, pedestrian paths).

The applicant shall be required to submit a copy of the Covenants, Conditions and Restrictions for the development prior to the issuance of any relevant building permits. The developer shall be responsible for the maintenance of the common space areas. (Condition 9)

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.

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.

The applicant has solicited the proper professionals for the design and coordination of the project. The applicant has also had the required conference prior to application.

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.

The applicant has provided plans, plats, elevations, and narrative which meet criteria 1 through 4 above. The applicant shall submit a development schedule consisting of a through e, above, prior to the approval of the final PUD and subdivision plat. (Condition 10)

# 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.

See findings and conditions related to 10-23-6-C, above.

- 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 insure the safety of this circulation pattern shall be shown.
  - c. A landscaping and tree plan.

Conditions 12 and 5, require the applicant to submit an updated landscaping plan and bank stabilization plan. This is warranted given the PUD creates special problems for landscaping: the applicant is proposing the grade the southern portion of the site at a 2:1, remove existing vegetation, plant new vegetation and potentially construct portions of retaining wall on a bank composed of Waldport fine sand at a 12 to 30 percent slope.

See findings and conditions for Title 10, Chapter 34 (Landscaping), below.

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.

The Planning Commission may authorize staged development of the proposal with the final PUD, upon review of the timeline conditioned in Condition 10, above.

# 10-23-11: APPROVAL OF THE FINAL DEVELOPMENT PLAN:

1. Within one year following the approval of the preliminary development plan, the applicant shall file with the Planning Commission a final development plan containing in final form the information required in the preliminary plan. The Planning Commission may grant a one-time extension of one (1) year maximum duration based on compliance with the following criteria:

- a. The request for an extension is made in writing prior to the expiration of the original approval.
- b. There are special or unusual circumstances that exist which warrant an extension.
- c. No material changes of surrounding land uses or zoning has occurred.

# The planning Commission may deny the request for an extension if new land use regulations have been adopted that affect the applicant's proposal.

By November 26, 2020, the applicant shall file with the Planning Commission a final development plan containing in final form the information required in the preliminary plan, or a request for extension. (Condition 11)

# CHAPTER 34: LANDSCAPING

# 10-34-3: LANDSCAPING

See also 10-23-10-7, above. The applicant is proposing the grade the southern portion of the site at a 2:1, remove existing vegetation, plant new vegetation and potentially construct portions of retaining wall on a bank composed of Waldport fine sand at a 12 to 30 percent slope. Given the PUD creates special problems for landscaping, per 10-23-10-7, the applicant shall update their landscaping plan to include the species, sizes and locations throughout the development, including in the proposed rain gardens and parking areas. (Condition 12)

Note that the applicant is not required to meet the tree and shrub quantity requirements of FCC 10-34-3-3 and FCC 10-34-4 (discussed below in this section). The updates to the landscaping plan (and the bank stabilization plan required by Condition 5), are necessary to determine if the landscaping serving for storm drainage and bank retention will serve their required functions.

# 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.

No fences or walls are proposed.

# B. The location of existing and proposed terraces, retaining walls, decks, patios, shelters, and play areas.

No terraces, retaining walls, decks, or patios are proposed. Sheds are proposed for 9 of the units; their locations are shown on the site plan. There is a common area, which includes a playground and a community garden – this is also shown on the site plan.

# c. The location, size, and species of the new proposed plant materials (at time of planting).

See Condition X, above.

# 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.

The applicant is proposing to clear all current vegetation on the site, including the trees and shrubs on the southern slope.

# E. Existing and proposed building and pavement outlines.

The proposed building and pavement/ground cover outlines are shown on the applicant's existing landscaping plan.

# F. Specifications for soil at time of planting, irrigation and anticipated planting schedule.

Specifications for soil at time of planting, irrigation and anticipated planting schedule shall be furnished by the applicant prior to any site disturbance, final PUD, final plat, and/or with each associated building permit. (Condition 13)

The applicant expressed their intent to irrigate in their narrative submitted November 13, 2019 (Exhibit P), and has included a common area water meter on the proposed site plan.

Because there are common grassy areas, a community garden, and plantings for slope stability – all of which will require maintenance by the applicant – an irrigation plan is required prior to final PUD approval. (Condition 14)

#### G. Other information as deemed appropriate by the City Planning Official.

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<sup>1</sup> 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<sup>2</sup> with a soil-compost blend around plants and trees shall be used to ensure healthy growth.

6% of the site is landscape area, 2% of the site is stormwater area with plantings, and 37% of the site is the undeveloped area.

<sup>&</sup>lt;sup>1</sup> Mainstreet District (FCC 10-27) and Old Town District, Area A and B (FCC 10-17A and 10-17B) require 10% of the gross lot area to be landscaped.

<sup>&</sup>lt;sup>2</sup> Pocket-planting is used in conjunction with sandy soils by removing existing sand approximately twice the width and the same depth of the pot, and replacing it with a soil-compost blend.

The applicant is seeking an exception to 4, above, which requires plant materials be located in areas within the first 20 feet of any lot line that abuts a street. If the bank is included in the landscaping calculation, then the applicant may meet the tree and shrub count standard. The bank is visible from Nopal and 15<sup>th</sup> Streets, and will remain visible post development.

In addition, should the 15% landscaping area be enforced, in this case the design of the development would necessitate that landscaping be placed in the interior common space, and would not be visible from the street, which is not in keeping with the spirit of this regulation, as it would not add to the beautification of Florence. Instead, it would replace a playground or community garden, which meet common space requirements of a PUD.

Note that the site in question has 691.82 lineal feet of street frontage. Therefore, the requirement in this case would be 20 trees and 120 shrubs.

B. Noxious Weeds shall be removed during site development and the planting of invasive or noxious weeds is prohibited.

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.

See Condition 14, above. No irrigation system has been detailed by the applicant; however, the applicant has noted their intent to irrigate, and has included a common area water meter on the proposed site plan. Because there are common grassy areas, a community garden, and plantings for slope stability – all of which will require maintenance by the applicant – an irrigation plan is required prior to final PUD approval.

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.

The requirement in this case is for 250 square feet of interior parking lot landscaping, with parking islands a minimum of 30 square feet each, a minimum of 5 feet on each side, evenly distributed to the extent practicable, with a minimum of 1 tree each. The applicant meets these criteria, with the 2 raingardens at the 15<sup>th</sup> Street entrance, the landscaping around the trash enclosure near the midpoint of the parking lot, and the landscaping along the bank at the Nopal entrance to the parking lot. The landscaping plan shall detail the location and species of each of the three required trees: 1 at the 15<sup>th</sup> Street entrance, 1 near the trash enclosure, and 1 along the Nopal entrance. **(Condition 15)** 

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.

The proposed parking lot is not adjacent and parallel to a street or driveway.

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.

The proposed driveway/parking lot is adjacent to homes 9 through 12, and is separated by a curb and 5 foot walkway.

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).

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))

Condition 4 requires the applicant to construct a fence spanning from the northwestern corner of Lot 1, along the 15<sup>th</sup> Street frontage, ending at the northeastern corner of the Lot 5. This fence will provide privacy for Lots 1 through 5, and will also provide screening along the Collector street (15<sup>th</sup>). Condition 4 includes a requirement that the proposed design of the fence (dimensions, materials, location) will be included on the site plan prior to final PUD approval, and will meet the requirements of this section (10-34-5).

# CHAPTER 35: ACCESS AND CIRCULATION

10-35-2-3: Access Approval Required: Access will generally be reviewed in conjunction with a land division or building permit. If a property owner wishes to access a public street (e.g., a new curb cut or driveway approach), or make improvements within the public right-of-way (e.g., install or replace sidewalk), the property owner must obtain a "Construction Permit in Right-of-Way". In either case, approval of an access shall follow the procedures and requirements of the applicable road authority.

The applicant shall be required to obtain a "Construction Permit in Right-of-Way prior to their construction of their access to and improvements of 15<sup>th</sup> Street. (Condition 16)

10-35-2-4: State and County Access Permits: ODOT has responsibility and authority in managing access to State Highways and Lane County has responsibility and authority in managing access to County roads within the City. Projects with direct access onto a State Highway or County Road shall be required to obtain a State or County access permit. A State or County complete access permit application must be submitted as part of all land use permits. Conditions placed by the State or County upon these access permits shall be considered conditions of approval for all applicable land use and development approvals. When a transportation improvement is proposed along Highway 101 between the Siuslaw River Bridge and Highway 126, improvements shall be constructed in accordance with the standards specified in the "Highway 101 Access Management Plan." County roads are governed by the Lane County Transportation System Plan and Lane Code Chapter 15.

No direct access onto a State Highway or County Road is proposed.

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.

See findings for 10-35-2-8, below. In addition, the applicant is proposing to close the existing curb cuts along 15<sup>th</sup> Street, to construct a 5'5" sidewalk (including the curb dimension).

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 maybe 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 Street 30 feet

Arterial Street 50 feet

- B. Where the City finds that reducing the separation distance is warranted, such as: a. 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.), orb. 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.

The proposed driveway location meets this intersection separation standard. The driveway connection to 15<sup>th</sup> Street is approximately 240 feet from Nopal; it faces Maple Street, which is permitted. The driveway connection to Nopal has already been constructed (and complies with this standard). No backing movements on to public street are proposed.

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.

The applicant is requesting to construct a driveway off 15<sup>th</sup> Street, which is classified as a collector (this is in addition to the driveway which has already been constructed off Nopal Street, a local street).

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.

The proposed design provides adequate circulation for vehicles, bicycles and pedestrians. See also the findings for 10-35-2-12, below, regarding driveway dimensions.

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.

The applicant stated in their written statement (Exhibit P), that an easement for joint use of the driveway and parking lot would be included on the subdivision plat. It is not included on the Tentative Subdivision Plat. The applicant shall include an easement for joint use of the proposed driveway and parking lot on the Tentative Subdivision Plat. (Condition 17)

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.

The proposed site design includes a driveway on to 15<sup>th</sup> Street; in this case Nopal Street would be the approach with the lowest functional classification. The 15<sup>th</sup> Street access is necessary to achieve circulation on the site. Neither access includes backing movements. Driveway approaches shall receive a Right of Way Excavation Work Permit prior to construction. (Condition 18)

- 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.

The two-way "driveway" proposed is 23-feet wide on the eastern/Nopal Street side, and 20-feet wide on the western/15<sup>th</sup> Street side. While this meets the criteria for a two-way driveway, the western/15<sup>th</sup> Street side of the development serves as a parking lot. As a result, the 18 feet standard is not sufficient for its function. Table 10-3-3 (above) lists the required aisle width for a lot with 90-degree parking angles as 23 feet. The applicant shall widen the proposed driveway to 23 feet in areas adjoining parking stalls. (Condition 19)

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.

The proposed driveway apron is of the style identified in Figure 10-35(2), and meets the ADA requirements. See Condition 18, above: Driveway approaches shall receive a Right of Way Excavation Work Permit prior to construction.

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.

A fire turnaround is not required in this case, given the driveway does not dead end. In addition, a fire turnaround exists on Nopal Street (which does dead end).

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.

No structures that would impact vertical clearance are proposed.

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.

No visual obstructions that would impact vision clearance are present on the proposed site plan.

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.

The applicant is proposing to construct 5'5" sidewalks (including the curb dimension) along the full perimeter of the development on both 15<sup>th</sup> and Nopal Streets. The applicant shall obtain a Right of Way Excavation Work Permit prior to sidewalk construction. (Condition 20)

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.
- 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 multi-family 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.
- 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.

The proposed pedestrian circulation and connections within the proposed development are safe, direct, convenient, and provide required connections. The pedestrian circulation standard is met.

#### CHAPTER 36: PUBLIC FACILITIES

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.

See findings in this report for 11-3-2 Tentative Plan Requirements, for a discussion of additional easement requirements (utilities and emergency access). See also Issue 1, and the findings in this report for 10-36-2-5 (below) for potential right-of-way improvements and accompanying easements.

# 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).



COLLECTOR (ON-STREET PARKING)



COLLECTOR (BIKE SHARROWS WITH ON-STREET PARKING)



### (NO PARKING)

- B. Modifications to the street standards identified in section A, above, may be made pursuant to Title11 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.

The paved roadway section of 15th Street is 33 feet and 10 inches at the subject property. The nexus for a half street improvement, widening 15<sup>th</sup> Street to either 36 feet (Collector, No Parking) or 38 feet (either Collector, On Street Parking or Collector, On-Street Parking), is present. In addition, Phase A of the PUD (Keener Place) was required to install a parking strip pull-out along their section of the 15<sup>th</sup> Street frontage; as such, there is an issue of proportionality present. **(Issue 1)** 

Public Works notes that any street widening will require the installation of a new concrete curb/gutter, unless the applicant is able to salvage the existing concrete cutter by cutting the curb face away from the curb/gutter and pouring additional concrete to create a concrete valley gutter. (See Exhibit S for Public Work's referral.)

It should be noted here: the Boys and Girls Club of West Lane County is located across 15<sup>th</sup> Street from the proposed development. The Executive Director of the Club submitted comment expressing concern over the safety of children walking to and from the Club along 15<sup>th</sup>, and crossing 15<sup>th</sup> Street (Exhibit R). He requested sidewalks be installed on the proposed development's side of 15<sup>th</sup> Street, additional streetlights, and a pedestrian crossing. The applicant is proposing to construct 5'5" sidewalks along the full perimeter of the development on both 15<sup>th</sup> and Nopal Streets, which partially satisfies this request. However, Public Works has determined that neither additional streetlights nor a pedestrian activated crossing is warranted, because each of the relevant intersections are currently lighted, and the speed limit is 25 miles per hour.

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.

This width criterion is not being applied to the applicant's proposed development. Instead, the criterion for width of a parking lot and driveway is being used in this case. This is discussed in detail in the findings for Title 10, Chapter 35 (Access and Circulation) of this report (below). The grade of the proposed driveway/parking lot does not exceed 12% slope.

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.

No private streets are proposed. Access easements are shown on the Tentative Subdivision Plat (Exhibit E), and are sufficient.

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.

The proposed driveway/parking lot meets these standards of street location and connectivity. However, no emergency access easement on the driveway/parking lot is shown on the tentative plat. Applicant shall add an emergency access easement along the driveway to the plat, prior to the approval of the tentative plat. (Condition 21)

The proposed development abuts undeveloped land, at the south end of Nopal Street. The developer has installed a Type III barricade at the south end of Nopal Street, with a bulb shaped turnaround.

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.

The street connections are in conformance with the maximum block length standards in Section 10-36-2-10. Block lengths between access points are greater than 100 feet and less than 600 feet in length.

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
- B. Old Town and Main Street Districts: Block lengths shall be consistent with the existing town plat, as of June 2009.
- C. General Commercial, North Commercial and Highway Commercial Districts: Minimum of 100-foot block length and maximum 600-foot length; maximum 1,400foot block perimeter
- D. Not applicable to the Industrial Districts

The proposed block lengths are within the allowable dimensions for residential districts: block lengths between access points are greater than 100 feet and less than 600 feet in length.

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.

As noted above, a signage plan shall be submitted and approved prior to right-of-way improvements. Informational 1 of this report (below) discusses the potential widening of 15th Street. There applicant is proposing no parking signs along the 15<sup>th</sup> Street frontage. Should a parking lane be installed along 15<sup>th</sup> Street, the applicant shall update the site plan and signage plan accordingly. **(Condition 22)** 

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

The applicant shall submit a plan for mail boxes, approved by the United States Postal Service, prior to the issuance of any building permits for residential structures. (Condition 23)

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.

See findings and conditions for Title 10, Chapter 37 (Lighting) in this report, below. See also findings for 10-35-2-8, which includes a discussion of a comment from the Executive Director of the Boys and Girls Club, and Public Works' response. Street lights are currently located at the southern end of Nopal St. at the proposed driveway entrance for this development, 15th/Hwy 101 (north side of 15th); 15th/Pine (north side of 15th); 15th/Oak (north side of 15th); 15th/Nopal (south side of the street on Nopal) – Boys & Girls Club location; Airport/Maple (north side of Airport); Airport/Mulberry Lane (north side of Airport); Airport/Laurel (north side of Airport); and Airport/Kingwood (north side of Airport). Due to street light at the corner of 15<sup>th</sup> and Nopal being setback south off the intersection an additional street light could be warranted near north of the 15th/Nopal intersection. Public Works is researching with Central Lincoln PUD to see if the opportunity is available. The adjoining streets are lighted at all of the intersections listed in Resolution 16, Series 1999. The criterion is met.

#### 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.
- 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.
- 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.

- 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.
- 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.

The applicant has submitted utility plans for review by the Public Works Department. Existing utilities are inadequate for the proposed development, and new facilities must be installed. Comments have been provided by the City of Florence Public Works, and are as follows:

The sanitary sewer manhole located within the 15 foot public sewer easement needs to be accessible in order for the City to maintain and service the system. The City will need to be able to drive to and set up its combination sewer cleaner over the manhole as well as ability to set up the TVI equipment. The applicant shall relocate the manhole approximately 30 additional feet to the west. (Condition 24)

The applicant shall increase the width of the proposed public sewer easement from 15 to 20 feet, and center the public sanitary sewer line in the easement. (Condition 25)

There appears to be an irrigation water meter located in a concrete pad location north west of Lot 12 (just outside of the parking area). (Condition 26)

The applicant shall relocate the irrigation water meter to the east of the bicycle parking area. (Condition 27)

The water meter shall be located in a landscaped area, not in hardscape areas. (Condition 28)

On Nopal Street towards the existing fire turn around (the future street stub that the proposed development will be utilizing) there is an existing water service. The applicant shall verify the location of the water service, and utilize it for one of the proposed homes if possible. (Condition 29)

On 15<sup>th</sup> Street, there are two existing water services. If they cannot be utilized for the project, the applicant shall properly abandon them. (Condition 30)

The proposed connection to the existing water main on 15<sup>th</sup> Street, to loop the water system, shall be a cut-in connection complete with three water valves in a 'T' configuration. The existing water main in 15<sup>th</sup> Street is a 6-inch water main, so the connection will need to allow for an 8-inch water main connection and the new 8-inch extending to the south of the proposed fire hydrant, then reduce to 6-inch to continue the water system to the south with connection to the existing water main that is stubbed from Nopal Street. (Condition 31)

Locate and cap the two existing sanitary sewer laterals that serviced the former Senior Center and the undeveloped area to the east. (Condition 32)

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.

The applicant shall obtain a National Pollution Discharge Elimination System (NPDES) Permit prior to the issuance of a development permit or land use permit based on appropriate criteria.

A grading plan and erosion control plan shall be submitted prior to site disturbance or construction in the right-of-way. It shall meet the standards of the Portland Erosion and Sediment Control Manual. (Condition 33)

#### 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 surfacemounted 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.

All proposed new utilities are proposed to be underground. All stubs are long enough to avoid street disturbance.

#### **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.

The applicant shall grant a 20-foot waterline easement from Nopal to 15<sup>th</sup> Street, for the 6-inch water main. (Condition 34)

See also conditions 24 and 25, above: the applicant shall relocate the sanitary sewer manhole, which is located within the 15 foot public sewer easement, approximately 30 additional feet to the west, and shall increase the width of the proposed public sewer easement from 15 to 20 feet, and center the public sanitary sewer line in the easement.

See findings in this report for 11-3-2, Tentative Plan Requirements, below. The easements shown on the tentative plat are unclear. The applicant is required, per Condition 36 below, to revise their subdivision plat to include existing and proposed easements, including their exact locations and dimensions, in addition to a statement that no building, structure, tree, shrubbery or other obstruction shall be placed or located on or in a public utility easement.

#### **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.

Locations for general site lighting are shown on the landscape and site plans. A photometric plan shall be submitted and approved prior to the issuance of any relevant building permit(s), and parking lot construction. (Condition 35)

#### TITLE 9: UTILITIES

#### CHAPTER 5: STORMWATER MANAGEMENT

#### 9-5-2: DRAINAGE PLAN SUBMITTAL REQUIREMENTS:

#### 9-5-2-1: GENERAL:

- A. A Drainage Plan is required for all development, except as provided in FCC 9-5-2 4. Submittal requirements are tailored to the size and impacts of the development. The submittal requirements are specified in the Stormwater Manual.
- B. A registered Professional Engineer licensed by the State of Oregon shall prepare, certify, and seal the Drainage Plan whenever a Professional Engineer is required

in the Stormwater Manual or state law. Furthermore, prior to land disturbing activity, the developer for the land disturbing activity shall certify that the proposed activities will be accomplished pursuant to the approved plan.

C. If a land use approval is required, the Drainage Plan shall be submitted and approved as part of the land use approval process. If no land use approval is required, the Drainage Plan shall be submitted as part of the application for a construction or facility permit.

An engineered drainage plan is required, and has been submitted by the applicant. See Exhibit F: Utility and Stormwater Plan, and Exhibit M: Stormwater Report.

The subject property is not identified in the Florence Stormwater Management Plan (Figure 5-4: Florence Southwest Region South View) as an area of predicted flooding, predicted groundwater flooding, or reported flooding problem.

#### 9-5-3: STORMWATER DESIGN CRITERIA:

#### 9-5-3-1: GENERAL:

A. The criteria in Section 9-5-3 shall be used in the design of public and private stormwater drainage and management systems. Stormwater management facilities shall be constructed in accordance with the Stormwater Manual: the 2008 Portland Stormwater Management Manual, as superseded by the December 2010 City of Florence Stormwater Design Manual; and the 2008 City of Portland Erosion and Sediment Control Manual.

#### 9-5-3-2: STORMWATER QUANTITY (FLOW CONTROL):

- A. A 25-year, return period storm shall be used for the design of all private and public stormwater drainage systems.
- B. Onsite stormwater management facilities shall be required to prevent the postdevelopment runoff rates from a project site from exceeding the pre-development runoff rates from the site, based on a 2 through 25-year storm. Exemptions to this requirement may be approved by the City Manager or his/her designee if it is determined that a more effective solution is available and that downstream capacity will accommodate the increase in flow.
- C. Each new development project is responsible for mitigating its impacts on the stormwater system. This mitigation requirement can be satisfied through the use of any of the following techniques, subject to the other limitations identified by this Code:
  - 1. Construction of onsite facilities to limit the flow rate of stormwater runoff leaving the development site, in accordance with the Stormwater Manual.
  - 2. Enlargement or improvement of the down gradient conveyance system in accordance with the requirements of this Code and the City of Florence Stormwater Management Plan.
- D. The development of any land requiring a Drainage Plan shall address onsite and off-site drainage concerns, both up gradient and down gradient (a minimum of 1/4-mile) of the project, including:

- 1. Modifications to the existing onsite stormwater drainage and management facilities and drainage patterns shall not restrict or redirect flows creating backwater or direct discharge on to off-site property to levels greater than the existing condition unless approved by the affected offsite property owners and the City. Proof of off-site property owners approval shall be provided by having the affected property owner(s) sign an easement identifying the location of the backwater storage or impoundment area. This area shall be clearly shown on the submitted Drainage Plan site sheet(s). The easement shall be in a form approved by the City and recorded with the Lane County Deeds and Records Office.
- 2. Stormwater facilities shall be designed and constructed to accommodate all flows generated from the project 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 increases in peak flow rates resulting from the proposed development can be accommodated.
- E. The types of stormwater management controls presented in the Stormwater Manual are available for owners and developers to use in satisfying the predeveloped and post-development runoff requirement. More than one of these types of controls may be needed to satisfy the runoff requirement. In areas where the runoff requirement in Section 9-5-3-2-F are exempt or partially exempt, the City may require improvements to the down gradient conveyance system.

The applicant has submitted a stormwater report and proposed plan for a private stormwater system, designed to meet the City of Florence's Stormwater Design Manual and use of the existing public swale at the northeast corner of the property.

The proposed development consists of a large rain garden (west of the 15<sup>th</sup> Street driveway), an overflow retention pond (east of the 15<sup>th</sup> Street driveway), and the existing retention pond that is located in the Nopal Street right-of-way, on the northeast corner of the site. The rain garden is designed to treat the majority of the developed site. During larger storm events, the rain garden will overflow west, into the proposed retention pond, which will infiltrate the water. The rain garden is a stormwater treatment best management practice (BMP) to meet the water quality standards of the City of Florence. The applicant's proposed Stormwater Management Basin Map is included as Appendix A of their proposed Stormwater Report (Exhibit O). The rain garden and retention pond were designed to accommodate the drive aisle/parking area, pavilion, and 5 of the 12 houses located on the site (Lots 1, 2, 10, 11 & 12). The existing pond is proposed to take the drainage from the other 7 houses (Lots 3, through 9). The stormwater plan for this proposal states the existing retention pond's (in the Nopal St. right-of-way) size was determined through survey data of the site. The 2009 stormwater plan for Keener states the Nopal St. facility was engineered for the Nopal St. stormwater. Mike McAllister the engineer for Keener states the plan did not include roof drainage in the Nopal St. system.

Public Works states the roof drainage from the proposed private development may infiltrate into the public swale system in Nopal if the capacity is available. However, the discrepancy needs to be resolved prior to final plat. If the Nopal Street public swale is used for treatment and infiltration of private stormwater originating from the project site, the stormwater plan shall be modified to address the discrepancy between the 2009 and 2019 plans, and the Nopal Street swale shall be improved to meet current qualitative treatment standards (plantings) and

quantitative, if needed, to handle the flows from the development. (Condition 40). The size of each facility can be found in the table below, and in Exhibit M.

Facility	Volume (Cubic Feet)	Infiltration Rate (Inches / Hour)
Existing Retention Pond	2062	6*
Proposed Retention Pond	1045	20
Rain Garden	295	2.5

Branch Engineering, the author of the applicant's submitted stormwater report and plan, has concluded that, "compliance has been established for the stormwater system designed herein for the new site improvements. Water quality and flow control are accomplished through a rain garden and a retention pond. Treatment will occur through the filtering effects of the rain garden and disposal will occur through infiltration." The statement established compliance for the stormwater system designed for the new site improvements. It is not clear whether this statement is meant to include the existing swale in Nopal. The statement that follows the conclusion about water quality and flow control is limited to the on-site proposed systems. The condition listed above will address the qualitative aspect of the storm system.

#### 9-5-4: MAINTENANCE RESPONSIBILITY:

#### 9-5-4-2: PRIVATE FACILITIES:

- Α. Private stormwater facilities must be maintained in accordance with the Operations and Maintenance Plan approved as part of the Drainage Plan. The Operations and Maintenance Agreement will be recorded with the Lane County Deeds and Records Office. The Stormwater Manual contains the Operations and Maintenance Agreement Form to be used. A log of all maintenance activity shall be kept by the owner and made available to the City upon request. The City may, at its option, inspect the facilities for compliance with the requirements. If a property owner fails to maintain their facilities, the City may issue a written notice specifying the required actions. If corrective actions are not completed in a timely manner, the City may pursue legal remedies to enforce the provisions of the Operations and Maintenance Plan. The City will only enter the property to perform the required corrections if the public's health and public property are in imminent danger. In this situation, reasonable attempts will be made to contact the property owner(s), but a written notice may not be required. The property owner(s) will be billed for City incurred expense.
- B. The Maintenance Agreement shall provide that upon notification by the City of any violation, deficiency or failure to comply with the agreement or this Code, corrections shall be completed within ten (10) days after notice thereof. Thereafter the City may pursue legal action to enforce the provisions of the agreement. In an emergency situation, the City may provide for all necessary work to place the facility in proper working conditions. The persons specified as responsible for maintenance in the Maintenance Agreement shall be charged the costs of the work performed by the City or its agents.

The facilities on site will be maintained privately since they receive water only from private improvements and will be constructed under a construction permit. The existing retention pond will continue to be maintained by the City of Florence. Maintenance of all private and public facilities will be per the City of Florence's Stormwater Design Manual. Repairs to storm facilities shall be made in accordance with City of Florence Public Works Department. Operations and

Maintenance information is included in Appendix D of the applicant's Stormwater Report (Exhibit M).

#### 9-5-5: EASEMENTS:

#### 9-5-5-2: PRIVATE FACILITIES:

- A. Private facilities must be placed in an easement, tract, or right-of-way that allows for the maintenance of these facilities in accordance with the Operations and Maintenance Agreement.
- B. The City may determine that certain privately owned facilities are critical components of the overall stormwater system. In these situations, the City shall be granted perpetual, non-exclusive access that allows for public inspection. The access shall be defined in accordance with the requirements for a public easement, tract, or right-of-way.

The private stormwater facilities proposed – the rain garden and detention pond – are located adjacent to the 15<sup>th</sup> Street right-of-way. No easements on the rain garden or detention pond are proposed, although an easement may be required as a condition of approval of the final plat. (Informational 2)

The existing retention pond is located on City property, at the northeastern corner of the proposed site.

#### **CHAPTER 3: MAJOR PARTITION, TENTATIVE PLAN PROCEDURE**

#### 11-3-2: TENTATIVE PLAN REQUIREMENTS:

- A. Application for tentative plan approval shall comply with application requirements of FCC 10-1-1-4.
- B. Drafting: The tentative plan shall show all pertinent information to scale. The drawing shall be on standard size sheets eighteen inches by twenty four inches (18" x 24"), and at scale of one inch equal to one hundred feet (1" = 100'). The scale may be increased or decreased if necessary, but in all cases the scale shall be standard, being 10, 20, 30, 40, 50 or 60 feet to the inch or multiples of ten (10) of any one of these scales.

Tentative plans for major partitions and subdivisions shall be proposed by a surveyor who is an Oregon registered engineer or Oregon licensed land surveyor. An affidavit of the services of said engineer or land surveyor shall be furnished as part of the tentative plan submitted.

- C. Information Required: The application itself or the tentative plan must contain the following information with respect to the subject area:
  - 1. Name and block numbering of proposed subdivision. Except for the words, "tow", "city", "plat", "court", "addition" or similar words, the name shall be clearly pronounced different than ,the name of any other subdivision in the County unless the subject subdivision is contiguous to and platted by the same party that platted the preceding subdivision bearing that name. All subdivisions must continue the block numbers of the subdivision of the same name last filed.

- 2. The date, north point and scale of the drawing; a sufficient description to define the location and boundaries of the proposed subdivision or major partition area; and the names of all recorded subdivisions contiguous to such area.
- 3. The names and addresses of the owner and engineer or surveyor.
- 4. The location of existing and proposed right-of-way lines for existing or projected streets as shown on the Master Road Plan.
- 5. The locations, names and widths of all existing and proposed streets and roads. Said roads and streets shall be laid out so as to conform to subdivisions and major partitions previously approved for adjoining property as to width, general direction and in other respects unless it is found in the public interest to modify the street or road pattern.
- 6. Locations and widths of streets and roads held for private use, and all reservations or restrictions relating to such private roads and streets.
- 7. The elevations of all points used to determine contours shall be indicated on the tentative plan and said points shall be given to true elevation above mean sea level as determined by the City. The base data used shall be clearly indicated and shall be compatible to City datum, if bench marks are not adjacent. The following intervals are required: Contour Intervals Ground Slope 1' 0% to 5% 2' 5% to 10% 5' Over 10%
- 8. The approximate grades and radii of curves of proposed streets.
- 9. The approximate width and location of all reserve strips and all existing and proposed easements for public utilities.
- 10. The approximate radii of all curves
- 11. The general design of the proposed subdivision or major partition including the approximate dimensions of all proposed lots and parcels.
- 12. The approximate location of areas subject to inundation or storm water overflow, all areas covered by water, and the location, width and direction of flow of all watercourses.
- 13. The existing and proposed uses of the property including the location of all existing structures that the applicant intends will remain in the subject area.
- 14. The domestic water system proposed to be installed including the source, quality and quantity of water if from other than a public water supply.
- 15. All proposals for sewage disposal, flood control and easements or deeds for drainage facility including profiles of proposed drainage ways.
- 16. All public areas proposed to be dedicated by the applicant and the proposed uses thereof.
- 17. All public improvements proposed to be made or installed and the time within which such improvements are envisioned to be completed.

- 18. If lot areas are to be graded, a plan showing the nature of cuts and fills and information on the character of the soil.
- 19. A legal description and drawing of the boundaries of the entire area owned by the applicant of which the proposed subdivision or major partition is a part, provided that where the proposal comprises all of such area, an affidavit of such fact shall accompany the tentative plan.

The easements detailed on the tentative subdivision plat are not clear in their location and dimension; some lack a start/end point, length and/or width. The applicant shall revise their subdivision plat to include existing and proposed easements, including their exact locations and dimensions, prior to approval of the final plat. (Condition 36). See also Conditions 17 and 21.

Lot A shall be renamed on the plat as "Tract A;" it is not a legal lot. (Condition 37)

Tract A shall be divided into multiple tracts on the plat, to delineate the areas which are common ownership and the areas which are open space. (Condition 38)

11-3-3: REVIEW OF TENTATIVE MAJOR PARTITION OR SUBDIVISION: Within five (5) working days after the major partition or subdivision tentative plan is duly submitted, the Planning Director shall distribute copies thereof to the City Manager, to each public utility, the County Health Department, and to each government subdivision that may be affected by the major partition or subdivision proposal for review, comments and recommendations. If no written response is received by the Planning Director within thirty (30) days, it shall be assumed that the agency(s) approves of the proposal as submitted unless an extension is requested.

The subdivision application was received on October 14, 2019. Notice was sent in accordance with 11-3-3 on November 6, 2019; responses to the referrals were received by both the City of Florence Public Works, and the applicant, and are included as Exhibits R through T.

11-3-4: APPROVAL OF TENTATIVE MAJOR PARTITION OR SUBDIVISION: After giving notice as required by FCC 10-1-1-6, the Planning Commission or its designee shall grant approval or deny the major partition tentative plan. The hearing decision and further consideration of a similar application shall be governed by FCC 10-1-1-6. If approval involves implications of new or modified standards or policy, the Planning Commission and not its designee shall render a decision. The Planning Commission may require its designee to submit any tentative approval to the Commission for review prior to notification of the applicant. In the event of a denial, the application shall be reviewed by the Planning Commission within forty five (45) days. Approval shall be granted, provided affirmative findings can be made that: (Amd. Ord 30, Series 1990).

- A. The approval does not impede the future best use of the remainder of the property under the same ownership or adversely affect the safe and healthful development of such remainder or any adjoining land or access thereto.
- B. The tentative plan 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.

Evaluation of the proposed subdivision within the Preliminarily PUD suggests that approval would not impede the future best use of the remainder of the property. The tentative plan 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, as conditioned.

11-3-5: ACKNOWLEDGING TENTATIVE PLAN DECISIONS: Notice of the Planning Commission's decision shall be given as provided in FCC 10-1-1-6. Approval of a tentative plan for a major partition or subdivision shall be noted thereon by the chairman of the Planning Commission with the effective date of said approval. Unless appealed, a copy of the tentative plan as approved and so noted thereon shall be furnished the applicant following the effective date of approval. Where the Planning Commission has appointed a designee to take action on a major partition, the action may be evidenced by the signature of said designee.

11-3-6: TENTATIVE PLAN, EFFECTIVE DATE: Unless appealed, the Planning Commission decisions under this chapter shall become effective on the thirty first day after rendered. The applicant may then proceed with final surveying and preparation for final approval consideration of the major partition map or subdivision plat, as the case may be. Tentative plan approval shall be effective for two years within which time the application and major partition map or application and subdivision plat must be submitted as required by this Title. An applicant may apply to the Planning Commission for two (2) extensions of twelve (12) months each. A decision to extend the approval shall be based on compliance with the following criteria:

- A. The request for an extension is made in writing prior to expiration of the original approval;
- B. There are special or unusual circumstances that exist which warrant an extension; and
- C. No material changes of surrounding land uses or zoning has occurred. Otherwise the entire procedure must be repeated for reconsideration in light of changed conditions that may exist.

## 11-3-7: TENTATIVE PLAN, APPEAL OF DECISIONS: The procedure and provisions for appeal under this Chapter shall be governed by Subsection 10-1-1-7 of this Code.

The applicant will be expected to make preparations for final subdivision approval within the timeframes outlined unless otherwise provided for through approved and allowed extensions from the Planning Commission.

#### TITLE 11: CHAPTER 5: PLATTING AND MAPPING STANDARDS

#### 11-5-2: LOTS AND PARCELS:

- A. Size and Frontage:
  - 1. General Requirements: Each lot shall have a minimum width and depth consistent with the lot width and depth standards for the appropriate zoning district.
  - 2. Area: Minimum lot size shall be in conformance with the provisions of the Florence Zoning Ordinance. Where either a community water supply or sewer system are not presently provided, the lot area shall be sufficient to meet State and County health standards and the lot area shall be at least twice the number of square feet normally required in the zoning district where the lot is located. Where an oversize lot as described above is required

due to lack of services, the Planning Commission may require the developer to submit a plan for later division of said lot(s) into standard six thousand five hundred (6,500) or nine thousand (9,000) square foot lots.

3. Frontage: Each lot shall have frontage of not less than fifty feet (50') upon a street, except that a lot on the outer radius of a curved street or facing the circular end of a cul-de-sac shall have frontage of not less than thirty five feet (35') upon a street, measured on the arc. Where either a public water supply or public sewers are not presently provided, the lot frontage shall be sufficient to insure an adequate sized lot to meet State and County requirements.

See findings in this report for 10-13-4 A and B, which detail the lot dimension and area requirements in for the zone (the multi-family residential district). The applicant is requesting a 32-foot minimum lot width and a 47-foot minimum depth, an exception to the lot dimension standard of 65 feet wide by 80 feet deep. The applicant is also requesting a minimum lot area of 1,504 square feet, an exception to the lot area standard of 6,500 square feet.

As for lot frontage, the lots along a street (Lots 1 through 9) have frontages ranging from 34 feet to 47 feet (the majority are 34 feet). The three interior lots, along the driveway (Lots 10 through 12), are neither upon a street or facing the circular end of a cul-de-sac.

#### B. Exceptions:

1. Subdivisions and Partitions Developed as a Unit: The Planning Commission may in its discretion authorize the relaxation of the lot size and frontage requirements specified herein where the applicant presents a plan satisfactory to the Planning Commission whereby the entire subdivision or partition will be designed and developed with provision for proper maintenance of open space, recreation and parklands and will be commonly available for recreation and park purposes to the residents of the subdivision or partition, and which the Planning Commission determines will be of such benefit to said residents as is equal to that which would be derived from observance of the lot size and frontage requirements otherwise specified, and will be in accordance with the purpose of this Title.

In this case, a relaxation of the lot size and frontage requirements is warranted given the entire subdivision will be designed and developed with provision for proper maintenance of open space, recreation and parklands and will be commonly available for recreation and park purposes to the residents of the subdivision or partition. Such benefit to said residents as is equal to that which would be derived from observance of the lot size and frontage requirements otherwise specified.

# 11-5-3: PUBLIC FACILITIES: All utilities shall comply with applicable development standards of Title 10 Chapter 36 and Title 9.

The applicant submitted preliminary utility construction plans; these have been reviewed by Public Works. Final construction plans and utility facility specifications are required to be submitted for City review and approval prior to commencing construction. Stamped approval will be shown on the utility plans. (Condition 39)

11-5-5: UNSUITABLE AREAS: Areas identified in the Florence Comprehensive Plan as having designated or protected natural areas or potential hazards due to erosion, landslides, stream flooding, ocean flooding or other natural hazards shall not be divided

in a manner that would be dangerous to the health and safety of those who would live in said areas, the general public, or natural values which have been protected.

- A. All major partition and subdivision applications shall be reviewed by the City, using the Phase I checklist contained in Site Investigation Reports by Wilbur E. Ternyik, published by OCZMA.
- B. Where problem areas are identified in the Phase I checklist, a full-scale Phase II site investigation will be required covering only those problem areas identified in the Phase I checklist. This site investigation must be prepared and paid for by the applicant. Before approval would be granted the site investigation would have to prove either:
  - 1. That upon specific examination of the site, the condition which was identified in the Comprehensive Plan Inventory did not exist on the subject property; or
  - 2. That harmful effects could be mitigated or eliminated through, for example, foundation or structure engineering, setbacks or dedication of protected natural areas.
  - 3. Specifically, areas shown on the Hazards Map and the Soils Map of the Comprehensive Plan will require a Phase II site investigation report. Studies which have been adopted or included in the Comprehensive Plan by reference or studies done subsequent to the adoption of the Plan may be used to determine when a site investigation report is needed.

As noted in the findings for Title 10, Chapter 7 (Special Development Conditions) and Condition 5: The applicant completed a Phase 1 Site Investigation Report (Exhibit N). The slope on the southern half of the subject property has a 12 to 30 percent slope, and is composed of Waldport fine sand, and the applicant is proposing to cut in to it, grade it (to 2:1), and remove the existing vegetation, the applicant shall be required to submit a Phase 2 Site Evaluation Report, a geotechnical report, and a detailed bank stabilization plan prior to receiving any relevant building permit.

#### VII. CONDITIONS OF APPROVAL

The application, as presented, meets or can meet applicable City codes and requirements, provided that the conditions of approval are met in coordination with the below limitations.

Any modifications to the approved plans or changes of use, except those changes relating to Building Codes, will require approval by the Community Development Director or Planning Commission/Design Review Board.

Regardless of the content of material presented for this Planning Commission, including application text and exhibits, staff reports, testimony and/or discussions, the applicant agrees to comply with all regulations and requirements of the Florence City Code which are current on this date, EXCEPT where variance or deviation from such regulations and requirements has been specifically approved by formal Planning Commission action as documented by the records of this decision and/or the associated Conditions of Approval. The applicant shall submit to the Community Development Department a signed "Agreement of Acceptance" of all conditions of approval.

#### Exhibits:

Approval shall be shown on conditions of approval as supported by the following record:

"A"	Findings of Fact
"B"	Land Use Application
"C"	Tentative Plan
"D"	
"E"	
"F"	
"G"	

Findings of Fact attached as Exhibit "A" are incorporated by reference and adopted in support of this decision.

- 1. Any modifications to the approved plans or changes of use, except those changes relating to Building Codes, will require approval by the Community Development Director or Planning Commission/Design Review Board.
- 2. Regardless of the content of material presented, including application text and exhibits, staff reports, testimony and/or discussions, the applicant agrees to comply with all regulations and requirements of the Florence City Code which are current on this date, EXCEPT where variance or deviation from such regulations and requirements has been specifically approved by formal Planning Commission action as documented by the records of this decision and/or the associated Conditions of Approval. The applicant shall submit to the Community Development Department a signed "Agreement of Acceptance" of all conditions of approval prior to issuance of a building permit.
- **3.** Upon encountering any cultural or historic resources during construction, the applicant shall immediately contact the State Historic Preservation Office and the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians. Construction shall cease immediately and shall not continue until permitted by either a SHPO or CTCLUSI representative.

#### Title 10, Chapter 4, Conditional Uses

**4.** The applicant shall be required to construct a fence spanning from the northwestern corner of Lot 1, along the 15<sup>th</sup> Street frontage, ending at the northeastern corner of Lot 5. The proposed design of the fence shall meet the requirements of 10-34-5, the details of which shall be included on the site plan or another document submitted to the Florence Planning Department prior to approval of the final PUD.

#### Title 10, Chapter 7, Special Development Standards

5. The applicant shall be required to submit a Phase 2 Site Evaluation Report, a geotechnical report, and a detailed bank stabilization plan prior to receiving any relevant building permit.

#### Title 10, Chapter 13, Multi-Family Residential District

- 6. The applicant shall be required to submit a revised site plan and tentative plat prior to a decision regarding the final PUD and plat.
- 7. The minimum vision clearance at the proposed driveway entrances shall be 10 feet.

**8.** There are currently no parking signs proposed along the 15<sup>th</sup> Street frontage. Should a parking lane be installed along 15<sup>th</sup> Street, the applicant shall remove those signs.

#### Title 10, Chapter 23, Planned Unit Developments

- **9.** The applicant shall be required to submit a copy of the Covenants, Conditions and Restrictions for the development prior to the issuance of any relevant building permits. The developer shall be responsible for the maintenance of the common space areas.
- **10.** The applicant shall submit a development schedule consisting of a through e, above, prior to the approval of the final PUD and subdivision plat.
- **11.** By November 26, 2020, the applicant shall file with the Planning Commission a final development plan containing in final form the information required in the preliminary plan, or a request for extension.

#### Title 10, Chapter 34, Landscaping

- **12.** The applicant shall update their landscaping plan to include the species, sizes and locations throughout the development, including in the proposed rain gardens and parking areas.
- **13.** Specifications for soil at time of planting, irrigation and anticipated planting schedule shall be furnished by the applicant prior to any site disturbance, final PUD, final plat, and/or with each associated building permit.
- **14.** An irrigation plan is required prior to final PUD approval.
- **15.** The landscaping plan shall detail the location and species of each of the three trees required throughout the parking lot: 1 at the 15<sup>th</sup> Street entrance, 1 near the trash enclosure, and 1 along the Nopal entrance.

#### Title 10, Chapter 35, Access and Circulation

- **16.** The applicant shall be required to obtain a "Construction Permit in Right-of-Way prior to their construction of their access to and improvements of 15<sup>th</sup> Street.
- **17.** The applicant shall include an easement for joint use of the proposed driveway and parking lot on the Tentative Subdivision Plat.
- **18.** Driveway approaches shall receive a Right of Way Excavation Work Permit prior to construction.
- **19.** The applicant shall widen the proposed driveway to 23 feet in areas adjoining parking stalls.
- **20.** The applicant shall obtain a Right of Way Excavation Work Permit prior to sidewalk construction.

#### Title 10, Chapter 36, Public Facilities

**21.** If requested by Fire Marshal, applicant shall add an emergency access easement along the driveway to the plat, prior to the approval of the final plat.

- **22.** Should a parking lane be installed along 15<sup>th</sup> Street, the applicant shall update the site plan and signage plan accordingly.
- **23.** The applicant shall submit a plan for mail boxes, approved by the United States Postal Service, prior to the issuance of any building permits for residential structures.
- 24. The sanitary sewer manhole located within the 15 foot public sewer easement needs to be accessible in order for the City to maintain and service the system. The City will need to be able to drive to and set up its combination sewer cleaner over the manhole as well as ability to set up the TVI equipment. The applicant shall relocate the manhole approximately 30 additional feet to the west.
- **25.** The applicant shall increase the width of the proposed public sewer easement from 15 to 20 feet, and center the public sanitary sewer line in the easement.
- **26.** There appears to be an irrigation water meter located in a concrete pad location north west of Lot 12 (just outside of the parking area).
- **27.** The applicant shall relocate the irrigation water meter to the east of the bicycle parking area.
- **28.** The water meter shall be located in a landscaped area, not in hardscape areas.
- **29.** On Nopal Street towards the existing fire turn around (the future street stub that the proposed development will be utilizing) there is an existing water service. The applicant shall verify the location of the water service, and utilize it for one of the proposed homes if possible.
- **30.** On 15<sup>th</sup> Street, there are two existing water services. If they cannot be utilized for the project, the applicant shall properly abandon them.
- 31. The proposed connection to the existing water main on 15<sup>th</sup> Street, to loop the water system, shall be a cut-in connection complete with three water valves in a 'T' configuration. The existing water main in 15<sup>th</sup> Street is a 6-inch water main, so the connection will need to allow for an 8-inch water main connection and the new 8-inch extending to the south of the proposed fire hydrant, then reduce to 6-inch to continue the water system to the south with connection to the existing water main that is stubbed from Nopal Street.
- **32.** Locate and cap the two existing sanitary sewer laterals that serviced the former Senior Center and the undeveloped area to the east.

#### Title 10, Chapter 36, Public Facilities

- **33.** A grading plan and erosion control plan shall be submitted prior to site disturbance or construction in the right-of-way. It shall meet the standards of the Portland Erosion and Sediment Control Manual.
- **34.** The applicant shall grant a 20-foot waterline easement from Nopal to 15th Street, for the 6-inch water main.

#### Title 10, Chapter 37, Lighting

**35.** Locations for general site lighting are shown on the landscape and site plans. A photometric plan shall be submitted and approved prior to the issuance of any relevant building permit(s), and parking lot construction.

#### Title 11, Chapter 3, Major Partition, Tentative Plan Procedure

- **36.** The applicant shall revise their subdivision plat to include existing and proposed easements, including their exact locations and dimensions, prior to approval of the final plat.
- **37.** Lot A shall be renamed on the plat as "Tract A;" it is not a legal lot.
- **38.** Tract A shall be divided into multiple tracts on the plat, to delineate the areas which are common ownership and the areas which are open space.

#### Title 11, Chapter 5, Platting and Mapping Standards

**39.** Final construction plans and utility facility specifications are required to be submitted for City review and approval prior to commencing construction. Stamped approval will be shown on the utility plans.

#### Title 9, Chapter 5, Stormwater Management

**40.** Final construction plans and utility facility specifications are required to be submitted for City review and approval prior to commencing construction. Stamped approval will be shown on the utility plans.

#### VIII. ALTERNATIVES

- 1. Approve the application based on the findings of compliance with City regulations.
- 2. Modify the findings, reasons or conditions, and approve the request as modified.
- 3. Deny the application based on the Commission's findings.
- 4. Continue the Public Hearing to a date certain if more information is needed.

#### IX. CONCLUSIONS AND RECOMMENDATIONS

Staff finds that the proposed application meets the requirements of City Code with conditions, and **recommends approval** of **the Preliminary PUD, Tentative Subdivision, and Conditional Use Permit** subject to conditions.

#### X. EXHIBITS

"A"	Findings of Fact
"B"	Prelim. PUD and Tent. Subdivision Plan Application
"C"	Conditional Use Permit Application
"D"	Site Plan
"E"	Tentative Subdivision Plat
"F"	Utility & Stormwater Plan
"G"	Survey

"H"	Landscape Plan	
" "	Elevations for Lot 1	
"J"	Elevations for Lots 2, 3, 5, 6, 8, 9	
"K"	Elevations for Lots 4, 10	
"L"	Elevations for Lots 7, 12	
"M"	Stormwater Report	
"N"	Phase 1 Site Investigation Report	
"O"	Florence Stormwater Management Plan Map	
"P"	Applicant's Written Statement	
"Q"	Q" Applicant's Completeness Review Response	
"R"	Testimony: Chuck Trent, Boys & Girls Club	
"S"	Referral 1: Public Works	
"T"	Referral 2: Public Works	

FLORENCE - UREQD II. 27 - HEA	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) (Floren ■ Tentative Subdivision Plan (Florence City Code Title 1 □ Modification to requirements (Title 10, Chapter 36 o PC1922 PUD 03 & PC1923 SUB 04	nce City Code Title 10, Ch-23) 1, Ch-1, 3, 5 & 7) r Title 11)
Applicant Information	-
Name: Josh Shafer, Stonewood Construction E-mail A Address Signatur	Phone 1: Phone 2: Date: <u>IP/И/19</u>
Applicant's Representative (if any): Renee Clough, PE, PLS	S, AICP, Branch Engineering
Property Owner Information	
Name: Willamette Neighborhood Housing Services / D	eviter 1:
E-mail /	Phone 2:
Address Signatu Applicant's Representative (if any):Emily Reiman, CEO	Date:0/14/19
NOTE: If applicant and property owner are not the same individual, a signed letter of aut the applicant to act as the agent for the property owner must be submitted to the City al agrees to allow the Planning Staff and the Planning Commission onto the property. Pleas special arrangements are necessary.	horization from the property owner which allows ang with this application. The property owner are inform Planning Staff if prior notification or
For Office Use Only:	
REGERMED City of Florence OCT 1 4 2019	Exhibit Exhibit B

. 40 40 07 44		1.0	100
Assessor's Map No.: <u>18</u> - <u>12</u> - <u>27</u> - <u>10</u>		Tax lot(s): 154	100
Zoning District(s): Multi-Family Residential		<del>.</del>	
Conditions & land uses within 300 feet of the	propose	d site that is on	e-acre or larger and within 10
feet of the site that is less than an acre OR ac	dd this in	formation to the	e off-site conditions map
(FCC 10-1-1-4-B-3): South: RM Zoning, FI	orence	Business Cen	ter
East: RM Zoning, duplexes and apartmer	nts		
North: Mobile Home/Manufactured Home	e Zoning	, manufacture	d homes
West: Restricted Zoning, single-family re-	sidence	S	
Pro	oject Desc	ription	3
Lot Size: 1.7 acres	Numb	er of single fam	nily lots proposed: 12
Proposed Building Coverage if a PUD:			
Is any project phasing anticipated? (Check O	Dne): 🗆	Yes 🗐 No	
Timetable of proposed improvements:		· · · · · · · · · · · · · · · · · · ·	
Proposal: (Describe the project in detail, we desired by the project. Attach a	what is bo additiona	eing proposed, I sheets as nec	size, objectives, and what is essary)
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide	what is be additiona mes, cor affordat low to m	eing proposed, I sheets as nec nmon open sp ble housing in noderate incom	size, objectives, and what is essary) bace and on-site a safe, community- me families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b	what is be additiona mes, cor affordat low to m puild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incon lity.	size, objectives, and what is essary) bace and on-site a safe, community- me families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b	what is be additiona mes, cor affordat low to m ouild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incon lity.	size, objectives, and what is essary) bace and on-site a safe, community- me families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b	what is be additiona mes, cor affordat low to m puild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incon lity.	size, objectives, and what is essary) bace and on-site a safe, community- me families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b	what is be additiona mes, cor affordat low to m puild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incon lity.	size, objectives, and what is bace and on-site a safe, community- me families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b	what is be additiona mes, cor affordat low to m puild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incon lity.	size, objectives, and what is essary) bace and on-site a safe, community- me families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b	what is be additiona mes, cor affordat low to m puild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incon lity.	size, objectives, and what is essary) bace and on-site a safe, community- ne families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b	what is be additiona mes, cor affordak low to m puild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incon lity.	size, objectives, and what is essary) bace and on-site a safe, community- me families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b	what is be additiona mes, cor affordat low to m puild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incon lity.	size, objectives, and what is essary) bace and on-site a safe, community- ne families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b	what is be additiona mes, cor affordak low to m ouild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incom lity.	size, objectives, and what is essary) bace and on-site a safe, community- me families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b 	what is be additiona mes, cor affordak low to m puild equ	eing proposed, I sheets as nec nmon open sp ble housing in noderate incom lity.	size, objectives, and what is essary) pace and on-site a safe, community- me families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b 	what is be additiona mes, cor affordak low to m puild equ puild equ r Office Us	eing proposed, I sheets as nec nmon open sp ble housing in noderate incon lity.	size, objectives, and what is essary) pace and on-site a safe, community- ne families the
Proposal: (Describe the project in detail, v desired by the project. Attach a Cluster subdivision with 12 detached hor parking area. The objective is to provide oriented setting. The project will provide opportunity to own their own home and b 	what is be additiona mes, cor affordak low to m puild equ r Office Us	eing proposed, I sheets as nec nmon open sp ble housing in noderate incom lity.	size, objectives, and what is essary) pace and on-site a safe, community- ne families the

#### **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 <i>Florence Transportation Plan, Downtown Architectural Guidelines, Highway</i> 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" × 17"
Tentative Subdivision Plan drawn to scale, showing the following:
<ul> <li>Name and block numbering of proposed subdivision</li> <li>Date, north point, scale of the drawing,</li> <li>Description of the location and boundaries of the proposed subdivision or major partition area</li> <li>Names of all recorded subdivisions contiguous to the area</li> <li>Names and addresses of the owner and engineer or surveyor</li> <li>Locations, names, widths of all existing and proposed public and private streets and roads (includes right-of-way and pavement widths) &amp; all reservations/restrictions relating to private roads &amp; streets</li> <li>Grades and radii of curves of proposed streets</li> <li>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:</li> <li>Contour Intervals Ground Slope         <ol> <li>0% to 5%</li> <li>5' over 10%</li> </ol> </li> <li>Width and location of all proposed public utility easements</li> </ul>
<ul> <li>Stormwater hows, location of existing storm lines, location of stormwater orement and the import down stream</li> <li>Location of sewer pipes, sizes, man holes, and elevations of existing and proposed pipes</li> <li>Water system proposed including source, pipe locations, sizes, meter locations &amp; hydrants</li> <li>Width and location of all proposed sidewalks</li> <li>All public areas proposed to be dedicated by the partitioner and the proposed uses thereof such as reserve strips</li> <li>All public improvements proposed to be made or installed, and the time within which such improvements are envisioned to be completed</li> <li>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</li> <li>Dimensions of all proposed lots or/and parcels</li> <li>If lot areas are to be graded, a plan showing the nature of cuts and fills and information on the character of the soil</li> </ul>
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.	
<ul> <li>A development schedule indicating:</li> <li>a. The approximate date when construction of the project can be expected to begin.</li> <li>b. The stages in which the project will be built and the approximate date when construction of each stage can be expected to begin.</li> <li>c. The anticipated rate of development.</li> <li>d. The approximate dates when each stage in the development will be completed.</li> <li>e. The area, location and degree of development of common open space that will be provided at each stage.</li> </ul>	
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.	
<ul> <li>The following plans and diagrams, insofar as the reviewing body finds that the planned unit d evelopment creates special problems of traffic, parking and landscaping.</li> <li>a. An off-street parking and loading plan.</li> <li>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.</li> <li>c. A landscaping and tree plan.</li> </ul>	n r
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, solls, 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: \_\_\_\_\_\_ - inch line available from \_\_\_\_\_\_ (Street) Sanitary Sewer: \_\_\_\_\_\_ - inch line available from \_\_\_\_\_\_ Storm Sewer: \_\_\_\_\_\_ - inch line available from \_\_\_\_\_\_ (Street) (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.

ELOREINCE - OREGON		City of Horence Community Development Department 250 Highway 101 Florence, OR 97439 Phone: (541) 997 - 8237 Fax: (541) 997 - 4109 <u>www.ciflorence.or.us</u>		
Type of Request				
Type I Type II Type III Type III	THIS SECTION FOR OFFICE USE ONLY Type IV PC1925 CUP	08		
	Applicant Information			
Name: Josh Shafer, Stonewoo	d Construction Phone	1:		
E-mail Ado		Phone 2:		
Address:				
Signature		Date: 10/11/19		
Applicant's Representative (if any):	enee Clough, PE, PLS, A	ICP, Branch Engineering		
	Property Owner Information			
Name: Willamette Neighborhood	Housing Services / DevNW	1:		
E-mail Add		Phone 2:		
Address:				
Signature:		Date: 10/14/19		
Applicant's Representative (If any):	mily Reiman, CEO			
NOTE: If applicant and property owner are not the applicant to act as the agent for the prope agrees to allow the Planning Staff and the Plan special arrangements are necessary.	the same Individual, a signed letter of author rty owner must be submitted to the City along nning Commission onto the property. Please in	ization from the property owner which allows with this application. The property owner form Planning Staff if prior notification or		
	For Office Use Only:			
RECEIVED	Approved	Exhibit		
City of Florence	7			
UCI 1 4 2019				
By: gore				
Four Reshed 11/29/16				

Property Description
Site Address: 1580 15th Street, Florence, OR
General Description: Cluster development with 12 detached homes, common open
space and on-site parking area.
Assessor's Map No.:18- 12 27 10 Tax lot(s): 15400
Zoning District: Multi-Family Residential (RM)
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 10-1-1-4-8-3): South: RM Zoning, Florence Business Center
East: RM Zoning, duplexes and apartments
North: Mobile Home/Manufactured Home Zoning, manufactured homes
West: Restricted Zoning, single-family residences.
Project Description
Square feet of new: Square feet of existing: NA
Hours of operation: NA Existing parking spaces: NA
ls any project phasing anticipated? (Check One): Yes 🗆 No 🔳
Timetable of proposed Improvements:
Will there be impacts such as noise, dust, or outdoor storage? Yes 🗌 No 🔳
If yes, please describe:
Proposal: (Describe the project in detail, what is being proposed, size, objectives, and what is desired by the project. Attach additional sheets as necessary)
Cluster subdivision with 12 detached homes, common open space and on-site
parking area. CUP for single-family homes in RM zone and modification of existing
PUD are requested and further detailed in written statement.
The objective is to provide affordable housing in a safe, community-oriented setting.
The project will provide low to moderate income families the opportunity to own
their own home and build equity.
For Office Use Only:
Paid
Date Submitted: Fee:
Received by:

### NOTE

IT IS POSSIBLE THAT THE PARKING AREA STORAGE BUILDINGS WILL NOT BE INSTALLED WITH THE INITIAL CONSTRUCTION OR AT ALL.

### LEGEND

ΕXI	เรา	IP	VG

- <u> </u>
· · ·
R A
WM
H
+\$++
IRR
(WW)
<b>∳</b> ——>≍≍
*
EV
E
J

 $\bigtriangleup$ 

MB

CONTOUR LINE
CONCRETE
TOP OF SLOPE TOE OF SLOPE
WATER VALVE
WATER METER
HOSE BIB
FIRE HYDRANT
IRRIGATION VALVE
IRRIGATION BOX
STORMWATER CURB INLET
SANITARY SEWER MANHOL
TELEPHONE RISER
LIGHT POLE
ONSITE LIGHT POLE
ELECTRIC VAULT
ELECTRIC RISER
JUNCTION BOX
TRANSFORMER
MAIL BOX

71
A. A
=
WM
<del>،</del> ¢۰
WW
E
$\square$
•
<b>※</b>
XX

PROPOSED

CONTOUR LINE BUILDING CURB CONCRETE STORAGE BUILDING STORAGE SHED TOP OF SLOPE TOE OF SLOPE CATCH BASIN WATER METER PUBLIC FIRE HYDRANT SANITARY MANHOLE AREA DRAIN ELECTRIC VAULT ELECTRIC TRANSFORMER SIGN WHEEL STOP DECORATIVE PEDESTAL MOUNTED FENCE

VISION CLEARANCE AREA

- NO PARKING SIGN

CURVE TABLE						
CURVE #	LENGTH	RADIUS	DELTA	CHORD		
C1	9.10	20.00	26°04'01"	N13•00'28"E, 9.02		
C2	31.88	30.50	59 <b>°</b> 52'47"	S60°26'45"E, 30.44		

### TABULATION OF COVERAGE

	$\sim r$				TOTAL	
	()-			IHE	111141	RFA
THE DUL THON		OUVEN/IOE	IN OLODLO		IOINE	/\_/\

<b>DEVELOPMENT SITE</b> TAX MAP 18–12–27–10 TAX LOT 15400 TOTAL SITE AREA DEVELOPMENT AREA	75,076 SF (1.72 ACRES) 47,639 SF (1.09 ACRES)
EXISTING CONDITIONS IMPERVIOUS AREA ROOF ASPHALT CONCRETE PERVIOUS AREA	83 SF (0.00 ARCES) 5,508 SF (0.13 ACRES) 263 SF (0.01 ACRES) 42,955 SF (0.99 ACRES)
<b>PROPOSED CONDITIONS</b> IMPERVIOUS AREA ROOF PARKING/DRIVE SIDEWALKS	11,808 SF (0.27 ACRES) 10,951 SF (0.25 ACRES) 6,224 SF (0.14 ACRES)
PERVIOUS AREA YARDS COMMON	11,862 SF (0.27 ACRES) 6,154 SF (0.14 ACRES)
INCREASE IN IMPERVIOUS AREA LANDSCAPED AREA LANDSCAPED STORMWATER FACILITIES UNDEVELOPED AREA	23,129 SF (0.53 ACRES) 4,631 SF (0.11 ACRES) 1,632 SF (0.04 ACRES) 27,437 SF (0.63 ACRES)
PERCENTAGE OF LOT LANDSCAPED	45%

copyright © 2012 Branch Engineering, Inc.



DEVNW AIRPORT RD. PUD TENT. SUBDIV. AND PUD TAX MAP: 18-12-27-1, TAX LOT: 15400 FLORENCE, OREGON 97439
date:NOV. 12, 2019drawn by:AWMSdesigner:RCproject no:18-493SITE AND GRADING PLANsheet:C2



# LEGEND

EXISTING

- <u> </u>
· · ·
_ · · · _ · · _ · · -
————(E)W———
<u>I</u>
WM
H
+0++
IRR
(E)SD
———(E)WW ———
$\cap$
(WW)
(E)T
T
<b>⊨</b> ≿≾
*
EV
E
J
$\square$

MB

	PROPOSED
CONTOUR LINE	71
CONCRETE	
TOP OF SLOPE TOE OF SLOPE WATER LINE WATER VALVE WATER METER HOSE BIB FIRE HYDRANT	
RRIGATION VALVE RRIGATION BOX STORMWATER LINE STORMWATER CURB INLET SANITARY SEWER MAIN SANITARY SEWER CLEANOUT SANITARY SEWER MANHOLE UNDERGROUND COMMUNICATION LINE	₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩
TELEPHONE RISER LIGHT POLE ONSITE LIGHT POLE ELECTRIC VAULT ELECTRIC RISER JUNCTION BOX TRANSFORMER MAIL BOX	■ — E — E — E — E — E — E — E — E — E — E

### NOTE

- EASEMENT.
- 3. ELECTRIC CAR CHARGING STATION(S) MAY BE INSTALLED WITH INITIAL

CONSTRUCTION OR LATER AT DEVELOPER'S DISCRETION.

### CONTOUR LINE BUILDING CURB CONCRETE STORAGE BUILDING STORAGE SHED TOP OF SLOPE TOE OF SLOPE STORMWATER PIPE CATCH BASIN WATER LINE WATER METER PUBLIC FIRE HYDRANT SANITARY DRAIN SANITARY CLEANOUT SANITARY MANHOLE AREA DRAIN SIGN WHEEL STOP ELECTRIC LINE ELECTRIC VAULT ELECTRIC TRANSFORMER DECORATIVE PEDESTAL MOUNTED LIGHT VISION CLEARANCE AREA

SANITARY MANHOLE

6" FL IN(NW) = 41.76

6" FL IN(W) = 43.06

8" FL IN(SW) = 41.77

8" FL IN(SE) = 41.56

8" FL OUT(NE) = 41.30.

RIM = 46.09

copyright  $\ensuremath{\textcircled{C}}$  2012 Branch Engineering, Inc.


# INDEX

C1 EXISTING CONDITIONS/DEMO PLAN C2 SITE AND GRADING PLAN C3 UTILITY AND STORMWATER PLAN

C4 LANDSCAPE PLAN

## VERTICAL DATUM

OR NAD83 2011/GEOID12A–ORGN OREGON COAST

# SOIL TYPES:

ACCORDING TO THE USDA NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY, THE SITE SOIL IS MAPPED AS WALDPORT FINE SAND (NATIONAL MAP UNIT SYMBOL 234r).

# LEGEND



J

 $\bigtriangleup$ 

MB

**\_\_** 

CONTOUR LINE FENCE LINE STRUCTURE ASPHALT EDGE CONCRETE CURB STAIRS TOP OF SLOPE TOE OF SLOPE WATER LINE WATER VALVE WATER METER HOSE BIB FIRE HYDRANT IRRIGATION VALVE IRRIGATION BOX STORMWATER LINE STORMWATER CURB INLET SANITARY SEWER MAIN SANITARY SEWER CLEANOUT SANITARY SEWER MANHOLE UNDERGROUND COMMUNICATION LINE TELEPHONE RISER OVERHEAD WIRE ELECTRICAL POLE LIGHT POLE ONSITE LIGHT POLE ELECTRIC VAULT ELECTRIC RISER JUNCTION BOX TRANSFORMER MAIL BOX SLOPE ARROW

OWNER

CITY OF FLORENCE 250 HWY 101 FLORENCE, OR 97439

> GRAPHIC SCALE 10

> > SANITARY MANHOLE RIM = 46.09

6" FL IN(NW) = 41.76 6" FL IN(W) = 43.06 8" FL IN(SW) = 41.77

8" FL IN(SE) = 41.56 8" FL OUT(NE) = 41.30 ~

TAX LOT 700

# KINGWOOD NORTH

TAX LOT 800



# **LEGEND** EXISTING

**B** 

WM

H

+Ö+

 $\bowtie$ 

IRR

WW

Т

\*\*

EV

Ε

J

 $\bigtriangleup$ 

MB

A

CONTOUR LINE

TOP OF SLOPE

TOE OF SLOPE

WATER VALVE

WATER METER

FIRE HYDRANT

IRRIGATION VALVE

IRRIGATION BOX

TELEPHONE RISER

ONSITE LIGHT POLE

ELECTRIC VAULT

ELECTRIC RISER

JUNCTION BOX

TRANSFORMER

MAIL BOX

LIGHT POLE

STORMWATER CURB INLET

SANITARY SEWER MANHOLE

HOSE BIB

CONCRETE

		$\sim$		^	$\sim$	_	
	1)	/ \	1)	/ I	L .		1
~	<b>FT</b> 1		$\sim$			_	
	1 \ '	· /			、 J I		

71
· · · · · · · · · · · · · · · · · · ·
<u> </u>
<u></u>
WM
WW
Ε
$\square$
<b>•</b>
業
— <del>X — X —</del>
<u>                                       </u>

CONTOUR LINE BUILDING CURB CONCRETE STORAGE BUILDING STORAGE SHED TOP OF SLOPE TOE OF SLOPE CATCH BASIN WATER METER SANITARY MANHOLE AREA DRAIN ELECTRIC VAULT ELECTRIC TRANSFORMER SIGN WHEEL STOP DECORATIVE PEDESTAL MOUNTED LIGHT FENCE SEEDED LAWN WITH IRRIGATION COMMUNITY GARDEN AREA BARK MULCH AND PLAYGROUND

## LANDSCAPING NOTES

EXPOSED SOIL IN THE CUT SLOPES IN SOUTH NEAR THE PARKING AREA WILL BE PLANTED WITH RHODODENDRON AND OREGON GRAPE TO STABILIZE SLOPE.



\18-493 Keener Place\Drawings\18-493 Site Revised 2.dwg 11/12/2019 3:32 PM DRE



DEVNW AIRPORT RD. PUD DEVNW AIRPORT RD. PUD TENT. SUBDIV. AND PUD TAX MAP: 18-12-27-1, TAX LOT: 15400 FLORENCE, OREGON 97439
date:NOV. 12, 2019drawn by:AWMSdesigner:RCproject no:18-493LANDSCAPE PLANsheet:C4

# GENERAL REQUIREMENTS and MATERIAL SPECIFICATIONS:

## GENERAL REQUIREMENTS

- 1. Codes Construction to comply with the following codes as adopted by Local Agency :
  - 2017 Oregon Residential Specialty Code (ORSC): • 2017 Oregon Electrical Specialty Code (OESC):
  - 2017 Oregon Plumbing Specialty Code (OPSC):
  - 2010 Oregon Manufactured Dwelling Installation Specialty Code (OMDOSC):
- 2014 Oregon Energy Efficiency Specialty Code (OEESC):
- 2. Loading Criteria: Snow Load 25 psf Wind Load - 120 mph, Exposure C
  - Seismic Zone D
- 3. The contractor is responsible for coordinating the work of the subcontractors and trades.
- 4. Shop drawings required by the contract drawings, or material specifications shall be submitted to the owner and engineer for review and approval, prior to fabrication.
- 5. Materials are to be handled, stored and installed in compliance with the manufacturer's
- 6. The contractor shall provide the necessary temporary shoring \$ bracing as required until all final connections have been completed in accordance with the drawings in order to maintain a safe work environment.
- The Contractor shall verify all dimensions with owner before commencing work. All Standards referred to in the plans and specifications shall apply to the latest edition of such standards for materials, equipment, installation or fabrication methods which are not specified in the plans and specifications. The minimum standard indicated in the designated code shall apply.
- 8. The notes and details on this sheet are general. Specific information on the drawings differing from these notes shall apply. Written dimensions have precedence over scaled dimensions. DO NOT SCALE DRAWINGS.
- 9. Work to be performed and scheduled to cause the least disruption to the building occupants and operations.
- 10. Substitute or equivalent materials, equipment, fixtures or other items of construction may be considered by the owner and engineer upon submission of adequate information to justify such substitution.
- 11. Contractor to remove excess materials and debris from site and leave work areas in a clean condition upon completion of work.
- 12. Any changes from these plans must be approved by the engineer of record and/or appropriate agency prior to or during construction.
- 13. The Contractor shall verify all utility locations prior to construction or excavation.
- 14. Blocking 2X width of stud or roof rafter, shall be provided at ceiling and roof lines so that the unbraced length of any framing does not exceed 10'-0".

## - SITE WORK

- Excavate to provide for the indicated construction and conform to the finish grades. Remove excess materials from site.
- Footings to bear on undusturbed native soil or engineered fill by Soils Engineer placed on undisturbed native soil.
- 3. Any fill under grade supported slabs to be a min. of 4" of gravel compacted to 95% of a standard proctor, per ASTM D-1556
- 4. Storm and rainwater drain lines: Schedule 40 ABS, or PVC-DWY pipe and fitting, 1/8" per foot Joints and fittings to be solvent welded Connection to down spout to be 12" above finished grade.
- CONCRETE
- Footings, stem walls, walls, interior and exterior slabs on grade: Ready mixed, air entrained, ASTM C-94 & ASTM C-260. Strength = 3000 psi minimum at 28 days.
- Designed = 2500 psi, no special inspection required. 2. Steel Reinforcement
- Grade 60 Minimum, ASTM A-615. Place per ACI Code and Standards. Lap continuous No.4 Bars 24" Minimum and No.5 Bars 30" Minimum at all Corners, Steps, and Splices. 3. Exterior slabs and walks are to have a light broom finish. Slope uncovered slabs and walks a minimum of 1/4" per foot for drainage.
- METALS
- Prefabricated Framing Anchors: Simpson Strong-Tie Company Inc., 5956 West Las Positas Blvd. Pleasanton, CA 94588. Designation on plans are from catalog C-C-2017.
- 2. Anchor bolts, Threaded Rods, Thru-Bolts and Lag Screws installed in pressure treated members are required to be hot dipped galvanized, or Type 304 or 316 stainless steel.
- 3. All fasteners, hangers, and other connectors in contact with pressure treated materials are to be hot-dip galvanized, zinc-coated galvanized steel, or stainless steel per ORSC R317.3.1.
- 4. All anchor bolts shall include Steel plate washers, a minimum of 0.229" thick x3"x3" in size. These washers are to be located between the top of the sill plate(s) and the nut as per ORSC R602.11.1.
- 5. All Simpson Framing Anchors and Connectors installed Outdoors or in contact with pressure treated members are required to be <u>hot dipped galvanized</u> or <u>ZMAX®</u> Coated per Simpson Stong-Tie® instructions.

- WOOD FRAMING AND PLASTICS
- 1. Construction: Wood construction per Conventional Construction Requirements of chapters 5, 6, and 8 of the 2017 Oregon Residential Specialty Code.
- Fastening of Structural Members Residential Per "2017 Oregon Residential Specialty Code", -TABLE R602.3(1).
- 3. Evidence of Grade: Grade mark of an approved grading organization having jurisdiction must appear on each piece of material.
- 4. Trim: Furnish and install necessary trim and molding including miscellaneous hardware.
- 5. Framing Lumber: Douglas Fir / Larch 646, to standard dimensions - 2x and 4x framing to be No. 2 or better, 6 x framing to be No. 2 or better, P.T. to be No. 2 or better, and Furring and Blocking to be No. 3 or better
- 6. Pressure Treated Lumber:

Sill plates, foundation plates and embedded columns in contact with concrete to be #2 hem-Fir, pressure treated lumber (unless noted otherwise) that conforms to AWPA standards UI (commodity specification A ) and M4.

8. Roof Sheathing:

- APA rated sheathing, exposure 1. Panel span rating 32/16 minimum 7/16" thickness. Grade mark by APA or other approved agency.
- APA rated plywood sheathing, exposure 1. Panel span rating 32/16 minimum 15/32" thickness. Grade mark by APA or other approved agency.
- Attachments:
  - Place sheets perpendicular to roof trusses or framing and staggered joints. Unblocked diaphragm. 8D Common nails (2 1/2" x Ø.131") at 6" OC at supported edges and 12" o.c. at intermediate framing members.
- 9. Wall Sheathing:
  - APA rated sheathing, exposure 1. Panel span rating, 24/0 minimum 7/16" thickness. Grade mark by APA or other approved agency. Attachments:
  - Place sheets perpendicular to studs and staggered joints. Unblocked diaphragm. 8D Common nails (2 1/2" x Ø.131") at 6" O.C. at supported edges and 12" O.C. at intermediate framing members.
- 10. Wire staples may be substituted for common nails as follows:
  - Nails Staples 6D @ 6" O.C. 15 GA. @ 6" O.C. 6D @ 12" O.C. 15 G.A. @ 12" O.C. 8D @ 6" O.C. 15 GA. @ 5" O.C.
  - 8D @ 12" O.C. 15 GA. @ 10" O.C. 100 @ 6" O.C. 15 GA. @ 4" O.C.
  - 10D @ 10" O.C. 15 GA. @ 7" O.C. 7/16" O.D. crown dimension required. 1" minimum penetration required into framing member.
- 11. Prefabricated Wood Roof Trusses: Design by fabricator to fit dimensions indicated on plans and loads indicated
  - Top Chord: 25 psf L.L. 7 bsf DL
- Bottom Chord: Øpsf L.L. 10 psf D.L. METAL-PLATE Connected Wood Trusses shall comply with ORSC R802.102, and meet the cture, and quality assurance as s
- Fabricator responsible for designing necessary bridging and bracing. Contractor responsible for installing required bracing during erection. Submit shop drawings stamped by a Registered Oregon Engineer.
- 14. "I" Beam Joists:
- TM, Trus Joist TJI Joists by Weyerhaeuser or equal.
- TJI JOIST AT BEARINGS: 2-100 (3") BOX OR 120 (3 1/2") BOX NAILS (1 EACH SIDE), 1/2" MINIMUM FORM END
- THERMAL & MOISTURE PROTECTION
- Insulation • Walls, R-21 fiberglass batt insulation with integral one perm rated vapor barrier
- placed on warm side of wall.
- Roof/Ceiling, R-38 fiberglass batt insulation with integral one perm rated vapor barrier placed on warm side of framing.
- Floors, R-30 fiberglass batt insulation with integral one perm rated vapor barrier
- placed on warm side of framing.
- Ducting, R-8 fiberglass wrap.
- Piping, Minimum pipe insulation (inches) per Section NII06 and Table NII06.1 of the 2017 ORSC.
- Roof Covering: -Class B minimum asphalt shingle roof assembly. Each package of shingles shall bear the label of an approved agency.
- 3. Flashing: 26 gauge galvanized sheet metal with baked on enamel finish, color by owner.
- 4. Sealant and Caulking: Polyurethane sealant, gun applied, color by owner.
- 5. Mel-Rol Waterproofing System: -Mel-Rol positive waterproofing protection sealant to be applied Per Manufacturers specifications and instructions
- -Verify that the applied Mel-Rol product being applied is compatible with all adjacent surface material.
- DOORS AND WINDOWS
- 1. Windows and Doors to be installed as per manufactures instructions and specifications
- 2. Windows and doors must meet the requirements of Chapter II and TABLE NIIØ1.(1) and two additional measures from TABLE NIIØLI(2) of the 2014 Oregon Residental Specialty Code Windows to have a maximum rating of U=0.35, Exterior Doors U=0.20, and Exterior Doors with more than 2.5 sq. ft. of glazing U=0.40.
- 4. Doors and windows to be fully weather-stripped, caulked, gasketed, or otherwise treated to limit air infiltration
- 6. Fire tested and Fire-Rated glazing to be installed per Manufacturers Instructions and Specifications.
- 7. Submit Shop Drawings.

# -Caulking shall be of a type that is compatible with all adjacent surface material.







### GENERAL REQUIREMENTS and MATERIAL SPECIFICATIONS:

### GENERAL REQUIREMENTS

- codes Construction to comply with the following co
   2011 Oregon Residential Specially Code (OREC);
   2011 Oregon Electrics Specially Code (OREC);
   2011 Oregon Heulting Specially Code (OREC);
   2010 Oregon Heulticsured Dueling Institution Specialistics
- 2014 Oregon Energy Efficiency Specialty Code ( OEESC ) + 2. Loading Criteria: Snou Load - 29 pef Und Load - 20 nph, Exposure C Seteric Zone D
- 3. The contractor is responsible for coordinating the work of the subcontractors and trades Shop drasings required by the contract drasings, or material specifications shall be submitted to the curser and engineer for review and approval, prior to fabrication.
- Materials are to be handled, stored and installed in compliance with the nanufacturer's recommediations.
- b. The contractor shall provide the necessary temporary shoring 4 bracing as required until all final consections have been completed in accordance with the drawings in order to natinate a sets upork environment.
- The Contractor shall verify all otherwise utils ouner before comencing sork. All Senders's referred to is the plane and specifications shall apply to the issue action of such sundars, for naturalis, acciptment, installation or fabrication methods which are not specified in the plane and specifications. The minum standard indicated in the designated order shall apply.
- The notes and details on this sheet are general. Specific infomation on the drasings differing from these notes shall apply. Liftlen climenions have precedence over scaled dimensions. DO NOT 6CALE DRAINS6.
- luled to cause the least d
- Bubsitute or equivalent naterials, equipment, fixtures or other items of construction may be considered by the owner and engineer upon submission of adequate information to justify such subsitution.
- Contractor to remove excess naterials and debris from site and leave work areas in a clean condition upon completion of work.
- Any changes from these plans must be approved by the angineer of record and/or appropriate agency prior to or during construction.
- 13. The Contractor shall verify all utility locations prior to co Blocking - 2X uldith of stud or roof rafter, shall be provided at celling and roof lines so that the urbraced length of any framing does not exceed 10'-0".
- SITE WORK
- Excavate to provide for the indicated construction and conform to the finish grades. Remove excess naterials from site. Footings to bear on undusturbed native soil or engineered fill by Soils Engineer placed on undisturbed native soil.
- Any fill under grade supported slabs to be a nin of 4<sup>4</sup> of gravel compacted to 95% of a standard proctor, per ASIM D-1556.

### - CONCRETE

- Footings, stem usils, usils, interior and exterior slabs on grades Ready situad, air entrained, ASTM C-94 4 ASTM C-260. Strength = 30000 psi hkinus at 28 days. Designed = 35000 psi, no special inspection required.
- Grade 60 Minisur, ASIM A-65. Place per ACI Code and Standards. Lao continuous No4 Bare 24 Minisur and No5 Bare 30 Minisur at all Comere, Steps, and Splices. Exterior sides and usike are to have a light broom finish. Biope uncovered sides and usike a nitinum of V4<sup>+</sup> per foot for drainage.

### - METALS

- 1 Prefabricated Frankg Anchore Bispon Storge-Tie Company, inc. 9556 litest Las Poellas Bivol. Pleasanton, CA 94888. Designation on plane are from catalog C-C-2011.
- Anchor bolts, Threaded Rods, Thru-Bolts and Lag Boreas installed in pressure treated members are required to be hot dipped galvanized, or Type 304 or 316 stabilities steel
- All fasteners, hangers, and other connectors in contact with pressure treated instartals are to be hot-otip galvanized, zho-coated galvanized steel, or stainless steel per ORSC R313.1.
- 4. All anchor bolts shall include Steel plate washers, a minimum of Ø229" thick x3"x3" in size. These washers are to be located between the top of the still plate(s) and the nut as per OREC Re621U.
- All Stepson Framing Anchors and Connectors installed Outdoors or in contact with pressu treated nembers are required to be <u>hot dipped galvanized</u> or <u>274X® Costed</u> per Stepson Storg The® Instructions.

- WOOD FRAMING AND PLASTICS Bood construction per Conventional Construction Requirements of chapters 8, 6, and 8 of the 2011 Oregon Residential Specialty Code.
- Fastering of Structural Members Residential Per "2011 Oregon Residential Specialty Code", -TABLE R6023(1).
- 3. Evidence of Grade Grade mark of an approved grading organization having jurisdiction must appea on each piece of naterial.
- 4. Trim Furnish and install necessary trim and noticing including nicos B. Franing Luniper:
- Douglas Fir / Larch 646, to standard dimensions 2x and 4x framing to be No. 2 or batter, 6 x framing to be No. 2 or batter, FT. to be No. 2 or batter, and Fwring and Blocking to be No. 3 or better .
- 5. Pressure Treated Luniperv SII plates, foundation plates and embedded columns in contact with concrete - to be 2 hem-Fr, pressure treated lumber (unless noted otherules) that conforms to AUFA standards W1 (commodity specification A ) and M4.
- APA rated sheating, exposure L Panel span rating 32/16 minimum 1/16\* thickness. Grade mark by APA or other approved agency. APA rated plywood sheathing, exposure L. Panel span rating 32/6 minimum 15/32' thickness. Grade mark by APA or other approved agency.
- Place sheats perpendicular to roof trustes or framing and staggered joints. Unbicoded dispirations. BD Common ratis (2.12"  $\times$  0.31") at 6" OC, at supported edges and 1" oc. at intermediate framing emotions.
- APA rated sheatring, exposure L. Panel span rating, 24/0 minimum 1/6\* thickness Grade mark by APA or other approved agency. Place sheets perpendicular to study and staggered joints. Unblocked dispirage, SD Comon nalls (2)  $D^2 \times 0.3^{10}$ ) at 6° OC, at supported edges and  $D^2$  OC, at intermediate framing members.
- Note that the state of the set o
- efebricated Bood Roof Trusses Design by fabricator to fit dimensions indicated on plans and loads indi-befox: oesou: 1op Chords 25 per LL. 1 per DL. Botton Chords Ø per LL. Ø per DL. METAL-PLATE Connected libood Trusses shall comply with ORBC R800 design, narufacture, and quality assurance as set forth by ANM/TPI-L
- Rebricator responsible for designing receivery bridging and brecing. Contractor responsible for installing required brecing during erection. Submit shop drawings etemper by a Registered Oregon Bighter. est - Josef - Barnos Cogen aguste, Best - Josef - Ta Josef Jakanses - Jacob - Santa -
- THERMAL & MOISTURE PROTECTION
- Insulation Walls, R-21 fiberglass batt insulation uith integral one permitated vapor barrier placed on usern side of wall. Roof/Celling, R-38 fiberglass batt insulation with integral one permisarier placed on usin side of framing.
- Floors, R-3Ø floarglass batt insulation with interplaced on warm elder of framing.
- Ducting, R-8 fiberglass urap Piping, Minimum pipe insulation (inches) per Section NIIØ6 and Table NIIØ6.) of the 2011 OR5C.
- Roof Covering: --Class B minimum asphali, shingle roof assembly. Each package of shingles shall baar the label of an approved agency.
- Rashing: 26 gauge galvarized sheet notal with baked on ename! finish, color by ourse
- Sealant and Caulking. Polyurethene sealant, gun applied, color by ouner. -Caulking shall be of a type that is compatible uith all adjacent surface naterial
- Mel-Rol Usterproofing System -Mel-Rol positive usterproofing pr specifications and instructions
- -verify that the applied Mei-Rol product being applied is compatible uith all adjacen surface material.
- DOORS AND WINDOWS
- I. Undous and Doors to be installed as per narufactures instructions and specification
- Wholess and doors must need the requirements of Chapter II and TABLE NIGUTU and two additional measures from TABLE NIGUTU: or the 2644 Chapter Residential Specialty Code Unidous to have a nation rating of Un-855, Exterior Doors Un-836, and Exterior Doors with nore than 28 sq. ft. of glazing Un-846. Doors and utolous to be fully uesther-stripped, cauked, gasketed, or otheruise treated to limit at inflination.
- Fire tested and Fire-Rated glazing to be installed per Manufactu Amentications
- 7. Submit Shop Draukos



SQUARE FOOTAGE

COVERED PORCH



THE TYPE OF EXTERIOR FINISH, THE INSTALLATION AND THE WATERPROOFING DETAILS ARE ALL TO BE THE FILL RESPONSIBILITY FOR FUELDING FOR JUNCTURE THIS DESKARER ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE BUILDING ENVELOPE AND THE FINAL MANUFACTURED TRUSSES.

- ALL EXPOSED JONTS AND GAPS TO BE FILLED WITH HIGH GRADE SILICONE LATEX CAULKING OR AS RECOMMENDED BY MATERIAL MANUFACTURER. · OTHER: CONTRACTORS TO CONSULT WITH OWNER FOR RULL EXTERIOR TRIM DETAILS AND MATERIALS.
- · UNDOUS: TO BE U-035, VINYL CLADDED, LOU-E.

UNDOW AND DOOR FLASHING: ALL EXTERIOR UNPROTECTED DOORS AND UNDOUS WITH TRM SURROUNDS TO HAVE "2" INETAL FLASHING ABOVE.

ALL DIMENSIONS ARE TO BE FACE OF FRAMING UNLESS NOTED OTHERWISE, CONTRACTOR TO VERIFY ALL DIMENSIONS.

EXTERIOR SPECIFICATIONS AND NOTES:

4

FNISHED FLOOR

PNISHED PLOOP

TOP OF TOP PLATE

THE TYPE OF EXTERIOR FINISHES, THE INSTALLATION AND THE WATERPROOFING DETAILS ARE ALL TO BE THE RALL RESPONSIBILITY OF THE OWNER AND DUILDER THIS DESIGNER ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE DUILDING ENVELOPE.



RIGHT SIDE ELEVATION

THE CONTRACTOR / BUILDER ASSUMES THE FULL RESPONSIBILITY FOR THE CORRECT INSTALLATION OF ALL EXTERIOR FINISHES AND WEATHERPROOFING

FINISHED FLOO

 $\neg$ 

2 FRONT ELEVATION 3 BCALE: 1/4" • 1-0"

c<sup>1\_1</sup>I\_\_\_\_\_I<sup>1\_1</sup>]

Exhibit K

DRWN: travis DATE: 11-12-18

REV: CAD FILE: 180912 SHEET

OF 4 SHEETS

1



Exhibit L

# Stormwater Management Plan and Drainage Study

Keener Place Project Florence, Oregon

For Willamette Neighborhood Housing Services 212 Main Street Springfield OR 97477



March 19, 2019



civil · transportation structural · geotechnical SURVEYING

www.BranchEngineering.com



# Contents

1.0	Introduction1
2.0	Existing Conditions1
2.1	Topography 1
2.2	Soils 1
2.3	Existing Storm System 1
3.0	Proposed Development2
4.0	Stormwater Constraints2
5.0	Proposed Development Stormwater Description2
6.0	Hydrologic and Hydraulic Analysis3
6.1	Computer Model 3
6.2	Computer Model Data 3
7.0	Existing Stormwater Facility3
8.0	Proposed Stormwater Facilities4
9.0	Maintenance4
10.0	Conclusion5
App	endices Description

Appendix A	Stormwater Management Drainage Basin Map
Appendix B	Site Soils and Map
Appendix C	HydroCAD Analysis
	Existing Site Analysis
	Post Development Analysis
Appendix D	Operation and Maintenance Plan
Appendix E	Well Logs and Infiltration Test Data

<sup>©</sup> Branch Engineering, Inc.

## **1.0 INTRODUCTION**

This Stormwater Management Plan (SWMP) report has been prepared for a Site Plan Review application to build a housing project at the intersection of Airport Road and Nopal Street. The subject site is southeast of Airport Road and west of Nopal Street. The subject property is identified as Tax Map 18-12-27-10, Tax Lot 15400. The stormwater runoff from seven of the twelve houses will be directed to an existing stormwater facility that was designed to capture stormwater runoff from the previous phase of the PUD and what was then anticipated for this phase. The stormwater runoff from the remaining houses, the new drive/parking area, and pavilion area will be directed to a rain garden for stormwater treatment and retention with an overflow retention pond for larger events. The purpose of this report is to document the design and establish maintenance requirements.

## 2.0 EXISTING CONDITIONS

The site is 1.73 acres located in Florence, Oregon on the southeast side of Airport Road just west of Nopal Street.

### **2.1 TOPOGRAPHY**

The subject property is underdeveloped with improvements only in the front 0.57 acres. The developed portion has a small paved area for parking and a community garden. The undeveloped portion is composed of heavy brush and a dune which rises approximately 30-40 feet above the surrounding area.

### 2.2 SOILS

The Natural Resources Conservation Service (NRCS) Web Soil Survey maps the subject site as containing only Waldport fine sand (131C). The dune that is located on the site is of the same soil type but classified as national map unit symbol 131E, as this portion has slopes between 12-30%

Waldport fine sand is described as an excessively drained eolian sand of mixed origin and is in Hydrologic Soil Group A. A soils map and individual soil information is provided in Appendix B.

A limited geotechnical investigation was performed for the site to determine infiltration rates. The investigation found infiltration rates ranging from 40-60 in/hr with one outlier at 136 in/hr The static groundwater was inferred from surrounding well logs, and is approximately 8.5 feet below the lowest point on the site. Infiltration testing data and the nearest well log reports are included in Appendix E.

### 2.3 EXISTING STORM SYSTEM

The only existing storm facility is located just to the northeast of the property, and serves the site being considered as well as 4 houses to the southeast of Nopal Street, as well as a portion of Nopal Street. This storm facility appears to function as a retention pond. There are no surface outlets visible in the retention pond or shown in the as-built drawings, and as such, it is assumed that there is no connection to the public system.

## **3.0 PROPOSED DEVELOPMENT**

The proposed development consists of 12 separate houses surrounding a common area that has paved walkways, a small pavilion area, and large sections of vegetated areas. Nopal Street and Airport Road will be connected with a 300 foot private drive aisle through the south side of the site, which will contain 25 parking spots (including an ADA spot with van access).

On the northwest corner of the site, and just east of the proposed drive aisle, a 900 sq. ft. rain garden will serve the three southernmost, and two northwesternmost houses, the drive aisle/parking area, and the shared pavilion. During larger events, the rain garden will overflow into a retention pond just west of the proposed drive aisle.

## 4.0 STORMWATER CONSTRAINTS

The main constraint on developing the stormwater system for the site is the lack of a public system for disposal of rain water. Due to this, all stormwater had to be treated and retained on site. This gave less flexibility with the stormwater facilities' design and function.

Another constraint on the site was accommodating treatment of the large drive aisle and parking area, while still maintaining site requirements on the number of houses on the property., The relatively large infiltration rates allowed the facility to be designed to fully infiltrate without becoming overly large.

## 5.0 PROPOSED DEVELOPMENT STORMWATER DESCRIPTION

The stormwater facilities are designed to meet the City of Florence's Stormwater Design Manual for water quality and retention.

The proposed development consists of a large rain garden, an overflow retention pond, and the existing retention pond that was meant to serve the site. The rain garden is designed to treat the majority of the developed site and that which could not be feasibly directed to the existing retention pond. During larger storm events the rain garden will overflow into the proposed retention pond which will infiltrate the water. The rain garden is a stormwater treatment best management practice (BMP) to meet the water quality standards of the City of Florence. A Stormwater Management Basin Map is included in Appendix A.

The rain garden and retention pond were designed to accommodate the drive aisle/parking area, pavilion, and 5 of the 12 houses located on the site. The existing retention pond's size was determined through survey data of the site. The size of each facility can be found in the table below.

Facility	Volume	Infiltration Rate
Facility	(cub. ft.)	(in/hr)
Existing Retention Pond	2062	6*
Proposed Retention Pond	1045	20
Rain Garden	295	2.5

Note: Volumes are based on 0.5 feet of freeboard excluded from measurement.

\* See section 7 for infiltration rate information for the existing retention pond.

## 6.0 HYDROLOGIC AND HYDRAULIC ANALYSIS

### 6.1 COMPUTER MODEL

In preparing this Stormwater Management Plan for the project site, Branch Engineering utilized the HydroCAD 10.0 software. This is a computer program used to model, analyze and design hydrosystems of drainage basins.

HydroCAD computes Santa Barbara Urban Hydrographs (SBUH) using rainfall data supplied by the designer. The SBUH method is a recognized analysis method by the Oregon DEQ and is appropriate for a project site of this size. Once the appropriate data is input to HydroCAD, each drainage basin has a hydrograph and runoff flow for the desired storm event.

### 6.2 COMPUTER MODEL DATA

HydroCAD needs data supplied from the designer that describes the drainage basin in order to create the hydrograph. Below is the data that is needed to describe each drainage basin.

• Storm Event

For the purposes of this design, the design storm events are as follows:

Water Quality Event	0.83 inches / 24 hours
2-year Storm Event	3.46 inches / 24 hours
10-year Storm Event	4.48 inches / 24 hours
25-year Storm Event	5.06 inches / 24 hours

• Impervious Area

Pavement, sidewalks, hardscapes and rooftops are all impervious surfaces. Each drainage basin's impervious area was calculated using the proposed site plan.

• Pervious Area

Lawns and open space are pervious areas. Each drainage basin's pervious area is all that area that is not impervious.

• Runoff Curve Numbers

Each drainage basin has a Runoff Curve Number for the impervious areas and the pervious areas. The Runoff Curve Number is based on the type of surface and the Hydrologic Group of the soils. Table 2-2a of *Urban Hydrology for Small Watersheds* (commonly referred to as TR-55) has the curve number for impervious area as 98 and 39 for pervious.

• Time of Concentration

The time of concentration was estimated at 10 minutes for each sub basin, as each sub basin is less that one acre in size. For such a small area, this is a reasonable assumption

## 7.0 EXISTING STORMWATER FACILITY

Just northeast of the property, a retention pond serves part of Nopal Street and approximately four houses on the southeast side of Nopal Street. No stormwater report for the previous development could be obtained to determine sizing and capacity of the retention pond. The size of the facility was determined through a survey on the site. HydroCAD was then used to determine the runoff that is currently directed toward the facility. To prevent damaging the facility an infiltration test was conducted next to but not within the facility. The infiltration test near the facility showed a rate of 60 in/hr. It is unclear though if it has a growing medium different to the soil nearby. Due to not knowing the impact a growing medium may be having on the infiltration rate, a conservative assumption of 6 in/hr was used (Factor of Safety = 10).

After development, 7 of the 12 houses on site will be routed to this facility. Using the information above, the table below illustrates the capacity of the existing retention pond pre- and post-development.

	Donth	Maximum Inflow			Maximum Depth of Water			
	Depth	(cfs)			(ft)			
	(ft.)	2 yr	10 yr	25 yr	2 yr	10 yr	25 yr	
Pre-development	3.5	0.24	0.31	0.35	2.00	2.42	2.63	
Post-development	3.5	0.37	0.49	0.55	2.68	3.18	3.44	

*Note: Depth is based on 0.5 feet of freeboard excluded from measurement.* 

See Pond ERP (Existing Retention Pond) in Appendix C for the complete HydroCAD results.

## 8.0 PROPOSED STORMWATER FACILITIES

As discussed in section 5, all basins not being served by the existing retention pond are routed to a rain garden for treatment during a water quality event, and in larger events, are routed to a retention pond that infiltrates the remaining water on site.

Facility	Dauth	Maximum Inflow			Maximum Depth of Water				
	Depth	(cfs)			(ft)				
	(ft)	WQ	2 yr	10 yr	25 yr	WQ	2 yr	10 yr	25 yr
Proposed Detention Pond	1.42	0.00	0.32	0.42	0.48	0.00	0.44	0.63	0.74
Rain Garden	1.30	0.07	0.34	0.45	0.51	1.08	1.24	1.27	1.28

Results from the rain garden and retention pond system are summarized in the table below.

Note: Depth is based on 0.5 feet of freeboard excluded from measurement.

See Appendix C for the complete HydroCAD results of all sub-basins and stormwater facilities.

## 9.0 MAINTENANCE

The facilities on site will be maintained privately since they receive water only from private improvements and will be constructed under a Building Permit. The existing retention pond will continue to be maintained by the City of Florence. Maintenance will be per the City of Florence's Stormwater Design Manual. Repairs to storm facilities shall be made in accordance with City of Florence Public Works Department. Detailed Operations and Maintenance information is included in Appendix D.

## **10.0 CONCLUSION**

Compliance has been established for the stormwater system designed herein for the new site improvements. Water quality and flow control are accomplished through a rain garden and a retention pond. Treatment will occur through the filtering effects of the rain garden and disposal will occur through infiltration.

# **APPENDIX A**

Stormwater Management Drainage Basin Map



# **APPENDIX B**

Site Soils and Map





Natural Resources Conservation Service Web Soil Survey National Cooperative Soil Survey





Г

# Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
131C	Waldport fine sand, 0 to 12 percent slopes	0.5	30.1%
131E	Waldport fine sand, 12 to 30 percent slopes	1.2	69.9%
Totals for Area of Interest		1.8	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 15, Sep 18, 2018



# Lane County Area, Oregon

### 131E—Waldport fine sand, 12 to 30 percent slopes

### Map Unit Setting

National map unit symbol: 234s 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: 6 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: 12 to 30 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): 7e Hydrologic Soil Group: A Hydric soil rating: No

### **Minor Components**

### Heceta

Percent of map unit: 3 percent

Landform: Interdunes Hydric soil rating: Yes

### Yaquina

Percent of map unit: 3 percent Landform: Marine terraces Hydric soil rating: Yes

# **Data Source Information**

Soil Survey Area: Lane County Area, Oregon Survey Area Data: Version 15, Sep 18, 2018



# **APPENDIX C**

# HydroCAD Analysis

Existing Site Analysis Post Development Analysis



## Summary for Subcatchment EP2: Existing Pervious Area East

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46"

Area (sf)	CN Description			
* 14,550	30 Local Sand			
14,550	30 100.00% Pervious Area			
Tc Length (min) (feet)	Slope Velocity Capacity Description (ft/ft) (ft/sec) (cfs)			
10.0	Direct Entry,			
•				
Sum	mary for Subcatchment NS1: Nopal Street and Existing Houses			
Runoff =	0.24 cfs @ 7.96 hrs, Volume= 0.085 af, Depth= 3.23"			
Runoff by SBUH r Type IA 24-hr 2 y	nethod, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs r Rainfall=3.46"			
Area (sf)	CN Description			
* 13,800	98			
13,800	98 100.00% Impervious Area			
Tc Length (min) (feet)	Slope Velocity Capacity Description (ft/ft) (ft/sec) (cfs)			
10.0	Direct Entry,			
Summary for Pond ERP: Existing Retention Pond				
Inflow Area = Inflow = Outflow = Discarded =	0.651 ac, 48.68% Impervious, Inflow Depth = 1.57" for 2 yr event         0.24 cfs @       7.96 hrs, Volume=       0.085 af         0.09 cfs @       8.90 hrs, Volume=       0.085 af, Atten= 64%, Lag= 56.1 min         0.09 cfs @       8.90 hrs, Volume=       0.085 af			

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 44.60' @ 8.90 hrs Surf.Area= 637 sf Storage= 671 cf Flood Elev= 46.10' Surf.Area= 1,242 sf Storage= 2,062 cf

Plug-Flow detention time= 78.4 min calculated for 0.085 af (100% of inflow) Center-of-Mass det. time= 78.4 min (746.5 - 668.1)

Volume	Invert	Avail.Storage	Storage Description
#1	42.60'	2,758 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

### **EXISTING SITE ANALYSIS** Prepared by Branch Engineering

1,430

46.40

HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC								
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)					
42.60	17	0	0					
42.80	115	13	13					
43.00	180	30	43					
43.20	228	41	84					
44.00	438	266	350					
45.00	772	605	955					
46.00	1,198	985	1,940					
46.20	1,285	248	2,188					

271

46.6	60	1,551	298	2,758	
Device	Routing	Invert	Outlet Devices		
#1	Discarded	42.60'	6.000 in/hr Exfiltra	ation over Surface ar	ea Phase-In= 0.01'

2,460

**Discarded OutFlow** Max=0.09 cfs @ 8.90 hrs HW=44.60' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.09 cfs)

### Summary for Subcatchment EP2: Existing Pervious Area East

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 10 yr Rainfall=4.48"

Ar	ea (sf)	CN	Descriptior	n				
*	14,550	30	Local Sand					
	14,550	30	100.00% P	ervious Are	а			
Tc (min)	Length (feet)	Slope (ft/ft)	e Velocity (ft/sec)	Capacity (cfs)	Descriptior	ı		
10.0					Direct Ent	ry,		
	Summary for Subcatchment NS1: Nopal Street and Existing Houses							
Runoff	=	0.32 c	fs@ 7.9	6 hrs, Volu	me=	0.112 af,	Depth= 4.24"	
Runoff by Type IA 2	Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 10 yr Rainfall=4.48"							
*	13,800	98						
	13,800	98	100.00% Ir	npervious A	rea			
Tc (min)	Length (feet)	Slope (ft/ft)	e Velocity (ft/sec)	Capacity (cfs)	Descriptior	ı		
10.0					Direct Ent	ry,		
Summary for Pond ERP: Existing Retention Pond								
Inflow Ar Inflow Outflow Discarde	ea = = = d =	0.651 0.32 c 0.11 c 0.11 c	ac, 48.68 fs @ 7.9 fs @ 9.0 fs @ 9.0	% Imperviou 06 hrs, Volu 00 hrs, Volu 00 hrs, Volu	us, Inflow D me= me= me=	epth = 2.0 0.112 af 0.112 af, 0.112 af, 0.112 af	07" for 10 yr event Atten= 66%, Lag= 62.2 min	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 45.02' @ 9.00 hrs Surf.Area= 781 sf Storage= 970 cf Flood Elev= 46.10' Surf.Area= 1,242 sf Storage= 2,062 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 98.7 min (760.7 - 662.0)

Volume	Invert	Avail.Storage	Storage Description
#1	42.60'	2,758 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

# **EXISTING SITE ANALYSIS**

Surf.Area

Elevation

Prepared by Branch Engineering	
HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC	

Inc.Store

Cum.Store

(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)		
42.6	60	17	0	0		
42.8	30	115	13	13		
43.0	00	180	30	43		
43.2	20	228	41	84		
44.0	00	438	266	350		
45.0	00	772	605	955		
46.0	00	1,198	985	1,940		
46.2	20	1,285	248	2,188		
46.4	40	1,430	271	2,460		
46.6	60	1,551	298	2,758		
Device	Routing	Invert	Outlet Devices			
#1	Discarded	42.60'	6.000 in/hr Exfi	Itration over S	Surface area	Phase-In= 0.01'

**Discarded OutFlow** Max=0.11 cfs @ 9.00 hrs HW=45.02' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.11 cfs)

### Summary for Subcatchment EP2: Existing Pervious Area East

Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth= 0.01"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 25 yr Rainfall=5.06"

Are	a (sf)	CN	Description					
* 1	4,550	30	Local Sand					
1	4,550	30	100.00% P	ervious Are	a			
Tc I (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	ו		
10.0					Direct Ent	ry,		
	Sumr	nary f	or Subca	itchment	NS1: Nop	al Street a	nd Existing Houses	
Runoff	=	0.36 c	fs @ 7.9	6 hrs, Volu	ime=	0.127 af, D	epth= 4.82"	
Runoff by Type IA 24	Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr  25 yr Rainfall=5.06"							
Are	a (sr)		Description					
1	3,800 3,800	98	100.00% In	npervious A	vrea			
Tc I (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	ו		
10.0					Direct Ent	ry,		
Summary for Pond ERP: Existing Retention Pond								
Inflow Are Inflow Outflow Discarded	a = = = =	0.651 0.36 c 0.12 c 0.12 c	ac, 48.68 <sup>6</sup> fs @ 7.9 fs @ 9.0 fs @ 9.0	% Imperviou 6 hrs, Volu 2 hrs, Volu 2 hrs, Volu	us, Inflow D ime= ime= ime=	epth = 2.35 0.128 af 0.128 af, A 0.128 af	" for 25 yr event tten= 66%, Lag= 63.6 min	
Routing by	/ Dvn-Ste	or-Ind r	nethod. Lin	ne Span= ()	.00-36.00 hi	rs. dt= 0.01 h	rs	

Peak Elev= 45.23' @ 9.02 hrs Surf.Area= 870 sf Storage= 1,144 cf Flood Elev= 46.10' Surf.Area= 1,242 sf Storage= 2,062 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 108.4 min (768.9 - 660.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	42.60'	2,758 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

# **EXISTING SITE ANALYSIS**

Elevatio (fee	on S et)	urf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)			
42.6	60	17	0	0			
42.8	30	115	13	13			
43.0	00	180	30	43			
43.2	20	228	41	84			
44.0	00	438	266	350			
45.0	00	772	605	955			
46.0	00	1,198	985	1,940			
46.2	20	1,285	248	2,188			
46.4	10	1,430	271	2,460			
46.6	60	1,551	298	2,758			
Device	Routing	Invert	Outlet Devices				
#1	Discarded	42.60'	6.000 in/hr Exfi	Itration over S	urface area	Phase-In=	0.01'

**Discarded OutFlow** Max=0.12 cfs @ 9.02 hrs HW=45.23' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.12 cfs)

### Summary for Subcatchment EP2: Existing Pervious Area East

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83"

Area (sf) CN Description						
* 14,550 30 Local Sand						
14,550 30 100.00% Pervious Area						
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)						
10.0 Direct Entry,						
Summary for Subcatchment NS1: Nopal Street and Existing Houses						
Runoff = 0.05 cfs @ 7.99 hrs, Volume= 0.017 af, Depth= 0.63"						
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83"						
Area (sf) CN Description						
* 13,800 98						
13,800 98 100.00% Impervious Area						
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)						
10.0 Direct Entry,						
Summary for Pond ERP: Existing Retention Pond						
Inflow Area =       0.651 ac, 48.68% Impervious, Inflow Depth = 0.31" for WQ event         Inflow =       0.05 cfs @       7.99 hrs, Volume=       0.017 af         Outflow =       0.03 cfs @       8.36 hrs, Volume=       0.017 af, Atten= 43%, Lag= 22.5 min         Discarded =       0.03 cfs @       8.36 hrs, Volume=       0.017 af						
Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 43.08' @ 8.36 hrs   Surf.Area= 199 sf   Storage= 58 cf						

Flood Elev= 46.10' Surf.Area= 1,242 sf Storage= 2,062 cf

Plug-Flow detention time= 12.9 min calculated for 0.017 af (100% of inflow) Center-of-Mass det. time= 12.9 min (741.6 - 728.7)

Volume	Invert	Avail.Storage	Storage Description
#1	42.60'	2,758 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

# **EXISTING SITE ANALYSIS**

Prepared by Branch	n Enginee	ering	
HydroCAD® 10.00-20	s/n 09876	© 2017 HydroCAD Softwar	e Solutions LLC

Elevatio (fee	on Su et)	ırf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
42 6	50	17	0	0		
42.8	30	115	13	13		
43.00		180	30	43		
43.2	20	228	41	84		
44.(	00	438	266	350		
45.0	00	772	605	955		
46.0	00	1,198	985	1,940		
46.2	20	1,285	248	2,188		
46.4	40	1,430	271	2,460		
46.6	60	1,551	298	2,758		
Device	Routing	Invert	Outlet Devices			
#1	Discarded	42.60'	6.000 in/hr Exf	Itration over	Surface area	Phase-In= 0.01'

**Discarded OutFlow** Max=0.03 cfs @ 8.36 hrs HW=43.08' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.03 cfs)



## Summary for Subcatchment DRV: Drive Aisle/ Parking/ Storage/ Trash Enclosure

Runoff = 0.23 cfs @ 7.96 hrs, Volume= 0.082 af, Depth= 3.23"

HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46"

	Area (sf)	CN	Description		
*	13,226	98			
	13,226	98	100.00% In	npervious A	Area
	Tc Length	n Slop	be Velocity	Capacity	Description
	(min) (feet)	) (ft/1	ft) (ft/sec)	(cfs)	
	10.0				Direct Entry,

### Summary for Subcatchment EC: Nopal Street and Houses

Runoff = 0.25 cfs @ 7.96 hrs, Volume= 0.088 af, Depth= 3.23"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46"

	Area (sf)	CN	Description		
*	6,872	98	houses		
*	7,345	98	nopal		
	14,217	98	Weighted A	verage	
	14,217	98	100.00% Impervious Area		
-	Гс Length	Slop	e Velocity	Capacity	Description
(mi	n) (feet)	(ft/f	t) (ft/sec)	(cfs)	
10	.0				Direct Entry,

### Summary for Subcatchment H1: House 1

Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0.006 af, Depth= 3.23"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46"

	Ar	ea (sf)	CN	Description			
*		924	98				
		924	98	100.00% Impervious Area			
	Тс	Length	Slope	e Velocity	Capacity	Description	
(	min)	(feet)	(ft/ft	) (ft/sec)	(cfs)		
	10.0					Direct Entry,	

### Type IA 24-hr 2 yr Rainfall=3.46" POST DEVELOPMENT ANALYSIS Printed 3/19/2019 Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC Page 3 Summary for Subcatchment H10: House 10 Runoff 0.02 cfs @ 7.96 hrs, Volume= 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Description Area (sf) CN 924 98 100.00% Impervious Area 924 98 Tc Length Slope Velocity Capacity Description (feet) (ft/ft) (ft/sec) (cfs) (min) 10.0 Direct Entry, Summary for Subcatchment H11: House 11 7.96 hrs, Volume= Runoff 0.02 cfs @ 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Area (sf) CN Description 996 98 996 98 100.00% Impervious Area Capacity Tc Length Slope Velocity Description (feet) (min) (ft/ft) (ft/sec) (cfs) Direct Entry, 10.0 Summary for Subcatchment H12: House 12 Runoff 0.02 cfs @ 7.96 hrs, Volume= 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Area (sf) CN Description 1,032 98 1,032 98 100.00% Impervious Area Tc Length Slope Velocity Capacity Description

(ft/ft)

(ft/sec)

(cfs)

**Direct Entry**,

(min)

10.0

(feet)
#### Printed 3/19/2019 Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC Page 4 Summary for Subcatchment H2: House 2 Runoff 0.02 cfs @ 7.96 hrs, Volume= 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Area (sf) CN Description 996 98 996 100.00% Impervious Area 98 Tc Length Slope Velocity Capacity Description (feet) (ft/ft) (ft/sec) (cfs) (min) 10.0 Direct Entry, Summary for Subcatchment H3: House 3 7.96 hrs, Volume= Runoff 0.02 cfs @ 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Area (sf) CN Description 996 98 996 98 100.00% Impervious Area Capacity Tc Length Slope Velocity Description (feet) (min) (ft/ft) (ft/sec) (cfs) Direct Entry, 10.0 Summary for Subcatchment H4: House 4 Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0.006 af, Depth= 3.23" Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46"

	Area (sf)	CN	Description		
*	996	98			
	996	98	100.00% In	npervious A	Area
	Tc Length	Slop	e Velocity	Capacity	Description
	(min) (feet)	(ft/ft	) (ft/sec)	(cfs)	
	10.0				Direct Entry,

### POST DEVELOPMENT ANALYSIS

#### Type IA 24-hr 2 yr Rainfall=3.46" POST DEVELOPMENT ANALYSIS Printed 3/19/2019 Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC P<u>age 5</u> Summary for Subcatchment H5: House 5 Runoff 0.02 cfs @ 7.96 hrs, Volume= 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Description Area (sf) CN 924 98 100.00% Impervious Area 924 98 Tc Length Slope Velocity Capacity Description (feet) (ft/ft) (ft/sec) (cfs) (min) 10.0 Direct Entry, Summary for Subcatchment H6: House 6 Runoff 0.02 cfs @ 7.96 hrs, Volume= 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Area (sf) CN Description 996 98 996 98 100.00% Impervious Area Capacity Tc Length Slope Velocity Description (feet) (min) (ft/ft) (ft/sec) (cfs) Direct Entry, 10.0 Summary for Subcatchment H7: House 7 Runoff 0.02 cfs @ 7.96 hrs, Volume= 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Area (sf) CN Description 1,032 98 1,032 98 100.00% Impervious Area

TcLengthSlopeVelocityCapacityDescription(min)(feet)(ft/ft)(ft/sec)(cfs)10.0Direct Entry,

#### Printed 3/19/2019 Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC P<u>age 6</u> Summary for Subcatchment H8: House 8 Runoff 0.02 cfs @ 7.96 hrs, Volume= 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Area (sf) CN Description 996 98 100.00% Impervious Area 996 98 Tc Length Slope Velocity Capacity Description (feet) (ft/ft) (ft/sec) (cfs) (min) 10.0 Direct Entry, Summary for Subcatchment H9: House 9 7.96 hrs, Volume= Runoff 0.02 cfs @ 0.006 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46" Area (sf) CN Description 996 98 996 98 100.00% Impervious Area Capacity Tc Length Slope Velocity Description (feet) (min) (ft/ft) (ft/sec) (cfs) Direct Entry, 10.0 Summary for Subcatchment PAV: pavilion and walks Runoff 0.03 cfs @ 7.96 hrs, Volume= 0.009 af, Depth= 3.23" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 2 yr Rainfall=3.46"

	A	rea (sf)	CN	Description		
*		1,427	98			
		1,427	98	100.00% In	npervious A	Area
	Тс	Length	Slope	e Velocity	Capacity	/ Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	10.0					Direct Entry,

# POST DEVELOPMENT ANALYSIS

 Type IA 24-hr
 2 yr Rainfall=3.46"

 Printed
 3/19/2019

 C
 Page 7

# Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC

### Summary for Pond CB: Catch Basin

0.336 ac,100.00% Impervious, Inflow Depth = 3.23" for 2 yr event Inflow Area = 7.96 hrs, Volume= Inflow 0.26 cfs @ 0.090 af = 7.96 hrs. Volume= 0.090 af, Atten= 0%, Lag= 0.0 min Outflow = 0.26 cfs @ Primary = 0.26 cfs @ 7.96 hrs, Volume= 0.090 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 46.53' @ 7.98 hrs Flood Elev= 46.79'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.96'	6.0" Round Culvert L= 26.0' Ke= 0.500
			Inlet / Outlet Invert= 45.96' / 45.35' S= 0.0235 '/' Cc= 0.900
			n= 0.011, Flow Area= 0.20 sf

Primary OutFlow Max=0.26 cfs @ 7.96 hrs HW=46.53' TW=46.44' (Dynamic Tailwater) -1=Culvert (Outlet Controls 0.26 cfs @ 1.45 fps)

### Summary for Pond RG: Rain Garden

Inflow Area	=	0.448 ac,100	.00% Impervious, Inflov	v Depth = 3.23"	for 2 yr event
Inflow	=	0.34 cfs @	7.96 hrs, Volume=	0.121 af	
Outflow	=	0.34 cfs @	8.00 hrs, Volume=	0.121 af, Atte	en= 0%, Lag= 2.0 min
Discarded	=	0.03 cfs @	8.00 hrs, Volume=	0.050 af	_
Primary	=	0.32 cfs @	8.00 hrs, Volume=	0.071 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 46.44' @ 8.00 hrs Surf.Area= 469 sf Storage= 267 cf Flood Elev= 46.50' Surf.Area= 494 sf Storage= 295 cf

Plug-Flow detention time= 58.4 min calculated for 0.121 af (100% of inflow) Center-of-Mass det. time= 58.4 min (726.6 - 668.1)

Volume	Invert	Avail.Storage	Storage Description
#1	45.20'	528 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Type IA 24-hr 2 yr Rainfall=3.46" Printed 3/19/2019 LC Page 8

Prepared by Branci	n ⊨nginee	ering			
HvdroCAD® 10.00-20	s/n 09876	© 2017	HvdroCAD	Software	Solutions I

Elevatio	on S	Surf.Area	Inc.Store	Cum.Store		
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)		
45.2	20	9	0	0		
45.3	30	28	2	2		
45.4	40	78	5	7		
45.5	50	115	10	17		
45.6	60	145	13	30		
45.7	70	177	16	46		
45.8	30	149	16	62		
45.9	90	149	15	77		
46.0	00	289	22	99		
46.1	10	332	31	130		
46.2	20	373	35	165		
46.3	30	412	39	205		
46.4	40	452	43	248		
46.5	50	494	47	295		
46.6	50	536	52	347		
46.7	70	579	56	402		
46.8	30	634	61	463		
46.9	90	669	65	528		
Device	Routing	Invert	Outlet Devices	5		
#1	Discardeo	45.20'	2.500 in/hr Ex	filtration over Sur	face area Pha	ase-In= 0.01'
#2	Device 3	46.31'	2.0' long x 0.5	0' rise Sharp-Cres	sted Rectangu	lar Weir
			2 End Contrac	tion(s) 0.5' Crest I	Height	
#3	Primary	45.38'	8.0" Round C	ulvert L= 33.0' K	(e= 0.500	
			Inlet / Outlet In	vert= 45.38' / 45.05	5' S= 0.0100 '/'	Cc= 0.900
			n= 0.011, Flov	v Area= 0.35 sf		

**Discarded OutFlow** Max=0.03 cfs @ 8.00 hrs HW=46.44' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.32 cfs @ 8.00 hrs HW=46.44' TW=45.42' (Dynamic Tailwater)

-3=Culvert (Passes 0.32 cfs of 1.43 cfs potential flow) -2=Sharp-Crested Rectangular Weir (Weir Controls 0.32 cfs @ 1.22 fps)

#### Summary for Pond RP1: Existing Retention Pond

Inflow Area	ı =	0.486 ac,100	.00% Impe	ervious, Inflo	ow Depth =	3.23"	for 2 yr	event
Inflow	=	0.37 cfs @	7.96 hrs,	Volume=	0.131	af	-	
Outflow	=	0.12 cfs @	9.05 hrs,	Volume=	0.131	af, Atte	n= 67%,	Lag= 65.0 min
Discarded	=	0.12 cfs @	9.05 hrs,	Volume=	0.131	af		-

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 45.28' @ 9.05 hrs Surf.Area= 892 sf Storage= 1,189 cf Flood Elev= 46.10' Surf.Area= 1,242 sf Storage= 2,062 cf

Plug-Flow detention time= 111.3 min calculated for 0.131 af (100% of inflow) Center-of-Mass det. time= 111.3 min (779.5 - 668.1)

				j		1 4	<u> </u>
Volume	Invert	Avail.Sto	orage	Storage	Description		-
#1	42.60'	2,7	58 cf	Custom	Stage Data (Prismatic)Liste	d below (Recalc)	
Elevatior	n Su	ırf.Area	Inc.	Store	Cum.Store		
(feet		(sq-ft)	(cubic	-feet)	(cubic-feet)		
42.60	C	17		0	0		
42.80	C	115		13	13		
43.00	C	180		30	43		
43.20	C	228		41	84		
44.00	C	438		266	350		
45.00	C	772		605	955		
46.00	C	1,198		985	1,940		
46.20	C	1,285		248	2,188		
46.40	0	1,430		271	2,460		
46.60	C	1,551		298	2,758		
Device	Routing	Invert	Outle	t Devices	8		
#1	Discarded	42.60'	6.000	) in/hr Ex	diltration over Surface area	Phase-In= 0.01'	

Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC

**Discarded OutFlow** Max=0.12 cfs @ 9.05 hrs HW=45.28' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.12 cfs)

#### Summary for Pond RP2: Proposed Retention Pond

Inflow Area	=	0.448 ac,100	.00% Impervious,	Inflow Depth =	1.90" fo	r 2 yr event
Inflow	=	0.32 cfs @	8.00 hrs, Volume	= 0.071	af	
Outflow	=	0.25 cfs @	8.17 hrs, Volume	= 0.071	af, Atten=	22%, Lag= 10.5 min
Discarded	=	0.25 cfs @	8.17 hrs, Volume	= 0.071	af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 45.47' @ 8.17 hrs Surf.Area= 0.012 ac Storage= 0.004 af Flood Elev= 46.45' Surf.Area= 0.029 ac Storage= 0.024 af

Plug-Flow detention time= 2.9 min calculated for 0.071 af (100% of inflow) Center-of-Mass det. time= 2.9 min ( 631.4 - 628.5 )

Volume	Invert	Avail.Storage	Storage Description						
#1	45.03'	0.041 af	2.00'W x 111.76'L x 1.92'H Prismatoid Z=3.0						
Device	Routing	Invert Ou	tlet Devices						
#1	Discarded	45.03' <b>20</b> .	.000 in/hr Exfiltration over Surface area Phase-In= 0.01'						
Discard <sup>●</sup> _1=Ex	<b>Discarded OutFlow</b> Max=0.25 cfs @ 8.17 hrs HW=45.47' (Free Discharge) 								

Type IA 24-hr 2 yr Rainfall=3.46" Printed 3/19/2019 Page 9

#### Summary for Subcatchment DRV: Drive Aisle/ Parking/ Storage/ Trash Enclosure

Runoff = 0.30 cfs @ 7.96 hrs, Volume= 0.107 af, Depth= 4.24"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 10 yr Rainfall=4.48"

	Area (sf)	CN	Description			
*	13,226	98				
	13,226	98	100.00% In	npervious A	Area	
	Tc Length	Slop	e Velocity	Capacity	Description	
	(min) (feet)	(ft/f	t) (ft/sec)	(cfs)		
	10.0				Direct Entry,	

#### Summary for Subcatchment EC: Nopal Street and Houses

Runoff = 0.33 cfs @ 7.96 hrs, Volume= 0.115 af, Depth= 4.24"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 10 yr Rainfall=4.48"

	Area (sf)	CN	Description		
*	6,872	98	houses		
*	7,345	98	nopal		
	14,217	98	Weighted A	verage	
	14,217	98	100.00% In	npervious A	Area
-	Гс Length	Slop	e Velocity	Capacity	Description
(mi	n) (feet)	(ft/f	t) (ft/sec)	(cfs)	
10	.0				Direct Entry,

#### Summary for Subcatchment H1: House 1

Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0.008 af, Depth= 4.24"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 10 yr Rainfall=4.48"

	Area	(sf)	CN I	Description		
*		924	98			
		924	98	100.00% In	npervious A	Area
1.	Tc Le	ength	Slope	Velocity	Capacity	Description
(r	nin) (	(teet)	(π/π)	(ft/sec)	(CIS)	
1	0.0					Direct Entry,

POST [	DEVELC	PMENT ANALYSIS		Type IA 24-hr 10 yr Rainfall=4.48 Printed 3/10/2010			
HydroCA	D® 10.00-	) s/n 09876 © 2017 Hyd	droCAD Software	Solutions LLC	Page 11		
	Summary for Subcatchment H10: House 10						
Runoff	=	0.02 cfs @  7.96 hrs,	Volume=	0.008 af, Depth= 4.24"			
Runoff by Type IA 2	y SBUH r 24-hr 10	ethod, Split Pervious/In Rainfall=4.48"	nperv., Time Spa	n= 0.00-36.00 hrs, dt= 0.0	1 hrs		
Ar	rea (sf)	CN Description					
*	924	98					
	924	98 100.00% Impervi	ious Area				
Tc (min)	Length (feet)	Slope Velocity Cap (ft/ft) (ft/sec)	acity Descriptic (cfs)	n			
10.0			Direct En	try,			
		Summory fo	r Subaatahm	ont 411: House 11			
		Summary 10					
Runoff	=	0.02 cfs @  7.96 hrs,	Volume=	0.008 af, Depth= 4.24"			
Runoff by	y SBUH r 24-br - 10	ethod, Split Pervious/In	nperv., Time Spa	n= 0.00-36.00 hrs, dt= 0.0	1 hrs		
туретя и	24-111 10	Naimaii-4.40					
A	rea (sf)	CN Description					
*	996	98					
	996	98 100.00% Impervi	ious Area				
Tc (min)	Length (feet)	Slope Velocity Cap (ft/ft) (ft/sec)	acity Descriptic (cfs)	n			
10.0			Direct En	try,			
		Summary fo	r Subcatchme	ent H12: House 12			
Runoff	=	0.02 cfs @ 7.96 hrs,	Volume=	0.008 af, Depth= 4.24"			
Runoff by	Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr  10 yr Rainfall=4.48"						
Ar	rea (sf)	CN Description					
*	1,032	98					
	1,032	98 100.00% Impervi	ious Area				
ŢĊ	Length	Slope Velocity Cap	acity Descriptio	n			
(min) 10.0	(teet)	(IT/IT) (IT/sec)	(CIS) Direct En	trv			

POST DEVELOPMENT ANALYSIS Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solu	Type IA 24-hr tions LLC	10 yr Rainfall=4.48" Printed 3/19/2019 Page 12
Summary for Subcatchmen	t H2: House 2	
Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0	.008 af, Depth= 4.24"	
Runoff by SBUH method, Split Pervious/Imperv., Time Span= ( Type IA 24-hr 10 yr Rainfall=4.48"	0.00-36.00 hrs, dt= 0.0 <sup>-</sup>	1 hrs
Area (sf) CN Description		
* 996 98		
996 98 100.00% Impervious Area		
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)		
10.0 Direct Entry,		
Summary for Subcatchmen	t H3: House 3	
Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0.	.008 af, Depth= 4.24"	
Runoff by SBUH method, Split Pervious/Imperv., Time Span= ( Type IA 24-hr 10 yr Rainfall=4.48"	0.00-36.00 hrs, dt= 0.0 <sup>-</sup>	1 hrs
* 996 98		
996 98 100.00% Impervious Area		
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)		
10.0 Direct Entry,		
Summary for Subcatchmen	t H4: House 4	
Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0	.008 af, Depth= 4.24"	
Runoff by SBUH method, Split Pervious/Imperv., Time Span= ( Type IA 24-hr 10 yr Rainfall=4.48"	0.00-36.00 hrs, dt= 0.0 <sup>-</sup>	1 hrs
Area (sf) CN Description		
* 996 98		
996 98 100.00% Impervious Area		
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)		

POST DEVELOPMENT ANALYSIS Type IA 24-	Type IA 24-hr 10 yr Rainfall=4.48' Printed 3/10/2010				
HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC	Page 13				
Summary for Subcatchment H5: House 5					
Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0.008 af, Depth= 4.2	24"				
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0 Type IA 24-hr 10 yr Rainfall=4.48"	).01 hrs				
Area (sf) CN Description					
* 924 98					
924 98 100.00% Impervious Area					
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)					
10.0 Direct Entry,					
Summary for Subcatchment H6: House 6					
Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0.008 af, Depth= 4.2	24"				
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0 Type IA 24-hr 10 yr Rainfall=4.48"	).01 hrs				
Area (sf) CN Description					
* 996 98					
996 98 100.00% Impervious Area					
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)					
10.0 Direct Entry,					
Summary for Subcatchment H7: House 7					
Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0.008 af, Depth= 4.2	24"				
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0 Type IA 24-hr 10 yr Rainfall=4.48"	).01 hrs				
Area (sf) CN Description					
* 1,032 98					
1,032 98 100.00% Impervious Area					
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)					

POST I Prepare <u>HydroCA</u>	DEVELC d by Bra D® 10.00-	PMENT ANALYSISType IA 24-hr10 yr Rainfall=4.4nch EngineeringPrinted 3/19/2020 s/n 09876 © 2017 HydroCAD Software Solutions LLCPage	<b>48"</b> 19 <u>14</u>				
	Summary for Subcatchment H8: House 8						
Runoff	=	0.02 cfs @ 7.96 hrs, Volume= 0.008 af, Depth= 4.24"					
Runoff b Type IA	y SBUH r 24-hr 10	nethod, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs yr Rainfall=4.48"					
A	rea (sf)	CN Description					
*	996	98					
	996	98 100.00% Impervious Area					
Tc (min)	Length (feet)	Slope Velocity Capacity Description (ft/ft) (ft/sec) (cfs)					
10.0		Direct Entry,	_				
		Summary for Subcatchment H9: House 9					
Runoff	=	0.02 cfs @ 7.96 hrs, Volume= 0.008 af, Depth= 4.24"					
Runoff b Type IA	y SBUH r 24-hr 10	nethod, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs yr Rainfall=4.48"					
<u>A</u>	rea (st)	CN Description					
	990	98 100.00% Impervious Area	—				
Tc (min)	Length (feet)	Slope Velocity Capacity Description (ft/ft) (ft/sec) (cfs)					
10.0		Direct Entry,					
		Summary for Subcatchment PAV: pavilion and walks					
Runoff	=	0.03 cfs @ 7.96 hrs, Volume= 0.012 af, Depth= 4.24"					
Runoff b Type IA	y SBUH r 24-hr 10	nethod, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs yr Rainfall=4.48"					
А	rea (sf)	CN Description					
*	1,427	98	_				
	1,427	98 100.00% Impervious Area	_				
Tc (min)	Length (feet)	Slope Velocity Capacity Description (ft/ft) (ft/sec) (cfs)					

#### POST DEVELOPMENT ANALYSIS Prepared by Branch Engineering

### Summary for Pond CB: Catch Basin

0.336 ac,100.00% Impervious, Inflow Depth = 4.24" for 10 yr event Inflow Area = Inflow 7.96 hrs, Volume= 0.34 cfs @ 0.119 af = 7.96 hrs. Volume= 0.119 af, Atten= 0%, Lag= 0.0 min Outflow = 0.34 cfs @ 0.34 cfs @ Primary = 7.96 hrs, Volume= 0.119 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 46.60' @ 7.97 hrs Flood Elev= 46.79'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.96'	6.0" Round Culvert L= 26.0' Ke= 0.500
			Inlet / Outlet Invert= 45.96' / 45.35' S= 0.0235 '/' Cc= 0.900
			n= 0.011, Flow Area= 0.20 sf

Primary OutFlow Max=0.34 cfs @ 7.96 hrs HW=46.60' TW=46.47' (Dynamic Tailwater) **1=Culvert** (Outlet Controls 0.34 cfs @ 1.74 fps)

#### Summary for Pond RG: Rain Garden

Inflow Area	ı =	0.448 ac,100	.00% Impervious, Inflow De	epth = 4.24" for 10 yr event
Inflow	=	0.45 cfs @	7.96 hrs, Volume=	0.159 af
Outflow	=	0.45 cfs @	7.99 hrs, Volume=	0.159 af, Atten= 0%, Lag= 2.0 min
Discarded	=	0.03 cfs @	7.99 hrs, Volume=	0.051 af
Primary	=	0.42 cfs @	7.99 hrs, Volume=	0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 46.47' @ 7.99 hrs Surf.Area= 481 sf Storage= 279 cf Flood Elev= 46.50' Surf.Area= 494 sf Storage= 295 cf

Plug-Flow detention time= 46.5 min calculated for 0.159 af (100% of inflow) Center-of-Mass det. time= 46.5 min (708.5 - 662.0)

Volume	Invert	Avail.Storage	Storage Description
#1	45.20'	528 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation

Surf.Area

Type IA 24-hr 10 yr Rainfall=4.48" Printed 3/19/2019 LC Page 16

Prepared by Branch	n Enginee	ring			
HydroCAD® 10.00-20	s/n 09876	© 2017 H	ydroCAD	Software	Solutions L

Inc.Store

(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)			
45.2	20	9	0	0			
45.3	30	28	2	2			
45.4	10	78	5	7			
45.5	50	115	10	17			
45.6	60	145	13	30			
45.7	70	177	16	46			
45.8	30	149	16	62			
45.9	90	149	15	77			
46.0	00	289	22	99			
46.1	10	332	31	130			
46.2	20	373	35	165			
46.3	30	412	39	205			
46.4	10	452	43	248			
46.5	50	494	47	295			
46.6	60	536	52	347			
46.7	70	579	56	402			
46.8	30	634	61	463			
46.9	90	669	65	528			
Device	Routing	Invert	Outlet Device	s			
#1	Discarded	45.20'	2.500 in/hr E	xfiltration over S	urface area Pha	se-In= 0.01'	
#2	Device 3	46.31'	2.0' long x 0.	50' rise Sharp-Ci	rested Rectangu	lar Weir	
			2 End Contra	ction(s) 0.5' Cres	st Height		
#3	Primary	45.38'	8' 8.0" Round Culvert L= 33.0' Ke= 0.500				
			Inlet / Outlet I	nvert= 45.38' / 45	.05' S= 0.0100 '/'	Cc= 0.900	
			n= 0.011, Flo	w Area= 0.35 sf			

Cum.Store

**Discarded OutFlow** Max=0.03 cfs @ 7.99 hrs HW=46.47' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.42 cfs @ 7.99 hrs HW=46.47' TW=45.58' (Dynamic Tailwater)

-3=Culvert (Passes 0.42 cfs of 1.46 cfs potential flow) —2=Sharp-Crested Rectangular Weir (Weir Controls 0.42 cfs @ 1.35 fps)

#### Summary for Pond RP1: Existing Retention Pond

Inflow Area	=	0.486 ac,100	.00% Impervious, In	flow Depth = 4.24"	for 10 yr event
Inflow	=	0.49 cfs @	7.96 hrs, Volume=	0.172 af	
Outflow	=	0.15 cfs @	9.13 hrs, Volume=	0.172 af, Atte	en= 68%, Lag= 69.9 min
Discarded	=	0.15 cfs @	9.13 hrs, Volume=	0.172 af	-

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 45.78' @ 9.13 hrs Surf.Area= 1,104 sf Storage= 1,686 cf Flood Elev= 46.10' Surf.Area= 1,242 sf Storage= 2,062 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 133.3 min (795.3 - 662.0)

# **POST DEVELOPMENT ANALYSIS***Ty*Prepared by Branch EngineeringHydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC

Volume	Invert	Avail.Sto	rage Storage	Description	
#1	42.60'	2,7	58 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio	on Su	urf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
42.6	60	17	0	0	
42.8	30	115	13	13	
43.0	00	180	30	43	
43.2	20	228	41	84	
44.(	00	438	266	350	
45.0	00	772	605	955	
46.0	00	1,198	985	1,940	
46.2	20	1,285	248	2,188	
46.4	40	1,430	271	2,460	
46.6	60	1,551	298	2,758	
Device	Routing	Invert	Outlet Device	S	
#1	Discarded	42.60'	6.000 in/hr E	xfiltration over	Surface area Phase-In= 0.01'

**Discarded OutFlow** Max=0.15 cfs @ 9.13 hrs HW=45.78' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.15 cfs)

#### Summary for Pond RP2: Proposed Retention Pond

Inflow Area	=	0.448 ac,100	.00% Impervious,	Inflow Depth = 2.	.88" for 10 yr event	
Inflow	=	0.42 cfs @	7.99 hrs, Volume=	= 0.107 af		
Outflow	=	0.31 cfs @	8.20 hrs, Volume=	= 0.107 af,	, Atten= 26%, Lag= 12.4 mir	ſ
Discarded	=	0.31 cfs @	8.20 hrs, Volume=	= 0.107 af		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 45.66' @ 8.20 hrs Surf.Area= 0.015 ac Storage= 0.006 af Flood Elev= 46.45' Surf.Area= 0.029 ac Storage= 0.024 af

Plug-Flow detention time= 3.9 min calculated for 0.107 af (100% of inflow) Center-of-Mass det. time= 3.9 min ( 643.4 - 639.5 )

Volume	Invert	Avail.Storage	e Storage Description				
#1	45.03'	0.041 a	f 2.00'W x 111.76'L x 1.92'H Prismatoid Z=3.0				
Device	Routing	Invert C	Dutlet Devices				
#1	Discarded	45.03' <b>2</b>	0.000 in/hr Exfiltration over Surface area Phase-In= 0.01'				

**Discarded OutFlow** Max=0.31 cfs @ 8.20 hrs HW=45.66' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.31 cfs)

*Type IA 24-hr 10 yr Rainfall=4.48"* Printed 3/19/2019 C Page 17

#### Summary for Subcatchment DRV: Drive Aisle/ Parking/ Storage/ Trash Enclosure

Runoff = 0.34 cfs @ 7.96 hrs, Volume= 0.122 af, Depth= 4.82"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 25 yr Rainfall=5.06"

	Area (sf)	CN	Description			
*	13,226	98				
	13,226	98	100.00% In	npervious A	Area	
	Tc Length	Slop	e Velocity	Capacity	Description	
	(min) (feet)	(ft/f	t) (ft/sec)	(cfs)		
	10.0				Direct Entry,	

#### Summary for Subcatchment EC: Nopal Street and Houses

Runoff = 0.37 cfs @ 7.96 hrs, Volume= 0.131 af, Depth= 4.82"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 25 yr Rainfall=5.06"

	Area (sf)	CN	Description		
*	6,872	98	houses		
*	7,345	98	nopal		
	14,217	98	Weighted A	verage	
	14,217	98	100.00% In	npervious A	Area
	Tc Length	Slop	e Velocity	Capacity	Description
(m	in) (feet)	(ft/f	t) (ft/sec)	(cfs)	
1	0.0				Direct Entry,

#### Summary for Subcatchment H1: House 1

Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0.009 af, Depth= 4.82"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 25 yr Rainfall=5.06"

	A	rea (sf)	CN	Description		
*		924	98			
		924	98	100.00% In	npervious A	Area
()	Tc min)	Length	Slope	Velocity	Capacity	Description
	10.0	(ieet)	(1011)	(11/360)	(013)	Direct Entry
	10.0					Direct Entry,

POST DEVELOPMENT ANALYSIS Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD So	Type IA 24-hr 25 yr Rainfall=5.06" Printed 3/19/2019 ftware Solutions LLC Page 19							
Summary for Subcatchment H10: House 10								
Runoff = 0.02 cfs @ 7.96 hrs, Volume	= 0.009 af, Depth= 4.82"							
Runoff by SBUH method, Split Pervious/Imperv., Tir Type IA 24-hr 25 yr Rainfall=5.06"	ne Span= 0.00-36.00 hrs, dt= 0.01 hrs							
Area (sf) CN Description								
* 924 98								
924 98 100.00% Impervious Area								
Tc Length Slope Velocity Capacity De (min) (feet) (ft/ft) (ft/sec) (cfs)	scription							
10.0 <b>D</b> i	rect Entry,							
Summary for Subca	tchment H11: House 11							
Runoff = 0.03 cfs @ 7.96 hrs, Volume	= 0.009 af, Depth= 4.82"							
Runoff by SBUH method, Split Pervious/Imperv., Tir Type IA 24-hr 25 yr Rainfall=5.06"	ne Span= 0.00-36.00 hrs, dt= 0.01 hrs							
Area (sf) CN Description								
* 996 98								
996 98 100.00% Impervious Area								
Tc Length Slope Velocity Capacity De (min) (feet) (ft/ft) (ft/sec) (cfs)	scription							
10.0 <b>Di</b>	rect Entry,							
Summary for Subca	Summary for Subcatchment H12: House 12							
Runoff = 0.03 cfs @ 7.96 hrs, Volume	= 0.010 af, Depth= 4.82"							
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 25 yr Rainfall=5.06"								
Area (sf) CN Description								
* 1,032 98								
1,032 98 100.00% Impervious Area								
Tc Length Slope Velocity Capacity De (min) (feet) (ft/ft) (ft/sec) (cfs)	scription							
10.0 <b>Di</b>	rect Entry,							

POST DEVELOPMENT ANALYSIS Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software							Software S	olutions L	Typ .LC	e IA 24	4-hr	25 yr Rainfall=5. Printed 3/19/20 Page	06" 019 <u>20</u>
	Summary for Subcatchment H2: House 2												
Runoff	=	0.03	cfs @	7.96	δhrs, V	olum	ie=	0.009 a	af, De	epth= 4	1.82"		
Runoff by Type IA 24	SBUH n 4-hr 25	nethod yr Rair	l, Split F nfall=5.0	Pervic )6"	ous/Impe	erv., <sup>·</sup>	Time Spai	1= 0.00-3	86.00	hrs, dt=	= 0.0	1 hrs	
Are	ea (sf)	CN	Descri	otion									
*	996	98											
	996	98	100.00	% Im	perviou	s Are	ea						
Tc (min)	Length (feet)	Slop (ft/fl	e Velo t) (ft/s	ocity sec)	Capaci (cf	ty I s)	Descriptio	n					
10.0							Direct Ent	t <b>ry</b> ,					
	Summary for Subcatchment H3: House 3												
Runoff	=	0.03	cfs @	7.96	3 hrs, V	olum	ie=	0.009 a	af, De	epth= 4	1.82"		
Runoff by Type IA 24	Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 25 yr Rainfall=5.06"												
*			Desch	Suon									—
	996	98	100.00	% Im	perviou	s Are	ea						
Tc ∣ (min)	Length (feet)	Slop (ft/fl	e Velo t) (ft/s	ocity sec)	Capaci (cf	ty I s)	Descriptio	n					
10.0							Direct Ent	t <b>ry</b> ,					_
	Summary for Subcatchment H4: House 4												
Runoff	=	0.03	cfs @	7.96	3 hrs, V	olum	ie=	0.009 a	af, De	epth= 4	1.82"		
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr 25 yr Rainfall=5.06"													
Are	ea (sf)	CN	Descri	otion									
*	996	98											
	996	98	100.00	% Im	perviou	s Are	ea						_
Tc (min)	Length (feet)	Slop (ft/fl	e Velo t) (ft/s	ocity sec)	Capaci (cf	ty I s)	Descriptio	n					

POST DEVELOPMENT ANALYSIS Prepared by Branch Engineering	<i>I ype IA 24-hr 25 yr Rainfall=5.06</i> Printed 3/19/2019					
HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Soluti	ons LLC Page 21					
Summary for Subcatchment	H5: House 5					
Runoff = 0.02 cfs @ 7.96 hrs, Volume= 0.0	009 af, Depth= 4.82"					
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0 Type IA 24-hr 25 yr Rainfall=5.06"	.00-36.00 hrs, dt= 0.01 hrs					
Area (sf) CN Description						
* 924 98						
924 98 100.00% Impervious Area						
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)						
10.0 Direct Entry,						
Summary for Subcatchment	H6: House 6					
Runoff = $0.03$ cfs @ 7.96 hrs, Volume = 0.0	009 af, Depth= 4.82"					
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0 Type IA 24-hr 25 yr Rainfall=5.06"	.00-36.00 hrs, dt= 0.01 hrs					
Area (sf) CN Description						
* 996 98						
996 98 100.00% Impervious Area						
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)						
10.0 Direct Entry,						
Summary for Subcatchment	H7: House 7					
Runoff = $0.03$ cfs @ 7.96 hrs, Volume = 0.0	J10 af, Depth= 4.82"					
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr  25 yr Rainfall=5.06"						
Area (sf) CN Description						
* 1,032 98						
1,032 98 100.00% Impervious Area						
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)						

POST DEVELOPMENT ANALYSIS Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software So	Type IA 24-hr 25 yr Rainfall=5.06" Printed 3/19/2019 Dutions LLC Page 22							
Summary for Subcatchment H8: House 8								
Runoff = 0.03 cfs @ 7.96 hrs, Volume=	0.009 af, Depth= 4.82"							
Runoff by SBUH method, Split Pervious/Imperv., Time Span Type IA 24-hr 25 yr Rainfall=5.06"	= 0.00-36.00 hrs, dt= 0.01 hrs							
Area (sf) CN Description								
* 996 98								
996 98 100.00% Impervious Area								
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)								
10.0 Direct Entr	ſy,							
Summary for Subcatchme	ent H9: House 9							
Runoff = 0.03 cfs @ 7.96 hrs, Volume=	0.009 af, Depth= 4.82"							
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr  25 yr Rainfall=5.06"								
Area (st) CN Description								
996 98 100.00% Impervious Area								
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)								
10.0 Direct Entr	ſy,							
Summary for Subcatchment PAV: pavilion and walks								
Runoff = 0.04 cfs @ 7.96 hrs, Volume=	0.013 af, Depth= 4.82"							
Runoff by SBUH method, Split Pervious/Imperv., Time Span Type IA 24-hr 25 yr Rainfall=5.06"	= 0.00-36.00 hrs, dt= 0.01 hrs							
Area (sf) CN Description								
* 1,427 98								
1,427 98 100.00% Impervious Area								
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)								

Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC

# Printed 3/19/2019 ns LLC Page 23

Type IA 24-hr 25 yr Rainfall=5.06"

#### Summary for Pond CB: Catch Basin

0.336 ac,100.00% Impervious, Inflow Depth = 4.82" for 25 yr event Inflow Area = Inflow 7.96 hrs, Volume= 0.38 cfs @ 0.135 af = 7.96 hrs. Volume= 0.135 af, Atten= 0%, Lag= 0.0 min Outflow = 0.38 cfs @ 0.38 cfs @ Primary = 7.96 hrs, Volume= 0.135 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 46.66' @ 7.97 hrs Flood Elev= 46.79'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.96'	6.0" Round Culvert L= 26.0' Ke= 0.500
			Inlet / Outlet Invert= 45.96' / 45.35' S= 0.0235 '/' Cc= 0.900
			n= 0.011, Flow Area= 0.20 sf

Primary OutFlow Max=0.38 cfs @ 7.96 hrs HW=46.66' TW=46.48' (Dynamic Tailwater) -1=Culvert (Outlet Controls 0.38 cfs @ 1.94 fps)

### Summary for Pond RG: Rain Garden

Inflow Area	=	0.448 ac,100	.00% Impervious, Inflow De	epth = 4.82" for 25 yr event
Inflow	=	0.51 cfs @	7.96 hrs, Volume=	0.180 af
Outflow	=	0.51 cfs @	7.99 hrs, Volume=	0.180 af, Atten= 0%, Lag= 1.9 min
Discarded	=	0.03 cfs @	7.99 hrs, Volume=	0.052 af
Primary	=	0.48 cfs @	7.99 hrs, Volume=	0.128 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 46.48' @ 7.99 hrs Surf.Area= 487 sf Storage= 286 cf Flood Elev= 46.50' Surf.Area= 494 sf Storage= 295 cf

Plug-Flow detention time= 41.7 min calculated for 0.180 af (100% of inflow) Center-of-Mass det. time= 41.7 min (701.2 - 659.5)

Volume	Invert	Avail.Storage	Storage Description
#1	45.20'	528 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Surf.Area

(a a ft)

Elevation

(faat)

Type IA 24-hr 25 yr Rainfall=5.06" Printed 3/19/2019 LC Page 24

Prepared by Branch	n Enginee	ring			
HydroCAD® 10.00-20	s/n 09876	© 2017 H	ydroCAD	Software	Solutions L

Inc.Store

(aubia faat)

Cum.Store

(aubia faat)

			n= 0.011, Flov	v Area= 0.35 sf		
#3	Primary	45.38'	8.0" Round C Inlet / Outlet In	vert= 45.38' / 45.05'	s= 0.500 S= 0.0100 '/'	Cc= 0.900
"-	D .	10.01	2 End Contract	tion(s) 0.5' Crest H	eight	
#2	Device 3	46.31'	2.0' long x 0.5	0' rise Sharp-Crest	ed Rectangul	ar Weir
#1	Discarded	45.20'	2.500 in/hr Ex	filtration over Surfa	ace area Pha	se-In= 0.01'
Device	Routing	Invert	Outlet Devices			
46.9	90	669	65	528		
46.8	50	634	61	463		
46.7	/0	579	56	402		
46.6	50	536	52	347		
46.5	50	494	47	295		
46.4	40	452	43	248		
46.3	30	412	39	205		
46.2	20	3/3	35	165		
46.1	10	332	31	130		
46.0	00	289	22	99		
45.9	90	149	15	77		
45.8	30	149	16	62		
45.7	70	177	16	46		
45.6	50	145	13	30		
45.5	50	115	10	17		
45.4	40	78	5	7		
45.3	30	28	2	2		
45.2	20	9	0	0		
	÷()	(Sq-IL)	(cubic-leet)	(cubic-leet)		

**Discarded OutFlow** Max=0.03 cfs @ 7.99 hrs HW=46.48' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.48 cfs @ 7.99 hrs HW=46.48' TW=45.67' (Dynamic Tailwater)

-3=Culvert (Passes 0.48 cfs of 1.47 cfs potential flow) —2=Sharp-Crested Rectangular Weir (Weir Controls 0.48 cfs @ 1.41 fps)

#### Summary for Pond RP1: Existing Retention Pond

Inflow Area	=	0.486 ac,100	.00% Impervious,	Inflow Depth =	4.82" f	for 25 yr	event	
Inflow	=	0.55 cfs @	7.96 hrs, Volume	= 0.195	af	-		
Outflow	=	0.17 cfs @	9.17 hrs, Volume	= 0.195	af, Atten	i= 69%,	Lag= 72.7 ı	min
Discarded	=	0.17 cfs @	9.17 hrs, Volume	= 0.195	af		-	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 46.04' @ 9.17 hrs Surf.Area= 1,214 sf Storage= 1,984 cf Flood Elev= 46.10' Surf.Area= 1,242 sf Storage= 2,062 cf

Plug-Flow detention time= 144.4 min calculated for 0.195 af (100% of inflow) Center-of-Mass det. time= 144.4 min (803.9 - 659.5)

<u>I I y al e e i</u>	BO 10.00 E		Lott Hydroon B	Continuito Contationito I			T ugo Zo
Volume	Inver	t Avail.Sto	orage Storage	Description			-
#1	42.60	' 2,7	58 cf Custom	Stage Data (Prisn	natic)Listed	below (Recalc)	
Elevatio	on S	urf.Area	Inc.Store	Cum.Store			
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)			
42.6	60	17	0	0			
42.8	30	115	13	13			
43.0	00	180	30	43			
43.2	20	228	41	84			
44.(	00	438	266	350			
45.0	00	772	605	955			
46.0	00	1,198	985	1,940			
46.2	20	1,285	248	2,188			
46.4	40	1,430	271	2,460			
46.6	50	1,551	298	2,758			
Device	Routing	Invert	Outlet Devices	6			
#1	Discarded	42.60'	6.000 in/hr Ex	filtration over Su	rface area	Phase-In= 0.01'	

Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC

**Discarded OutFlow** Max=0.17 cfs @ 9.17 hrs HW=46.04' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.17 cfs)

#### Summary for Pond RP2: Proposed Retention Pond

Inflow Area	=	0.448 ac,100	.00% Impervious, In	flow Depth = 3.44"	for 25 yr event
Inflow	=	0.48 cfs @	7.99 hrs, Volume=	0.128 af	
Outflow	=	0.35 cfs @	8.22 hrs, Volume=	0.128 af, Atte	en= 28%, Lag= 13.4 min
Discarded	=	0.35 cfs @	8.22 hrs, Volume=	0.128 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 45.77' @ 8.22 hrs Surf.Area= 0.017 ac Storage= 0.008 af Flood Elev= 46.45' Surf.Area= 0.029 ac Storage= 0.024 af

Plug-Flow detention time= 4.5 min calculated for 0.128 af (100% of inflow) Center-of-Mass det. time= 4.5 min ( 646.4 - 641.9 )

Volume	Invert	Avail.Storage	Storage Description					
#1	45.03'	0.041 af	2.00'W x 111.76'L x 1.92'H Prismatoid Z=3.0					
Device	Routing	Invert Ou	tlet Devices					
#1	Discarded	45.03' <b>20.</b>	.000 in/hr Exfiltration over Surface area Phase-In= 0.01'					
<b>Discarded OutFlow</b> Max=0.35 cfs @ 8.22 hrs HW=45.77' (Free Discharge) <b>1=Exfiltration</b> (Exfiltration Controls 0.35 cfs)								

Type IA 24-hr 25 yr Rainfall=5.06" Printed 3/19/2019 Page 25

#### Summary for Subcatchment DRV: Drive Aisle/ Parking/ Storage/ Trash Enclosure

Runoff = 0.05 cfs @ 7.99 hrs, Volume= 0.016 af, Depth= 0.63"

HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83"

	Area (sf)	CN	Description			
*	13,226	98				
	13,226	98	100.00% Im	npervious A	rea	
	Tc Length	Slop	e Velocity	Capacity	Description	
	(min) (feet)	(ft/f	t) (ft/sec)	(cfs)		
	10.0				Direct Entry,	

#### Summary for Subcatchment EC: Nopal Street and Houses

Runoff = 0.05 cfs @ 7.99 hrs, Volume= 0.017 af, Depth= 0.63"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83"

	Area (sf)	CN	Description		
*	6,872	98	houses		
*	7,345	98	nopal		
	14,217	98	Weighted A	verage	
	14,217	98	100.00% In	npervious A	Area
-	Гс Length	Slop	e Velocity	Capacity	Description
(mi	n) (feet)	(ft/f	t) (ft/sec)	(cfs)	
10	.0				Direct Entry,

#### Summary for Subcatchment H1: House 1

Runoff = 0.00 cfs @ 7.99 hrs, Volume= 0.001 af, Depth= 0.63"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83"

	A	rea (sf)	CN	Description		
*		924	98			
		924	98	100.00% In	npervious A	Area
()	Tc min)	Length	Slope	Velocity	Capacity	Description
	10.0	(ieet)	(1011)	(11/360)	(013)	Direct Entry
	10.0					Direct Entry,

#### Type IA 24-hr WQ Rainfall=0.83" POST DEVELOPMENT ANALYSIS Printed 3/19/2019 Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC Page 27 Summary for Subcatchment H10: House 10 Runoff 7.99 hrs, Volume= 0.001 af, Depth= 0.63" 0.00 cfs @ = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" Description Area (sf) CN 924 98 100.00% Impervious Area 924 98 Tc Length Slope Velocity Capacity Description (feet) (ft/ft) (ft/sec) (cfs) (min) 10.0 Direct Entry, Summary for Subcatchment H11: House 11 7.99 hrs, Volume= Runoff 0.00 cfs @ 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" Area (sf) CN Description 996 98 996 98 100.00% Impervious Area Capacity Tc Length Slope Velocity Description (feet) (min) (ft/ft) (ft/sec) (cfs) Direct Entry, 10.0 Summary for Subcatchment H12: House 12 Runoff 0.00 cfs @ 7.99 hrs, Volume= 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" Area (sf) CN Description 1,032 98 1,032 98 100.00% Impervious Area Tc Length Slope Velocity Capacity Description

(ft/ft) (min) (feet) (ft/sec) (cfs) 10.0 **Direct Entry**,

#### Type IA 24-hr WQ Rainfall=0.83" POST DEVELOPMENT ANALYSIS Printed 3/19/2019 Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC Page 28 Summary for Subcatchment H2: House 2 Runoff 0.00 cfs @ 7.99 hrs, Volume= 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" CN Description Area (sf) 996 98 100.00% Impervious Area 996 98 Tc Length Slope Velocity Capacity Description (feet) (ft/ft) (ft/sec) (cfs) (min) 10.0 Direct Entry, Summary for Subcatchment H3: House 3 0.00 cfs @ 7.99 hrs, Volume= Runoff 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" Area (sf) CN Description 996 98 996 98 100.00% Impervious Area Slope Velocity Capacity Tc Length Description (feet) (min) (ft/ft) (ft/sec) (cfs) Direct Entry, 10.0 Summary for Subcatchment H4: House 4 Runoff 0.00 cfs @ 7.99 hrs, Volume= 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" Area (sf) CN Description

		ea (SI)		Description					
*		996	98						
		996	98	98 100.00% Impervious Area					
(mi	Tc in)	Length (feet)	Slope (ft/ft	e Velocity ) (ft/sec)	Capacity (cfs)	Description			
10	).0			//		Direct Entry,			

#### Type IA 24-hr WQ Rainfall=0.83" POST DEVELOPMENT ANALYSIS Printed 3/19/2019 Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC Page 29 Summary for Subcatchment H5: House 5 Runoff 0.00 cfs @ 7.99 hrs, Volume= 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" Description Area (sf) CN 924 98 100.00% Impervious Area 924 98 Tc Length Slope Velocity Capacity Description (feet) (ft/ft) (ft/sec) (cfs) (min) 10.0 Direct Entry, Summary for Subcatchment H6: House 6 7.99 hrs, Volume= Runoff 0.00 cfs @ 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" Area (sf) CN Description 996 98 996 98 100.00% Impervious Area Capacity Tc Length Slope Velocity Description (feet) (min) (ft/ft) (ft/sec) (cfs) Direct Entry, 10.0 Summary for Subcatchment H7: House 7 Runoff 0.00 cfs @ 7.99 hrs, Volume= 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" Area (sf) CN Description 1,032 98 1,032 98 100.00% Impervious Area

TcLengthSlopeVelocityCapacityDescription(min)(feet)(ft/ft)(ft/sec)(cfs)10.0Direct Entry,

#### Type IA 24-hr WQ Rainfall=0.83" POST DEVELOPMENT ANALYSIS Printed 3/19/2019 Prepared by Branch Engineering HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC Page 30 Summary for Subcatchment H8: House 8 Runoff 0.00 cfs @ 7.99 hrs, Volume= 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" CN Description Area (sf) 996 98 100.00% Impervious Area 996 98 Tc Length Slope Velocity Capacity Description (feet) (ft/ft) (ft/sec) (cfs) (min) 10.0 Direct Entry, Summary for Subcatchment H9: House 9 0.00 cfs @ 7.99 hrs, Volume= Runoff 0.001 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83" Area (sf) CN Description 996 98 996 98 100.00% Impervious Area Slope Velocity Capacity Tc Length Description (feet) (min) (ft/ft) (ft/sec) (cfs) Direct Entry, 10.0 Summary for Subcatchment PAV: pavilion and walks Runoff 0.01 cfs @ 7.99 hrs, Volume= 0.002 af, Depth= 0.63" = Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type IA 24-hr WQ Rainfall=0.83"

	A	rea (sf)	CN I	Description		
*		1,427	98			
		1,427	98 <sup>-</sup>	100.00% In	npervious A	Area
	Тс	Length	Slope	Velocity	Capacity	Description
(m	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
1	0.0					Direct Entry,

#### Type IA 24-hr WQ Rainfall=0.83" Printed 3/19/2019 C Page 31

### Summary for Pond CB: Catch Basin

Inflow Area	=	0.336 ac,100	.00% Impervious, Inflow D	epth = 0.63"	for WQ event
Inflow	=	0.05 cfs @	7.99 hrs, Volume=	0.018 af	
Outflow	=	0.05 cfs @	7.99 hrs, Volume=	0.018 af, Atte	en= 0%, Lag= 0.0 min
Primary	=	0.05 cfs @	7.99 hrs, Volume=	0.018 af	-

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 46.28' @ 9.11 hrs Flood Elev= 46.79'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.96'	<b>6.0" Round Culvert</b> L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 45.96' / 45.35' S= 0.0235 '/' Cc= 0.900 n= 0.011, Flow Area= 0.20 sf

Primary OutFlow Max=0.05 cfs @ 7.99 hrs HW=46.17' TW=46.12' (Dynamic Tailwater) -1=Culvert (Outlet Controls 0.05 cfs @ 0.94 fps)

### Summary for Pond RG: Rain Garden

Inflow Area	a =	0.448 ac,100	.00% Impervious, Inflow De	epth = 0.63" for WQ e	vent
Inflow	=	0.07 cfs @	7.99 hrs, Volume=	0.023 af	
Outflow	=	0.02 cfs @	9.12 hrs, Volume=	0.023 af, Atten= 66%, I	_ag= 67.8 min
Discarded	=	0.02 cfs @	9.12 hrs, Volume=	0.023 af	
Primary	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 46.28' @ 9.12 hrs Surf.Area= 404 sf Storage= 196 cf Flood Elev= 46.50' Surf.Area= 494 sf Storage= 295 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 114.9 min ( 843.6 - 728.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	45.20'	528 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation

HydroCAD® 10.00-20 s/n 09876 © 2017 HydroCAD Software Solutions LLC

Cum.Store

Printed 3/19/2019 Page 32

(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)		
45.2	20	9	0	0		
45.3	30	28	2	2		
45.4	40	78	5	7		
45.5	50	115	10	17		
45.6	60	145	13	30		
45.7	70	177	16	46		
45.8	30	149	16	62		
45.9	90	149	15	77		
46.0	00	289	22	99		
46.1	10	332	31	130		
46.2	20	373	35	165		
46.3	30	412	39	205		
46.4	40	452	43	248		
46.5	50	494	47	295		
46.6	60	536	52	347		
46.7	70	579	56	402		
46.8	30	634	61	463		
46.9	90	669	65	528		
Device	Routing	Invert	Outlet Devices			
#1	Discarded	45.20'	2.500 in/hr Ex	filtration over Surf	face area Phas	se-In= 0.01'
#2	Device 3	46.31'	2.0' long x 0.5	0' rise Sharp-Cres	ted Rectangula	ar Weir
			2 End Contract	ion(s) 0.5' Crest H	leight	

Inc.Store

#2	Device 3	46.31'	2.0' long x 0.50' rise Sharp-Crested Rectangular Weir
			2 End Contraction(s) 0.5' Crest Height
#3	Primary	45.38'	8.0" Round Culvert L= 33.0' Ke= 0.500
	-		Inlet / Outlet Invert= 45.38' / 45.05' S= 0.0100 '/' Cc= 0.900
			n= 0.011, Flow Area= 0.35 sf

**Discarded OutFlow** Max=0.02 cfs @ 9.12 hrs HW=46.28' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=45.20' TW=45.03' (Dynamic Tailwater) -3=Culvert (Controls 0.00 cfs) —2=Sharp-Crested Rectangular Weir(Controls 0.00 cfs)

#### Summary for Pond RP1: Existing Retention Pond

Inflow Area	=	0.486 ac,100	.00% Impervious,	Inflow Depth = 0	).63" for	WQ event
Inflow	=	0.07 cfs @	7.99 hrs, Volume	= 0.025 af	f	
Outflow	=	0.04 cfs @	8.48 hrs, Volume:	= 0.025 af	f, Atten= 5	1%, Lag= 29.6 min
Discarded	=	0.04 cfs @	8.48 hrs, Volume	= 0.025 af	f	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 43.33' @ 8.48 hrs Surf.Area= 261 sf Storage= 114 cf Flood Elev= 46.10' Surf.Area= 1,242 sf Storage= 2,062 cf

Plug-Flow detention time= 22.0 min calculated for 0.025 af (100% of inflow) Center-of-Mass det. time= 22.0 min (750.6 - 728.7)

Surf.Area

Prepared by Branch Engineering

#### **POST DEVELOPMENT ANALYSIS** Prepared by Branch Engineering

HydroCA	<u>AD® 10.00-20</u>	<u>s/n 09876</u> @	2017 HydroCAD	Software Solutions LLC	Pag
Volume	Invert	Avail.St	orage Storage	Description	
#1	42.60'	2,7	758 cf Custom	Stage Data (Prismatic)	Listed below (Recalc)
Elevatio	on Su et)	urf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
42.0 42.8	60 80	17 115	0 13	0 13	
43.0 43.2	00 20	180 228	30 41	43 84	
44.( 45.(	00 00	438 772	266 605	350 955	
46.0 46.2	00 20	1,198 1.285	985 248	1,940 2.188	
46.4 46.6	40 60	1,430 1,551	271 298	2,460 2,758	
Device	Routing	Inver	t Outlet Device	S	
#1	Discarded	42.60	' 6.000 in/hr E	xfiltration over Surface	area Phase-In= 0.01'

**Discarded OutFlow** Max=0.04 cfs @ 8.48 hrs HW=43.33' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.04 cfs)

### Summary for Pond RP2: Proposed Retention Pond

Inflow Area	=	0.448 ac,100	.00% Impervious, Inflow De	epth = 0.00"	for WQ event
Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af	
Outflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af, Atte	n= 0%, Lag= 0.0 min
Discarded	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 45.03' @ 0.00 hrs Surf.Area= 0.005 ac Storage= 0.000 af Flood Elev= 46.45' Surf.Area= 0.029 ac Storage= 0.024 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow) Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	45.03'	0.041 af	2.00'W x 111.76'L x 1.92'H Prismatoid Z=3.0
Device	Routing	Invert Ou	utlet Devices
#1	Discarded	45.03' <b>20</b>	.000 in/hr Exfiltration over Surface area Phase-In= 0.01'
Discourd	ad OutFlaur	Aav-0.00 afa @	(0.00  km + 1)M = 45.021 (Free Discharge)

**Discarded OutFlow** Max=0.00 cfs @ 0.00 hrs HW=45.03' (Free Discharge) **1=Exfiltration** (Controls 0.00 cfs)

Type IA 24-hr WQ Rainfall=0.83" Printed 3/19/2019 C Page 33

# **APPENDIX D**

**Operation and Maintenance Plan** 

# Simplified Operations and Maintenance Specifications VEGETATED FILTERS

What To Look For	What To Do
<b>Structural Components</b> , including inlets and outlets, che and infiltrate stormwater.	ck dams, and flow spreader, shall slowly and evenly treat
<ul><li>Clogged inlets or outlets</li></ul>	Remove sediment, debris, and vegetation blockage from catch basins, trench drains, curb inlets, and pipes to maintain at least 50% conveyance capacity at all times.
Ineffective flow spreaders	<ul> <li>Clear accumulated silt.</li> </ul>
<ul> <li>Cracked drain pipes</li> </ul>	<ul> <li>Repair/seal cracks. Replace when repair is insufficient.</li> </ul>
<b>Vegetation</b> shall cover 90% of the facility.	
Dead or strained vegetation	Manually remove sediment accumulation.
	Replant per planting plan, or substitute from SWMM Appendix F.4 plant list.
	<ul> <li>Irrigate as needed. Mulch annually. DO NOT apply fertilizers, herbicides, or pesticides.</li> </ul>
➤ Tall grass	Cut back to 4-6 inches 1-2 times each year.
> Weeds	Manually remove weeds. Remove plant debris.
Growing/Filter Medium, including soil and gravels, shal	l sustain healthy plant cover and infiltrate within 48 hours.
<ul><li>Erosion and gullies</li></ul>	<ul> <li>Fill, lightly compact, and install flow spreader/plant</li> </ul>
	vegetation to disperse flow. Restore or create outfalls,
	checkdams, or splash blocks where necessary.
Slope slippage	<ul> <li>Stabilize slopes.</li> </ul>
Ponding	Rake, till, or amend to restore infiltration rate.

#### Maintenance Schedule:

*Summer*. Make any structural repairs. Improve filter medium as needed. Clear drain. Mow. Irrigate as needed. *Fall.* Replant exposed soil and replace dead plants. Remove sediment and plant debris. *Winter*. Monitor infiltration/flow-through rates. Clear inlets and outlets/overflows to maintain conveyance.

Spring. Remove sediment and plant debris. Replant exposed soil and replace dead plants.

All seasons. Weed as necessary.

**Maintenance Records:** Record date, description, and contractor (if applicable) for all structural repairs, landscape maintenance, and facility cleanout activities. Keep work orders and invoices on file and make available upon request of the City inspector.

Access: Maintain ingress/egress to design standards.

**Infiltration/Flow Control:** All facilities shall drain within 48 hours. Record time/date, weather, and site conditions when ponding occurs.

**Pollution Prevention**: All sites shall implement best management practices to prevent hazardous or solid wastes or excessive oil and sediment from contaminating stormwater. Contact Spill Prevention & Citizen Response at 503-823-7180 for immediate assistance responding to spills. Record time/date, weather, and site conditions if site activities contaminate stormwater.

**Vectors (Mosquitoes & Rodents):** Stormwater facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface. Note holes/burrows in and around facilities. Call Multnomah County Vector Control at 503-988-3464 for immediate assistance to eradicate vectors. Record time/date, weather, and site conditions when vector activity was observed.

# SEDIMENT AND OIL REMOVAL AND DISPOSAL

# FACILITIES AND SYSTEM COMPONENTS THIS APPLIES TO

- **Vegetated facilities:** ecoroofs, infiltration basins, planters, ponds, sand filters, swales, trees, vegetated filters, and wetlands.
- **Structural facilities:** catch basins, curb cuts, inlets, manufactured facilities, piping, sedimentation manholes, and vaults.
- Underground infiltration facilities: soakage trenches and drywells.
- Pervious pavement

# IMPORTANCE TO FACILITY PERFORMANCE

The purpose of a stormwater treatment facility is to remove pollutants, including suspended solids, by capturing sediment. Sediment can include dirt, leaves, and litter. These materials can restrict or clog the facility. Timely removal of sediment will improve infiltration rates and water quality and prevent clogging and flooding.

### WHAT TO LOOK FOR

Check the depth of accumulated sediments. Sediment markers can be placed in the facility to help identify depths. Remove sediment when:

# **Vegetated Facilities:**

- Sediment is filled to 30% of capacity (4 inches deep in a vegetated facility),
- Sediment depth is damaging or killing vegetation, or
- Sediment is preventing the facility from draining in the time specified in the O&M Plan.

### **Structural Facilities:**

- At least once a year, or when
- Sediment is filled to 30% of capacity (1½ feet deep in a sediment manhole or 6 inches deep in a vault).

# **Underground Infiltration Facilities and Pervious Pavement:**

• Sediment is preventing the facility from draining in the time specified in the O&M Plan.

# WHAT TO DO

Sediment often can be removed by hand. Large facilities and underground facilities will need to be cleaned with heavy equipment by trained professionals.

• Remove sediment during dry months when it is easier to remove, weighs less, and creates fewer secondary environmental impacts (such as wet sediment running off the site).

*Note:* It is illegal to hose sediments through your system.

# SEDIMENT AND OIL REMOVAL AND DISPOSAL (continued)

# WHAT TO DO (continued)

# **Vegetated Facilities:**

- Use rakes and shovels to dig out accumulated sediment.
- Avoid damage to existing vegetation.
- If sediment is deep, plants may need to be removed in order to excavate sediment.
- Reseed and mulch disturbed areas to prevent erosion.
- Excavate sand or gravel and clean or replace.

# Structural Facilities, Soakage Trenches, and Pervious Pavement:

- Catch basins: Clean debris off the grate and bars. Lift the grate and use a bucket to remove water and a shovel to dig out sediment.
- Curb cuts, piping, and other conveyance facilities: Use a shovel, router, air hose, or other dry method to clear sediment and debris.
- Soakage trenches: Excavate sand or gravel and clean or replace.
- Pervious pavement: Remove accumulated sediment from the surface with a dry broom, vacuum system, or other hand tools.

# HIRING PROFESSIONALS

Cleaning certain facilities will require professional assistance:

- Underground facilities, such as manholes, drywells, and manufactured facilities, must be cleaned by a vactor truck. Do not enter these facilities. They are defined by the Oregon Occupational Safety and Health Division as confined spaces and require proper certification to enter.
- Certain components, such as collection basins, piping, or pervious pavement systems, may require vacuuming with a vactor truck or street sweeping equipment.

# DISPOSAL

When deciding how to dispose of sediment, consider the types of activities and pollutants onsite. Sediment from commercial or industrial sites is usually not considered hazardous waste. However, as the generator of this waste, you are responsible for deciding how to properly manage the removed solids.

# **Contaminated Water and Sediment**

Catch basins and stormwater facilities in areas used for chemical or hazardous waste storage, material handling, or equipment maintenance may collect the chemicals used in these activities from spills or via stormwater runoff. If you observe an oily sheen, odors, discoloration, or other signs of pollution, hire a

# **SEDIMENT AND OIL REMOVAL AND DISPOSAL (continued)**

# Contaminated Water and Sediment (continued)

professional laboratory or sampling firm to assess whether the material needs specialized hauling, treatment, or disposal to comply with Oregon State Department of Environmental Quality (DEQ) rules. If you need assistance deciding whether the solids should be managed as hazardous waste, contact DEQ.

### Non-Contaminated Water and Sediment

Dispose of the water in a sanitary sewer through a shop drain, sink, toilet, or other appropriate drain. If the pollutant load is non-hazardous, water may also be spread across onsite vegetation. Let the solids dry out, then properly dispose of them. Temporary erosion control measures may be needed to contain the material onsite. Dry materials may be reused elsewhere on your site, may be eligible for reuse by others, or can be disposed of at a designated solid waste facility.

# REDUCING SEDIMENT ACCUMULATION AND POLLUTION IN THE FACILITY

- Minimize outside sources of sediment, such as eroding soil upstream of the facility.
- Sweep paved areas on the property regularly.
- Make sure chemical and waste storage areas are not exposed to rainfall and stormwater runoff.
- Do not let water from washing vehicles or equipment drain to the stormwater facility.

# ADDITIONAL RESOURCES

### Catch basin cleaning, material handling, and other best management practices:

Bureau of Environmental Services, Industrial Stormwater Section www.portlandonline.com/bes/index.cfm?c=34618

### Hazardous waste:

DEQ 503-229-5913, email hw@deq.state.or.us, www.deq.state.or.us/wmc/hw/hw.htm

### Sediment removal:

Look in yellow pages under "Sewage" or "Waste Disposal."

# **VEGETATION MANAGEMENT**

# FACILITIES THIS APPLIES TO

• **Vegetated facilities:** ecoroofs, infiltration basins, planters, ponds, sand filters, swales, trees, vegetated filters, and wetlands.

# IMPORTANCE TO FACILITY PERFORMANCE

Plants play an important role in stormwater facilities. They absorb water, improve infiltration rates of soil, prevent erosion by stabilizing soil, cool water, and capture pollutants. Plants create habitat for birds and other wildlife and provide aesthetic value to a property. Proper maintenance of vegetation improves the appearance and performance of facilities.

# WHAT TO LOOK FOR

When identifying maintenance needs, it is helpful to have a copy of the landscape plan; this shows the required plants for the facility. Facilities should be checked for maintenance needs quarterly for the first 2 years and twice a year after that.

# A facility needs maintenance when:

- Areas of soil are bare.
- Vegetation is buried by sediment.
- Vegetation appears unhealthy or has died.
- Nuisance and invasive plants are present.
- Vegetation is compromising the facility's structure by blocking inlets or outlets, or roots are intruding into a component of the facility.
- Dropped leaves and other debris are contributing to sediment accumulation or are blocking inlets or outlets.

# WHAT TO DO

Maintenance activities can easily be incorporated into existing site landscape maintenance contracts. Vegetation can be maintained with a formal or more natural appearance, depending on your preference.

# **General Maintenance**

- Remove dropped leaves, dead plants, and grass and other plant clippings. Plant debris adds nutrient pollution as it breaks down and can clog facility piping and reduce infiltration.
- Avoid using fertilizers, herbicides, or pesticides in the facility. These products add to the pollution problems the facilities are designed to remedy.
# **VEGETATION MANAGEMENT (continued)**

## General Maintenance (continued)

- Use mulch to inhibit weed growth, retain moisture, and add nutrients. Replenish when needed. Ensure that mulch does not inhibit water flow in the flow path.
- Irrigate all new plantings as needed for the first 2 years.

# **Caring for Wanted Vegetation**

Facility owners are responsible for maintaining healthy vegetation and must replace any plants that have died or been removed.

- You are required to maintain vegetation to the density approved on your landscape plan or specified in the facility description in **Chapter 2**.
- Replant with vegetation approved for use in the original planting plan or from the recommended plant list in **Appendix F.4**.
- Plant in late fall or early spring so plant roots can establish during the cool, rainy seasons, before summer.
- Amend, aerate, and/or till compacted soils before replanting by adding compost to increase nutrients and enhance soil texture.
- If plants are not surviving, determine the reason for the plant die-off. Survivability may be improved by planting vegetation better suited for the site conditions or by irrigating more. You may need to test planting bed soils for pH, moisture, and other factors such as nutrient levels, soil structure, and organic matter content.
- Grassy facilities are designed for routine mowing. Mow at least twice a year.
- Grass should be mowed to keep it 4 to 9 inches tall.
- Grass that is at least 4 inches tall captures more pollutants and is hardier. Grass over 10 inches tall is considered a nuisance by City regulations.

# Nuisance and Unwanted Vegetation

- Remove nuisance and invasive vegetation such as Himalayan blackberry, English ivy, and reed canarygrass before it goes to seed in the spring. Do additional weeding in the fall. A list of nuisance plants can be found in the Portland Plant List. (See Additional Resources, below.)
- Immediately remove vegetation that is clogging or impeding flow into the facility.
- Remove potentially large and deep-rooted trees or bushes when they might impede the flow path or compromise facility structures.
- Provide erosion control on any dirt exposed by vegetation removal.

## **VEGETATION MANAGEMENT (continued)**

## Wildlife

Vegetated facilities create habitat, especially for birds. The Migratory Bird Treaty Act protects all native bird species. Birds and other animals will generally adjust to human activity. However, there are simple measures that should be taken to avoid disturbance:

• Walk the site before you do maintenance. Look for nests, burrows, and animals in the facility. Reroute around animal areas by at least a few yards.

## ADDITIONAL RESOURCES

#### **City of Portland resources:**

Naturescaping courses, native and invasive plant posters: www.portlandonline.com/bes/index.cfm?c=dcbec

Environmental Services Watershed Revegetation Program: www.portlandonline.com/bes/index.cfm?c=dffci

Portland Plant List (native and nuisance plants) www.portlandonline.com/shared/cfm/image.cfm?id=58951

## Plant identification:

Native Plant Society: 503-460-3198 www.npsoregon.org/ Master Gardeners: www.orst.edu/extension/mg/

## Native plant nurseries:

Plant Native: www.plantnative.org

# EROSION, BANK FAILURE, AND CHANNEL FORMATION

## FACILITIES THIS APPLIES TO

• **Vegetated facilities:** ecoroofs, infiltration basins, planters, ponds, sand filters, swales, trees, vegetated filters, and wetlands.

## IMPORTANCE TO FACILITY PERFORMANCE

Stormwater flowing through a facility can cause erosion. Erosion can increase sediment buildup, clog outlets, reduce water quality benefits, add to pollution, and cause facility components to fail. Eroded channels create an easy path for water to travel down, reducing the ability of the facility to filter pollutants and infiltrate water.

## WHAT TO LOOK FOR

Any area with erosion more than 2 inches deep needs maintenance. Signs of erosion and common locations are:

- The formation of flow-restricting channels in the bottom of the facility, around inlet pipes and curb cuts, or at overflows.
- Undercutting, scouring, and slumping along banks or berms.
- Channels and undercutting through check dams. (Check dams are small berms built across a facility to slow water and create small areas of ponding.)

## WHAT TO DO

- Fill the eroded area with soil, compact it lightly, and cover with mulch, compost, seed, sod, or other erosion prevention materials.
- Plant banks with deep or heavily rooted plants to permanently stabilize soil.
- Plant the bottom of the facility with grass or grass-like plants to slow water and stabilize soil.
- Install or repair structures designed to dissipate energy and spread flow, such as splash blocks on downspouts, or riprap around inlet pipes and curb cuts.
- Install temporary erosion prevention and sediment control measures in accordance with the *City of Portland Erosion Control Manual* until the problem is resolved and permanent measures are fully established.
- If erosion continues to be a problem, consult a professional to determine the cause and a solution.

# **PONDING WATER**

## FACILITIES THIS APPLIES TO

- **Vegetated facilities:** dry ponds, infiltration basins, planters, sand filters, swales, and vegetated filter strips.
- **Underground infiltration facilities:** soakage trenches and drywells.
- Structural facilities: manufactured facilities and pervious pavement.

*Note:* Some facilities are specifically designed to always hold water, such as wet ponds, spill control manholes, and sedimentation manholes.

## IMPORTANCE TO FACILITY PERFORMANCE

Most facilities are designed to drain in a certain amount of time. This varies from 2 to 48 hours, depending on the type of facility. This time is stated in the facility design description in **Chapter 2** and in the O&M Plan. Ponding water for over 48 hours is usually a sign that the facility's outlet is clogged or the facility is not infiltrating properly.

## WHAT TO LOOK FOR

- Clogging of overflows or outlets with debris, trash, or other obstructions.
- Fine sediments filtering into the soil or other filtration media (such as sand or gravel) that can prevent proper infiltration.
- Water that has remained ponded for more than 48 hours.

## MAINTENANCE

- For surface facilities, first try raking the top few inches of soil to break up clogged sections and restore water flow.
- Clean out overflows and outlets with hand tools, if possible. Difficult or hard-to-access blockages may require a professional contractor.
- Identify sources of sediment and debris to prevent them from entering the facility. Simple actions such as sweeping a parking lot regularly can keep sediment out of facilities.
- Make sure the facility has enough vegetation. Vegetation absorbs water, and roots help keep soil loose so it can infiltrate water.

For more thorough instructions on removing sediment, see Sediment and Oil Removal and Disposal, above. Sediment accumulated in stormwater facilities may be considered hazardous waste and must be handled and disposed of properly. If ponding still occurs, contact a landscape architect or engineer for more assistance.

## PESTS

#### FACILITIES THIS APPLIES TO

• All types of facilities.

## IMPORTANCE TO FACILITY PERFORMANCE

Mosquitoes can breed in ponded or other stagnant water. Vegetated areas can be attractive habitat for rats, nutria, beaver, and a variety of birds and amphibians. While some species are desirable, others can be public health or nuisance concerns. In particular, mosquitoes and rats can breed quickly and cause a public health hazard if not removed. The presence of pests does not necessarily impact the ability of your facility to treat and manage stormwater, but may indicate maintenance needs, such as lack of proper infiltration.

## WHAT TO LOOK FOR

- Check for mosquito larvae in any system with open, slow, or non-moving waters, especially during warmer weather. Larvae look like tiny wiggling sticks floating perpendicular to the water's surface.
- Look for nutria, rat, and other animal droppings year round. Also check for structural indicators such as beaver dams and rodent holes and burrows.

#### WHAT TO DO

#### Mosquitoes

- The best way to avoid breeding mosquitoes is to prevent ponding water. Mosquitoes need standing water to lay their eggs and for their larvae and pupae to develop. Most stormwater facilities are designed to drain in at least 48 hours. If your facility is not draining properly, see Ponding Water and Sediment and Oil Removal and Disposal, above.
- As a temporary control for mosquitoes, the county or other licensed professionals can apply pesticides to kill mosquito larvae in the water or adult insects in the air.
- Enclosed facilities, such as ponds, may be eligible to receive gambusia fish (also known as mosquito fish) from the county. Gambusia feed on mosquito larvae. See Additional Resources, below, for contact information.

#### Rats

Rats need shelter, food, and water to survive.

- Remove plant debris that may provide shelter for rats from the facility.
- Remove fruits and nuts that fall to the ground.
- Fill in burrows.
- Contact Multnomah County Vector Control for trapping and removal.

## **PESTS** (continued)

## Other Wildlife

Other non-native and invasive animal species may take up residence in your facility. Contact the Oregon Department of Fish and Wildlife (ODFW) to help identify these species and suggest removal processes. Permits from ODFW are required to capture and relocate native wildlife.

Some common non-native species are:

• Opossum

• Bullfrog

- Fox squirrel
  - Nutria
- Eastern gray squirrel
- Egyptian goose
- Snapping turtle

# ADDITIONAL RESOURCES

## Rats and mosquitoes:

Multnomah County Vector Control Online: www.mchealth.org/vector Phone: 503-988-3464 email: vector.nuisance@co.multnomah.or.us

## Other wildlife:

Oregon Department of Fish and Wildlife Online: www.dfw.state.or.us/wildlife/ Main Phone 503-947-6000 or 800-720-ODFW (6339)

- Eastern cottontail
  - Red-eared slider turtle

# **POLLUTION YOU CAN SEE OR SMELL**

## FACILITIES THIS APPLIES TO

• All types of facilities.

## IMPORTANCE TO FACILITY PERFORMANCE

Stormwater facilities often collect a variety of trash and debris. Trash and debris, especially floating debris, can clog pipes or treatment media. It can also cause odors through decay or by collecting spilled or dumped materials. Stormwater facilities are designed to help prevent pollutants from entering rivers and streams. Any visible water quality pollutants may wash out of the facility, spreading the pollution problem.

## WHAT TO LOOK FOR

- Check monthly for trash and debris.
- Check for any unusual or unpleasant smells from sources, such as:
  - Natural plant decay or algae
  - A spill or leak (e.g., gasoline or sewage)
- Check for visible pollution, such as:
  - Sheens
  - Turbid (cloudy) water
  - Access
  - Discoloration
  - Other pollutants on the surface of the water

## WHAT TO DO

- Regularly remove trash and plant debris.
- Remove accumulated sediment. (See Sediment and Oil Removal and Disposal, above.)
- Make sure inlets and outlets are not clogged.
- Identify the source of trash, debris, or pollutants, such as a spill, leak, or illicit discharge. Store hazardous material under cover. Ensure garbage bins are closed on solid waste containers.
- If there is evidence of a spill or leak, contact a professional laboratory or sampling firm to assess whether the material needs specialized removal, treatment, and disposal. Use trained professional staff for any cleanup and remediation.

# SAFETY

In addition to keeping the facility in good working order, maintenance should also strive to meet safety and aesthetic goals that benefit the community and protect site workers. Consider establishing maintenance triggers and practices that respond to the following issues. Keep in mind the safety of both the employees who maintain the facility and the general public.

## WHAT TO LOOK FOR

## **Site Conditions**

Conditions such as steep slopes, slick surfaces, covers in disrepair, and vegetation debris can create a falling hazard to employees and visitors.

## **Public Safety**

Some facilities, such as ponds and wetlands, can be "attractive nuisances" that attract undesirable activity, vandalism, or use that could be harmful to public safety. Consider the safety features now in place at the facility.

## WHAT TO DO

- Use barrier plantings or fencing to bar entry into the facility area.
- Install road bollards, lighting, and signage to discourage illegal dumping.
- Avoid maintaining facilities in wet weather to reduce the risk of injuries from slipping. Always make sure that appropriate safety gear (e.g., harness, gloves, face shields, safety line) is used.
- For underground facilities, avoid entering anything defined as a confined space. Vaults, deep ponds, manufactured facilities, or manholes are examples of confined spaces. These areas require special permits, training, and entry techniques. Some can be inspected and cleaned from above without entering. Always use caution when working with underground facilities. You are legally required to meet Oregon Occupational Safety and Health Division (OR-OSHA) requirements for such activities.

*Note:* Remember that any modifications made to the facility must also be addressed in the site's O&M Plan.

## ADDITIONAL RESOURCES

## **Confined space entry:**

OR-OSHA (confined space entry requirements) 503-229-5910 www.orosha.org/subjects/confined\_spaces.html

# **APPENDIX E**

Well Logs and Infiltration Test Data

#### INFILTRATION TESTING REPORT

Project Name: Keener Place Project Number: 18-493 Location: 1424 Airport Road, Florence OR Date: 1-24-2019 Comments: Encased falling head tests performed in 6" auger borings

Infiltration Test No. 1Depth: 42"Diameter: 6"Vol. of Presat. 2 gallonsSoil Description: 0-6" Grass, Gravel, Brown Organics; 6-42" Tan Moist Sand

 Time Elapsed (min):	Depth to Water (in):	k (in/hr)	Notes:	
0.00	37.75		Trial #1	
1.00	38.75	60.0	k <sub>avg</sub> =	58.2
2.00	39.75	60.0		
4.47	42.00	54.7		
0	38		Trial #2	
1	39	60.0	k <sub>avg</sub> =	57.8
2	40	60.0		
4.25	42	53.3		
0	37		Trial #3	
1.25	38.5	72.0	k <sub>avg</sub> =	60.8
2.5	39.5	48.0	2	
4.9	42	62.5		

Trial #1 Total k<sub>avg</sub>= 58.9

Infiltration Test No. 2 Depth: 46" Diameter: 6" Vol. of Presat. 2 gallons Soil Description: 0-6" Brown sandy gravel; 6-22" Dark Brown w/ some gravel; 12-18" firm moint fine grain sand;

18-30" Loose moist sand

Time Elapsed (min):	Depth to Water (in):	k (in/hr)	Notes:	
0.00	44.00		Trial #1	
1.00	45.25	75.0	k <sub>avg</sub> =	52.3
2.52	46.00	29.6		
	-			
0	40.5		Trial #2	
1	41	30.0	k <sub>avg</sub> =	38.9
2	42	60.0		
11.03	46	26.6		
0	41.75		Trial #3	
2.17	43	34.6	k <sub>avg</sub> =	32.7
4	44.25	41.0		
8.63	46	22.7		

Trial #2 Total k<sub>avg</sub>= 41.3

#### INFILTRATION TESTING REPORT

Time Elapsed (min):	Depth to Water (in):	k (in/hr)	Notes:	
0.00	63.50		Trial #1	
1.00	64.50	60.0	k <sub>avg</sub> =	61.4
2.00	55.50	-540.0		
3.00	66.50	660.0		
6.2	70	65.6		
0	64.5		Trial #2	
1	65.5	60.0	k <sub>avg</sub> =	55.9
2	66.5	60.0		
3	67	30.0		
5.45	70	73.5		
0	64		Trial #3	
1	65.25	75.0	k <sub>avq</sub> =	61.5
2	66	45.0	5	
3	67	60.0		
5.73	70	65.9		
5.73 Trial #3 Total k <sub>avg</sub> =	70 59.6	65.9		
5.73 Trial #3 Total k <sub>avg</sub> = ofiltration Test No. 2 Depth: 47	70 59.6	65.9	Vol. of Pro	esat. 2 gallons
5.73 Trial #3 Total k <sub>avg</sub> = nfiltration Test No. 2 Depth: 42 oil Description: 0-4" Brown Orgar	70 59.6 "Diameter: iics; 4-16" Brown Firm Sar	65.9 6" nd with Gravel;	Vol. of Pro 16-42" Tan	esat. 2 gallons Moist Firm Sand
5.73 Trial #3 Total k <sub>avg</sub> = nfiltration Test No. 2 Depth: 42 oil Description: 0-4" Brown Orgar Time Elapsed (min):	70 59.6 "Diameter: iics; 4-16" Brown Firm Sar Depth to Water (in):	65.9 6" nd with Gravel; k (in/hr)	Vol. of Pro 16-42" Tan Notes:	esat. 2 gallons Moist Firm Sand
5.73 Trial #3 Total k <sub>avg</sub> = ofiltration Test No. 2 Depth: 42 oil Description: 0-4" Brown Orgar <u>Time Elapsed (min):</u> 0.00	70 59.6 "Diameter: ics; 4-16" Brown Firm Sar Depth to Water (in): 37.50	65.9 6" nd with Gravel; k (in/hr)	Vol. of Pro 16-42" Tan <u>Notes:</u> Trial #1	esat. 2 gallons Moist Firm Sand
5.73 Trial #3 Total k <sub>avg</sub> = nfiltration Test No. 2 Depth: 42 oil Description: 0-4" Brown Organ <u>Time Elapsed (min):</u> 0.00 1.33	70 59.6 "Diameter: nics; 4-16" Brown Firm Sar Depth to Water (in): 37.50 41.00	65.9 6" nd with Gravel; <u>k (in/hr)</u> 157.9	Vol. of Pro 16-42" Tan Notes: Trial #1 $k_{avg} =$	esat. 2 gallons Moist Firm Sand 157.9
5.73 Trial #3 Total k <sub>avg</sub> = nfiltration Test No. 2 Depth: 42 oil Description: 0-4" Brown Organ <u>Time Elapsed (min):</u> 0.00 1.33	70 59.6 dics; 4-16" Brown Firm Sar Depth to Water (in): 37.50 41.00	65.9 6" nd with Gravel; <u>k (in/hr)</u> 157.9	Vol. of Pro 16-42" Tan Notes: Trial #1 k <sub>avg</sub> =	esat. 2 gallons Moist Firm Sand 157.9
5.73 Trial #3 Total k <sub>avg</sub> = nfiltration Test No. 2 Depth: 42 oil Description: 0-4" Brown Organ <u>Time Elapsed (min):</u> 0.00 1.33 0	70 59.6 Diameter: ics; 4-16" Brown Firm Sar Depth to Water (in): 37.50 41.00 37.5	65.9 6" nd with Gravel; <u>k (in/hr)</u> 157.9	Vol. of Pro 16-42" Tan Notes: Trial #1 k <sub>avg</sub> = Trial #2	esat. 2 gallons Moist Firm Sand 157.9
5.73 Trial #3 Total k <sub>avg</sub> = ofiltration Test No. 2 Depth: 42 oil Description: 0-4" Brown Orgar <u>Time Elapsed (min):</u> 0.00 1.33 0 0.5	70 59.6 bits; 4-16" Brown Firm Sar Depth to Water (in): 37.50 41.00 37.5 38.75	65.9 nd with Gravel; <u>k (in/hr)</u> 157.9 	Vol. of Pro 16-42" Tan Notes: Trial #1 $k_{avg}$ = Trial #2 $k_{avg}$ =	esat. 2 gallons Moist Firm Sand 157.9 126.1
5.73 Trial #3 Total k <sub>avg</sub> = filtration Test No. 2 Depth: 42 oil Description: 0-4" Brown Organ <u>Time Elapsed (min):</u> 0.00 1.33 0 0.5 1.82	70 59.6 "Diameter: nics; 4-16" Brown Firm Sar Depth to Water (in): 37.50 41.00 37.5 38.75 41	65.9 nd with Gravel; <u>k (in/hr)</u> 157.9  150.0 102.3	Vol. of Pro 16-42" Tan Notes: Trial #1 $k_{avg} =$ Trial #2 $k_{avg} =$	esat. 2 gallons Moist Firm Sand 157.9 126.1
5.73 Trial #3 Total k <sub>avg</sub> = filtration Test No. 2 Depth: 4: oil Description: 0-4" Brown Organ <u>Time Elapsed (min):</u> 0.00 1.33 0 0.5 1.82 0	70 59.6 "Diameter: nics; 4-16" Brown Firm Sar Depth to Water (in): 37.50 41.00 37.5 38.75 41 36.5	65.9 nd with Gravel; <u>k (in/hr)</u> 157.9  150.0 102.3	Vol. of Pro 16-42" Tan Notes: Trial #1 $k_{avg} =$ Trial #2 $k_{avg} =$ Trial #3	esat. 2 gallons Moist Firm Sand 157.9 126.1
5.73 Trial #3 Total k <sub>avg</sub> = filtration Test No. 2 Depth: 4: oil Description: 0-4" Brown Organ <u>Time Elapsed (min):</u> 0.00 1.33 0 0.5 1.82 0 1	70 59.6 "Diameter: aics; 4-16" Brown Firm Sar Depth to Water (in): 37.50 41.00 37.5 38.75 41 36.5 39	65.9 6" nd with Gravel; <u>k (in/hr)</u> 157.9 150.0 102.3 150.0	Vol. of Pro 16-42" Tan Notes: Trial #1 $k_{avg} =$ Trial #2 $k_{avg} =$ Trial #3 $k_{avg} =$	esat. 2 gallons Moist Firm Sand 157.9 126.1 123.0

Infiltration Test No. 1 Denth: 70" Diameter: 6" Vol. of Presat. 2 gallons

Trial #4 Total k<sub>avg</sub>= 135.7

STATE OF OREGON MONITORING WELL REPORT	WELL LABEL # L 105957
(as required by ORS 537.765 & OAR 690-240-0395) # AMEND	ED * START CARD # 19963
(1) LAND OWNER Owner Well I.D. B - 7	(6) LOCATION OF WELL (legal description)
First Name Last Name	County LANE Twp 18 S N/S Range 12 W E/W
Address 250 Highway 101	Sec 23 SW 1/4 of the SW 1/4 Tax Lot city right of w
City Florence State OR Zip 97439	Lat ° ' " or DMS or
(2) TYPE OF WORK X New Deepening Conversion	Long' or DMS or DMS or C Street address of well ( Nearest address
(3) DRILL METHOD Rotary Air Rotary Mud Cable Hollow Stem Auger Cable Mud	Corner of 15th St. and Oak St. Florence OR. (7) STATIC WATER LEVEL
Reverse Rotary X Other Push Probe	Date SWL(psi) + SWL(ft)
(4) CONSTRUCTION Piezometer Well 🔀	Completed Well 02-04-2010
Depth of Completed Well 20 ft. Special Standard	Flowing Artesian? Dry Hole?
MONUMENT/VAULT Below Ground	WATER BEARING ZONES Depth water was first found 9
From <u>0</u> To <u>1</u>	$\begin{array}{ c c c c c c c } \hline SWL Date & From & To & Est Flow SWL(psi) & + SWL(f) \\ \hline 02-04-2010 & 9 & 20 & & & & & & \\ \hline XI & 9 & & & & & & \\ \hline \end{array}$
BOREHOLE	
Diameter 2 From 0 To 20	
CASING	(8) WELL LOG Ground Elevation
$\begin{array}{c c} D_{1a} & .75 \\ \hline \\ Gauge cele40 \\ \hline \\ \end{array}$	- Material From To
Material Steel Plastic X	Asphalt, gravel 0 1 Sand loose 1 8
	Sand medium dense 7 16
LINER	Sand dense 16 20
Dia From To	-
Gauge Wld Thrd	
Material Osteel OPlastic	
SEAL	DECEMED
From <u>1</u> To <u>9</u>	RECEIVED RECEIVED
Amount 10 P Grout weight	
	FEB 2.5 2011
SCREEN	WATER RESOURCES DEP
Casing/Liner Casing Material sch40	WATER HESOURCES DEPT SALEM, OREGON
Slot Size 02	SALEM, OREGON
	Date Started         02-04-2010         Completed         02-04-2010
FILTER From 0. To 20. Material village and Size of pack 10/20.	(unbonded) Monitor Well Constructor Certification
10/20 10/20 10/20 10/20	abandonment of this well is in compliance with Oregon monitoring
(5) WELL TESTS	construction standards. Materials used and information reported above are tr the best of my knowledge and belief.
O Pump O Bailer O Air O Flowing Artesian	License Number 10496 Date 2/23/11
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)	Password (if filing electronically)
	Signed Rel Man
	(bonded) Monitor Well Constructor Certification
Temperature°F Lab analysisYes By	work performed on this well during the construction dates reported above.
Supervising Geologist/Engineer	work performed during this time is in compliance with Oregon monitoring construction standards. This report is true to the best of my knowledge, and be
Water quality concerns? [Yes (describe below)	to a solution of the solution

ORIGINAL - WATER RESOURCES DEPARTMENT THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK



**LANE 70972** 

•

WATER RESOURCES DEPT SALEM, OREGON

#### STATE OF OREGON MONITORING WELL REPORT

MONITORING WELL REPORT	WELL LABEL # L 105957			
(as required by ORS 537.765 & OAR 690-240-0395)	<b>START CARD #</b> 1012527			
(1) LAND OWNER Owner Well I.D. B - 7	(6) LOCATION OF WELL (legal description)			
First Name Last Name	County LANE Twp 18 S N/S Range 12 W E/W WM			
Company City of Florence	Sec 23 SW 1/4 of the SW 1/4 Tax Lot city right of way			
Address 250 Highway 101	Tax Map Number Lot			
City Florence State OR Zip 97439	Lat OMS or DD			
(2) TYPE OF WORK New Deepening Conversion	Long ' ' or DMS or DD			
Alteration (repair/recondition)	( Street address of well ( Nearest address			
(3) DRILL METHOD Rotary Air Rotary Mud Cable Hollow Stem Auger Cable Mud	(7) STATIC WATER LEVEL			
Reverse Rotary X Other Push Probe	Date SWL(psi) + SWL(ft)			
(4) CONSTRUCTION Piezometer Well	Existing Well / Predeepening			
Depth of Completed Well 20 ft. Special Standard	Completed Well 02-04-2010 X 9			
	WATER BEARING ZONES Depth water was first found 9			
MONUMENT/VAULT Below Ground	SWL Date From To Est Flow SWL (psi) + SWL (ft)			
From <u>0</u> To <u>1</u>	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
BORE HOLE				
Diameter 2 From 0 To 20				
CASING	(8) WELLLOC			
Dia75 From 🔀 0 To 10	Ground Elevation			
Gauge sch40 Wid Thrd	Material From To			
Material Steel  Plastic  X	Sand, loose 1 8			
	Sand medium dense 7 16			
	Sand dense 16 20			
Gauge Wild Thrd				
Material Steel OPlastic				
SEAL				
From 1 To 9	DECENTEN			
Material Bentonite Chips				
Amount <u>10 P</u> Grout weight				
	FEB 25 2011			
SCREEN	MATED DECOUDOED OF DY			
Casing/Liner Casing Material sch40				
Slot Size 02	SALEM OREGON			
	Date Started         02-04-2010         Completed         02-04-2010			
FILTER	(unbonded) Monitor Well Constructor Certification			
From 9 To 20 Material silica sand Size of pack 10/20	1 certify that the work 1 performed on the construction, deepening, alteration, or			
	construction standards. Materials used and information reported above are true to			
(5) WELL TESTS	the best of my knowledge and belief.			
O Pump O Bailer O Air O Flowing Artesian	License Number 10496 Date $\frac{2}{23}/11$			
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)	Password ; (if filing chectronically)			
	Signed Receptulation			
	(bonded) Monitor Well Constructor Certification			
Temperature °F Lab analysis Yes By	1 accept responsibility for the construction, deepening, alteration, or abandonment			
Supervising Geologist/Engineer	work performed on this well during the construction dates reported above. All			
Water quality concerns? Ves (describe below)	construction standards. This report is true to the best of my knowledge and belief.			
From To Description Amount Units	License Number 1022PP Date 2-23-11			
	Password : (if filing electropically)			
	Signed - Hanto			
	Contact Inter(optional)			

ORIGINAL - WATER RESOURCES DEPARTMENT THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

EXHIBIT 'A' BORE HOLE LOCATION MAP B-3 BORE HOLE
 SYMBOL AND IDENTIFICATION NO. RECEIVED LEGEND FEB 2 5 2011 WATER RESOURCES DEPT SALEM, OREGON LS JNId MATCH ABOVE CENTER : 1 22ND ST **18TH ST** 15TH ST B-7 B-8 IS X∀O 11 MATCH ABOVE CENTER MATCH BELOW RIGHT B-6 TS XAO 12TH ST BTH ST MATCH BELOW CENTER LS TVdON IS GOOMONIX 1.1 RHODODENDRON DR BTH ST MATCH BELOW CENTER Ś IS AN B-3 1 LS XAI ţ

ABOVE

ATCH-

**LANE 70972** 

**LANE 70972** 

TATE OF OREGON MONITORING WELL REPORT (as required by ORS 537.765 & OAR 690-240-0395)	WELL LABEL # L $105956$
(1) LAND (OWNER Owner Well LD B-6	
inst Name Last Name	County LANE Two 18 S N/S Range 12 W E/W WM
Company_City of Florence	Sec 27 NE 1/4 of the NE 1/4 Tax Lot city right of way
Address 250 Highway 101 State OR Zip 97439	Tax Map Number Lot
2) TYPE OF WORK X New Deepening Conversion	Long ' " or DMS or DD
Alteration (repair/recordition)	Street address of well ( Nearest address
3) DRILL METHOD	Corner of 12th St. and Oak St. Florence OR.
Rotary Air Rotary Mud Cable Hollow Stem Auger Cable Mud	(7) STATIC WATER LEVEL
Reverse Rotary X Other Push Probe	Date SWL(psi) + SWL(ft)
4) CONSTRUCTION Piezometer Well	Completed Well 02-04-2010
Depth of Completed Well 20 ft. Special Standard	Flowing Artesian? Dry Hole?
MONUMENT/VAULT Below Ground	SWI. Date From To Eat Flow SWI (asi) + SWI (asi)
From 0 To 1	02-04-2010 17 20 SWL(DSI) SWL(DSI) 17
BORE HOLE	
Diameter 2 From 0 To 20	
CASING	
Dia75 From 🔀 0 To 10	Ground Elevation
Gauge sch40 Wid Thrd	Asphalt, gravel 0 1
Material Osteel  Plastic	Sand, loose, wet 1 7
Dia To	
Gauge Wid Thrd	
	500 572 60 DBY 11 7 8
SEAL	HECEN
From <u>1</u> To <u>9</u>	
Material Bentonite Chips	WAR 014 2
	WATER RESOURCE
SCREEN	SALEM, OREG
Casing/Liner Casing Material sch40	
Slot Size .02	
	Date Stated 02-04-2010 Completed 02-04-2010
FILTER From 9 To 20 Material silica sand Size of pack 10/20	(unbonded) Monitor Well Constructor Certification I certify that the work I performed on the construction, deepening, alteration, or
	abandonment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information percented above are true to
5) WELL TESTS	the best of my knowledge and belief.
rump () Bailer () Air () Flowing Artesian Yield gal/min Drawdown Drill stem/Purn denth Duration (hr)	License Number 10496 Date $\frac{2}{23/11}$
	Password : (it filing-electronically) Signed
	(bonded) Monitor Well Constructor Certification
Cemperature °F Lab analysis Yes By	I accept responsibility for the construction, deepening, alteration, or abandonment
Supervising Geologist/Engineer	work performed during this time is in compliance with Oregon monitoring well
Water quality concerns? Yes (describe below)	construction standards. This report is true to the best of my knowledge and belief.
	Password : (if filing terrorically)

..... , . 1

ORIGINAL - WATER RESOURCES DEPARTMENT THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK



**LANE** 70779

**LANE 70779** 

## **LANE 70779**

LANE 70779

STATE OF OREGON GEOTECHNICAL HOLE REPORT (as required by OAR 690-240-0035)

10-08-2010

(1) OWNER/PROJECT Hole Number B - 6		
PROJECT NAME/NBR: LCC01OS.10P	(9) LOCATION OF HOLE (legal description)	
First Name Last Name	County Lane Twp 18.00 S N/S Range 12.00 W E/W W	VМ
Company City of Florence	$\begin{bmatrix} Sec & 27 & NE \\ Tax Man Number \end{bmatrix}$	
Address 250 Hwy 101	Lat ° o ' " or DMS or D!	D
City Florence State OR Zip 97439	Long0" or DMS or DI	D
(2) TYPE OF WORK New Deepening Abandonment	C Street address of hole ( Nearest address	_
Alteration (repair/recondition)	Corner of Oak St. and 12th St. Florence, OR.	
(3) CONSTRUCTION		
Rotary Air Hand Auger Hollow stem auger	(10) STATIC WATER LEVEL Date SWL(psi) + SWL(ft)	
Rotary Mud Cable Such Probe	Existing Well / Predeepening	
Other	Completed Well	
(4) TYPE OF HOLE:	WATER BEARING ZONES Depth water was first found	
	SWL Date From To Est Flow SWL (nsi) + SWL (ft)	-
Uncased Temporary OCased Permanent	02-04-2010 17 20	
Other		-
Other:		-
(5) USE OF HOLE	(11) SUBSURFACE LOG Ground Elevation	
	Material From To	_
	Sand 0 20	-
Piezometer well for observing depth to water.		1
(6) BORE HOLE CONSTRUCTION Special Standard Attach copy	۰ – – – – – – – – – – – – – – – – – – –	-
Depth of Completed Hole 20.00 ft.		-
BORE HOLE SEAL sacks/ Dia From To Material From To Amt lbs		]
2 0 20 Concrete 0 1 10 P		-
Bentonite Chips 1 20 15 P		-
	Date Started <u>02-04-2010</u> Completed <u>02-04-2010</u>	-
Backfill placed from ft. to ft. Material	(12) ABANDONMENT LOG:	
Filter pack fromft. toft. MaterialSize	sacks/	
	$\frac{1}{10000000000000000000000000000000000$	
(/) CASING/SCREEN		
Casing Screen Dia + From To Gauge Stl Plste Wld Thrd		
$\bigcirc \bigcirc $		
(8) WELL TESTS		
OPump OBailer OAir OFlowing Artesian	Date Started <u>09-10-2010</u> Completed <u>09-10-2010</u>	-
Yield gal/min Drawdown Drill stem/Pump depth Duration(hr)	Professional Certification (to be signed by an Oregon licensed water	or
	monitoring well constructor, Oregon registered geologist or professional engineer	r).
	I accept responsibility for the construction, deepening, alteration, or abandonme	ent
Temperature °F Lab analysis Yes By	work performed during the construction dates reported above. All work perform	ed
Supervising Geologist/Engineer	during this time is in compliance with Oregon geotechnical hole constructi standards. This report is true to the best of my knowledge and belief.	on
Water quality concerns? Yes (describe below)	License/Desistantion Number server	
From To Description Amount Units	Electronically Submitted	
	First Name Rod Last Name Johnson	
	Affiliation Pacific Northwest Drilling	

ORIGINAL - WATER RESOURCES DEPARTMENT THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK Form Version: 0.95

Page 1 of 2

STATE OF OREGON 10-06-20	
MONITORING WELL REPORT	WELL LABEL # L 97147
as required by ORS 537.765 & OAR 690-240-0395)	START CARD # 1011658
(1) LAND OWNER Owner Well I.D. B-8	(6) LOCATION OF WELL (legal description)
First Name Last Name	County Lane Twp 18.00 S N/S Range 12.00 W E/W WM
Company <u>City of Florence</u>	Sec $27$ SE 1/4 of the NE 1/4 Tax Lot $100$
City Florence State OR Zip 97439	Lat ° o '' or DMS or DD
2) TYPE OF WORK New Deepening Conversion	Long ' or DMS or DD C Street address of well ( Nearest address
	1226 Airport Rd. Florence, OR 97439
Rotary Air       Rotary Mud       Cable       Hollow Stem Auger       Cable Mud         Reverse Rotary       Other Direct Push	(7) STATIC WATER LEVEL Date SWL(psi) + SWL(ft)
4) CONSTRUCTION Piezometer Well	Existing Well / Predeepening
Depth of Completed Well 15 ft. Special Standard	Completed Well 09-29-2010 82
	WATER BEARING ZONES Depth water was first found <b>%</b> ,2
MONUMENT/VAULT Below Ground	SWL Date From To Est Flow SWL(psi) + SWL(ft)
BORE HOLE	
Diameter $2.25$ From $0$ 10 15	
CASING	(8) WELL LOG
Dia. <u>.75</u> From <u>0</u> To <u>5</u>	Material From To
Gauge Sch 40 W1d Thrd	Lt. Brown Fine Sand 0 15
Material Osteel OPlastic	
LINER	
Dia. From 🔲 To	
Gauge Wld Thrd	
Material OSteel OPlastic	
SEAL	
From To	
Material Granular Bentonite	
Amount <u>7.00 p</u> Grout weight	
SCREEN	WATER RESOURCES DE
Casing/Liner <u>Casing</u> Material Sch 40 Pre Pack	SALEM, OREGON
Diameter <u>75</u> From <u>5</u> To <u>15</u>	
	Date Started         09-29-2010         Completed         09-29-2010
FILTER Naturial and Simonformet	(unbonded) Monitor Well Constructor Certification
Silica Sand Size of pack 10/20	abandonment of this well is in compliance with Oregon monitoring well
5) WELL TESTS	construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
Pump O Bailer O Air O Flowing Artesian	License Number Date
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)	Electronically Submitted
	Signed
	(bonded) Monitor Well Constructor Certification I accept responsibility for the construction, deenening, alteration, or abandonment
emperature <u>56</u> °F Lab analysis Yes By	work performed on this well during the construction dates reported above. All
upervising Geologist/Engineer	onstruction standards. This report is true to the best of my knowledge and belief.
Vater quality concerns? Yes (describe below) From To Description Amount Units	License Number 10582 Date 10-06-2010
	Electronically Submitted
	Controt Info (optional) D. 17. (1.6.11)
	Contact Into (optional) Pacific Soil & Water II C

.....

LANE 70772

# **LANE 70772**

#### MONITORING WELL REPORT -

Map with location identified must be attached and shall include an approximate scale and north arrow LANE 70772 10-06-2010 WELL I.D. # L 97147

START CARD # 1011658

60'

Page 2 of 2

#### Map of well



↑ N Singing Pines Park -Airport Rd. & Kingwood St. Florence, OR 97439

RECEIVED

NOV 3 0 2010

WATER RESOURCES DEPT SALEM, OFIEGON

#### CITY OF FLORENCE PHASE I SITE INVESTIGATION REPORT

Dev NW Applicant

Dev NW Airport Road PUD Proposal or Project

Develop new PUD
Purpose of Proposal or Project (attach additional sheets, as needed)
None
Street Address

Map: 18-12-27-1	TL: 154
Map No.	Tax Lot
High Density Residential	
Comprehensive Plan Designation	
Multiple Family Residential	
Zoning District	

11/11/2019

Based on submitted information, zoning and comprehensive plan requirements, and the completed Site Investigation Report, this proposal **does** comply with Title 10 of the City Code and the Comprehensive Plan. The proposal **will** achieve the stated purpose. The site and/or building design **will not** have adverse impacts and **will** mitigate any adverse impacts.

The completed Site Investigation Report is available at the Planning Department.

This investigation was done by:

Dev NW		
Print		
Cionatura		
Signature		
Title		

#### PHASE 1SITE INVESTIGATION INITIAL PROPOSED DEVELOPMENT APPLICATION CHECKLIST

YES	NO		
$\checkmark$		1.	LOCAL ZONING REGULATIONS
			Does the proposed development site plan conform to City, or County Zoning Regulations regarding setback lines and other code provisions? (Contact the City or County Engineer for details.)
		2.	COMPREHENSIVE PLAN SETBACK LINE OR DESIGNATION
✓			a. Has a Coastal Construction Setback line (CCSBL) been adopted for this
			County or city? (Inquire from the County or City Engineer.)
			b. If a CCSBL has been adopted for this County or City is the proposed site seaward of the CCSBL?
	N/A		c. If the proposed site is seaward of the adopted CCSBL, has application for a variance or exception been made to the Planning Commission having jurisdiction?

Exł	nibi	it N
-----	------	------

VFS	NO	PHASE 1SITE INVESTIGATION INITIAL PROPOSED DEVELOPMENT APPLICATION CHECKLIST		
ILS	NU	DUNAL FORMS		
		<ul> <li>a. Does the property contain any of the following dune formations?</li> <li>1. Active Dune</li> <li>2. Newer Stablized Dune</li> <li>3. Older Stablized Dune</li> <li>4. Deflation Plan</li> <li>5. leading Edge of Sand dune</li> <li>6. Foredune</li> </ul>		
	<u> </u>	<ul> <li><u>IDENTIFIED HAZARDOUS CONDITIONS</u> <ul> <li>a. Has any portion of the property been identified as being affected by any potential or existing geological hazard? (Contact County or City Planning Departments for information published by the State Department of Geolog and Mineral Industries, US Department of Agriculture-Soil Conservation Service, US Geological Survey, US Army Corps of Engineers and other government agencies.)</li> </ul> </li> </ul>	ÿ,	
	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	<ul> <li>b. Are any of the following identified hazards present? <ol> <li>foredune</li> <li>Active Dunes</li> <li>Water erosion</li> <li>Flooding</li> <li>Wind erosion</li> <li>Landslide or sluff activity</li> <li>leading edge of active Sand Dune</li> </ol> </li> <li>c. Are there records of these hazards ever being present of the site? Describe:</li> </ul>		
<u>✓</u>		<ul> <li><u>EXISTING SITE VEGETATION</u></li> <li>b. Does the vegetation on the site, afford adequate protection against soil eros from wind and surface water runoff?</li> <li>c. Does the condition of vegetation present constitute a possible fire hazard o contributing factor to slide potential?</li> <li>(If answer is Yes, full details and possible remedies will be required.)</li> </ul>	sion or	
	✓ ✓	<ul> <li>FISH AND WILDLIFE HABITAT <ul> <li>a. Does the site contain any identified rare or endangered species or unique habitat (feeding, nesting or resting)?</li> <li>b. Will any significant habitat be adversely affected by the development? (Contact Oregon Department of Fish and Wildlife,)</li> </ul> </li> </ul>		
	<u>√</u>	<ul> <li><u>HISTORICAL AND ARCHEEOLOGICAL SITES</u> Are there any identified historical or archaeological sites within the area proposed development? (Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians).)</li> </ul>	for	
	<u> </u>	<ul> <li><u>FLOOD PLAIN ELEVATION</u></li> <li>a. If the elevation of the 100 year flood plain or storm tide has been determin</li> </ul>	ed,	

a. If the elevation of the 100 year flood plain or storm tide has been determined, does it exceed the existing ground elevation at the proposed building site? (Contact the Federal Insurance Administration, City or County Planning

		PHASE 1SITE INVESTIGATION INITIAL PROPOSED DEVELOPMENT APPLICATION CHECKLIST
YES	NO	
	N/A	<ul> <li>Departments for information on 100 year flood plain. Existing site elevations can be identified by local registered surveyor.)</li> <li>b. If elevations of the proposed development is subject to flooding during the 100 year flood or storm tide, will the lowest habitable floor be raised above the top of the highest predicted storm-wave cresting on the 100 year flood or storm</li> </ul>
		<ul> <li>8. <u>CONDITION OF ADJOINING AND NEARBY AREAS</u> Are any of the following natural hazards present on the adjoining or nearby properties</li> </ul>
		that would pose a threat to this site?
	✓	a. Active dunes
	<u>√</u>	b. foredune
	✓	c. Storm runoff erosion
	<b>√</b>	d. Wave undercutting or wave overtopping
	✓	e. Slide areas
	✓	f. Combustible vegetative cover
		(Contact County and City Planning staffs for local hazard information.)
		9. <u>DEVELOPMENT IMPACTS</u>
	<u>√</u>	a. Will there be adverse off-site impacts as a result of this development?
		b. Identify possible problem type
	$\checkmark$	1. Increased wind exposure
	~	2. Open sand movement
	✓	3. Vegetative destruction
	~	4 Increased water erosion (storm runoff driftwood removal reduction of
		foredune, etc.)
	✓	5. Increased slide potential
	$\checkmark$	6. Affect on aquifer
✓		c. Has landform capability (density, slope failure, groundwater, vegetation, etc) been a consideration in preparing the development proposal?
$\checkmark$		d. Will there be social and economic benefits from the proposed development?
		e. Identified benefits
	<b>√</b>	1. New jobs
<u>√</u>		2. Increased tax valuation
	✓	3. Improved fish and wildlife habitat
	✓	4. Public access
✓		5. Housing needs
$\checkmark$		6. Recreation potential
	N/A	7. Dune stabilization (protection of other features)
	N/A	8. Other
		10. <u>PROPOSED DESIGN</u>
$\checkmark$		a. Has a site map been submitted showing in detail exact location of proposed
		structures?
	~	h Have detailed plans showing structure foundations been submitted?
		c Have detailed plans and specifications for the placement of protective
		structures been submitted if need is indicated?
1		d Has a plan for interim stabilization, normanant revegetation and continuing
<u> </u>		vegetative maintenance been submitted?
		e. Is the area currently being used by the following?

		PHASE 1SITE INVESTIGATION INITIAL PROPOSED DEVELOPMENT APPLICATION CHECKLIST
YES	NO	
	<b>√</b>	1. Off-road vehicles
	✓	2. motorcycles
	<u>√</u>	3. horses
	<u>√</u>	f. Has a plan been developed to control or prohibit the uses of off-road vehicles, motorcycles and horses?
		11. LCDC COASTAL GOAL REQUIREMENTS
<b>√</b>		a. Have you read the LCDC Goals affecting the site? (contact LCDC, City or County office for copies of Goals.)
	✓	<ul> <li>b. Have you identified any possible conflicts between the proposed development and the Goals or acknowledged comprehensive plans? (If so, list them and contact local planning staff for possible resolution.)</li> </ul>
<u>√</u>		c. Have all federal and state agency consistency requirements been met? (Contact local planning office )
<u> </u>		d. Has applicant or investigator determined that the development proposal is compatible with the LCDD Beaches and Dunes Goal and other appropriate statewide land use planning laws?

Rev. 4/09



Exhibit O



November 13, 2019

#### TENTATIVE SUBDIVISON, CONDITIONAL USE PERMIT, PUD MODIFICATION NARRATIVE DEVNW AIRPORT RD PUD MULTI-FAMILY PROJ. (TAX MAP 18-12-27-10, TAX LOT 15400)

Branch Engineering Inc. Project No. 18-493

This application is a proposal to develop Tax Map 18-12-27-10, Tax Lot 15400 located at 1580 15<sup>th</sup> Street in Florence, OR. The subject property is 1.72 acres in size, zoned Multi-Family Residential (RM), and currently undeveloped. The property was part of the previously approved "Keener Place" PUD, which has since expired. Phase A of the Planned Unit Development (PUD), which exists on the east side of Nopal Street, has been constructed. Phase B was never constructed. Willamette Neighborhood Housing Services wishes to modify Phase B of the original approved PUD and develop it as "DevNW Airport Rd." PUD.

The original Phase B consisted of 8 attached single-family homes, and 2 detached single-family homes. The current project proposes multi-family housing in the form of 12 detached dwelling units, parking areas, and common open space. A subdivision is proposed to create 13 lots (one lot per dwelling plus one for common area and parking), and a Conditional Use Permit (CUP) is proposed to allow for detached single-family dwellings in the RM zone.

Like the previous Keener Place PUD, this proposal consists of smaller lots and reduced setbacks; this allows for adequate density to be achieved while still providing a large common open space area at the center of the property and at the southern end. So, while the project is multi-family in nature, and it achieves a higher density similar to a project with attached dwelling units, all proposed structures are detached single-family homes.

The overarching goal of the project is to provide affordable housing in a safe, community-oriented setting. The project will provide low to moderate income families the opportunity to own their own home and build equity.

#### Title 10, Chapter 23: Planned Unit Developments

*DevNW Airport Rd. PUD is consistent with the purpose and intent of a planned unit development for the following reasons:* 

- The project site (1.72 acres) is part of a larger City-owned property. The property has not been platted into smaller lots.
- The site design clusters development to accommodate the varied terrain and avoid the steeper slopes in order to preserve the natural features of the site. The open space is 24% (excluding the undeveloped area on the southern portion of the site). The developed area within the PUD is within the northern area where the terrain is more suitable.
- The proposed residential PUD addresses one of the City Council's goals, which is to provide affordable housing. The detached single family dwelling units with a communal open space are ideal for first time home-buyers or individuals who prefer less yard maintenance.
- DevNW Airport Rd. PUD will be an infill residential project located within a primarily residential neighborhood, near Miller Park and the Boys and Girls Club, and close to schools on Oak Street. Existing City services for water, sanitary, sewer, and stormwater are located within the 15<sup>th</sup> Street and Nopal Street rights-of-way. Services will be extended through the development.
- The proposed PUD will provide single family detached residences within a small family-oriented development with the goal of providing stable homeownership opportunities for the residents of

EUGENE-SPRINGFIELD

Florence. The PUD will be developed through DevNW, a non-profit whose goal is to provide equitable solutions for growing communities. The gross density of the Multi-family Residential District is maintained as defined by the Comprehensive Plan, while allowing for more innovative development on what is considered a challenging site. To provide for the single-family detached dwelling unit design, while maintaining density standards exceptions to the code standards are requested. These exceptions include those that were requested under the previous Keener Place PUD as well as additional alternatives to the standards, and are illustrated in the table below.

#### Table 10-23

Existing PUD Alternative Standards			
Code Citation	Code Standard	Previous Applicants' Request	
<i>Minimum Lot Dimensions</i> FCC 10-13-4-A and FCC 11-5-2-A-1 Exceptions FCC 11-5-2-B	Minimum Width 65 ft. Minimum Depth 80 ft.	Minimum Width 33 ft. Minimum Depth 70 ft (Lot 1).	
Minimum Lot Area FCC 10-13-4-B and FCC 11-5-2-A-2 Exceptions FCC 11-5-2-B	Lot Area 6,500 sf.	Lot Area 3,234 sf.	
Lot Frontage FCC 11-5-2-A-3 Exceptions FCC 11-5-2-B	Frontage 50 ft. 35 feet on a curve	Frontage 33 ft and 30 feet on a curve	
Front Yard Setback FCC 11-5-2-A-3 PUD Option FCC 10-23-1-B &F	Front Yard 20 ft.	Front Yard 10 ft. for Lot Nos. 13 through 19	
<i>Side Yard Setback</i> FCC 11-5-2-A-3 PUD Option FCC 10-23-1-B & F	Side Yard 5 ft.	No side yard between attached dwelling units on Lot Nos. 3 & 4, 5 & 6, 7 & 8, 9 & 10, 11 & 12, 14 & 15, 16 & 17 and 18 & 19.	
<b>Rear Yard Setback</b> FCC 11-5-2-A-3 PUD Option FCC 10-23-1-B and F	Rear Yard 10 feet accessory is 5 feet	Rear yard 5 ft. for Lot No. 1	
<b>Parking On-site</b> FCC 10-3-1-A PUD Discretionary Standard FCC 10-23-5-E	2 covered spaces per dwelling unit	1 covered space per dwelling unit with 20 ft. driveway provided for Lot Nos. 3 through 20. (Lot Nos. 1 and 2 meet standard with 2 per unit.)	
<i>Cul-de-sac</i> FCC 11-5-1-D-5	Circular turn around	Hammer-head turn around	
Street and Alley Center Line Curve Radii FCC 11-5-1-D-7 and FCC 11-5-1-E-2 Alley Pavement Width	100 ft.	50 ft. Nopal Street 30 ft. Alley	
FCC 11-5-1-E-4	2011.	10 11.	

Additional PUD Alternative Standards Requested			
Code Citation	Code Standard	Current Applicants' Request	
<i>Lot Coverage</i> FCC 10-13-4-C-2	All enclosed buildings: 35% of the lot area. Storage structures, driveways, parking spaces and surfaced area: 75%	36-61% building coverage 37-61% all surfaced area	
<i>Minimum Lot Dimensions</i> FCC 10-13-4-A and FCC 11-5-2-A-1 Exceptions FCC 11-5-2-B	Minimum Width 65 ft. Minimum Depth 80 ft.	Minimum Width 27 ft. Minimum Depth 47 ft.	
Minimum Lot Area FCC 10-13-4-B and FCC 11-5-2-A-2 Exceptions FCC 11-5-2-B	Lot Area 6,500 sf.	Lot Area 1,500 sf.	
Front Yard Setback FCC 11-5-2-A-3 PUD Option FCC 10-23-1-B &F	Front Yard 20 ft.	Front Yard 2 feet	
<i>Lot Frontage</i> FCC 11-5-2-A-3 Exceptions FCC 11-5-2-B	Frontage 50 ft. 35 feet on a curve	Frontage o ft	
Parking On-site FCC 10-3-1-A PUD Discretionary Standard FCC 10-23-5-E	Covered spaces, quantity varies by bedroom count	No covered spaces	
<b>Street Trees and Shrubs</b> FCC 10-34-3-3 FCC 10-34-4	1 tree/30 lineal ft. 6 shrubs/ 30 lineal ft.	None	

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

As mentioned in the zoning district's criteria, the PUD is an allowed use within the Multi-Family Residential Zoning District. The PUD for all other districts outside the Restricted Residential Zoning District uses need to be normal to the designated zoning district. The Planning commission interprets this to mean what is permitted or conditional within the zoning district. The applicants also request a conditional use permit to allow the single-family residential district in the Multi-Family Residential District.

Branch Engineering, Inc.

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.

As discussed in the Comprehensive Plan Residential Policies section of this Written Statement, the project is compatible with 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.

The surrounding development is detached single family residential to the west, east and north and commercial to the south. Buffering to the east is not necessary since it is a comparable density. Buffering to the north is accomplished by 15<sup>th</sup> Street. Buffering to the south is accomplished by a large undeveloped area. Buffering to the west is accomplished by topography and is discussed more at other places in this Written Statement.

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.

Assess is discussed in detail at other places in this Written Statement. It should be noted that the previous Keener Place PUD approval determined 15<sup>th</sup> Street can accommodate this project's traffic safely and without congestion.

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.

The design team has no concerns regarding adequate services and public utilities for the build out of the *PUD* since it is a small subdivision in relation to other *PUD*'s the City has reviews. No concerns were flagged in the previous Keener Place PUD approval.

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

The proposed location and design are anticipated to result in an attractive, healthy, and efficient environment, consistent with the applicable criterion. The location near Miller Park, Singing Pines Park, and the Siuslaw School District on Oak Street are great amenities to attract new homeowners. The lots are small and are consistent with the definition of high-density residential development as defined by the Comprehensive Plan. The applicants propose 24% open space (excluding the undeveloped area on the southern portion of the site).

10-23-5: Development Standards: To insure 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.

The proposed PUD is not two (2) acres, but is contiguous with the previous Keener Place PUD (0.96 acres); the two combined are 3.7 acres. This PUD is suitable by virtue of its unique character. The project is an infill development project converting the former senior center site into residential housing. The property also has unique topography of steep slopes which makes it suitable for a PUD.

B. Building Coverage: In a residential PUD, not more than fifty percent (50%) of the land area being developed, exclusive of public or private streets, shall be covered by buildings. When the PUD is not entirely residential, maximum building coverage shall be consistent with the purpose and general criteria of this Chapter as determined by the Planning Commission.

As indicated in the zoning district's criteria, maximum lot coverage is 75%. The PUD has a proposed 52% open space and undeveloped area combined. The PUD has a development area of 47,639 square feet. Of the total land area, approximately 11,808 square feet, or 16%, is covered by buildings, which is less than the maximum 50%.

C. 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.

The perimeter yard requirement is to provide a buffer between uses. The application shows that an undeveloped area will be retained along the southern portion of the development. The application provides a 5-foot setback and a 5-foot elevation difference along the western property line.

D. Maximum Building Height: Primary buildings shall not exceed the height limitations prescribed in the zoning district(s) in which the PUD is located. Accessory buildings shall not exceed the height limitations for primary buildings. (Ord 12, 1998).

*The building height is addressed in 10-13-5 of this Written Statement.* 

E. 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).

Parking is discussed in detail in 10-13-5E of this Written Statement, including a description of the exception requested per this standard.

F. 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.

All new utilities will be underground.

G. 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 property is 75,076 square feet. 27,437 square feet in the southern area will remain as undeveloped land. Therefore, the net development area is 47,639 square feet. The open space (internal to the housing cluster) is 10,918 square feet which is 21% of the net development area. All of that area is intended for recreation use and enjoyment; additionally, it will be owned and maintained by the developer. The recreational uses will include gardening plots and unstructured soft and hard surfaces. The open space will be fully developed at the same time as the rest of the PUD.

Branch Engineering, Inc.

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.

As shown on the Utility and Stormwater Plan, all public utilities have a public easement.

B. Streets, bikeways and pedestrian paths necessary for the proper development of either the PUD or adjacent properties.

Needs within 15<sup>th</sup> Street were addressed in the previous Keener Place PUD. The open space includes pedestrian connections within the PUD and to the public street network.

- 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.

As noted under 10-23-5G in this Written Statement, the developer will retain ownership and control over the open space.

#### Title 10, Chapter 13: MULTI-FAMILY RESIDENTIAL DISTRICT (RM)

10-13-4: Lot and Yard Provisions:

A. Minimum Lot Dimensions: To be designated a building site, an existing lot must be at least fifty feet wide and at least eighty feet in depth (50' x 80'). For new subdivisions and newly platted lots, the minimum width shall be sixty-five feet and the depth shall be eighty feet (65' x 80').

The Keener Place PUD requested an alternative lot width of 33 feet. DevNW Airport Rd. proposes slightly narrower lots (32 feet wide minimum). Therefore, an alternative minimum lot width of 32 feet is requested through the PUD modification.

The Keener Place PUD requested an alternative lot depth of 70 feet for one proposed lot, where 80 feet is normally required. DevNW Airport Rd. proposes shallower lots in order to maximize the size of the common open space area. While the majority of proposed lots have a depth exceeding 50 feet, Lots 10 and 11 have depth of 47 feet. Therefore, an alternative minimum lot depth of 47 feet is requested through the PUD modification.

B. Minimum Lot Area: To be designated a building site, an existing lot must be comprised of at least six thousand (6,000) square feet. For new subdivisions and newly platted lots, the minimum square feet shall be six thousand five hundred (6,500).

The Keener Place PUD requested an alternative lot area minimum of 3,234 sf. DevNW Airport Rd. proposes lots between 1,504 and 2,775 square feet. Therefore, an alternative minimum lot area of 1500 square feet is requested through the PUD Modification. Similar to the lot width discussed above, the smaller lots allow for a larger common open space area. They also, facilitate adequate density to be achieved after setting aside area for common open space and parking.

Branch Engineering, Inc.

- C. Lot Coverage:
  - 1. For single-family and duplex dwellings, the maximum coverage by all enclosed buildings shall not exceed thirty five percent (35%) of the lot area. The maximum coverage by all structures, driveways, parking spaces and surfaced area shall not exceed seventy five percent (75%) of the lot area.
  - 2. For multiple-family dwellings and other uses, the maximum coverage by all enclosed buildings shall not exceed fifty percent (50%) of the lot area. The maximum coverage by all storage structures, driveways, parking spaces and surfaced area shall not exceed seventy five percent (75%) of the lot area.

Due to the smaller lots proposed in this cluster type development, an alternative lot coverage standard is requested through the PUD modification process. Proposed building coverages range from 37-61%; however, the majority of lots are in the 50-60% range. It is noted that higher building coverage percentages are compensated by the inclusion of a large (pervious) common open space area at the center of the property and in the south portion of the property.

While an exception to building coverage is requested, total coverage by surfaced areas comply with the 75% maximum standard

- D. Yard Regulations:
  - 1. For single-family and duplex dwellings, front, side and rear yard regulations shall be the same as those in the Single-Family Residential District (Chapter 11 of this Title).
  - 2. For multiple-family dwellings and other uses, the front, side and rear setback shall be five feet (5'). When a multiple use adjoins a single-family use, the multiple use shall be set back from all 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.
  - 3. 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.

The Keener Place PUD requested alternative yard setback standards, which are detailed in Table 10-23 above. Of note, side yard setbacks were reduced to zero because attached dwelling units were proposed. The current proposal for DevNW Airport Rd. proposes only detached units, which brings the new design closer to compliance with yard standards. As detailed on the Site Plan, 5-foot side yard setbacks are maintained on all lots except Lot 12 where a 3-foot setback is proposed, respectively. It is also noted that a minimum 10-foot building separation exists throughout the subdivision.

The Keener Place PUD requested a 5-foot rear setback for one lot. The current proposal maintains at least a 10-foot rear setback for all lots except for Lots 10, 11 and 12. The minimum proposed rear setback is 5 feet, which exists on Lot 12. Lots 10 and 11 feature a 7-foot rear setback.

The Keener Place PUD requested a reduced 10-foot front setback for seven lots where 20 feet is normally required. The majority of lots in the current proposal include a front setback of 5 feet or greater; however, Lot 10 and Lot 11 have a front setback of 2 feet and 3 feet, respectively. While this may seem like a substantial front yard reduction, the "front" lot lines are not oriented towards a street/public right-of-way as they are in a conventional subdivision. Instead, the current design orients front lot lines towards the central common open area. So, while there are smaller front yard setbacks, the common area provides a substantial buffer in front of each home.

In summary, reduced setbacks in a cluster type development allow for enlargement of common open space areas, the provision of adequate parking, space for a common trash enclosure, and properly sized vegetated storm treatment facilities. In other words, alternative setback standards in this case allow for an overall better design while still maintaining the desired residential density.

Branch Engineering, Inc.

10-13-5: Site and Development Provisions:

- A. Building and Structural Height Limitations:
  - 1. Residential Buildings: The maximum building or structural height shall be twenty-eight feet (28').
  - 2. Accessory Buildings: The maximum building or structural height shall be fifteen feet (15').
  - 3. Nonresidential Buildings: The maximum building or structural height shall not exceed twentyeight feet (28').

*The proposed residential structures do not exceed 28 feet in height. This criterion is met.* 

B. Separation Between Buildings: The minimum separation between multiple-family buildings shall be thirty feet (30') unless the buildings are arranged end to end. 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.

This does not apply because no multi-family structures are proposed. Regardless, a 10-foot separation is maintained between all buildings.

C. Fences: See Chapter 10-34-5 of this Title.

*Fences are not proposed at this time. If proposed during the construction phase fences will comply with the standards at Chapter 10-34-5.* 

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

The minimum vision clearance at the proposed driveway entrances shall be 10 feet. No new structures or plants are proposed within the vision clearance area, consistent with this criterion.

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

In a multi-family development 1 space per one-bedroom, 1.5 spaces per two-bedroom unit and 2 spaces per three-bedroom unit is required. 1 one-bedroom unit, 4 two-bedroom units and 7 three-bedroom units are proposed. Therefore, 21 parking spaces are required. The proposal includes just over 2 spaces per unit for a total of 25 on-site parking spaces.

It appears the majority of existing dwellings within 100 feet of the site boundary have covered parking facilities. This application requests an adjustment to not cover any parking. The aim of this project is to provide affordable housing; construction of a covered parking area will increase development and maintenance costs, thus reducing the affordability. Additionally, as discussed in 10-4-10A8 below, not covering the parking will not create off-site impacts.

*The off-street parking standards are met.* 

F. Access and Circulation: Refer to Section 10-35 of this Title for requirements. Additionally, vehicle ingress or egress to a multiple-family dwelling shall not be allowed from less than a fifty-foot (50') right of way and thirty-two foot (32') paved street. Multiple-family dwellings shall not have vehicle access to and from a cul-de-sac.

*Refer to 10-35 in this Written Statement for a detailed discussion. To supplement that access conversation, it should be noted that Nopal Street has 28 feet of paving which is less than the 32-foot limitation in this criterion.* 

Branch Engineering, Inc.

G. Public Facilities: Refer to Section 10-36 of this Title for requirements. The developer of a multiplefamily 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.

*Refer to 10-36 in this Written Statement for a detailed discussion. The developer intends to be fully responsible for design, permitting and construction of the on-site public utilities. The design team is not aware of any need for extra capacity.* 

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

No signs are proposed at this time. This criterion does not apply.

- I. Open Space: Multiple-family developments of four (4) 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:
  - 1. Not less than ten feet (10') in width or depth at any point.
  - 2. Located on land with less than a five percent (5%) slope.
  - 3. Cleared sufficiently of trees, brush and obstructions so that recreational use is possible.
  - 4. Not used for temporary or regular parking of automobiles or other vehicles.
  - 5. Includes at least one hundred (100) square feet of area for each dwelling unit. (Ord. 625, 6- 30- 80)

The yard space reductions requested make it possible to create a large common open space area. The proposed common open space area at the center of the site meets the above criteria.

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

*Refer to 10-34 in this Written Statement for a detailed discussion.* 

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

Each dwelling will have a standard porch light by the front door. Locations for general site lighting are shown on the landscape and site plans, and the number of fixtures proposed has been limited to ensure minimum impact on neighboring properties. It is requested that selection of specific lighting fixtures and preparation of a photometric plan be deferred to the construction permitting process. Four conceptual security light locations are shown around the parking area (on the Site Plan) to benefit the residents. The number of fixtures conceptualized has been limited to ensure minimum impact on neighboring properties. All fixtures will be selected to meet code criteria for casting light onto adjoining properties.

#### Title 10, Chapter 35: Access and Circulation

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 Street 30 feet; Arterial Street 50 feet.

The new driveway connection to 15<sup>th</sup> Street is not offset from Maple Street and is offset approximately 240 feet from Nopal Street.

B. Where the City finds that reducing the separation distance is warranted, such as...

*This does not apply because a separation distance reduction is not requested.* 

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.

The design does not create a situation where cars need to back onto a public street. This criterion 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.

Access to Nopal Street, a local street, is proposed; however, directing this quantity of traffic solely to a street with on street parking and a relatively narrow width, like Nopal Street, is not considered good design. Access to 15<sup>th</sup> Street (Airport Road), a collector, is also proposed. The access to 15<sup>th</sup> Street is aligned with Maple Street in order to functionally prevent an additional intersection. Additionally, all the dwellings utilize one shared driveway connection to 15<sup>th</sup> Street; refer to the discussion under 10-13-5 in this Written Statement for a discussion of the supplemental multi-family criteria.

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.

The proposed parking and drive area provide vehicle access to the site, and pedestrian connections are provided from each residence to the public right-of-way. This criterion 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...

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 continuous drive-aisle with adequate separation is included in the design. An easement for joint use of the drive-aisle and parking will be included on the subdivision plat.

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.
- 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.

The drive-aisle width is a minimum of 20 feet. The driveway apron accommodates ADA and is of the style identified in Figure 10-35(2). A fire turnaround is not required since the drive-aisle does not dead-end. Refer to 10-13-5D in this Written Statement for a vision clearance discussion.

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.

# The driveway will be constructed consistent with these standards and will be further reviewed during the building permit process.

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.

A fire turnaround was approved and constructed in Nopal Street as part of the Keener Place PUD Phase A. The proposal for DevNW Airport Rd. includes a 20-foot clear width through driveway that will accommodate emergency vehicles. This criterion 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.

This does not apply because structures that would impact vertical clearance are not proposed.

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 ( $2 \frac{1}{2}$ ) 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...

No plants or structures will exist within the vision clearance area. This criterion is met.

10-35-3-1: Sidewalk Requirements:

Sidewalks will be constructed on both the south side of 15<sup>th</sup> Street and the west side of Nopal Street.
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.

Internal pedestrian paths are included to connect the front entries of the dwellings to each other, the parking area, the common open space and the public sidewalks.

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):

*The internal pedestrian paths are 5 feet wide and made from concrete. The path that abuts the drive aisle is vertically separated by a 6" curb.* 

10-35-3-4: 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:

*Please refer to the Comprehensive Plan Residential Policies, Policy 4, in this Written Statement for a transit discussion.* 

### Title 11, Chapter 3: Major Partition Tentative Plan Procedures

11-3-4: Approval of Tentative Major Partition or Subdivision: After giving notice as required by FCC 10-1-1-6, the Planning Commission or its designee shall grant approval or deny the major partition tentative plan. The hearing decision and further consideration of a similar application shall be governed by FCC 10-1-1-6. If approval involves implications of new or modified standards or policy, the Planning Commission and not its designee shall render a decision. The Planning Commission may require its designee to submit any tentative approval to the Commission for review prior to notification of the applicant. In the event of a denial, the application shall be reviewed by the Planning Commission within forty-five (45) days. Approval shall be granted, provided affirmative findings can be made that: (Amd. Ord 30, Series 1990).

A. The approval does not impede the future best use of the remainder of the property under the same ownership or adversely affect the safe and healthful development of such remainder or any adjoining land or access thereto.

*The proposal utilizes the entire property for residential homes, stormwater treatment, common open space, and natural resource preservation, and will have a positive impact on the neighborhood.* 

B. The tentative plan 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.

The proposal complies with the requirements of this Title and other applicable provisions.

### Title 11, Chapter 5: Platting and Mapping Standards

11-5-1: Streets:

A. All streets shall comply with applicable development standards of Title 10 Chapter 36, Street Standards.

The proposal includes a new parking lot drive aisle between Nopal Street and 15<sup>th</sup> Street (Airport Road). The Keener Place PUD featured an 18-foot wide alley in Phase B (an exception was granted to allow this reduced width). This is modified to a 20-foot wide parking area drive aisle. Technically this is not a street, but it does exceed the minimum width of 18 feet previously approved. Other street and driveway standards are evaluated above.

Branch Engineering, Inc.

B. Slope Easements: Slope easements shall be dedicated in accordance with specifications adopted by the City Council under Section 11-6-1 of this Title.

A grading plan is included with the proposal. The need for slope easements is not anticipated, however they can be established if deemed necessary by the Planning Commission.

C. Reserve Strips: The Planning Commission may require the applicant to create a reserve strip controlling the access to a street, said strip to be placed under the jurisdiction of the City Council and the Planning Commission, when the Planning Commission determines that a strip is necessary...

*The need for reserve strips is not anticipated. This criterion does not apply.* 

11-5-2: Lots and Parcels:

- A. Size and Frontage:
  - 1. General Requirements: Each lot shall have a minimum width and depth consistent with the lot width and depth standards for the appropriate zoning district.

As discussed under the PUD section, the Keener Place PUD allowed for reduced lot dimensions, and additional alternative standards have been requested through this PUD Modification.

2. Area: Minimum lot size shall be in conformance with the provisions of the Florence Zoning Ordinance. Where either a community water supply or sewer system are not presently provided, the lot area shall be sufficient to meet State and County health standards and the lot area shall be at least twice the number of square feet normally required in the zoning district where the lot is located. Where an oversize lot as described above is required due to lack of services, the Planning Commission may require the developer to submit a plan for later division of said lot(s) into standard six thousand five hundred (6,500) or nine thousand (9,000) square foot lots.

As discussed under the PUD section, the Keener Place PUD allowed for reduced minimum lot size. The proposed modification requests a further reduction to the minimum lot size to 1,500 SF. Smaller lots allow the design to incorporate a larger common open space and denser development consistent with the RM zone.

3. Frontage: Each lot shall have frontage of not less than fifty feet (50') upon a street, except that a lot on the outer radius of a curved street or facing the circular end of a cul-de-sac shall have frontage of not less than thirty five feet (35') upon a street, measured on the arc. Where either a public water supply or public sewers are not presently provided, the lot frontage shall be sufficient to insure an adequately sized lot to meet State and County requirements

A reduction to this standard was granted in the previous PUD. This application seeks to modify the reduction to zero. As shown on the plans, the lots in the PUD are oriented towards the common open space area. This promotes a sense of community among the dwellings over orientation to a driving or parking area.

- B. Exceptions:
  - 1. Subdivisions and Partitions Developed as a Unit: The Planning Commission may in its discretion authorize the relaxation of the lot size and frontage requirements specified herein where the applicant presents a plan satisfactory to the Planning Commission whereby the entire subdivision or partition will be designed and developed with provision for proper maintenance of open space, recreation and parklands and will be commonly available for recreation and park purposes to the residents of the subdivision or partition, and which the Planning Commission determines will be of such benefit to said residents as is equal to that

Branch Engineering, Inc.

which would be derived from observance of the lot size and frontage requirements otherwise specified, and will be in accordance with the purpose of this Title.

Additional exceptions to those approved through the Keener Place PUD are requested. These requests are detailed in Table 10-23 above and discussed in the relevant code sections.

2. Land Zoned for Commercial Use: The Planning Commission may in its discretion authorize relaxation of the lot size and frontage requirements specified herein in the case of land zoned for commercial use, where such relaxation is necessary in consideration of the suitability of the land for such use, and in accordance with the purpose of this Title.

This does not apply because the property is not zoned for commercial use.

3. Lot or Parcel Retained for Future Subdivision or Partition: The Planning Commission may in its discretion waive lot frontage requirements where in its judgment a lot or parcel should and will be retained by the applicant, and future subdivision or partition of such lot will be best protected by the creation of a reserve strip separating such lot from any street.

*No land is being reserved for future division; therefore, this criterion is not applicable.* 

4. Key and Butt Lots and Parcels: There shall be no key or butt lots or parcels except where authorized by the Planning Commission where such lots or parcels are necessitated by unusual topographic conditions or previous adjacent layout.

*This does not apply because no key or butt lots are proposed.* 

5. Lot and Parcel Side Lines: As far as is practicable, lot and parcel side lines shall run at right angles to the street upon which the lot or parcel faces; except those on curved streets, they shall be radial to the curve.

The proposed lot lines are perpendicular/radial to adjacent rights-of-way and the drive area as far as practicable.

6. Suitability for Intended Use: All lots and parcels shall be suitable for the purpose for which they are intended to be used. No lot or parcel shall be of such size or design as to be detrimental to the health, safety or sanitary needs of the residents of the subdivision or partition or of such lot or parcel as determined by the Planning Commission in accordance with the purpose of this Title.

All lots are designed for the intended residential use, and are not expected to be detrimental to the health, safety or sanitary needs of the residents. To ensure they are buildable to the requested exceptions, specific houses have already been selected as shown on the plans.

7. Future Subdivision or Partition of Lots or Parcels: Where the subdivision or partition will result in a lot or parcel one-half (1/2) acre or larger in size which, in the judgment of the Planning Commission, is likely to be further divided in the future, the Planning Commission may require that the location of lot and parcel lines and other details of layout be such that future division may readily be made without violating the requirements of this Title and without interfering with orderly extension of adjacent streets. Any restriction of buildings within future street locations shall be made a matter of record if the Planning Commission deems it necessary for the purpose of future land division.

While the common area lot is larger than ½ acre, it will not be further subdivided in the future as it is an important amenity for future residents.

Branch Engineering, Inc.

#### Title 10, Chapter 4: Conditional Uses

10-4-10: General Criteria: A conditional use permit may be granted only if the proposal conforms to all the following general criteria: (Ord. 669, 5-17-82)

A. Conformity with the Florence Comprehensive Plan.

The existing RM zoning is consistent with the High Density comprehensive plan map designation. The following are applicable policies:

#### **Comprehensive Plan Residential Policies**

- 1. The City shall encourage the use of residential planned unit development subdivisions and may trade off some conventional zoning requirements and density limitations in order to achieve:
- high quality, innovative residential lot and building design,
- incorporation of unique land forms into the final subdivision design,
- significant open space,
- on-site amenities reflecting the value for both active and passive recreational facilities,
- natural resource protection, where identified as part of a preliminary site investigation report,
- a mix of dwelling unit types and densities, and a mix of residential, commercial, and recreational uses, where appropriate.

The proposal is within an approved PUD and achieves the design features listed above. The proposal is consistent with this policy.

2. The City shall initiate an evaluation of its residential ordinances following adoption and acknowledgment of this Plan with respect to increasing residential densities through the use of smaller lot sizes, encouraging cluster developments, and providing developers with density bonus options based on public benefit criteria.

This policy is directed to the City and therefore does not apply to the current development proposal.

3. Where conventional subdivision techniques are employed for a residential development, no more than the base level of density under the applicable zoning district shall be considered available.

#### This does not apply because the project is a PUD.

4. Residential developers shall, in order to obtain subdivision approval, to provide streets of a suitable width and cross-section, sidewalks, other transportation facilities consistent with the Transportation System Plan, conveyance of natural drainage flows through the site, stormwater management systems, appropriate traffic safety signs and street lights, and normal and incidental public and quasi-public utilities including water, sanitary sewer, stormwater, and underground electric, cable, telephone and potentially fiber optic cable.

The project site is adjacent to two developed streets (Nopal and 15<sup>th</sup>) which provide adequate transportation facilities, and utilities will be provided to all new dwelling units. The Rhody Express South Loop travels along Airport Road. LTD states "Riders may request to board or get off the bus at any location along the route. The bus operator will stop the bus at the nearest safe location." The project proposes a sidewalk along the full Airport Road frontage; therefore, the entire site frontage is a safe location and consequently the nearest bus stop. The proposal is consistent with this policy.

5. Residential developers shall, in order to obtain planned unit development approval, to provide recreational area as a percentage of the required open space consistent with the amount

#### Branch Engineering, Inc.

indicated in Florence City Code. The recreation area shall satisfy one or more recreational needs identified in the latest Florence Parks and Recreation Master Plan.

The proposed common open space areas feature space for recreation, possible features include raised planters that allow for gardening and open grass areas for socialization and active recreation. The proposal is consistent with this policy.

6. New multi-family developments with four or more dwelling units on a single lot shall contribute recreation area appropriate to the needs of intended occupants as determined in the standards set out in the Florence Parks and Recreation Master Plan and Florence City Code.

*This policy does not apply because each dwelling unit is on an individual lot.* 

7. Residential development shall be discouraged in areas where such development would constitute a threat to the public health and welfare, or create excessive public expense. The City continues to support mixed use development when care is taken such that residential living areas are located, to the greatest extent possible, away from areas subject to high concentrations of vehicular traffic, noise, odors, glare, or natural hazards.

#### *The following staff response was included in the original Keener Place PUD decision:*

"There are natural constraints to the site for Keener Place. The applicants' design team has proposed a development that works with the constraints to reduce the threat to public health and welfare, or create excessive public expense. The applicants have requested a modification to the dead-end Nopal Street to have a hammerhead rather than a cul-de-sac, reducing the cost for the city to maintain a tall retaining wall.

The Police department supports the looping of the alley to provide access to DevNW Airport Rd. open space. The location of Keener Place is outside of the airport zone. The location of Keener Place is away from high concentrations of vehicular traffic, noise, odors, glare, and natural hazards."

The conversation regarding the hammerhead vs cul-de-sac is not relevant to this application since it is already built. Although this application proposes modifying the alley to be a parking area with drive aisle, the looping benefits cited in the previous approval still apply.

8. Existing residential uses in residential zoning districts and proposed residential areas shall be protected from encroachment of land uses with characteristics that are distinctly in- compatible with a residential environment. Existing residential uses in commercial and industrial zones shall be given the maximum practicable protection within the overall purposes and standards of those districts.

The project proposes residential development in a residential neighborhood setting. The proposal does include a parking area which are not part of the adjacent development style to the west. On the west side of the site, the parking area is approximately 2-3 feet below the elevation at the property line. Existing development on the adjacent lots is at least another several feet above the property line so that the homes are well above any headlights or windshield views. Additionally, extensive vegetation exists on the adjoining lots; the adjacent property owners have control over this additional level of buffering. The existing development to the south has a parking area in the portion of their development closest to the southern parking area on this site. The proposal is consistent with this policy.

9. The use of upper levels of commercial structures for residential living shall be encouraged where such a mix will add to the overall vitality of the immediate area.

*This policy does not apply because no commercial structures are proposed.* 

Branch Engineering, Inc.

10. An adequate supply and mix of housing types (single family, duplex, multiple family) shall be maintained throughout the 20-year planning period for all projected ages and in- come levels.

This policy is directed to the City and therefore does not apply to the current development proposal. Regardless, the project will provide a different housing type than standard single-family homes and will give low to moderate income families the opportunity to own a home. The proposal is consistent with this policy.

11. The City shall permit a manufactured home to be located in any residential area in accordance with Oregon law, the provisions of the City's zoning code and applicable building and specialty codes.

This policy does not apply because manufactured homes are not proposed.

12. Single family residential uses (including manufactured homes) shall be located in low and medium density residential areas, and shall be discouraged from high density residential areas to protect that land for the intended uses.

While the proposal includes single-family homes, the proposed lot sizes are much smaller than the minimum normally allowed in a standard subdivision. So, while detached homes are proposed, a much higher density consistent with higher density zones will be achieved. The proposal is consistent with this policy.

13. New residential subdivisions shall dedicate rights-of-way and construct pedestrian and bicycle trails in accordance with the City's Transportation System Plan or where the extension of an existing pedestrian and bicycle facility is warranted as a logical extension of that city wide transportation system.

Right-of-way was dedicated through the Keener Place PUD that allowed the construction of Nopal Street. Adequate pedestrian access is provided by the Nopal Street sidewalks. The proposal is consistent with this policy.

B. Compliance with special conditions established by the Planning Commission to carry out the purpose of this Chapter.

The applicant will comply with any special conditions established by the Planning Commission.

C. Findings that adequate land is available for uses which are permitted outright in the district where the conditional use is proposed. Available land can be either vacant land or land which could be converted from another use within the applicable zoning district. Land needs for permitted uses may be determined through projections contained in the Florence Comprehensive Plan or other special studies.

There appear to be multiple High-Density designated properties along Oak and 35<sup>th</sup> Street that are either under-developed or undeveloped. Also, while the proposal includes detached homes, the PUD allows for smaller lots and therefore a higher residential density that is consistent with the RM zoning. Because a higher density cluster development is proposed, and there are additional High-Density properties ready for development, this criterion is met.

D. Conditional uses are subject to design review under the provisions of Chapter 6 of this Title, except single family and duplex residential use. (Ord. 625, 6-30-80) See Code Section 10-6-3 for Design Review requirements.

The request for a conditional use permit is to allow single-family dwellings within the Multi-Family Residential District. The criterion does not apply since the project is exempted.

Branch Engineering, Inc.

E. Adequacy of public facilities, public services and utilities to service the proposed development.

As mentioned above (under the PUD criteria), there are adequate public services and utilities for the proposed development. This criterion is met.

F. Adequacy of vehicle and pedestrian access to the site, including access by fire, police and other vehicles necessary to protect public health and safety. (Ord. 669, 5-17-82).

The PUD has been designed to allow access by fire, police and other emergency vehicles. This criterion is met.

#### Title 10, Chapter 36: Public Facilities

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.

*Public stormwater and street(s) within the development proposal are not necessary. However, public sanitary and water mains are extended through the 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.

It is understood that additional design detail will need to be submitted to obtain construction permits.

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.

No water course, drainage way, channel, or stream exist within the development.

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.

To the design team's knowledge, this is not necessary.

Branch Engineering, Inc.

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.

Per Oregon Fire Code criteria, the drive aisle through the site maintains a 20-foot clear width. A turnaround is not necessary since the drive aisle is not a dead-end. All portions of all structures are within 150 feet of a fire access route and within 600 feet of a fire hydrant. The design team understands that when construction plans are prepared it will be necessary to coordinate with the Fire and Water Departments to ensure flow requirements are 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.

To the design team's knowledge, all downstream facilities are sufficient.

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.

It is understood this permitting will be required as part of the construction permitting process.

10-36-5: 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.

All new utilities are proposed to be underground.

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.

A fifteen-foot-wide easement centered on the facility are proposed for the public wastewater and water mains.

Branch Engineering, Inc.

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.

The design team understands this requirement for future process.

### Title 10, Chapter 34: Landscaping

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.

A landscape plan is included in the plan set. Fences and retaining wall are not currently part of the landscape design. Screening for the lower density homes to the west is accomplished by the use of topography. For the cut slopes on the western and southern portions of the site, the intent is for the slope to not exceed 2:1 due to the soil type on site. If this is difficult to achieve during detailed construction design, landscape block walls can be utilized in strategic areas. If utilized, these will stay less than the 4-foot limitation in Building Code. Native shrubs, such as rhododendron and Oregon grape, will be planted to accomplish long term stabilization on any cut slopes.

The playground, community garden and hard and soft surfaced active recreation areas are all included on the landscape plan. The ground cover types (grass, concrete, etc.) in the landscape and stormwater areas are included on the landscape plan. If possible during construction, the existing vegetation in the southern portion of the site will be maintained. However, at this time, a definitive preservation boundary cannot be determined; therefore, this application makes a conservative assumption of none.

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.

6% of the site is landscape area within the Open Space. Additionally, 2% of the site is stormwater area with plantings, and 37% of the site is the undeveloped area where either existing vegetation will be retained or new vegetation planted as discussed under 10-34-3-2 in this Written Statement. As indicated in 10-23 of this Written Statement, an exception is requested for street side trees and shrubs. Individual yard areas are minimal to increase density, reduce individual maintenance and maximize open spaces as prioritized in 10-23. Additionally, the site layout faces the front doors internal to the PUD rather than towards 15<sup>th</sup> or Nopal Streets. The result is that the small amount of private space the homes have is along the street and it would be entirely lost by including plantings of this size and density. An additional concern is conflicts between utilities and the vegetation. The tree and shrub roots will affect the underground facilities, especially stormwater. Above ground the foliage will interfere with access to electric boxes and water meters. The developer is agreeable to a requirement to include maintenance and tidiness requirements in the CC&Rs if the appearance of vegetation free yards is a concern.

Branch Engineering, Inc.

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.

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.

It is requested to provide detailed compliance information for these criteria during the construction permitting process. The information submitted here demonstrates feasibility and the design concept. The category of plants to be selected is indicated on the landscape plan, and a common area water meter is shown as evidence of the intent to irrigate.

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:

The entire site includes more than 20 parking spaces. However, no individual parking area has more than 20 spaces. The westerly parking area has 16 spaces and the southerly parking area has 9 spaces. Therefore, this criterion in not applicable. Plantings will be made around the trash enclosure which lies between the two parking areas. This will contribute visual diversity to the drive aisle and a clear break between the two parking areas.

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.)

No parking or maneuvering areas are adjacent to streets or driveways. The drive aisle is adjacent to the southerly homes, but is separated by a curb and 5-foot walkway. The trash enclosure will be screened by a fence. This project is residential, therefore, the buffering standards in subosection D of this criterion are not applicable.

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

As indicated in 10-23 and 10-34-3-3 in this Written Statement an exception is requested for street side trees and shrubs.

10-34-5: Fences and Walls: Construction of fences and walls shall conform to all of the following requirements:

As discussed in 10-34-3-2 and 10-34-3-7 of this Written Statement, the trash enclosure fencing is the only fencing or wall currently anticipated. It is understood the trash enclosure fencing is limited to the 6-foot maximum in subsection B1 of this criterion.

Branch Engineering, Inc.

November 13, 2019



Wendy Farley-Campbell, Planning Director Community Development City of Florence 989 Spruce St Florence OR 97439

# RE: COMPLETENESS REVIEW RESPONSE DEVNW AIRPORT ROAD PUD

Branch Engineering Inc. Project No. 18-493

Dear Wendy,

The following is a response to each of the completeness review items listed in your letter dated November 6, 2019.

- Update narrative to address code in Title 10, Chapter 23, Planned Unit Developments.
  Submit the missing items from 10-23-10 (building elevations/perspective drawings).
  It is my understanding that Josh Shafer submitted these via email on November 6.
- Revise the narrative for Title 10, Chapter 13, Multi-Family Residential Zone. Specifically, 10-13-5 A through K. These sections apply, regardless of whether the dwellings are single-family; as noted above, the standards for the zone supersede those of the dwelling type. Where the applicant seeks exceptions to these standards, apply the PUD codes. (Note: the definition of a PUD is "Development of a unified site design for an area of land that allows deviation from specific site standards while observing general purposes of the zoning regulations.")

This comment is not entirely clear to me. It reads as though Staff is not aware that 10-13-5 A though K are addressed in the Written Statement. However, these sections are addressed – starting on Page 4. Since it does not seem likely that Staff overlooked inclusion of these sections in the Written Statement, effort was made to find an alternative meaning in the comment. The best alternative interpretation I could identify was that the responses for some of the cross-references to other code sections were not adequately detailed. The Written Statement has been revised to provide more detailed conversations for 10-35, 10-36, and 10-34. Additionally, the response under subsection K has been expanded to clarify the request is for deferral of the information, not an exception to compliance. Lastly, the discussion of 10-23 was expanded to provide a clear connection between the PUD standards and 10-13-5 A-K.

 Submit a tentative subdivision plat map. Please ensure that it meets the requirements of 11-3-2 and 11-4-2.

EUGENE-SPRINGFIELD ALBANY



The reference to 11-4-2 is not understood since those standards are applicable to the Final Plat, which will record at the county and this is the tentative application. An additional sheet has been added to the plan set to address 11-3-2.

 Submit a landscaping plan (as required by 10-23-10-7 and 10-4-11-B & J) which includes the elements listed in 10-34-3-2. In particular, please address the slope on the southern portion of the site; indicate the method of stabilization and proposed grade. In addition, please address 10-3-8-D, which covers landscaping in parking areas.

The Written Statement was expanded to discuss 10-34-3-2 to provide a clear connection between the landscape plan and the criterion. The Written Statement was also expanded to provide a discussion in 10-34-3-6 (which cross-references 10-3-8) regarding why the parking area landscaping standards are not applicable.

Address 10-3, Parking. Use the standard for single family dwellings (your plan meets this criterion – it includes 25 on-site parking spaces and the standard in this case would be 24).

10-3 was already addressed under 10-13-5E, which cross-references 10-3. Therefore, no changes were made.

- Address 10-36, Public Facilities. The financial responsibilities for the utilities needed for the building site belongs to the developer. *The Written Statement has been expanded to discuss 10-36.*
- Submit Phase 1 Site Investigation Report, as required by 11-5-5. Note: this requirement is triggered by the soil on the site. The southern half of the site appears on the National Resources Conservation Service Soils Map as Waldport fine sand, 12 to 30 percent slopes. This soil type is considered unsuitable or conditionally suitable for development, and requires a site investigation report before development is permitted. *The Phase I Site Investigation Report is included in this submittal.*

Sincerely,

Renee Clough

Digitally signed by Renee Clough Date: 2019.11.13 16:22:48 -08'00'

Renee Clough, PLS, PE, AICP Principal Branch Engineering Inc.

From:	Chuck Trent
То:	Wendy Farley-Campbell; planningdepartment
Subject:	Resolution PC 19 22 PUD 03, PC 19 23 SUB 04, PC 19 25 CUP 08
Date:	Wednesday, November 13, 2019 10:49:51 AM

I'd like to respond to the Notice of Public Hearing for DevNW. I'd like to request that as a part of the requirements for approval that a Crosswalk with the Appropriate Warning Signals be installed so that children can safely cross the street from the Boys & Girls Club to the new development, the Habit For Humanity Homes, and the apartments across the street from the CLUB. I'd also like to see a requirement for sidewalks to be put in across the street from the CLUB and additional streetlights. Because a number of kids walk home from the CLUB, we are extremely concerned during the winter months about kids crossing the street. Because there are no speed bumps we consistently see cars speeding at over 40 miles an hour on 15th Street/Airport Road. Essentially I'd like to see this area treated the same as a school zone for the safety of the kids in this community because of the increased traffic and the increase in the number of kids that are walking home from the Teen Center.

Chuck Trent Executive Director Boys & Girls Clubs of Western Lane County P.O. Box 739 1501 Airport Road Florence, OR 97439 541-551-0649 ctrent@bgcwlc.org



Hi Hailey,

Taking into consideration some public comments that the City has received regarding Airport Road/15<sup>th</sup> Street, we should look at the classification of the street itself. Currently Airport Road/15<sup>th</sup> Street is classified as a collector in the City Transportation System Plan (TSP). Standard roadway sections for collectors are as follows:

- Collector with no parking, minimum paved roadway section is 36-feet (this would include two 12-foot travel lanes and two 6-foot bike lanes)
- Collector with parking both sides (11 foot travel lanes and 8 foot parking no dedicated bike lanes), minimum paved roadway section is 38-feet
- Collector with parking both sides with 12-foot 'shared' lane and 7-foot parking, minimum paved roadway section is 38-feet
- Collector with on-street parking on one side and bike lanes on both sides, minimum paved roadway section is 41-feet

The paved roadway section of Airport Road/15<sup>th</sup> Street is 33-feet 10-inches at the subject property. The roadway was repaved in 2012 and has a Pavement Condition Index (PCI) of 89 which places this road segment in the 'good' category (good ranges from a PCI of 70-100). At this time parking on both sides of the roadway is allowed, however it can be extremely narrow when cars and pickup trucks are parked on the street (cars do park along the north side of 15<sup>th</sup> Street at the Boys and Girls Club) which in of itself does naturally create a traffic calming effect.

Since Keener Place was not required to complete a half street improvement to bring their frontage to current standards presents a fairness and equitability issue. Perhaps the most cost effective and manageable solution is for the DevNW project to provide a parking strip pullout along the frontage of their project between the proposed driveway on the west end of the project to the stormwater management facility at the east end of the property. While this will require the installation of a new concrete curb/gutter (they have to anyway to eliminate the many driveway approaches/entry points to the former Sr. Center Property) and paving of the new parking strip, they may be able to salvage the existing concrete gutter by cutting the curb face away from the curb/gutter and pouring a small additional amount of concrete to create a concrete valley gutter. This approaches and entry points for the Keener Place project. However, due to the many existing driveway approaches and entry points for the former Senior Center site may necessitate the complete removal of the existing curb/gutter.

Thank you,

Mike

**Mike Miller** Public Works Director mike.miller@ci.florence.or.us (541) 997-4106

Mailing Address: City of Florence 250 Hwy 101 Florence, OR 97439

Physcial Address: Florence Public Works 2675 Kingwood Street Florence, OR 97439

# Follow Us! City Website | Facebook | Twitter | Instagram | Vimeo

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.

Hi Hailey,

First, we would like to mention the DevNW and Branch Engineering have taken our early comments/suggestions and incorporated them into their utility design and property layout. The utility plans are a good start, but they are not construction drawings, nor are they required at this time. They will need to submit actual construction drawings for the public improvements and receive approval from Florence Public Works prior to construction of the public facilities.

Our comments regarding the proposed development, based on the preliminary drawings dated November 12, 2019, are as follows:

- The sanitary sewer manhole located within the 15 foot public sewer easement needs to be accessible in order for the City to maintain and service the system. The City will need to be able to drive to and set up its combination sewer cleaner over the manhole as well as ability to set up the TVI equipment. We suggest that the manhole be relocated approximately 30 additional feet to the west.
- With the way that the project has been redesigned, we request that the 15 foot public sewer easement width be increased to 20 feet and have the public sanitary sewer line centered in the easement.
- There appears to be an irrigation water meter located in a concrete pad location north west of Lot 12 (just outside of the parking area). Suggest relocating the water meter to a landscaped area to the east of the bike rack location. Please note that all water meters should be in landscaped areas and not located in hardscape areas or outside of the right-of-way.
- On Nopal Street towards the existing fire turn around (the future street stub that the proposed development will be utilizing) there is an existing water service. Verify location of the water service and utilize it for one of the proposed homes if possible.
- On Airport Road (15<sup>th</sup> Street) there are two existing water services. If they cannot be utilized for the project, they will need to be properly abandoned.
- The proposed connection to the existing water main on Airport Road to loop the water system shall be a cut-in connection complete with three water valves in a 'T' configuration. The existing water main in Airport Road is a 6-inch water main and connection will need to allow for an 8-inch water main connection and the new 8-inch extending to the south of the proposed fire hydrant, then reduce to 6-inch to continue the water system to the south with connection to the existing water main that is stubbed from Nopal Street.
- Locate and cap the two existing sanitary sewer laterals that serviced the former Senior Center and the undeveloped area to the east.
- Provide stormwater O&M manuals for review and comment for the private stormwater facilities located at the NW side of the property.

Thank you,

Mike

Mike Miller Public Works Director mike.miller@ci.florence.or.us (541) 997-4106

Mailing Address: City of Florence 250 Hwy 101 Florence, OR 97439

Physcial Address: Florence Public Works 2675 Kingwood Street Florence, OR 97439

# Follow Us! City Website | Facebook | Twitter | Instagram | Vimeo

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.