

Planning Department



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Associate Planner

Pre-App Meeting: N/A
App. Submitted: October 26, 2020
App. Complete: January 26, 2021
Hearing Date: February 24, 2021
120-Day Deadline: May 26, 2021

PROPOSAL: The applicant is proposing a Class B Variance and Major Modification to an Approved Site Plan (SP 06-12 / VAR 06-12) at 21003 SW Pacific Hwy. The subject site is 0.16 acres and is improved with a 417 SF drive-thru coffee stand (former Coffee Cottage) and associated site improvements. The development proposal will reconfigure the on-site vehicle circulation, parking, and landscaping in order to accommodate a second 10 ft. wide one-way drive-thru lane. The on-site stormwater detention pond will be removed and replaced with a cartridge system. Vehicle access will continue to be provided from two existing driveways along SW Borchers Drive. The existing four (4) parking stalls will be re-located on-site. No building expansion is proposed at this time. A Class B Variance is requested to reduce the required width of the one-way drive aisle by 8%, the parking drive aisle by 8%, and the visual corridor along Pacific Hwy by 12.4% to accommodate the additional drive-thru lane. The subject lot is part of the former right-of-way associated with Sherwood's "Six Corners" commercial area and the variance request is due to small lot size and narrow configuration.

I. BACKGROUND

- A. Applicant: Timothy and Carla Hubbard
21003 SW Pacific Hwy
Sherwood, OR 97140
- Owner: Timothy and Carla Hubbard
20055 SW Pacific Hwy #210
Sherwood, OR 97140
- B. Location: 21003 SW Pacific Hwy, Sherwood OR 97140
(Tax Lot 2S130AD15000)

- C. Review Type: Type III Major Modification to an Approved Site Plan and Type II Class B Variance.
- D. Public Notice: Notice of the application was provided in accordance with § 16.72.020 of the Sherwood Zoning and Development Code (SZDC) as follows: notice was distributed in five locations throughout the City, posted on the property, and mailed to property owners within 1,000 feet of the site on or before February 4, 2021.
- E. Review Criteria: Sherwood Zoning and Community Development Code (SZCDC) Chapter 16.22 – Commercial Land Use Districts; Chapter 16.58 - Clear Vision and Fence Standards; Chapter 16.72 - Procedures for Processing Development Permits; Chapter 16.84 – Variances; Chapter 16.90 - Site Planning; Chapter 16.92 – Landscaping; Chapter 16.94 - Off-Street Parking and Loading; Chapter 16.96 - On-Site Circulation; Chapter 16.114- Storm Water; Chapter 16.118 - Public and Private Utilities; Chapter 16.142 - Parks, Trees and Open Spaces
- F. History and Background: The development site consists of one (1) lot totaling 0.16 acres (6,969 SF) in the Retail Commercial (RC) zone. Prior to site development as a coffee stand, the property was part of the Oregon Department of Transportation (ODOT) right-of-way along Hwy 99W at the intersection of Sherwood’s “Six Corners” commercial center. The intersection was reconfigured, and lots were created in areas no longer needed for right-of-way purposes.
- In 2007 the property received Site Plan and Variance approval (SP 06-12 / VAR 06-04) for a new 401 SF drive-thru coffee stand and associated site improvements. The variance allowed a 0.5 ft. reduction to the required 25 ft. visual corridor along Hwy 99W. The coffee stand has since been operated by different coffee businesses but is currently vacant. The proposed modifications to the site are intended to meet the needs of a new tenant – Ziggi’s Coffee.
- G. Existing Conditions: The 0.16-acre site is fully improved with a 401 SF drive-thru coffee stand, a vehicle drive-thru lane, four (4) parking stalls, landscaping, and a stormwater quality facility. Exhibit A3 – Sheet C2-A shows the existing conditions on the site. Small and large scale aerial maps of the site are included as Exhibits C2 and C3.
- H. Surrounding Land Uses: The site is bound by SW Borchers Drive to west and SW Hwy 99W to the east. A Shell gas station and Food Mart abuts

the site to the north and a multi-tenant single-story commercial building abuts the site to the south.

I. Current Zoning: The property is zoned Retail Commercial (RC).

II. **AFFECTED AGENCY AND PUBLIC COMMENTS**

A. Agency Comments - The land use application was routed to affected agencies via email on February 1, 2021. Responses are summarized below.

1. The City of Sherwood Engineering Department provided comments dated February 16, 2021 (Exhibit B1). The comments address sanitary sewer, water, storm sewer, transportation, grading and erosion control.
2. City of Sherwood Police Department provided comments dated February 1, 2021 (Exhibit B2). The comments express concern about the potential for traffic to back up onto SW Borchers Drive.
3. Tualatin Valley Fire & Rescue (TVF&R) acknowledged the application via email on February 2, 2021 (Exhibit B3). The Fire Department does not have any comments because the on-site access drives are not currently used by the department for service. Changes to the on-site configuration, therefore, do not impact fire service.
4. Clean Water Services (CWS) provided comments dated February 15, 2021 (Exhibit B4). A CWS Storm Water Connection Permit Authorization must be obtained and the development must be in accordance with the requirements of CWS Design and Construction Standards.

B. Public Comments – as of the date of this report, no written public comments have been received on the application.

III. APPLICABLE CODE PROVISIONS

*Note – three asterisks (***) Indicates code has been omitted because it is not applicable*

Chapter 16.72 PROCEDURES FOR PROCESSING DEVELOPMENT PERMITS

16.72.010 – Generally

A. Classifications

Except for Final Development Plans for Planned Unit Developments, which are reviewed per Section 16.40.030, all quasi-judicial development permit applications and legislative land use actions shall be classified as one of the following:

2. Type II

The following quasi-judicial actions shall be subject to a Type II review process:

g. Class B Variance

ANALYSIS: The application is proposing a Major Modification to an Approved Site Plan and a Class B Variance. The Type II review process for the Class B Variance is superseded by the Type III review process for the Major Modification. A Major Modification is required because the application proposes to modify a specific Condition of Approval that was applied to the development in the initial application.

The approval criteria for a Major Modification under SZCDC § 16.90.030(B)(2) requires the application to follow the same review procedure used for the initial project approval. The initial application was processed as a Type III land use decision with the Hearings Officer. Therefore, the application is subject to the Type III land use procedures.

FINDING: The application is subject to the Type III land use review procedures as described in the findings above and under SZCDC § 16.90.030(A)(1).

B. Hearing and Appeal Authority

3. The quasi-judicial Hearing and Appeal Authorities shall be as follows:

c. The Type III Hearing Authority is the Hearings Officer and the Appeal Authority is the Planning Commission.

(1) The Hearings Officer shall hold a public hearing following public notice in accordance with Sections 16.72.020 through 16.72.080.

(2) Any person who testified before the Hearings Officer at the public hearing or submitted written

comments prior to the close of the record may appeal the Hearings Officer's decision.

ANALYSIS: The application is being processed as a Type III quasi-judicial decision with the Hearings Officer as the Hearing Authority.

FINDING: These criteria have been met.

Chapter 16.22 - COMMERCIAL LAND USE DISTRICTS

16.22.010 – Purpose

- C. Retail Commercial (RC) - The RC zoning district provides areas for general retail and service uses that neither require larger parcels of land, nor produce excessive environmental impacts as per Division VIII.**

16.22.020 - Uses

- A. The table below identifies the land uses that are permitted outright (P), permitted conditionally (C), and not permitted (N) in the Commercial Districts. The specific land use categories are described and defined in Chapter 16.88 Use Classifications and Interpretations.**
- B. Uses listed in other sections of this code, but not within this specific table are prohibited.**
- C. Any use not otherwise listed that can be shown to be consistent or associated with the uses permitted outright or conditionally in the commercial zones or contribute to the achievement of the objectives of the commercial zones may be permitted outright or conditionally, utilizing the provisions of Chapter 16.88 Use Classifications and Interpretations.**
- D. Additional limitations for specific uses are identified in the footnotes of this table.**

***(*Abbreviated table*)

Uses	RC Zone
Restaurants with drive-thru services	P

ANALYSIS: The proposed use is a drive-thru coffee stand which is an outright permitted use in the RC zone.

FINDING: This standard is met.

16.22.030 - Development Standards

A. Generally

No lot area, setback, yard, landscaped area, open space, off-street parking or loading area, or other site dimension or requirement, existing on, or after, the effective date of this Code shall be reduced below the minimum required by this Code. Nor shall the conveyance of any portion of a lot for other than a public use or right-of-way, leave a lot or structure on the remainder of said lot with less than minimum Code dimensions, area, setbacks or other requirements, except as permitted by Chapter 16.84. (Variance and Adjustments)

B. Development Standards

Except as otherwise provided, required minimum lot areas, dimensions and setbacks shall be provided in the following table

Development Feature	RC Zone
Lot area	5,000 sq. ft
Lot width at front property line	40 ft
Lot width at building line	40 ft
Front yard setback ⁹	0
When abutting residential zone	Same as abutting residential zone

Development Feature	RC Zone
Side yard setback ⁹	0
when abutting residential zone or public park	10 ft
Rear yard setback ⁹	0
when abutting residential zone or public park	10 ft
Corner lot ⁹	-
Height ^{10,11}	50 ft ^{13,14}

⁹ Existing residential uses shall maintain setbacks specified in the High Density Residential Zone (16.12.030).

¹⁰ Maximum height is the lessor of feet or stories.

¹¹ Solar and wind energy devices and similar structures attached to buildings and accessory buildings, may exceed this height limitation by up to twenty (20) feet.

¹³ Structures within one-hundred (100) feet of a residential zone shall be limited to the height requirements of that residential area.

¹⁴ Structures over fifty (50) feet in height may be permitted as conditional uses, subject to Chapter 16.82

ANALYSIS: No changes are proposed to the building location on the lot, or the existing lot size / shape. The site is surrounded by public right-of-way and commercial zoning and development in all directions and is not within 100 ft. of a residential zone. The lot continues to comply with the lot area, dimensions, and setback requirements of the RC zone as shown in the table below.

<i>Development Feature</i>	<i>RC Zone</i>	<i>Proposed</i>
Lot area	5,000 sq. ft	6,969 SF
Lot width at front property line	40 ft	~175 ft.
Lot width at building line	40 ft	~160 ft.
Front yard setback ⁹	0	~10 ft. to Borchers Drive; ~30 ft. to Hwy 99W
When abutting residential zone	Same as abutting residential zone	Not applicable
Side yard setback ⁹	0	~25 ft. to north property line; ~ 50 ft. to south property line
when abutting residential zone or public park	10 ft	Not applicable
Rear yard setback ⁹	0	Not applicable (two front setbacks)
when abutting residential zone or public park	10 ft	Not applicable
Corner lot ⁹	-	Not applicable
Height ^{10,11}	50 ft ^{13,14}	15 ft.

FINDING: These standards are met.

16.22.040 - Community Design

- A. For standards relating to off-street parking and loading, energy conservation, historic resources, environmental resources, landscaping, access and egress, signs, parks and open space, on-site storage, and site design, see Divisions V, VIII and IX.**

ANALYSIS: The applicable Community Design standards are addressed below.

FINDING: The application complies or is conditioned to comply with the applicable Community Design standards as discussed in this report.

16.58.010 Clear Vision Areas

- A. A clear vision area shall be maintained on the corners of all property at the intersection of two (2) streets, intersection of a street with a railroad, or intersection of a street with an alley or private driveway.**
- B. A clear vision area shall consist of a triangular area, two (2) sides of which are lot lines measured from the corner intersection of the street lot lines for a distance specified in this regulation; or, where the lot lines have rounded corners, the lot lines extended in a straight line to a point of intersection, and so measured, and the third side of which is a line across the corner of the lot joining the non-intersecting ends of the other two (2) sides.**
- C. A clear vision area shall contain no planting, sight obscuring fence, wall, structure, or temporary or permanent obstruction exceeding two and one-half (2½) feet in height, measured from the top of the curb, or where no curb exists, from the established street center line grade, except that trees exceeding this height may be located in this area, provided all branches and foliage are removed to the height of seven (7) feet above the ground on the sidewalk side and ten (10) feet on the street side.**

The following requirements shall govern clear vision areas:

- 1. In all zones, the minimum distance shall be twenty (20) feet.**
- 2. In all zones, the minimum distance from corner curb to any driveway shall be twenty-five (25) feet.**
- 3. Where no setbacks are required, buildings may be constructed within the clear vision area.**

ANALYSIS: The development site has two private driveways that intersect with SW Borchers Drive. The applicant's narrative and site plan indicate no changes are proposed to the driveway widths or configuration within the right-of-way.

FINDING: This standard is met.

Chapter 16.90 – SITE PLANNING

16.90.030 - Site Plan Modifications and Revocation

A. Modifications to Approved Site Plans

1. Major Modifications to Approved Site Plans

- a. **Defined.** A major modification review is required if one or more of the changes listed below are proposed:
- (1) A change in land use (i.e. residential to commercial, commercial to industrial, etc.);
 - (2) An increase in density by more than ten (10) percent, provided the resulting density does not exceed that allowed by the land use district;
 - (3) A change in setbacks or lot coverage by more than ten (10) percent, provided the resulting setback or lot coverage does not exceed that allowed by the land use district;
 - (4) A change in the type and/or location of accessways, drives or parking areas negatively affecting off-site traffic or increasing Average Daily Trips (ADT) by more than 100;
 - (5) An increase in the floor area or height proposed for non-residential use by more than ten (10) percent;
 - (6) A reduction of more than ten (10) percent of the area reserved for common open space; or
 - (7) Change to a condition of approval that was specifically applied to this approval (i.e. not a "standard condition"), or a change similar to items identified in Section 16.90.030.A.1.a.(1)—(2) as determined by the Review Authority.

ANALYSIS: The application proposes to change a specific Condition of Approval that was required as part of the original land use decision (Exhibit C8 – Notice of Decision SP 06-12 / VAR 06-03) and therefore requires a Major Modification approval.

Notice of Decision SP 06-12 / VAR 06-03 (pp. 6 & 31–32)

Condition of Approval C2 - Submit a final site plan to the Planning Department that shows:

- *Only one driveway through the site (the removal of “one way lane #2 and the associated call box island)*
- *A minimum ten-foot wide landscaped strip on the property separating the parking area from the Highway 99W right-of-way*

The applicant is proposing to add a second one-way drive-thru to the site and reduce the landscaped strip on private property adjacent to Hwy 99W. The approval criteria and findings for the proposed modifications are addressed in applicable sections of this report. No other changes to the site require Major Modification approval per sections (1) – (6) above.

FINDING: The applicant is proposing to make changes to Condition of Approval C2 of the original land use approval and is required to comply with the Major Modification approval criteria.

b. Approval Criteria. An applicant may request a major modification as follows:

- (1) Upon the review authority determining that the proposed modification is a major modification, the applicant must submit an application form, filing fee and narrative, and a site plan using the same plan format as in the original approval. The review authority may require other relevant information, as necessary, to evaluate the request.**

ANALYSIS: The applicant has provided the form, fees, plans, and narrative required to issue a decision on the application.

FINDING: This criterion is met.

- (2) The application is subject to the same review procedure (Type II, III or IV), decision making body, and approval criteria used for the initial project approval, except that adding a Conditional Use to an approved Type II project is reviewed using a Type III procedure.**

ANALYSIS: The initial application was subject to a Type III review procedure with the Hearings Officer as the Decision Authority. As a result, the subject application is being processed as a Type III application with the Hearings Officer as the Decision Authority.

FINDING: This criterion is met.

- (3) The scope of review is limited to the modification request and does not open the entire site up for additional review unless impacted by the proposed modification. For example, a request to**

modify a parking lot requires site design review only for the proposed parking lot and any changes to associated access, circulation, pathways, lighting, trees, and landscaping.

ANALYSIS: The following on-site development features will be impacted by the modification and are subject to review:

- Vehicle parking
- Vehicle circulation
- Landscaping
- Stormwater facilities

No changes are proposed to building placement or setbacks, bicycle parking, loading, or on-site storage. The applicable criteria for the development features impacted by the proposal are addressed in this report.

FINDING: This criterion is met.

(4) Notice must be provided in accordance with Chapter 16.72.020.

ANALYSIS: Notice of the application was provided in accordance with SZCDC § 16.72.020 as follows: notice was distributed in five locations throughout the City, posted on the property, and mailed to property owners within 1,000 feet of the site on or before February 4, 2021.

FINDING: This criterion is met.

(5) The decision maker approves, denies, or approves with conditions an application for major modification based on written findings of the criteria.

ANALYSIS: Written findings and conditions of approval based on the applicable development standards and approval criteria are provided in this report.

FINDING: This criterion is met.

Chapter 16.84 - VARIANCES

16.84.020 - Applicability

A. Exceptions and Modifications versus Variances

A code standard or approval criterion may be modified without approval of a variance if the applicable code section expressly allows exceptions or modifications. If the code provision does not expressly provide for exceptions or modifications then a variance is required to modify that code section and the provisions of [Chapter 16.84](#) apply.

B. Combining Variances with Other Approvals; Permit Approvals by Other Agencies.

Variance requests may be combined with and reviewed concurrently by the City approval body with other land use and development applications (e.g., development review, site plan review, subdivision, conditional use, etc.); however, some variances may be subject to approval by other permitting agencies, such as ODOT in the case of State Highway access.

C. Adjustments and variances cannot be applied to change any existing Planned Unit Development (PUD).

ANALYSIS: The applicant has requested variances to the following code standards:

- Width of one-way drive aisle (SZCDC § 16.96.030(A)(1))
- Width of one way-drive aisle for off-street parking lanes (SZCDC § 16.94.020(B) Table 2)
- Width of visual corridor along Hwy 99W (SZCDC § 16.142.040(A))

The specific code sections subject to the variance do not expressly allow exceptions or modifications and therefore a variance is required. The variance application is being processed concurrently with the Type III Major Modification.

FINDINGS: A variance is required to modify the above referenced code standards.

Findings addressing the Class B Variance approval criteria are provided in the section below.

16.84.030 - Types of Variances

As provided in this Section, there are three types of variances: Adjustments, Class A variance and Class B variance; the type of variance required depends on the extent of the variance request and the discretion involved in the decision making process.

B. Class B Variances

1. Generally

- a. The Class B variance standards apply to individual platted and recorded lots only.

ANALYSIS: The subject lot was created in 2006 via Deed Document No. 2005-027802 in Washington County. The subject lot is individually platted and recorded.

FINDINGS: This requirement is met.

- b. A variance shall not be approved that would vary the "permitted uses" or "prohibited uses" of a land use zoning district.**

ANALYSIS: The requested variance will allow a reduction to certain development standards but will not vary the allowed use(s) on the site. The proposed use as a drive-thru coffee stand is an outright permitted use in the RC zone.

FINDINGS: This requirement is met.

- c. Front yard setbacks: Up to a 20 percent change to the front yard setback standard in the land use district.**

ANALYSIS: A reduction to the front yard setback is not requested.

FINDINGS: This criterion does not apply.

- d. Interior setbacks: Up to a 20 percent reduction of the dimensional standards for the side and rear yard setbacks required in the base land use district so long as the three foot setback is maintained if required by the Building Code requirements.**

ANALYSIS: A reduction to the interior setbacks is not requested.

FINDINGS: This criterion does not apply.

- e. A 20% or less increase or decrease in other Code standards or dimensions not otherwise specifically identified in this section.**

ANALYSIS: The applicant is requesting a variance to the following code standards shown in the table below. Each exception represents less than a 20% decrease to the underlying standard:

Code Section	Minimum Standard	Request with Variance	Percent Change	Figure 1 Label
SZCDC § 16.96.030(A)(1) – Minimum width of one-way drive aisle for private non-residential development	15 ft.	13.8 ft.	8.0%	X
SZCDC § 16.94.020(B) Table 2 - Width of one way-drive aisle for off-street parking area; compact stalls at 90°	26 ft.	24 ft.	7.7%	Y
SZCDC § 16.142.040(A) – Width of visual corridor along an arterial; Hwy 99W	25 ft.	21.9 ft.	12.4%	Z

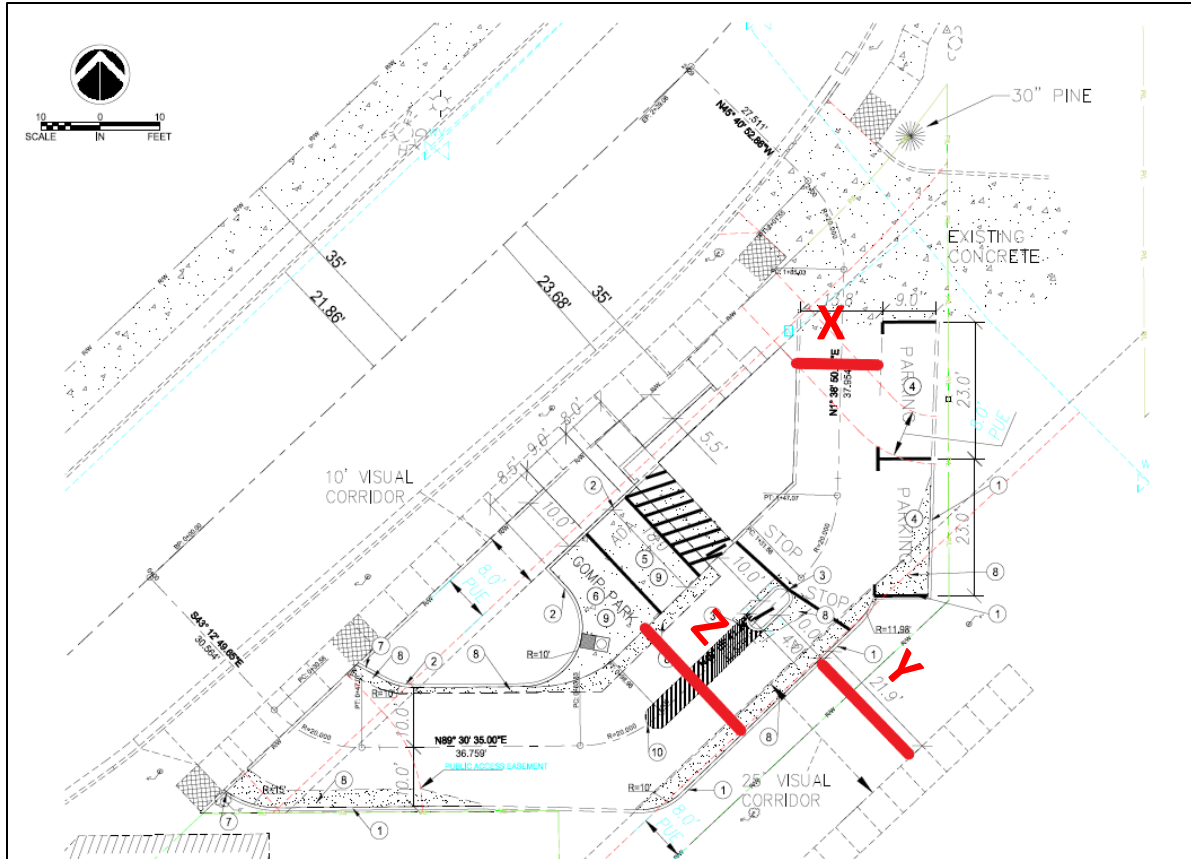


Figure 1: Snip of Site Plan showing location of proposed variances. The proposed exceptions to the underlying standards are intended to overcome development challenges related to the narrow configuration of the site.

FINDINGS: This criterion is met.

2. **Approval Process:** Class B variances shall be reviewed using a Type II procedure. In addition to the application requirements contained in [Chapter 16.72.010](#), the applicant shall provide a written narrative describing the reason for the variance, why it is required, alternatives considered, and compliance with the criteria in subsection 3.

ANALYSIS: The variance request is being processed concurrently with the Type III Major Modification. The applicant has provided a narrative (Exhibit A2) describing the reason for the variance.

FINDINGS: This criterion is met.

3. **Approval Criteria:** The City shall approve, approve with conditions, or deny an application for a Class B Variance based on the following criteria:

- a. **The variance requested is required due to the lot configuration, or other conditions of the site;**

ANALYSIS: The lot was previously part of the road right-of-way where Edy Rd., Sherwood Blvd, and Hwy 99W intersected to create Sherwood’s “Six Corners” commercial center. The intersection was reconfigured, and commercial lots were created and sold in areas no longer needed for right-of-way purposes. The subject lot was created in 2006 via Deed Document No. 2005-027802 (Exhibit C4 – Record of Survey) and subsequently zoned Retail Commercial. The previous right-of-way configuration showing the original “Six Corners” intersection is provided in Exhibit C5 – Retracement of County Road No. 2291.

The lot was created as a long narrow double frontage lot, located between SW Borchers Drive to the northwest and Hwy 99W to the southeast (Exhibit C2). Development of the site in 2007 (SP 06 / 12 VAR 06 / 04) required a 10 ft. right-of-way dedication along SW Borchers Drive. The width of the subject lot was therefore reduced to approximately 58 ft., creating additional challenges for future redevelopment of the site. The existing lot size, shape and dimension is shown in Figure 2 below.

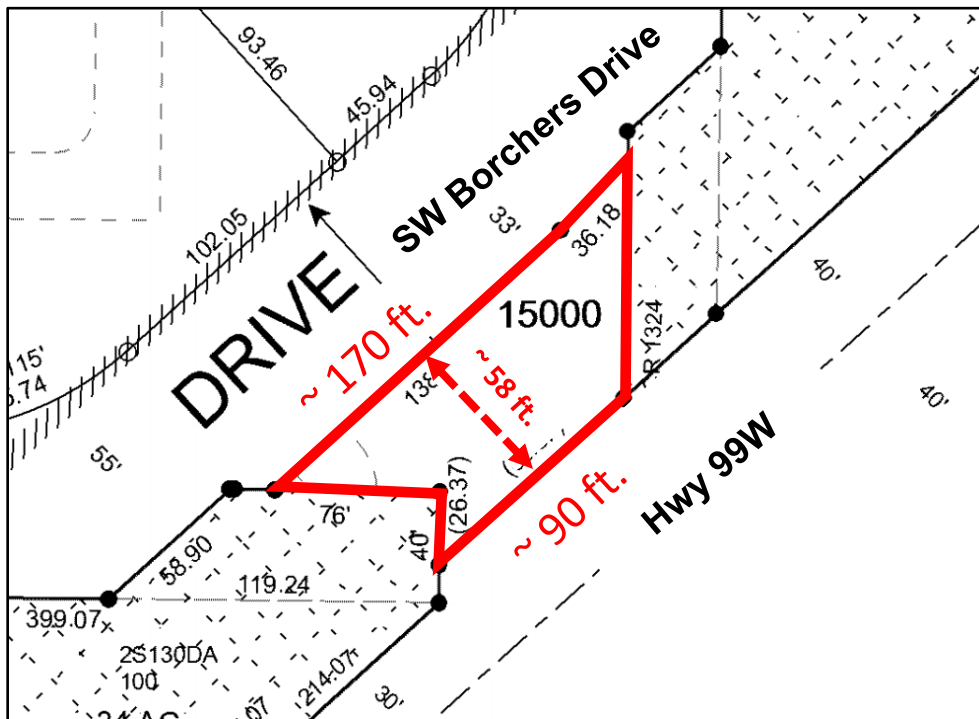


Figure 2: The subject lot size, shape, and dimensions. (Washington County Tax Map 9/18/2019)

The purpose of the Retail Commercial zone is to provide general retail and service uses that neither require larger parcels of land, nor produce excessive environmental

impacts. The proposed variances will allow a reduction to underlying standards while allowing redevelopment of the site consistent with the purpose of the RC zone. The variance will allow the site to add a second drive-thru lane without being detrimental to the surrounding properties. The existing lot size and shape are a result of the site history and past development requirements (right-of-way dedication) and were not self-imposed by the applicant.

FINDINGS: This criterion

- b. The variance does not result in the removal of trees, or it is proposed in order to preserve trees, if trees are present in the development area;**

ANALYSIS: As indicated in the applicant's narrative and site plan, no trees will be removed as part of the project.

FINDINGS: This criterion is met.

- c. The variance will not result in violation(s) of any other adopted ordinance or code standard; each code standard to be modified shall require a separate variance request.**

ANALYSIS: As described in this report, the variance request and development proposal meet the applicable standards of the code.

FINDINGS: This criterion is met.

- d. An application for a Class B variance is limited to three or fewer lots per application.**

ANALYSIS: The application applies to a single lot.

FINDINGS: This criterion is met.

- e. The variance will have minimal impact to the adjacent properties.**

ANALYSIS: The variance request will allow a second drive-thru lane to be added to the fast-food oriented site by reducing the minimum drive aisle and landscaping widths. No changes are proposed to adjacent properties or to off-site conditions within the public

right-of-way. No changes are proposed to the existing driveways off SW Borchers Drive, or the shared access agreements currently in place.

The proposed addition of a second drive-thru lane on the site is compatible with the surrounding auto-oriented development. Land uses to the north include a gas station and auto parts retailer. The property to the south is developed with a multi-tenant commercial space with direct access to Hwy 99W. The proposed variance is expected to have minimum impact to adjacent properties.

FINDINGS: This criterion is met.

- f. **The variance is the minimum needed to achieve the desired result and the applicant has considered alternatives.**

ANALYSIS: The variance request will allow a second drive-thru lane to be added to the site. As shown on the site plan (Exhibit A3 – Sheet C4), each drive-thru lane will be 10 ft. wide in order to accommodate a vehicle. The proposed variances will reduce each standard at the minimum necessary to provide the two 10 ft. travel lanes. Due lot size and shape, no other alternatives exist to increase the number of drive-thru lanes.

FINDINGS: This criterion is met.

Chapter 16.92 – LANDSCAPING

16.92.010-Landscaping Plan Required

All proposed developments for which a site plan is required pursuant to Section 16.90.020 shall submit a landscaping plan that meets the standards of this Chapter. All areas not occupied by structures, paved roadways, walkways, or patios shall be landscaped or maintained according to an approved site plan.

ANALYSIS: The Existing Conditions Plan shows the extend of current landscaping and the Landscaping Plan (Exhibit A3 - Sheet C-7) shows the proposed landscaping.

FINDING: This criterion is met.

16.92.020 Landscaping Materials

A. Type of Landscaping

Required landscaped areas shall include an appropriate combination of native evergreen or deciduous trees and shrubs, evergreen ground cover, and perennial plantings. Trees to be planted in or adjacent to public rights-of-way shall meet the requirements of this Chapter. Plants may be selected from the City's "Suggested Plant

Lists for Required Landscaping Manual" or suitable for the Pacific Northwest climate and verified by a landscape architect or certified landscape professional.

- 1. Ground Cover Plants**
 - a. All of the landscape that is not planted with trees and shrubs must be planted in ground cover plants, which may include grasses. Mulch is not a substitute for ground cover, but is allowed in addition to the ground cover plants.**
 - b. Ground cover plants other than grasses must be at least the four-inch pot size and spaced at distances appropriate for the plant species. Ground cover plants must be planted at a density that will cover the entire area within three (3) years from the time of planting.**
- 2. Shrubs**
 - a. All shrubs must be of sufficient size and number to be at full growth within three (3) years of planting.**
 - b. Shrubs must be at least the one-gallon container size at the time of planting.**
- 3. Trees**
 - a. Trees at the time of planting must be fully branched and must be a minimum of two (2) caliper inches and at least six (6) feet in height.**
 - b. Existing trees may be used to meet the standards of this chapter, as described in Section 16.92.020.C.2.**

ANALYSIS: The narrative and landscaping plan indicate nine (9) trees are located on the site, including one (1) 30" DBH Ponderosa Pine, one (1) 8" deciduous tree, and seven (7) Raywood Ash trees at varying sizes. The plans also indicate the shrubs within the existing stormwater facility and those impacted by new impervious area will be relocated within the site. The plans do not show the extend of ground cover and based on images of the site available on Google Street View, limited ground cover landscaping is present.

The Landscaping Plan also indicates Hibiscus "Diana" Heinscus, Japanese Aralia, and Camellia Japonica "Springs Promise" shrubs in 2-gallon containers will be added throughout the site. While the City does not have a "Suggested Plant Lists for Required Landscaping Manual" as indicated in the standard above, the Portland Plant List (June 2016) (Exhibit C7) can be used as an alternative. The proposed shrubs are not listed as native to the Pacific Northwest on the Portland Plant List.

In order to meet the landscaping standards above, ground cover plants are required to fill in areas not covered by trees and shrubs. All proposed plantings, including the new

shrubs, shall be verified by a landscape architect or certified landscape professional to ensure the species are suitable for the Pacific Northwest climate. As an alternative, the applicant can revise the landscape plan to provide native shrubs and ground cover as indicated in the Portland Plant List.

FINDING: These standards are met as conditioned below.

CONDITION OF APPROVAL B1: Prior to Final Site Plan approval, revise the Landscape Plan to provide ground cover plants in all landscaped areas not covered by trees and shrubs.

CONDITION OF APPROVAL B2: Prior to Final Site Plan approval, a Landscape Architect or certified landscape professional shall verify the plantings are suitable for the Pacific Northwest climate. As an alternative, the applicant can revise the plans to provide native shrubs and ground cover as indicated in the Portland Plant List (June 2016).

B. Plant Material Selection and Preparation

1. **Required landscaping materials shall be established and maintained in a healthy condition and of a size sufficient to meet the intent of the approved landscaping plan. Specifications shall be submitted showing that adequate preparation of the topsoil and subsoil will be undertaken.**
2. **Landscape materials should be selected and sited to produce a hardy and drought-resistant landscape area. Selection of the plants should include consideration of soil type, and depth, the amount of maintenance required, spacing, exposure to sun and wind, the slope and contours of the site, and compatibility with existing native vegetation preserved on the site.**

ANALYSIS: Details on plant selection and soil preparation have not been provided.

FINDING: These standards are met as conditioned below.

CONDITION OF APPROVAL B3: Prior to Final Site Plan approval, provide planting specifications for new and relocated vegetation to ensure landscaping will be established and maintained in a healthy condition.

CONDITION OF APPROVAL B4: Prior to Final Site Plan approval, provide specifications for topsoil and subsoil preparations to ensure new and relocated plantings will be established and maintained in a healthy condition.

C. Existing Vegetation

1. All developments subject to site plan review per Section 16.90.020 and required to submit landscaping plans per this section shall preserve existing trees, woodlands and vegetation on the site to the maximum extent possible, as determined by the Review Authority, in addition to complying with the provisions of Section 16.142 (Parks, Trees and Open Space) and Chapter 16.144 (Wetland, Habitat, and Natural Resources).
2. Existing vegetation, except those plants on the Nuisance Plants list as identified in the "Suggested Plant Lists for Required Landscaping Manual" may be used to meet the landscape standards, if protected and maintained during the construction phase of the development.
 - a. If existing trees are used, each tree six (6) inches or less in diameter counts as one (1) medium tree.
 - b. Each tree that is more than six (6) inches and up to nine (9) inches in diameter counts as two (2) medium trees.
 - c. Each additional three (3) inch diameter increment above nine (9) inches counts as an additional medium tree.

ANALYSIS: The applicant narrative indicates all existing landscaping will be preserved and relocated. Condition of Approval B3 above requires plantings details to be provided for new and relocated landscaping.

FINDING: These standards are met.

D. Non-Vegetative Features

1. Landscaped areas as required by this Chapter may include architectural features interspersed with planted areas, such as sculptures, benches, masonry or stone walls, fences, rock groupings, bark dust, semi-pervious decorative paving, and graveled areas.
2. Impervious paving shall not be counted toward the minimum landscaping requirements unless adjacent to at least one (1) landscape strip and serves as a pedestrian pathway.
3. Artificial plants are prohibited in any required landscaped area.

ANALYSIS: Non-vegetative features are not proposed as part of the landscaping.

FINDING: These standards do not apply.

16.92.030 Site Area Landscaping and Perimeter Screening Standards

- A. Perimeter Screening and Buffering**
- 1. Perimeter Screening Separating Residential Zones:**
A minimum six-foot high sight-obscuring wooden fence, decorative masonry wall, or evergreen screen, shall be required along property lines separating single and two-family uses from multi-family uses, and along property lines separating residential zones from commercial, institutional/public or industrial zones subject to the provisions of Chapter 16.48.020 (Fences, Walls and Hedges).
 - 2. Perimeter Landscaping Buffer**
 - a. A minimum ten (10) foot wide landscaped strip comprised of trees, shrubs and ground cover shall be provided between off-street parking, loading, or vehicular use areas on separate, abutting, or adjacent properties.**
 - 3. Perimeter Landscape Buffer Reduction**
If the separate, abutting property to the proposed development contains an existing perimeter landscape buffer of at least five (5) feet in width, the applicant may reduce the proposed site's required perimeter landscaping up to five (5) feet maximum, if the development is not adjacent to a residential zone. For example, if the separate abutting perimeter landscaping is five (5) feet, then applicant may reduce the perimeter landscaping to five (5) feet in width on their site so there is at least five (5) feet of landscaping on each lot.

ANALYSIS: The subject site abuts public streets to the east and west and commercial properties to the north and south. The existing landscaping separating the commercial properties to the north and south will be reduced in order to accommodate the relocated parking (to the north) and the second drive aisle (to the south)

The adjacent property to the north includes a landscape wedge that provides greater than 10 ft. of landscaping between the vehicle use areas on each parcel. A 24 ft. wide public access easement extends from the southern driveway of the subject site to the southern property line. The initial land use approval required landscaping along the remaining portion of shared property line. Due to existing access easement, limited space on the property, and desire for an additional drive-thru lane, staff does not recommend landscaping be required between the vehicle use areas on the subject site and the property to the south. A curb is proposed to separate the vehicle use areas as shown on the site plan.

FINDING: This standard is met.

B. Parking Area Landscaping

2. Definitions

- a. Parking Area Landscaping: Any landscaped area on the site that is not required as perimeter landscaping § 16.92.030 (Site Landscaping and Screening).**
- b. Canopy Factor**
 - (1) Landscape trees are assigned a canopy factor to determine the specific number of required trees to be planted. The canopy factor is calculated based on the following formula:
Canopy Factor = Mature Height (in feet) × Canopy Spread (in feet) × Growth Rate Factor × .01**
 - (2) Growth Rate Factor: The growth rate factor is three (3) for fast-growing trees, two (2) for medium growing trees, and one (1) for slow growing trees. The growth rate of a tree is identified in the "Suggested Plant Lists for Required Landscaping Manual."**

3. Required Landscaping

There shall be at least forty-five (45) square feet parking area landscaping for each parking space located on the site. The amount of required plant materials are based on the number of spaces as identified below.

4. Amount and Type of Required Parking Area Landscaping

- a. Number of Trees required based on Canopy Factor**

Small trees have a canopy factor of less than forty (40), medium trees have a canopy factor from forty (40) to ninety (90), and large trees have a canopy factor greater than ninety (90);

 - (1) Any combination of the following is required:**
 - (i) One (1) large tree is required per four (4) parking spaces;**
 - (ii) One (1) medium tree is required per three (3) parking spaces; or**
 - (iii) One (1) small tree is required per two (2) parking spaces.**
 - (iv) At least five (5) percent of the required trees must be evergreen.**
 - (2) Street trees may be included in the calculation for the number of required trees in the parking area.**
- b. Shrubs:**
 - (1) Two (2) shrubs are required per each space.**

- (2) For spaces where the front two (2) feet of parking spaces have been landscaped instead of paved, the standard requires one (1) shrub per space. Shrubs may be evergreen or deciduous.
 - c. Ground cover plants:
 - (1) Any remainder in the parking area must be planted with ground cover plants.
 - (2) The plants selected must be spaced to cover the area within three (3) years. Mulch does not count as ground cover.
- 5. Individual Landscape Islands Requirements
 - a. Individual landscaped areas (islands) shall be at least ninety (90) square feet in area and a minimum width of five (5) feet and shall be curbed to protect the landscaping.
 - b. Each landscape island shall be planted with at least one (1) tree.
 - c. Landscape islands shall be evenly spaced throughout the parking area.
 - d. Landscape islands shall be distributed according to the following:
 - (2) Multi or mixed-uses, institutional and commercial uses: one (1) island for every ten (10) contiguous parking spaces.
 - e. Storm water bio-swales may be used in lieu of the parking landscape areas and may be included in the calculation of the required landscaping amount.
- 6. Landscaping at Points of Access

When a private access-way intersects a public right-of-way or when a property abuts the intersection of two (2) or more public rights-of-way, landscaping shall be planted and maintained so that minimum sight distances shall be preserved pursuant to Section 16.58.010.
- 6. Exceptions
 - a. For properties with an environmentally sensitive area and/or trees or woodlands that merit protection per Chapters 16.142 (Parks, Trees and Open Space) and 16.144 (Wetland, Habitat and Natural Areas) the landscaping standards may be reduced, modified or "shifted" on-site where necessary in order to retain existing vegetation that would otherwise be removed to meet the above referenced landscaping requirements.

- b. **The maximum reduction in required landscaping buffer permitted through this exception process shall be no more than fifty (50) percent. The resulting landscaping buffer after reduction may not be less than five (5) feet in width unless otherwise permitted by the underlying zone. Exceptions to the required landscaping may only be permitted when reviewed as part of a land use action application and do not require a separate variance permit.**

ANALYSIS: The initial land use approval required four (4) parking stalls. All four stalls will be relocated within the site. A total of 180 SF of parking lot landscaping is required. Landscaping areas eligible to count towards the parking lot landscaping include the on-site visual corridor plantings and the area just southwest of the new parking stalls adjacent to the building. As indicated on the landscape plan, these areas contains over 180 SF of landscaping including a minimum of two (2) medium sized trees and eight (8) shrubs. Conditions of Approval B1 requires ground cover plants to be provided in all landscaped areas not covered by trees and shrubs.

FINDING: This standard is met by Condition of Approval B1.

C. Screening of Mechanical Equipment, Outdoor Storage, Service and Delivery Areas

All mechanical equipment, outdoor storage and manufacturing, and service and delivery areas, shall be screened from view from all public streets and any adjacent residential zones. If unfeasible to fully screen due to policies and standards, the applicant shall make efforts to minimize the visual impact of the mechanical equipment.

ANALYSIS: The plans indicate a trash receptable area is located between the building and SW Borchers Drive. This area is screened by a masonry wall. Additional details on proposed mechanical equipment, service and delivery areas, and outdoor storage have not been provided.

FINDING: This standard is met as conditioned below.

CONDITION OF APPROVAL G4: Prior to Issuance of Occupancy, all mechanical equipment, outdoor storage and manufacturing, and service and delivery areas, shall be screened from view from all public streets.

D. Visual Corridors

Except as allowed by subsection 6. above, new developments shall be required to establish landscaped visual corridors along Highway

99W and other arterial and collector streets, consistent with the Natural Resources and Recreation Plan Map, Appendix C of the Community Development Plan, Part II, and the provisions of Chapter 16.142 (Parks, Trees, and Open Space). Properties within the Old Town Overlay are exempt from this standard.

ANALYSIS: Visual corridors are addressed under SZCDC § 16.142.040(A).

FINDING: This standard is addressed below under § 16.142.040(A).

16.92.040 Installation and Maintenance Standards

A. Installation

All required landscaping must be in-ground, except when in raised planters that are used to meet minimum Clean Water Services storm water management requirements. Plant materials must be installed to current nursery industry standards. Plant materials must be properly supported to ensure survival. Support devices such as guy wires or stakes must not interfere with vehicular or pedestrian movement.

B. Maintenance and Mitigation of Landscaped Areas

1. Maintenance of existing non-invasive native vegetation is encouraged within a development and required for portions of the property not being developed.
2. All landscaping shall be maintained in a manner consistent with the intent of the approved landscaping plan.
3. Any required landscaping trees removed must be replanted consistent with the approved landscaping plan and comply with § 16.142, (Parks, Trees and Open Space).

C. Irrigation

The intent of this standard is to ensure that plants will survive the critical establishment period when they are most vulnerable due to lack of watering. All landscaped areas must provide an irrigation system, as stated in Option 1, 2, or 3.

1. Option 1: A permanent built-in irrigation system with an automatic controller installed.
2. Option 2: An irrigation system designed and certified by a licensed landscape architect or other qualified professional as part of the landscape plan, which provides sufficient water to ensure that the plants become established. The system does not have to be permanent if the plants chosen can survive independently once established.
3. Option 3: Irrigation by hand. If the applicant chooses this option, an inspection will be required one (1) year after final

inspection to ensure that the landscaping has become established.

ANALYSIS: Condition of Approval B3 requires the applicant to provide planting specifications for new and relocated vegetation to ensure landscaping will be established and maintained in a healthy condition. The Landscaping Plan (Exhibit A3 – Sheet C-7) the existing irrigation system will be relocated and/or repaired as needed.

FINDING: These standards are met as conditioned below.

CONDITION OF APPROVAL G3: Prior to Receiving Occupancy, all landscaping must be installed and have an irrigation system in accordance with SZCDC § 16.92.040(C).

Chapter 16.94 - OFF-STREET PARKING AND LOADING

16.94.010 - General Requirements

A. Off-Street Parking Required

No site shall be used for the parking of vehicles until plans are approved providing for off-street parking and loading space as required by this Code. Any change in uses or structures that reduces the current off-street parking and loading spaces provided on site, or that increases the need for off-street parking or loading requirements shall be unlawful and a violation of this Code, unless additional off-street parking or loading areas are provided in accordance with Section 16.94.020, or unless a variance from the minimum or maximum parking standards is approved in accordance with Chapter 16.84 Variances.

ANALYSIS: The original land use approval required a minimum of four (4) off-street parking spaces. The applicant is proposing to maintain the minimum required number of stalls and relocate them on-site to accommodate the second drive-thru lane. The location of the proposed parking spaces is shown on the site plan (Exhibit A3 – Sheet C4). The relocated parking stalls are required to comply with the off-street parking standards and the applicable sections of the code are addressed below.

FINDINGS: This requirement is met.

D. Prohibited Uses

Required parking, loading and maneuvering areas shall not be used for long-term storage or sale of vehicles or other materials, and shall not be rented, leased or assigned to any person or organization not using or occupying the building or use served.

E. Location

- 2. For other uses, required off-street parking spaces may include adjacent on-street parking spaces, nearby public parking and shared parking located within five hundred (500) feet of the use. The distance from the parking, area to the use shall be measured from the nearest parking space to a building entrance, following a sidewalk or other pedestrian route. The right to use private off-site parking must be evidenced by a recorded deed, lease, easement, or similar written notarized letter or instrument...**

ANALYSIS: The four (4) required parking stalls will be relocated on-site. No prohibited uses are proposed for the parking area.

FINDINGS: These standards are met.

F. Marking

All parking, loading or maneuvering areas shall be clearly marked and painted. All interior drives and access aisles shall be clearly marked and signed to show the direction of flow and maintain vehicular and pedestrian safety.

ANALYSIS: The proposal will reconfigure the on-site parking and vehicular circulation pattern to add a second one-way drive-thru lane. Vehicles will enter from the southern driveway and exit from the northern driveway shared with the gas station. Details on the marking for vehicle use areas have not been provided and are required prior to final site plan approval.

FINDINGS: This standard is met as conditioned below.

CONDITION OF APPROVAL B5: Prior to Final Site Plan approval, provide an on-site vehicle marking plan that provides the flow of traffic while maintaining vehicular and pedestrian safety.

CONDITION OF APPROVAL G2: Prior to Final Occupancy, the site shall be marked to provide the flow of traffic while maintaining vehicular and pedestrian safety.

G. Surface and Drainage

- 1. All parking and loading areas shall be improved with a permanent hard surface such as asphalt, concrete or a durable pervious surface. Use of pervious paving material is encouraged and preferred where appropriate considering soils, location, anticipated vehicle usage and other pertinent factors.**
- 2. Parking and loading areas shall include storm water drainage facilities approved by the City Engineer or Building Official.**

ANALYSIS: The parking and vehicular use areas will be improved with asphalt and will be designed to accommodate storm drainage as required by the Engineering Department.

FINDINGS: This standard is met.

16.94.020 - Off-Street Parking Standards

B. Dimensional and General Configuration Standards

- 1. Dimensions For the purpose of this Chapter, a "parking space" means a stall nine (9) feet in width and twenty (20) feet in length. Up to twenty five (25) percent of required parking spaces may have a minimum dimension of eight (8) feet in width and eighteen (18) feet in length so long as they are signed as compact car stalls.**

ANALYSIS: The parking and vehicular use areas will be improved with asphalt and will be designed to accommodate storm drainage as required by the Engineering Department.

FINDINGS: This standard is met.

- 2. Layout**

Parking space configuration, stall and access aisle size shall be of sufficient width for all vehicle turning and maneuvering. Groups of more than four (4) parking spaces shall be served by a driveway so as to minimize backing movements or other maneuvering within a street, other than an alley. All parking areas shall meet the minimum standards shown in the following table and diagram.

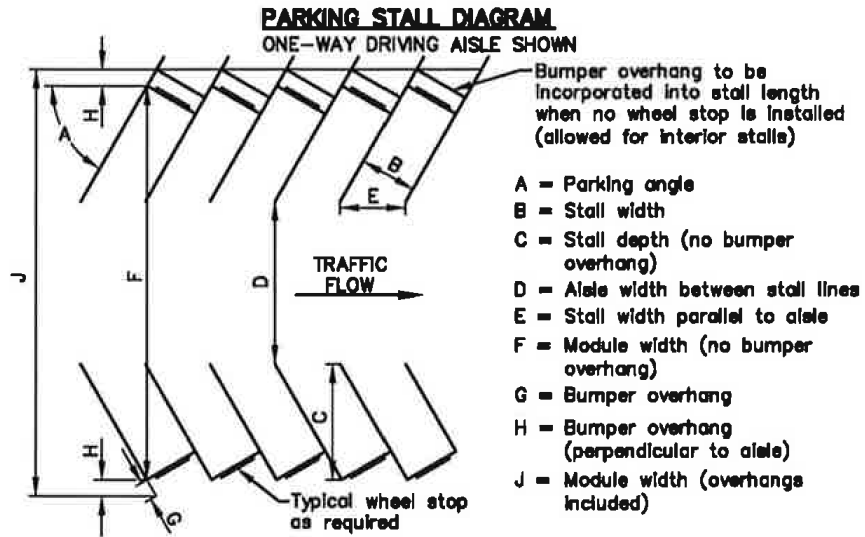


Table 2: Minimum Parking Dimension Requirements
One-Way Driving Aisle (Dimensions in Feet)

A	B	C	D	E	F	G	H	J
90°	8.0	18.0	26.0	8.0	56.0	3.0	3.0	62.0
	9.0	20.0	24.0	9.0	58.0	3.0	3.0	64.0

ANALYSIS: As shown in the site plan, the applicant is proposing two 90° stalls and two parallel parking stalls. One of the 90° stalls will be a compact stall with a depth of 18 ft. and therefore requires a 26 ft. wide aisle behind the stall. The applicant has requested a 7.7% reduction to this standard for final width of 24 ft. The request meets the variance approval criteria as discussed in the findings for SZCDC § 16.84.

The table above does not provide standards for parallel on-site parking stalls. The proposed parallel stalls are 9 ft. wide by 23 ft. deep, providing adequate space for vehicle maneuvering in and out of the stalls.

FINDINGS: This standard is met as described in the findings above, and by approval of the Class B Variance.

3. Wheel Stops

- a. **Parking spaces along the boundaries of a parking lot or adjacent to interior landscaped areas or sidewalks shall be provided with a wheel stop at least four (4) inches high, located three (3) feet back from the front of the parking stall as shown in the above diagram.**
- b. **Wheel stops adjacent to landscaping, bio-swales or water quality facilities shall be designed to allow storm water runoff.**
- c. **The paved portion of the parking stall length may be reduced by three (3) feet if replaced with three (3) feet of low lying landscape or hardscape in lieu of a wheel stop; however, a curb is still required. In other words, the traditional three-foot vehicle overhang from a wheel stop may be low-lying landscaping rather than an impervious surface.**

ANALYSIS: The two 90° stalls will be designed to overhang into the landscaped area south of the building. No wheel stops are required for these two stalls.

FINDINGS: This standard is met.

Chapter 16.96 - ON-SITE CIRCULATION

16.96.030 - Minimum Non-Residential Standards

Minimum standards for private, on-site circulation improvements in non-residential developments:

- A. **Driveways**
 1. **Commercial: Improved hard surface driveways are required as follows:**

(abbreviated table)

Number of Required Parking Spaces	Minimum Number of Driveways	One-Way Pair (minimum width)
1 - 49	1	15 feet

ANALYSIS: A total of four (4) off-street parking spaces is required for the site. The site has two driveways which meets the standard above. The minimum one-way drive aisle is 15 ft. The applicant has requested a variance to this standard in order to provide a 13.8 ft. one-way drive aisle for egress from the site. The request meets the variance approval criteria as discussed in the findings for SZCDC § 16.84.

FINDINGS: This standard is met as described in the findings above, and by approval of the Class B Variance.

B. Sidewalks and Curbs

1. A private pathway/sidewalk system extending throughout the development site shall be required to connect to existing development, to public rights-of-way with or without improvements, to parking and storage areas, and to connect all building entrances to one another. The system shall also connect to transit facilities within five hundred (500) feet of the site, future phases of development, and whenever possible to parks and open spaces.
2. Curbs shall also be required at a standard approved by the Hearing Authority. Private pathways/sidewalks shall be connected to public rights-of-way along driveways but may be allowed other than along driveways if approved by the Hearing Authority.
3. Private Pathway/Sidewalk Design. Private pathway surfaces shall be concrete, asphalt, brick/masonry pavers, or other pervious durable surface. Primary pathways connecting front entrances to the right of way shall be at least 6 feet wide and conform to ADA standards. Secondary pathways between buildings and within parking areas shall be a minimum of four (4) feet wide and/or conform to ADA standards. Where the system crosses a parking area, driveway or street, it shall be clearly marked with contrasting paving materials or raised

crosswalk (hump). At a minimum all crosswalks shall include painted striping.

- 4. Exceptions. Private pathways/sidewalks shall not be required where physical or topographic conditions make a connection impracticable, where buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or pathways would violate provisions of leases, restrictions or other agreements.**

ANALYSIS: Direct pedestrian access to the site is provided from SW Borchers Rd. A walk-up order window faces SW Borchers Drive and can be accessed via a concrete sidewalk. No changes are proposed to the pedestrian walkways to and from this right-of-way.

The on-site ADA parking stall will be relocated from the south side of the lot adjacent to Hwy 99W, to a location immediately south of the coffee stand building. This will eliminate the need for a pedestrian crossing over the drive-thru lane(s) from the parking stall to the building. Two (2) parking stalls are proposed at the north end of the site, parallel to the one-way drive aisle egress. The plans do not show pedestrian striping where pedestrians would cross the drive aisle to enter the building from these parking stalls.

FINDINGS: These standards are met as conditioned below.

CONDITION OF APPROVAL B5: Prior to Final Site Plan approval, the on-site vehicle marking plan shall provide pedestrian striping that connects the parallel parking stalls to the front walkway of the existing building.

16.96.040 - On-Site Vehicle Circulation

A. Maintenance

No building permit or other City permit shall be issued until plans for ingress, egress and circulation have been approved by the City. Any change increasing any ingress, egress or circulation requirements, shall be a violation of this Code unless additional facilities are provided in accordance with this Chapter.

B. Joint Access [See also Chapter 16.108]

Two (2) or more uses, structures, or parcels of land are strongly encouraged to utilize jointly the same ingress and egress when the combined ingress and egress of all uses, structures, or parcels of land satisfy the other requirements of this Code, provided that satisfactory legal evidence is presented to the City in the form of deeds, easements, leases, or contracts to clearly establish the joint

use. In some cases, the City may require a joint access to improve safety, vision clearance, site distance, and comply with access spacing standards for the applicable street classification.

C. Connection to Streets

1. Except for joint access per this Section, all ingress and egress to a use or parcel shall connect directly to a public street, excepting alleyways.
2. Required private sidewalks shall extend from the ground floor entrances or the ground floor landing of stairs, ramps or elevators to the public sidewalk or curb of the public street which provides required ingress and egress.

D. Maintenance of Required Improvements

Required ingress, egress and circulation improvements shall be kept clean and in good repair.

E. Service Drives

Service drives shall be provided pursuant to Section 16.94.030.

FINDINGS: The on-site vehicle circulation pattern will be reconfigured to include two one-way drive thrus. The site will maintain the two existing access points with SW Borchers Drive. The northern drive-thru is currently shared with the gas station to the north and no changes are proposed to the easement location or agreement. A sidewalk is provided from SW Borchers Drive to the walk-up window of the building.

ANALYSIS: These standards are met.

Chapter 16.106 - TRANSPORTATION FACILITIES

ANALYSIS: The subject property has frontage on Highway 99W (principal arterial) to the southeast and SW Borchers Drive (collector street) to the northwest. Both Highway 99W and SW Borchers Drive are developed street sections with sidewalk along the frontage of the subject property. The street width of SW Borchers Drive is approximately 40 feet from curb to curb along the subject property frontage. This exceeds city standards for a 2-lane collector with no parking which has an overall width of 34 feet (two 11-foot wide lanes with two 6-foot wide bike lanes), however it is less than what is necessary for a 2-lane collector with parking which requires an overall width of 50 feet. Currently SW Borchers Drive is not signed for no parking. This area of SW Borchers Drive does not appear to have a need for onsite parking as aerial photos don't show vehicles parking on-street. Since on-street parking is not needed in this area and since the width of the street is adequate for a collector status street with no on-street parking, no street frontage improvements are required. The developer will need to install no-parking signs along the frontage of the subject property on both sides of the street so that the street width is in compliance with city standards.

The subject property currently has 2 existing driveways onto SW Borchers Drive. The subject development is proposing to modify the existing drive-through to allow for a one-way dual drive-through. Vehicles will enter the subject property via the southern driveway and exit back out to SW Borchers Drive via the northern driveway.

FINDINGS: The Transportation Facilities standards are met as conditioned below.

CONDITION OF APPROVAL C3: Prior to Approval of the Engineering Public Improvement Plans, the developer shall design for the installation of “No Parking” signs meeting the approval of the Sherwood Engineering Department.

Chapter 16.114 – STORM WATER

Storm water facilities, including appropriate source control and conveyance facilities, shall be installed in new developments and shall connect to the existing downstream drainage systems consistent with the Comprehensive Plan and the requirements of the Clean Water Services water quality regulations contained in their Design and Construction Standards R&O 04-9, or its replacement.

ANALYSIS: Currently a 12-inch diameter public storm sewer exists within SW Borchers Drive along the subject property frontage. There is also a 12-inch diameter public storm sewer within Highway 99W. Currently the subject property is connected to the public storm sewer within SW Borchers Drive. The surrounding properties all currently have public sanitary sewer service. No extension of the public storm sewer is required. Currently the subject property has a water quality/detention pond. As part of the development of the subject property the developer proposes to remove the existing facility and replace it with a proprietary system. The new water quality treatment system shall provide treatment for all existing, modified and new impervious area within the subject property. The detention will not need to be replaced as there is no known downstream deficiency and the runoff from the sight is not significant enough to warrant on-site detention due to the small size of the subject property. However, if the subject development creates/modifies impervious area in the amount of 1,000 square feet or greater, then the subject development will either need to provide for hydro-modification or a payment-in-lieu thereof.

FINDINGS: The Storm Water Facilities standards are met as conditioned below.

CONDITION OF APPROVAL C4: Prior to Approval of the Engineering Public Improvement Plans, the proposed development shall design to provide storm water quality treatment in compliance with Clean Water Services’ standards.

CONDITION OF APPROVAL C5: Prior to Approval of the Engineering Public Improvement Plans, if the amount of new/modified impervious area is 1,000 square feet or greater, then the proposed development shall design to provide storm water hydro-

modification in compliance with Clean Water Services' standards or a payment-in-lieu thereof.

CONDITION OF APPROVAL F2: Prior to Acceptance of Public Improvements, private water quality/hydro-modification facilities shall have a recorded Private Storm Water Facility Access and Maintenance Covenant. An Operation and Maintenance Plan for all private water quality/hydro-modification facilities is also required to be submitted to the Sherwood Engineering Department.

CONDITION OF APPROVAL E1: Prior to Issuance of a Plumbing Permit, the proposed development shall design for private storm water runoff within the subject property to be collected and conveyed in accordance with the current Oregon Plumbing Specialty Code.

Chapter 16.118 - PUBLIC AND PRIVATE UTILITIES

16.118.010 Purpose

Public telecommunication conduits as well as conduits for franchise utilities including, but not limited to, electric power, telephone, natural gas, lighting, and cable television shall be installed to serve all newly created lots and developments in Sherwood.

ANALYSIS: PUE exists along SW Borchers Drive and Highway 99W along the subject property frontage. Therefore no PUE dedication is required. Sherwood Broadband exists aerially around/over the subject property. There are no broadband conduits along the subject property frontage of SW Murdock Road or Highway 99W. Due to no building construction being performed on the subject property, installation of Sherwood Broadband vaults and conduit is not required except as necessary to bring service to the building if desired.

If Sherwood Broadband is desired for the subject development, then it should be coordinated with the City of Sherwood.

FINDING: These standards are met.

Chapter 16.142 Parks, Trees and Open Space

16.142.040 - Visual Corridors

A. Corridors Required

New developments located outside of the Old Town Overlay with frontage on Highway 99W, or arterial or collector streets designated on Figure 8-1 of the Transportation System Plan shall be required to

establish a landscaped visual corridor according to the following standards:

	Category	Width
1.	Highway 99W	25 feet
2.	Arterial	15 feet
3.	Collector	10 feet

In residential developments where fences are typically desired adjoining the above described major street the corridor may be placed in the road right-of-way between the property line and the sidewalk. In all other developments, the visual corridor shall be on private property adjacent to the right-of-way.

ANALYSIS: The site has frontage on SW Borchers Drive (collector) and Hwy 99W (arterial).

SW Borchers Drive

A 10 ft. wide visual corridor on private property was required along the site frontage with SW Borchers Drive as part of the initial development. No changes are proposed to the visual corridor along this frontage.

Hwy 99W

The existing visual corridor width along Hwy 99W is 24.5 ft., including 14.5 ft. within the right-of-way and 10 ft. on the subject site. The initial land use decision allowed the visual corridor to be placed within the right-of-way consistent with the development pattern and approvals of the surrounding properties.

The applicant has requested a Class B Variance to reduce the visual corridor width from 24.5 ft. to 21.9 ft in order to add a second one-way drive-thru lane. The reduction represents a 12.4% change from the underlying visual corridor standard of 25 ft. The request meets the variance approval criteria as discussed in the findings for SZCDC § 16.84.

FINDINGS: This standard is met as described in the findings above, and by approval of the Class B Variance.

B. Landscape Materials

The required visual corridor areas shall be planted as specified by the review authority to provide a continuous visual and/or acoustical

buffer between major streets and developed uses. Except as provided for above, fences and walls shall not be substituted for landscaping within the visual corridor. Uniformly planted, drought resistant street trees and ground cover, as specified in Section 16.142.060, shall be planted in the corridor by the developer. The improvements shall be included in the compliance agreement. In no case shall trees be removed from the required visual corridor.

ANALYSIS: The visual corridor along Hwy 99W currently contains a concrete sidewalk, grass, trees, and shrubs (Exhibit C6 – Google Street View June 2019). Some of the existing on-site shrubs will be relocated within the on-site portion of the visual corridor, as shown in the landscaping plan. There are currently three (3) Raywood Ash Trees along the Hwy 99W frontage. The mature canopy spread for this species is between 20 – 30 ft. The site has approximately 90 ft. of frontage along Hwy 99W and the existing trees will provide a continuous visual and acoustical buffer between the street and developed use when the trees are fully mature.

FINDINGS: This standard is met.

C. Establishment and Maintenance

Designated visual corridors shall be established as a portion of landscaping requirements pursuant to Chapter 16.92. To assure continuous maintenance of the visual corridors, the review authority may require that the development rights to the corridor areas be dedicated to the City or that restrictive covenants be recorded prior to the issuance of a building permit.

D. Required Yard

Visual corridors may be established in required yards, except that where the required visual corridor width exceeds the required yard width, the visual corridor requirement shall take precedence. In no case shall buildings be sited within the required visual corridor, with the exception of front porches on townhomes, as permitted in Section 16.44.010(E)(4)(c).

E. Pacific Highway 99W Visual Corridor

- 1. Provide a landscape plan for the highway median paralleling the subject frontage. In order to assure continuity, appropriate plant materials and spacing, the plan shall be coordinated with the City Planning Department and ODOT.**

ANALYSIS: The highway median paralleling the subject frontage is planted with grass. No changes are proposed to the median.

FINDINGS: This standard is met.

2. **Provide a visual corridor landscape plan with a variety of trees and shrubs. Fifty percent (50%) of the visual corridor plant materials shall consist of groupings of at least five (5) native evergreen trees a minimum of ten (10) feet in height each, spaced no less than fifty (50) feet apart, if feasible. Deciduous trees shall be a minimum of four (4) inches DBH and twelve (12) feet high, spaced no less than twenty-five (25) feet apart, if feasible.**

ANALYSIS: There are currently three (3) deciduous Raywood Ash Trees planted within the visual corridor along Hwy 99W. The site frontage is approximately 90 ft. in length and therefore the tree spacing is approximately 30 ft.

FINDINGS: This standard is met.

16.142.070 - Trees on Property Subject to Certain Land Use Applications

- B. **Applicability**
All applications including a Type II - IV land use review, shall be required to preserve trees or woodlands, as defined by this Section to the maximum extent feasible within the context of the proposed land use plan and relative to other codes, policies, and standards of the City Comprehensive Plan.

ANALYSIS: The application requires Type III land use review and approval. The applicable sections of the chapter are addressed below.

FINDINGS: The application requires Type III land use review and this chapter applies.

- D. **Retention requirements**
 1. **Trees may be considered for removal to accommodate the development including buildings, parking, walkways, grading etc., provided the development satisfies of D.2 or D.3, below.**

ANALYSIS: No trees are proposed to be removed as part of the development project.

FINDINGS: The standard is met.

3. Required Tree Canopy - Non-Residential and Multi-family Developments

Each net development site shall provide a variety of trees to achieve a minimum total tree canopy of 30 percent. The canopy percentage is based on the expected mature canopy of each tree by using the equation πr^2 to calculate the expected square footage of each tree. The expected mature canopy is counted for each tree even if there is an overlap of multiple tree canopies.

The canopy requirement can be achieved by retaining existing trees or planting new trees. Required landscaping trees can be used toward the total on site canopy required to meet this standard. The expected mature canopy spread of the new trees will be counted toward the required canopy cover. A certified arborist or other qualified professional shall provide an estimated tree canopy for all proposed trees to the planning department for review as a part of the land use review process.

	Residential (single family & two family developments)	Old Town & Infill developments	Commercial, Industrial, Institutional Public and Multi-family
Canopy Requirement	40%	N/A	30%
Counted Toward the Canopy Requirement			
Street trees included in canopy requirement	Yes	N/A	No
Landscaping requirements included in canopy requirement	N/A	N/A	Yes
Existing trees onsite	Yes x2	N/A	Yes x2
Planting new trees onsite	Yes	N/A	Yes
Mature Canopy in Square Feet Equation πr^2 or $(3.14159 * \text{radius}^2)$ (This is the calculation to measure the square footage of a circle.			

The Mature Canopy is given in diameter. In gardening and horticulture reference books, therefore to get the radius you must divide the diameter in half.

Canopy Calculation Example: Pin Oak

Mature canopy = 35'

$(3.14159 * 17.5^2) = 962$ square feet

ANALYSIS: Portions of the existing on-site landscaping will be removed or relocated as part of the development. The commercial lot is required to achieve a 30% canopy over the net development site.

The narrative and plans indicate a 30" pine tree with a canopy spread of 40 ft. is located at the northwest corner of the site. Mature trees retained as part of the development count as double canopy coverage. Therefore, the total tree canopy provided with retention of the tree is 2,512 SF.

Minimum required canopy	2,091 SF	(Lot area 6,969 SF x 0.30)
Proposed canopy	2,512 SF	(Existing pine with 40 ft. wide canopy)

FINDINGS: The standard is met.

**

- 6. The Notice of Decision issued for the land use applications subject to this Section shall indicate which trees and woodlands will be retained as per subsection D of this Section, which may be removed or shall be retained as per subsection D of this Section and any limitations or conditions attached thereto.**

ANALYSIS: The 30" pine tree located at the northwest corner of the site is required to be retained as part of the site redevelopment.

FINDINGS: The standard is met as conditioned below.

CONDITION OF APPROVAL A11: The 30" pine tree located at the northwest corner of the site, adjacent to the northern driveway, shall remain and be protected through site development.

IV. STAFF RECOMMENDATION & CONDITIONS OF APPROVAL

Based upon review of the applicant's submittal information, review of the code, agency comments and consideration of the applicant's submittal, staff finds that the proposed site plan does not fully comply with the standards but can be conditioned to comply. **Therefore, the application LU 2020-023 MM / VAR ZIGGIS COFFEE is recommended for approval subject to the following conditions of approval:**

A. General Conditions

1. Compliance with the Conditions of Approval is the responsibility of the developer or its successor in interest.
2. The development shall substantially comply with the submitted preliminary plans and narrative except as indicated in the conditions of the Notice of Decision. Additional development or change of use may require a new development application and approval.
3. The developer is responsible for all costs associated with any remaining public facility improvements and shall assure the construction of all public streets and utilities within and adjacent to the plat as required by these conditions of approval, to the plans, standards, and specifications of the City of Sherwood.
4. This approval is valid for a period of two (2) years from the date of the decision notice. Extensions may be granted by the City as afforded by the Sherwood Zoning and Community Development Code.
5. The continual operation of the property shall comply with the applicable requirements of the Sherwood Zoning and Community Development Code and Municipal Code.
6. This approval does not negate the need to obtain permits, as appropriate from other local, state or federal agencies even if not specifically required by this decision.
7. All new utilities to be installed for the development of the subject property shall be underground.
8. Retaining walls within public easements or the public right-of-way shall require engineering approval.
9. The developer shall comply with the CWS Pre-Screening Site Assessment dated August 8, 2020 (File #20-002066), the CWS memorandum dated February 15, 2021 and all CWS Design and Construction Standards (R&O 19-5).
10. A sign permit shall be obtained for any new or modified signs requiring land use approval. The Major Modification and Variance approval do not grant permits for any signage on the property.
11. The 30" pine tree located at the northwest corner of the site, adjacent to the northern driveway, shall remain and be protected through site development.

B. Prior to Final Site Plan Approval

1. Prior to Final Site Plan approval, revise the Landscape Plan to provide ground cover plants in all landscaped areas not covered by trees and shrubs.
2. Prior to Final Site Plan approval, a Landscape Architect of certified landscape professional shall verify the plantings are suitable for the Pacific Northwest climate. As an alternative, the applicant can revise the plans to provide native shrubs and ground cover as indicated in the Portland Plant List (June 2016).
3. Prior to Final Site Plan approval, provide planting specifications for new and relocated vegetation to ensure landscaping will be established and maintained in a healthy condition.
4. Prior to Final Site Plan approval, provide specifications for topsoil and subsoil preparations to ensure new and relocated plantings will be established and maintained in a healthy condition.
5. Prior to Final Site Plan approval, the on-site vehicle marking plan shall provide pedestrian striping that connects the parallel parking stalls to the front walkway of the existing building.
6. Prior to Final Site Plan approval, provide an on-site vehicle marking plan that provides the flow of traffic while maintaining vehicular and pedestrian safety.
7. Prior to Final Site Plan Approval, the applicant shall demonstrate an appropriately sized grease interceptor / removal device exists as part of the site plumbing, or design to provide an appropriately sized grease interceptor / removal device.

C. Prior to Approval of the Engineering Public Improvement Plans

1. Prior to Approval of the Engineering Public Improvement Plans, a Storm Water Connection Permit Authorization shall be obtained.
2. Prior to Approval of the Engineering Public Improvement Plans or Issuance of Building Permits, an Engineering Compliance Agreement shall be obtained from the Sherwood Engineering Department.
3. Prior to Approval of the Engineering Public Improvement Plans, the developer shall design for the installation of "No Parking" signs meeting the approval of the Sherwood Engineering Department.
4. Prior to Approval of the Engineering Public Improvement Plans, the proposed development shall design to provide storm water quality treatment in compliance with Clean Water Services' standards.
5. Prior to Approval of the Engineering Public Improvement Plans, if the amount of new/modified impervious area is 1,000 square feet or greater, then the proposed development shall design to provide storm water hydro-modification in compliance with Clean Water Services' standards or a payment-in-lieu thereof.
6. Prior to Approval of the Engineering Public Improvement Plans, if any water fixtures are to be added, water flows calculations (domestic, irrigation and fire) shall be provided by the developer.

7. Prior to Approval of the Engineering Public Improvement Plans, the proposed development shall design for the installation of a Backflow Assembly meeting Sherwood Engineering Department standards.

D. Prior to Issuance of a Grading Permit

1. Prior to Grading Permit, the subject development shall obtain approval of a site erosion control plan from the Sherwood Engineering Department.

E. Prior to Issuance of Building Permits

1. Prior to Issuance of a Plumbing Permit, the proposed development shall design for private storm water runoff within the subject property to be collected and conveyed in accordance with the current Oregon Plumbing Specialty Code.
2. Prior to Issuance of a Plumbing Permit, the applicant shall demonstrate an appropriately sized grease interceptor / removal device exists as part of the site plumbing, or design to provide an appropriately sized grease interceptor / removal device.

F. Prior to Acceptance of Public Improvements

1. Prior to Final Acceptance of the Constructed Public Improvements, any public water facilities located on private property shall have a recorded public water line easement encompassing the related public water infrastructure meeting Sherwood Engineering standards.
2. Prior to Acceptance of Public Improvements, private water quality/hydro-modification facilities shall have a recorded Private Storm Water Facility Access and Maintenance Covenant. An Operation and Maintenance Plan for all private water quality/hydro-modification facilities is also required to be submitted to the Sherwood Engineering Department.

G. Prior to Receiving Occupancy

1. Prior to Occupancy, the subject development shall receive Final Acceptance of Public Improvements.
2. Prior to Final Occupancy, the site shall be marked to provide the flow of traffic while maintaining vehicular and pedestrian safety.
3. Prior to Receiving Occupancy, all landscaping must be installed and have an irrigation system in accordance with SZCDC § 16.92.040(C).
4. Prior to Issuance of Occupancy, all mechanical equipment, outdoor storage and manufacturing, and service and delivery areas, shall be screened from view from all public streets.

V. EXHIBITS

A. Applicant's Submittal

1. Land Use Form
2. Narrative
3. Plans
4. Drainage Report
5. Clean Water Services SPL
6. Title Report
7. Neighborhood Meeting Materials
8. Shared Parking Agreement with Ice Rink

B. Agency Comments

1. City of Sherwood Engineering Comments
2. City of Sherwood Police Department Comments
3. Tualatin Valley Fire and Rescue Comments
4. Clean Water Services Comments

C. Additional Information

1. Tax Map
2. Aerial Map Large Scale
3. Aerial Map Small Scale
4. Survey of Subject Lot 2006
5. Survey of Six Corners Area 1989
6. Site Landscaping Photo
7. Portland Plant List (June 2016)
8. Notice of Decision for SP 06-12 / VAR 06-03

RECEIVED
OCT 26 2020



Home of the Tualatin River National Wildlife Refuge

City of Sherwood
Planning Dept.

Case No. LU2020-022 SP
Fee 3080.82
Receipt # 171080
Date 10.26.2020
TYPE Modification

City of Sherwood
Application for Land Use Action

Type of Land Use Action Requested: (check all that apply)

- Annexation
- Plan Amendment (Proposed Zone _____)
- Planned Unit Development
- Site Plan (square footage of building and parking area)
- Variance (list standards to be varied in description)
- Conditional Use
- Partition (# of lots _____)
- Subdivision (# of lots _____)
- Other: _____

By submitting this form the Owner, or Owner's authorized agent/ representative, acknowledges and agrees that City of Sherwood employees, and appointed or elected City Officials, have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related specifically to the project site.

Note: See City of Sherwood current Fee Schedule, which includes the "Publication/Distribution of Notice" fee, at www.sherwoodoregon.gov. Click on Government/Finance/Fee Schedule.

Owner/Applicant Information:

Applicant: Timothy & Carla Hubbard Phone: 541-992-2258
 Applicant Address: 21003 SW Pacific Hwy, Sherwood Email: shewdchiro@gmail.com
 Owner: Timothy Hubbard Phone: 503-348-4663
 Owner Address: 4078 NE 42nd St, Nestor 97364 Email: cchubbard@mac.com
 Contact for Additional Information: _____

Property Information:

Street Location: 21003 SW Pacific Hwy, Sherwood, OR 97140
 Tax Lot and Map No: R2134120 / 2S130A.015000
 Existing Structures/Use: 405 sq ft Building - Drive thru Coffee Shop
 Existing Plan/Zone Designation: Commercial, Retail
 Size of Property(ies) 8700 sq Foot Lot

Proposed Action:

Purpose and Description of Proposed Action:

Remove a water Detention & replace with Cartridge System for clean water services & add parking spaces over top of this area. widen drive way and add Island for two drive thru lanes and call boxes using the area in the original variance we had approved. Push two parking groces to Exit area East Wall of Drive Lane

Proposed Use: Drive thru Coffee Shop.

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

7/1/20 TO 6/30/21 REAL PROPERTY TAX STATEMENT Exhibit A1

Washington County Dept. of Assessment & Taxation * 155 N 1st Ave, Ste 130, MS8 * Hillsboro, OR 97124
Phone: (503) 846-8801

PROPERTY DESCRIPTION

SITUS: 21003 SW PACIFIC HWY
LEGAL: ACRES 0.16

MAP: 2S130AD15000

CODE AREA: 088.30

ACCOUNT NO: R2

0000419

HUBBARD, TIMOTHY D &
HUBBARD, CARLA C
20055 SW PACIFIC HWY #210
SHERWOOD, OR 97140

2020-21 CURRENT TAX BY DISTRICT:

SCH-SHERWOOD
COLL-PORTLAND
ESD-NW REGIONAL
EDUCATION TAXES: _____ \$

CNTY-WASHINGTON
REG-METRO SERVICE-AFTER 1/1/2013
FIRE-TV FIRE & RESCUE-AFTER 1/1/2013
CNTY-WASHINGTON-AFTER 1/1/2013
SWC-TUALATIN
REG-METRO SERVICE
PORT-PORTLAND
FIRE-TV FIRE & RESCUE
CITY-SHERWOOD
UR-SHERWOOD-DOT

GENERAL GOVERNMENT TAXES: _____ \$1

CITY-SHERWOOD
FIRE-TV FIRE & RESCUE-AFTER
CNTY-WASHINGTON-AFTER
SCH-SHERWOOD-AFTER
REG-METRO SERVICE-AFTER
COLL-PORTLAND-AFTER

BONDS AND MISC TAXES: _____

2020-21 LEVIED TAX: _____ \$2
(Before Discount)

VALUES	LAST YEAR	THIS YEAR
MARKET VALUES:		
LAND	57,590	60,380
STRUCTURE	117,040	128,090
NET RMV	174,630	188,470
TAXABLE VALUES:		
NET ASSESSED VALUE	110,960	114,280

PROPERTY TAXES: \$2,099.92 \$2,140.62

Due to Covid-19, the County strongly encourages paying taxes by mail, online, or dropbox. For payment options, please visit www.co.washington.or.us/tax

TAX PAYMENT OPTIONS
(See Insert For Additional Information)

	Pay By	Discount	Net Amount Due
In Full	Nov 16, 2020	64.22	\$2,076.40
2/3	Nov 16, 2020	28.54	\$1,398.54
1/3	Nov 16, 2020	NONE	\$713.54

PLEASE INCLUDE STUB TO AVOID DELAYED PROCESSING

DELINQUENT TAXES: _____

TOTAL DUE: _____ \$2
(After Discount)

↑ Tear Here

PLEASE DETACH STUB AND RETURN WITH PAYMENT. RETAIN TOP PORTION FOR YOUR RECORDS. SEE BACK OF STATEMENT FOR INSTRUCTIONS.



WASHINGTON COUNTY, OREGON

2020-2021 Property Tax Payment Stub

ACCOUNT NO: R213

SITUS: 21003 SW PACIFIC HWY

Pay Online: co.washington.or.us/AssessmentTaxation/TaxPayment

*2.45% Vendor Fee Applies

Electronic Check \$0.95 Cents

Pay By Phone: 1(888)510-9274

HUBBARD, TIMOTHY D &
HUBBARD, CARLA C
20055 SW PACIFIC HWY #210
SHERWOOD, OR 97140



Mailing Address Change On Back Of Stub.

UNPAID DELINQUENT TAX IS INCLUDED IN PAYMENT OF
DUE: Nov 16, 2020 IN FULL (3% Discount) \$
DUE: Nov 16, 2020 2/3 PAYMENT (2% Discount) \$
DUE: Nov 16, 2020 1/3 PAYMENT (NO Discount)

Make Payable: Washington County

WASHINGTON COUNTY
155 N 1st Ave., Ste 130 MS8
Hillsboro, OR 97124

Enter Amount
Due Date: Nov 16

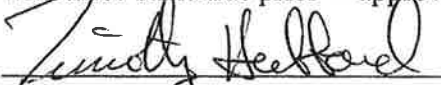
3400012134120000020764000001398540000

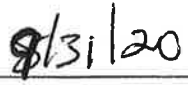
LAND USE APPLICATION FORM

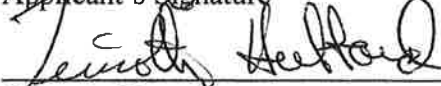
Authorizing Signatures:

I am the owner/authorized agent of the owner empowered to submit this application and affirm that the information submitted with this application is correct to the best of my knowledge.

I further acknowledge that I have read the applicable standards for review of the land use action I am requesting and understand that I must demonstrate to the City review authorities compliance with these standards prior to approval of my request.


 Applicant's Signature


 Date

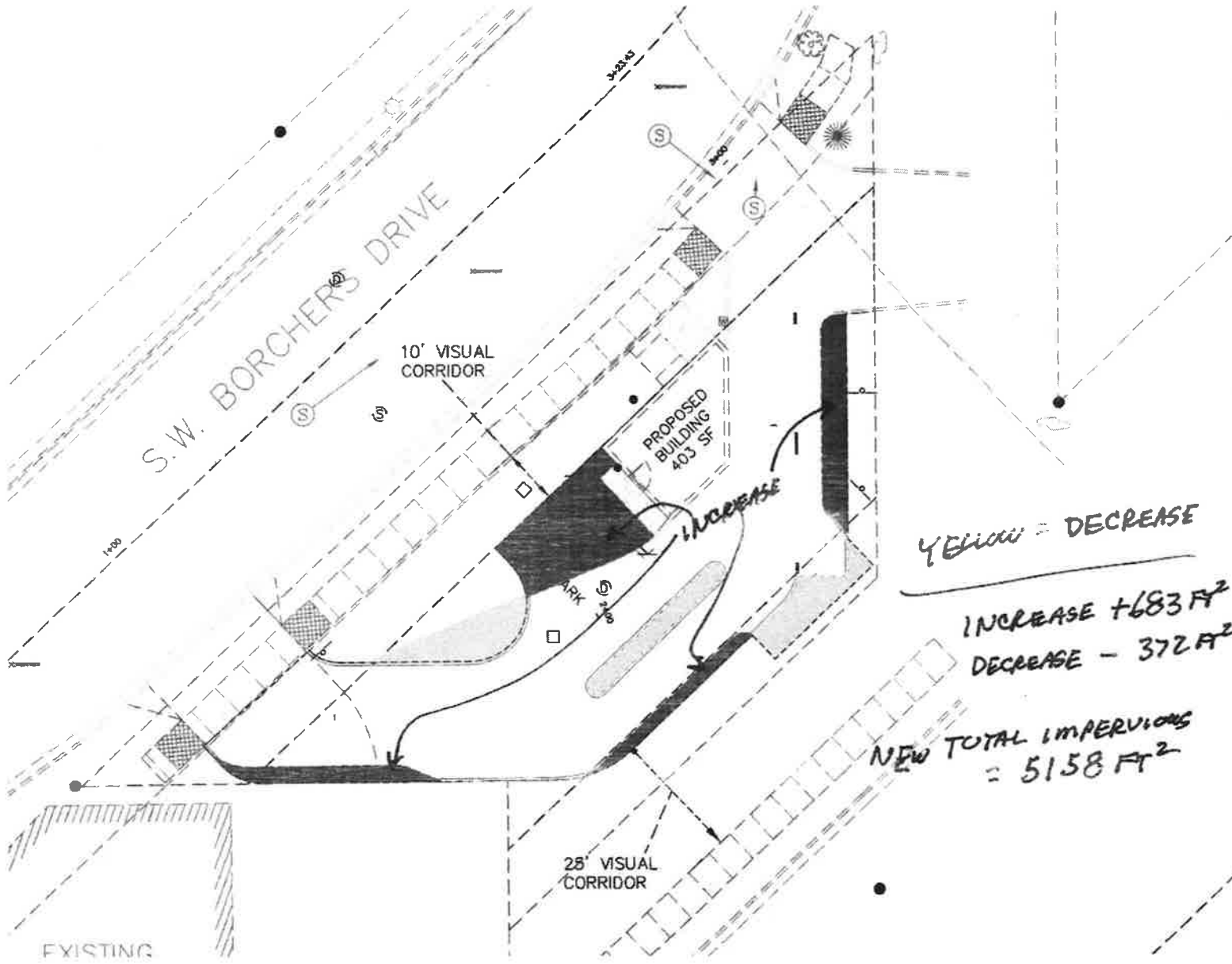

 Owner's Signature

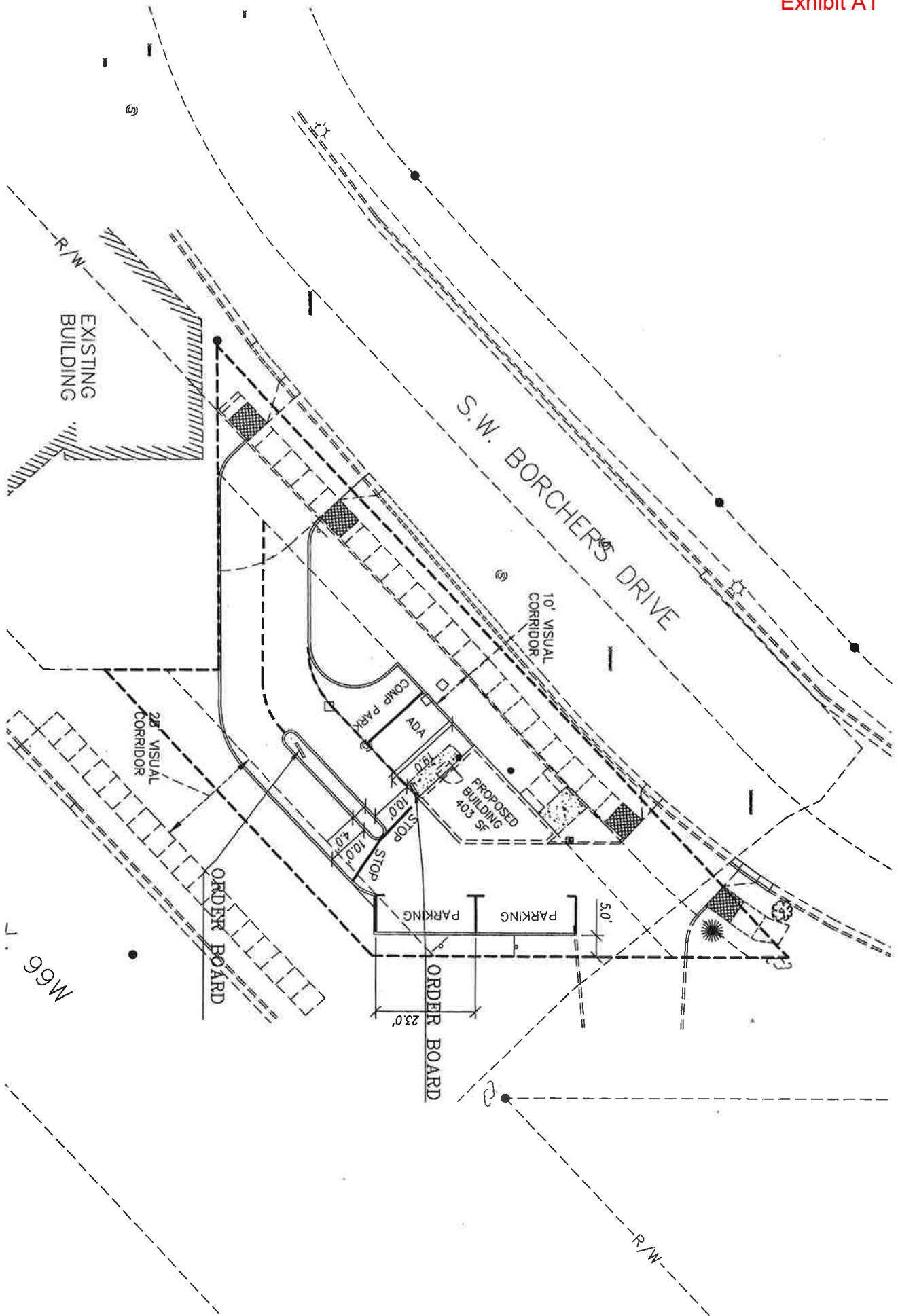

 Date

The following materials must be submitted with your application or it will not be accepted at the counter. Once taken at the counter, the City has up to 30 days to review the materials submitted to determine if we have everything we need to complete the review. Applicant can verify submittal includes specific materials necessary for the application per checklist.

- 3 Copies of Application Form*** completely filled out and signed by the property owner (or person with authority to make decisions on the property).
- Copy of Deed** to verify ownership, easements, etc.
- At least 3 folded** sets of plans*
- At least 3 copies** of narrative addressing application criteria*
- Fee** (along with calculations utilized to determine fee if applicable)
- Neighborhood Meeting Verification** including affidavit, sign-in sheet and meeting summary (required for Type III, IV and V projects)

* **Note** that the required numbers of copies identified on the checklist are required for completeness; however, upon initial submittal applicants are encouraged to submit only 3 copies for completeness review. Prior to completeness, the required number of copies identified on the checklist and one full electronic copy will be required to be submitted.





SENSITIVE AREA PRE-SCREENING SITE ASSESSMENT

Clean Water Services File Number 20-002066

1. **Jurisdiction:** Sherwood

2. **Property Information** (example: 1S234AB01400)

Tax lot ID(s): _____
2S130AD15000

OR Site Address: 21003 SW Pacific Hwy
City, State, Zip: Sherwood, Oregon, 97140
Nearest cross street: Borcher's Drive and Edy Rd

3. **Owner Information**

Name: Tim Hubbard
Company: _____
Address: 4018 Northeast 42nd Street
City, State, Zip: Neotsu, OR, 97364
Phone/fax: 5419922258
Email: shrwdechiro@gmail.com

4. **Development Activity** (check **all** that apply)

- Addition to single family residence (rooms, deck, garage)
- Lot line adjustment Minor land partition
- Residential condominium Commercial condominium
- Residential subdivision Commercial subdivision
- Single lot commercial Multi lot commercial
- Other Remove water detention pond for a cartridge system

4. **Applicant Information**

Name: Tim Hubbard
Company: _____
Address: 4018 Northeast 42nd Street
City, State, Zip: Neotsu, OR, 97364
Phone/fax: 5419922258
Email: shrwdechiro@gmail.com

6. **Will the project involve any off-site work?** Yes No Unknown

Location and description of off-site work: _____

7. **Additional comments or information that may be needed to understand your project:** _____

Want to replace pond with H/C parking spot and plants as well as remove plants add two new parking spaces east side PKG

This application does NOT replace Grading and Erosion Control Permits, Connection Permits, Building Permits, Site Development Permits, DEQ 1200-C Permit or other permits as issued by the Department of Environmental Quality, Department of State Lands and/or Department of the Army COE. All required permits and approvals must be obtained and completed under applicable local, state, and federal law.

By signing this form, the Owner or Owner's authorized agent or representative, acknowledges and agrees that employees of Clean Water Services have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related to the project site. I certify that I am familiar with the information contained in this document, and to the best of my knowledge and belief, this information is true, complete, and accurate.

Print/type name Tim Hubbard

Print/type title _____

Signature ONLINE SUBMITTAL

Date 8/3/2020

FOR DISTRICT USE ONLY

- Sensitive areas potentially exist on site or within 200' of the site. **THE APPLICANT MUST PERFORM A SITE ASSESSMENT PRIOR TO ISSUANCE OF A SERVICE PROVIDER LETTER.** If Sensitive Areas exist on the site or within 200 feet on adjacent properties, a Natural Resources Assessment Report may also be required.
- Based on review of the submitted materials and best available information sensitive areas do not appear to exist on site or within 200' of the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider Letter as required by Resolution and Order 19-5, Section 3.02.1, as amended by Resolution and Order 19-22. All required permits and approvals must be obtained and completed under applicable local, State and federal law.
- Based on review of the submitted materials and best available information the above referenced project will not significantly impact the existing or potentially sensitive area(s) found near the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect additional water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider Letter as required by Resolution and Order 19-5, Section 3.02.1, as amended by Resolution and Order 19-22. All required permits and approvals must be obtained and completed under applicable local, state and federal law.
- THIS SERVICE PROVIDER LETTER IS NOT VALID UNLESS _____ CWS APPROVED SITE PLAN(S) ARE ATTACHED.**
- The proposed activity does not meet the definition of development or the lot was platted after 9/9/95 ORS 92.040(2). **NO SITE ASSESSMENT OR SERVICE PROVIDER LETTER IS REQUIRED.**

Reviewed by Lindsay Obermiller

Date 08/17/2020

Once complete, email to: SPLReview@cleanwaterservices.org • Fax: (503) 681-4439

OR mail to: SPL Review, Clean Water Services, 2550 SW Hillsboro Highway, Hillsboro, Oregon 97123

Revised 2/2020



Community Development Division
Engineering Department
22560 SW Pine Street
Sherwood, OR 97140
503-925-2309

AS-BUILT INFORMATION REQUEST FORM

Please provide the following information:

Tax Lot Id #: ^{map #} 25130AD15000 / ^{Tax #} R2134120

Nearest Street, Address or Subdivision: 21003 SW Pacific Hwy
Sherwood, OR 97140

A tax lot map clearly indicating the lot(s) must be presented with the request.

Name: Timothy Hubbard Date: 9/24/20
Company: Sherwood Chiropractic Phone #: 503-625-2225
541-992-2258 cell*
Address: 20055 SW Pacific Hwy #210 Fax #: 503-925-8840
Sherwood, OR 97140 E-mail: shrwldchiro@gmail.com

Time frame for completion is 3-5 business days.

Requested Information:

Engineered Plans for Water Detention Facility on
Property with all the Specs for Flow + Volume etc.
to Replace with a Cartridge System

The cost per copy is \$0.15 for each 8 1/2 x 11 sheet and \$0.25 for each 11x17 sheet or double sided 8 1/2 x 11 sheet. The as-built request fee is \$25 per subdivision. An as-built electronic media fee is \$25 per CD. In addition, staff time is charged for any project over 15 minutes. The rate calculation is based on the current City of Sherwood Rates and Fees Schedule, Section 1 – Staff Rates per Hour.

Sherwood Chiropractic & Rehab. Center PC
20055 SW Pacific Hwy #210
Sherwood, OR 97140
503-625-2225

KeyBank, N.A.
21327 SW Sherwood Blvd.
Sherwood, OR 97140
24-201/1230

Exhibit A1 10088

10/19/20

PAY TO THE ORDER OF

City of Sherwood

\$ 3080.82

Three thousand and eighty dollars $\frac{82}{100}$

DOLLARS

MEMO

Major Modification Fee & Public Notice Fee

[Signature]
AUTHORIZED SIGNATURE

⑈010088⑈ ⑆12300201⑆ 370121006479⑈

Sherwood Chiropractic & Rehab. Center PC

10088

City of Sherwood

10/19/20

3080.82

3 thousand & 82 $\frac{82}{100}$

Major Modification Fee \$2614.82
Public Notice Fee 466.⁰⁰
3080.82 total

[Signature]

Sherwood Chiropractic & Rehab. Center PC

10088

RECEIPT		DATE <u>10.26.2020</u>	No. <u>17,000</u>
RECEIVED FROM <u>Sherwood Chiropractic</u>		\$ <u>3080.82</u>	
<u>Three thousand eight</u> $\frac{82}{100}$		DOLLARS	
FOR RENT <u>Modification</u>		LU2020-022 SP	
ACCOUNT		<input type="radio"/> CASH	
PAYMENT <u>3080.82</u>		<input checked="" type="radio"/> CHECK	FROM _____ TO _____
BAL. DUE		<input type="radio"/> MONEY ORDER	
		<input type="radio"/> CREDIT CARD	BY <u>Cash</u>

9-11



Home of the Tualatin River National Wildlife Refuge

Case No. _____
Fee _____
Receipt # _____
Date _____
TYPE _____

City of Sherwood
Application for Land Use Action

Type of Land Use Action Requested: (check all that apply)

- Annexation
- Plan Amendment (Proposed Zone _____)
- Planned Unit Development
- Site Plan (square footage of building and parking area)
- Variance (list standards to be varied in description)
- Conditional Use
- Partition (# of lots _____)
- Subdivision (# of lots _____)
- Other: _____

By submitting this form the Owner, or Owner's authorized agent/ representative, acknowledges and agrees that City of Sherwood employees, and appointed or elected City Officials, have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related specifically to the project site.

Note: See City of Sherwood current Fee Schedule, which includes the "Publication/Distribution of Notice" fee, at www.sherwoodoregon.gov. Click on Government/Finance/Fee Schedule.

Owner/Applicant Information:

Applicant: Tim Hubbard Phone: 503-625-2225
 Applicant Address: 21003 SW PACIFIC HYW, SHERWOOD OR 97140 Email: shrwdchiro@gmail.com
 Owner: Tim Hubbard Phone: 503-625-2225
 Owner Address: 21003 SW PACIFIC HYW, SHERWOOD OR 97140 Email: shrwdchiro@gmail.com
 Contact for Additional Information: Steve Farnsworth PE 503-267-8433 roadengr@comcast.net

Property Information:

Street Location: 21003 SW PACIFIC HWY 99, SHERWOOD OR 97140
 Tax Lot and Map No: 2S130AD15000
 Existing Structures/Use: COFFEE STAND
 Existing Plan/Zone Designation: 2210 COMMERCIAL IMPROVED
 Size of Property(ies) 0.16 AC

Proposed Action:

Purpose and Description of Proposed Action:

- 1) Width of the one-way drive aisle below 15 ft.
- 2) Width of the parking space drive aisle below 26 ft.
- 3) Width of the visual corridor below 25 ft.

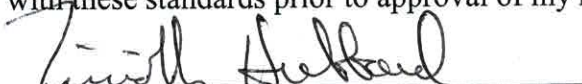
Proposed Use: COFFEE STAND RECONFIGURE

Proposed No. of Phases (one year each): One Phase Total

Authorizing Signatures:

I am the owner/authorized agent of the owner empowered to submit this application and affirm that the information submitted with this application is correct to the best of my knowledge.

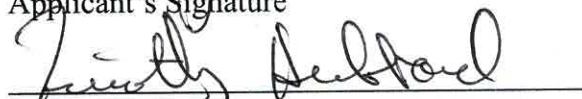
I further acknowledge that I have read the applicable standards for review of the land use action I am requesting and understand that I must demonstrate to the City review authorities compliance with these standards prior to approval of my request.



Applicant's Signature

1/13/2021

Date



Owner's Signature

1/13/2021

Date

The following materials must be submitted with your application or it will not be accepted at the counter. Once taken at the counter, the City has up to 30 days to review the materials submitted to determine if we have everything we need to complete the review. Applicant can verify submittal includes specific materials necessary for the application per checklist.

- 3 Copies of Application Form*** completely filled out and signed by the property owner (or person with authority to make decisions on the property).
- Copy of Deed** to verify ownership, easements, etc.
- At least 3 folded** sets of plans*
- At least 3 copies** of narrative addressing application criteria*
- Fee** (along with calculations utilized to determine fee if applicable)
- Neighborhood Meeting Verification** including affidavit, sign-in sheet and meeting summary (required for Type III, IV and V projects)

* **Note** that the required numbers of copies identified on the checklist are required for completeness; however, upon initial submittal applicants are encouraged to submit only 3 copies for completeness review. Prior to completeness, the required number of copies identified on the checklist and one full electronic copy will be required to be submitted.

Roadway Engineering

Civil Engineering / Land Development
20015 SW Tillamook Ct,
Tualatin OR 97062
Ph 503-267-8433
roadengr@comcast.net

4. Narrative describing how the proposal complies with the applicable sections of Sherwood's Zoning & Community Development Code.

a) Development features that are impacted by redevelopment of the site must meet current development code standards. E.g. parking stalls are being relocated and reconfigured on the site. Parking stall dimensions and parking lot landscaping are required in conformance with current code standards. Other examples include on-site landscaping and on-site vehicular circulation. See applicable code sections in attached table.

Project Narrative for Submittal

Ziggy's Coffee Stand

General Narrative Statement:

This project is a modification of an approved site development located at 21003 SW Pacific Hwy 99. This project was approved and built in 2007. The modifications are as follows:

1. **Reconfigure the on-site driving isle widths to 10' minimum to allow for two isles to facilitate more stored (awaiting ordering of coffee) traffic on site and to minimize the backup of traffic onto SW Borchers Drive**
2. **Add a center island to allow for traffic separation and placement of a call box for ordering.**
3. **Reconfigure the parking layout to facilitate the two-lane isle concept.**
4. **Remove the existing detention pond to allow room for parking**
5. **Provide water quality via a filtered catch basin**
6. **Request to pay a fee-in-lieu for storm water detention**
7. **Provide water quality via a filtered catch basin**

Project Narrative of Code Sections requested by Eric Rutledge in letter dated November 23,2020

Chapter 16.22 - COMMERCIAL LAND USE DISTRICTS^[45]

Editor's note— Ord. No. 2012-011, adopted August 7, 2012, amended the Code by consolidating the provisions of Chs. 16.22, 16.26, 16.28 and 16.30. Former Ch. 16.22, §§ 16.22.010—16.22.080, pertained to the Office Commercial district, and derived from Ord. 90-921, § 1; Ord. 2000-1092, § 3; Ord. No. 2009-009, adopted July 21, 2009; Ord. No. 2010-015, adopted October 5, 2010. See Chs. 16.26, 16.28 and 16.30 for specific derivation.

16.22.010 - Purpose

- A. Office Commercial (OC) - The OC zoning district provides areas for business and professional offices and related uses in locations where they can be closely associated with residential areas and adequate major streets. **N/A**
- B. Neighborhood Commercial (NC) - The NC zoning district provides for small scale, retail and service uses, located in or near residential areas and enhancing the residential character of those neighborhoods. **N/A**
- C. Retail Commercial (RC) - The RC zoning district provides areas for general retail and service uses that neither require larger parcels of land, nor produce excessive environmental impacts as per Division VIII. **This is the Zoning for Ziggy's Coffee Stand**
- D. General Commercial (GC) - The GC zoning district provides for commercial uses which require larger parcels of land, and/or uses which involve products or activities which require special attention to environmental impacts as per Division VIII. **N/A**

(Ord. No. 2012-011, § 2, 8-7-2012)

16.22.020 - Uses

- A. The table below identifies the land uses that are permitted outright (P), permitted conditionally (C), and not permitted (N) in the Commercial Districts. The specific land use categories are described and defined in Chapter 16.88 Use Classifications and Interpretations.
- B. Uses listed in other sections of this code, but not within this specific table are prohibited.
- C. Any use not otherwise listed that can be shown to be consistent or associated with the uses permitted outright or conditionally in the commercial zones or contribute to the achievement of the objectives of the commercial zones may be permitted outright or conditionally, utilizing the provisions of Chapter 16.88 Use Classifications and Interpretations.
- D. Additional limitations for specific uses are identified in the footnotes of this table.

	OC	NC ¹	RC	GC
COMMERCIAL				
• Restaurants with drive-thru services	N	N	P	P

¹ See special Criteria for the NC zone, 16.22.050.

² The residential portion of a mixed use development is considered secondary when traffic trips generated, dedicated parking spaces, signage, and the road frontage of residential uses are all exceeded by that of the commercial component and the commercial portion of the site is located primarily on the ground floor.

³ Except in the Adams Avenue Concept Plan area, where only non-residential uses are permitted on the ground floor.

⁴ If use is mixed with another, such as a restaurant, it is considered secondary to that use and permitted, provided it occupies less than fifty (50) percent of the total area.

⁵ All activities are required to be within an enclosed building.

⁶ Animal boarding/kennels and daycare facilities entirely within an enclosed building are considered "other personal service."

⁷ Limited to no more than ten (10) percent of the square footage of each development in the Adams Avenue Concept Plan area.

⁸ except for towers located within one thousand (1,000) feet of the Old Town District which are prohibited.

(Ord. No. 2012-011, § 2, 8-7-2012)

16.22.030 - Development Standards

- A. Generally

No lot area, setback, yard, landscaped area, open space, off-street parking or loading area, or other site dimension or requirement, existing on, or after, the effective date of this Code shall be reduced below the minimum required by this Code. Nor shall the conveyance of any portion of a lot for other than a public use or right-of-way, leave a lot or structure on the remainder of said lot with less than minimum Code dimensions, area, setbacks or other requirements, except as permitted by Chapter 16.84. (Variance and Adjustments)

B. Development Standards

Except as otherwise provided, required minimum lot areas, dimensions and setbacks shall be provided in the following table

	OC	NC	RC	GC
Lot area	10,000 sq. ft	1 acre (for single district)	5,000 sq. ft <i><u>Lot A = 7093 sq.ft.</u></i>	10,000 sq. ft
Lot width at front property line	60 ft	85 ft	40 ft <i><u>Width = 175.43'</u></i>	70 ft
Lot width at building line	60 ft	100 ft	40 ft <i><u>Width = 59.90'</u></i>	70 ft
Front yard setback ⁹	0	20 ft	0 <i><u>9.55'</u></i>	0
When abutting residential zone	0	0	Same as abutting residential zone <i><u>N/A</u></i>	Same as abutting residential zone
Side yard setback ⁹	0	0	0 <i><u>25' min.</u></i>	0
when abutting residential zone or public park	10 ft	Same as abutting residential zone	10 ft <i><u>N/A</u></i>	20
Rear yard setback ⁹	0	0	0 <i><u>32.5'</u></i>	0
when abutting residential zone or public park	20	10 ft	10 ft <i><u>N/A</u></i>	20 ft

Corner lot ⁹	0	20 ft on any side facing street	<u>N/A</u>	
Height ^{10,11}	2 stories or 30 ft	Least restrictive height of abutting residential zone	50 ft ^{13,14} <u>LESS THAN 20'</u>	50 ft ^{13,14}

⁹ Existing residential uses shall maintain setbacks specified in the High Density Residential Zone (16.12.030).

¹⁰ Maximum height is the lessor of feet or stories.

¹¹ Solar and wind energy devices and similar structures attached to buildings and accessory buildings, may exceed this height limitation by up to twenty (20) feet.

¹³ Structures within one-hundred (100) feet of a residential zone shall be limited to the height requirements of that residential area.

¹⁴ Structures over fifty (50) feet in height may be permitted as conditional uses, subject to Chapter 16.82.

(Ord. No. 2012-011, § 2, 8-7-2012)

16.22.040 - Community Design

- A. For standards relating to off-street parking and loading, energy conservation, historic resources, environmental resources, landscaping, access and egress, signs, parks and open space, on-site storage, and site design, see Divisions V, VIII and IX.

(Ord. No. 2012-011, § 2, 8-7-2012)

16.22.060 - Floodplain

Except as otherwise provided, Section 16.134.020 shall apply. Lot is not in a floodplain

(Ord. No. 2012-011, § 2, 8-7-2012)

Chapter 16.58 - VISION CLEARANCE AND FENCE STANDARDS^[25]

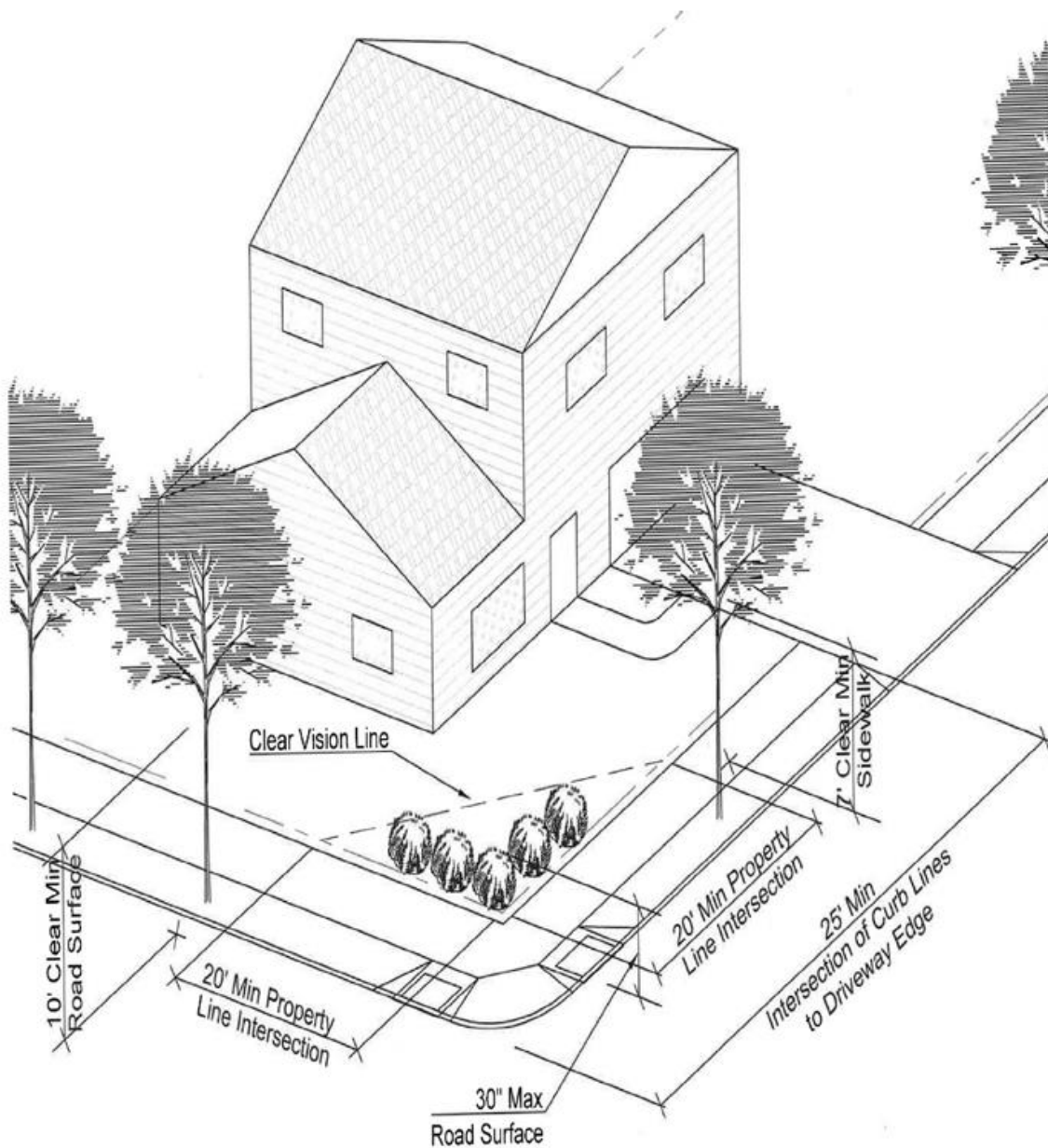
Editor's note— Ord. No. 2011-003, § 2, adopted April 5, 2011, amended the Code by repealing former Ch. 16.58, §§ 16.58.010, 16.58.020 and 16.58.040, and adding a new Ch. 16.58, § 16.58.010. Former § 16.58.030 was renumbered as a new § 16.58.020. Former Ch. 16.58 pertained to supplementary standards, and derived from Ords. 86-851, 96-1014, and 2006-021; and Ord. No. 2010-015, adopted October 5, 2010. The history for former § 16.58.030 has been retained after § 16.58.020. Subsequently, Ord. No. 2020-001, § 2, adopted January 21, 2020, renamed Ch. 16.58.

16.58.010 - Clear Vision Areas

- A. A clear vision area shall be maintained on the corners of all property at the intersection of two (2) streets, intersection of a street with a railroad, or intersection of a street with an alley or private driveway. Currently the two driveway conform to the clear vision requirement and there are no requested changes to the driveway configurations. All new proposed work is on private property and does not affect the existing streets or driveways.
- B. A clear vision area shall consist of a triangular area, two (2) sides of which are lot lines measured from the corner intersection of the street lot lines for a distance specified in this regulation; or, where the lot lines have rounded corners, the lot lines extended in a straight line to a point of intersection, and so measured, and the third side of which is a line across the corner of the lot joining the non-intersecting ends of the other two (2) sides.
- C. A clear vision area shall contain no planting, sight obscuring fence, wall, structure, or temporary or permanent obstruction exceeding two and one-half (2½) feet in height, measured from the top of the curb, or where no curb exists, from the established street center line grade, except that trees exceeding this height may be located in this area, provided all branches and foliage are removed to the height of seven (7) feet above the ground on the sidewalk side and ten (10) feet on the street side.

The following requirements shall govern clear vision areas:

- 1. In all zones, the minimum distance shall be twenty (20) feet. There is well in excess of 20' clear vision from both existing driveways and no alternation is planned for the existing driveway width or locations.
- 2. In all zones, the minimum distance from corner curb to any driveway shall be twenty-five(25) feet. There are no corner curbs as there are no intersection at this location.
- 3. Where no setbacks are required, buildings may be constructed within the clear vision area.



(Ord. No. 2018-007, § 2, 10-2-2018; Ord. No. 2011-003, § 2, 4-5-2011)

16.58.020 - Fences, Walls and Hedges.

A. Purpose:

The fence standards promote the positive benefits of fences without negatively impacting the community or endangering public or vehicle safety. Fences can create a sense of privacy, protect children and pets, provide separation from busy streets, and enhance the appearance of the property by providing attractive landscape materials. The negative effect of fences can include the creation of street walls that inhibit police and community surveillance, decrease the sense of community, hinder the safe movement of pedestrians and vehicles, and create an unattractive appearance. These standards are intended to promote the positive aspects of fences and to limit the negative ones.

B. Applicability:

The following standards apply to walls, fences, hedges, lattice, mounds, and decorative toppers. These standards do not apply to sound walls and landscape features that are not hedges.

C. Fences, Walls, and Hedges in Residential Zones:

Table 16.58.020 Standards for fences, walls, and hedges in residential zones by location				
Fence Location		Maximum Fence Height	Hedge Location	Hedge Height
Front Yard Setback	Anywhere, up to the property line	Forty-two (42) inches	Anywhere, up to the property line	4 feet
Corner Lot Street-Side Side Yard Setback	At least 5 ft. back from the property line	6 feet	Anywhere, up to the property line	8 feet
	Anywhere, up to the property line	Forty-two (42) inches		
Side Yard Setback	Anywhere, up to the side yard property line	6 feet	Anywhere, up to the property line	8 feet
Rear Yard Setback	Anywhere, up to the rear yard property line	6 feet	Anywhere, up to the property line	8 feet
Public Access Ways/Alleys	At least 3 ft. back from the property line	6 feet	Anywhere, up to the property line	8 feet
	Anywhere, up to the property line	Forty-two (42) inches		

1. All fences shall be subject to the clear vision provisions of Section 16.58.010. **No fences are proposed for this location**
2. A sound wall is permitted when required as a part of a development review or concurrent with a road improvement project. A sound wall may not be taller than twenty (20) feet. **No sound walls are proposed for this location**
3. Toppers, lattice, decorative top fencing are counted toward the height of the fence. **N/A**
4. In cases where a sidewalk is located partially or entirely on private property, rather than entirely in the public right-of-way, a line drawn one (1) foot further back from the edge of the sidewalk

that is furthest from the right of way shall be treated as the property line for purposes of the above table.

5. In cases where no sidewalk exists immediately adjacent to a street, a line drawn twenty-six (26) feet from the centerline of the street shall be treated as the property line for purposes of the above table.

D. Location—Non-Residential Zone:

1. Fences up to eight (8) feet high are allowed along front, rear and side property lines, subject to Section 16.58.010. (Clear Vision Areas) and building department requirements.
2. A sound wall is permitted when required as a part of a development review or concurrent with a road improvement project. A sound wall may not be taller than twenty (20) feet.
3. Hedges up to twelve (12) feet tall are allowed.

E. General Conditions—All Fences:

1. Retaining, masonry, concrete, and modular retaining walls may not be constructed within the eight-foot public utility easement (PUE) located on the front and corner street side yards, without approval from the City Engineer.
2. Fences must be structurally sound and maintained in good repair. A fence may not be propped up in any way from the exterior side.
3. Chain link fencing is not allowed in any required residential front yard setback.
4. The finished side of the fence must face the street or the neighboring property. This does not preclude finished sides on both sides.
5. Buffering: If a proposed development is adjacent to a dissimilar use such as a commercial use adjacent to a residential use, or development adjacent to an existing farming operation, a buffer plan that includes, but is not limited to, setbacks, fencing, landscaping, and maintenance via a homeowner's association or managing company must be submitted and approved as part of the preliminary plat or site plan review process per Section 16.90.020 and Chapter 16.122.
6. In the event of a conflict between this Section and the clear vision standards of Section 16.58.010, the standards in Section 16.58.010 prevail.
7. The height of a fence or wall is measured from the actual adjoining level of finished grade measured six (6) inches from the fence. In the event the ground is sloped, the lowest grade within six (6) inches of the fence is used to measure the height.
8. Call before you dig (811) if placing a fence within the public utility easement (PUE) to have your utility lines located. This easement area is usually located eight (8) feet across the front yard and the side yard setback on a corner lot. Utility lines can be buried just beneath the surface.

(Ord. No. [2020-001](#), § 2, 1-21-2020; Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2011-003, § 2, 4-5-2011; Ord. No. 2011-001, §§ 1, 2, 2-15-2011; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 96-1014 § 1; 93-964; Ord. 86-851)

Editor's note— See editor's note, Ch. 16.58.

Chapter 16.72 - PROCEDURES FOR PROCESSING DEVELOPMENT PERMITS

16.72.010 - Generally

A. Classifications

Except for Final Development Plans for Planned Unit Developments, which are reviewed per Section 16.40.030, all quasi-judicial development permit applications and legislative land use actions shall be classified as one of the following:

1. Type I

The following quasi-judicial actions shall be subject to a Type I review process:

- a. Signs;
- b. Property line adjustments;
- c. Interpretation of similar uses;
- d. Temporary uses;
- e. Final subdivision and partition plats;
- f. Final site plan review;
- g. Time extensions of approval, per Sections 16.90.020; 16.124.010;
- h. Class A home occupation permits;
- i. Interpretive decisions by the city manager or his/her designee;
- j. Tree removal permit—Street trees over five inches DBH, per section 16.142.050.B.2 and 3;
- k. Adjustments;
- l. Re-platting, lot consolidations and vacations of plats;
- m. Minor modifications to approved site plans;
- n. Accessory dwelling units.

2. Type II

The following quasi-judicial actions shall be subject to a Type II review process:

- a. Land Partitions
- b. Expedited Land Divisions - The Planning Director shall make a decision based on the information presented, and shall issue a development permit if the applicant has complied with all of the relevant requirements of the Zoning and Community Development Code. Conditions may be imposed by the Planning Director if necessary to fulfill the requirements of the adopted Comprehensive Plan, Transportation System Plan or the Zoning and Community Development Code.
- c. "Fast-track" Site Plan review, defined as those site plan applications which propose less than 15,000 square feet of floor area, parking or seating capacity of public, institutional, commercial or industrial use permitted by the underlying zone, or up to a total of 20% increase in floor area, parking or seating capacity for a land use or structure subject to a Conditional Use Permit, except as follows: auditoriums, theaters, stadiums, and those applications subject to Section 16.72.010.A.4.

- d. "Design Upgraded" Site Plan review, defined as those site plan applications which propose between 15,001 and 40,000 square feet of floor area, parking or seating capacity and which propose a minimum of eighty percent (80%) of the total possible points of design criteria in the "Commercial Design Review Matrix" found in Section 16.90.020.D.6.d.
- e. Industrial "Design Upgraded" projects, defined as those site plan applications which propose between 15,001 and 60,000 square feet of floor area, parking or seating capacity and which meet all of the criteria in Section 16.90.020.D.7.b.
- f. Homeowner's association street tree removal and replacement program extension.
- g. Class B Variance
- h. Street Design Modification
- i. Subdivisions between 4—10 lots
- j. Medical marijuana dispensary permit

3. Type III

The following quasi-judicial actions shall be subject to a Type III review process:

- a. Conditional Uses
- b. Site Plan Review — between 15,001 and 40,000 square feet of floor area, parking or seating capacity except those within the Old Town Overlay District, per Section 16.72.010.A.
- c. Subdivisions between 11—50 lots.

4. Type IV

The following quasi-judicial actions shall be subject to a Type IV review process:

- a. Site Plan review and/or "Fast Track" Site Plan review of new or existing structures in the Old Town Overlay District.
- b. All quasi-judicial actions not otherwise assigned to a Hearing Authority under this section.
- c. Site Plans — Greater than 40,000 square feet of floor area, parking or seating capacity.
- d. Site Plans subject to Section 16.90.020.D.6.f.
- e. Industrial Site Plans subject to Section 16.90.020.D.7.b.
- f. Subdivisions — over 50 lots.
- g. Class A Variance

5. Type V

The following legislative actions shall be subject to a Type V review process:

- a. Plan Map Amendments
- b. Plan Text Amendments
- c. Planned Unit Development — Preliminary Development Plan and Overlay District.

B. Hearing and Appeal Authority

1. Each Type V legislative land use action shall be reviewed at a public hearing by the Planning Commission with a recommendation made to the City Council. The City Council shall conduct a public hearing and make the City's final decision.
2. Each quasi-judicial development permit application shall potentially be subject to two (2) levels of review, with the first review by a Hearing Authority and the second review, if an appeal is

filed, by an Appeal Authority. The decision of the Hearing Authority shall be the City's final decision, unless an appeal is properly filed within fourteen (14) days after the date on which the Hearing Authority took final action. In the event of an appeal, the decision of the Appeal Authority shall be the City's final decision.

3. The quasi-judicial Hearing and Appeal Authorities shall be as follows:
 - a. The Type I Hearing Authority is the Planning Director and the Appeal Authority is the Planning Commission.
 - (1) The Planning Director's decision shall be made without public notice or public hearing. Notice of the decision shall be provided to the applicant.
 - (2) The applicant may appeal the Planning Director's decision.
 - b. The Type II Hearing Authority is the Planning Director and the Appeal Authority is the Planning Commission.**
 - (1) The Planning Director's decision shall be made without a public hearing, but not until at least fourteen (14) days after a public notice has been mailed to the applicant and all property owners within 1,000 feet of the proposal. Any person may submit written comments to the Planning Director which address the relevant approval criteria of the Zoning and Development Code. Such comments must be received by the Planning Department within fourteen (14) days from the date of the notice.**
 - (2) Any person providing written comments may appeal the Planning Director's decision.**
 - c. The Type III Hearing Authority is the Hearings Officer and the Appeal Authority is the Planning Commission.
 - (1) The Hearings Officer shall hold a public hearing following public notice in accordance with Sections 16.72.020 through 16.72.080.
 - (2) Any person who testified before the Hearings Officer at the public hearing or submitted written comments prior to the close of the record may appeal the Hearings Officer's decision.
 - d. The Type IV Hearing Authority is the Planning Commission and the Appeal Authority is the City Council.
 - (1) The Planning Commission shall hold a public hearing following public notice in accordance with Sections 16.72.020 through 16.72.080.
 - (2) Any person who testified before the Planning Commission at the public hearing or submitted written comments prior to the close of the record may appeal the Planning Commission's decision.
 - e. The Type V Hearing Authority is the City Council, upon recommendation from the Planning Commission and the Appeal Authority is the Land Use Board of Appeals (LUBA).

C. Approval Criteria

1. The approval criteria for each development permit application shall be the approval standards and requirements for such applications as contained in this Code. Each decision made by a Hearing Authority or Appeal Authority shall list the approval criteria and indicate whether the criteria are met. It is the applicant's burden to demonstrate to the Hearing Authority and Appeal Authority how each of the approval criteria are met. An application may be approved with conditions of approval imposed by the Hearing Authority or Appeal Authority. On appeal, the Appeal Authority may affirm, reverse, amend, refer, or remand the decision of the Hearing Authority.

2. In addition to Section 1 above, all Type IV quasi-judicial applications shall also demonstrate compliance with the Conditional use criteria of Section 16.82.020.

(Ord. No. 2019-003, § 2, 3-5-2019; Ord. No. 2015-005, § 2, 5-5-2015; Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2011-011, § 1, 10-4-2011; Ord. No. 2011-003, § 2, 4-5-2011; Ord. No. 2011-001, §§ 1, 2, 2-15-2011; Ord. No. 2010-015, § 2, 10-5-2010; Ord. No. 2010-05, § 2, 4-6-2010; Ord. No. 2009-005, § 2, 6-2-2009; Ord. 2003-1148, § 3; 2001-1119; 99-1079; 98-1053)

16.72.020 - Public Notice and Hearing

A. Newspaper Notice

Notices of all public hearings for Type III, IV and V land use actions required by this Code shall be published in a newspaper of general circulation available within the City two (2) calendar weeks prior to the initial scheduled hearing before the Hearing Authority and shall be published one additional time in the Sherwood Archer, Sherwood Gazette or similarly local publication, no less than 5 days prior to the initial scheduled hearing before the hearing authority.

B. Posted Notice

- 1. Notices of all Type II, III, IV and V land use actions required by this Code shall be posted by the City in no fewer than five (5) conspicuous locations within the City, not less than fourteen (14) calendar days in advance of the staff decision on Type II applications or twenty (20) calendar days in advance of the initial hearing before the Hearing Authority for Type III, IV and V applications.**
- 2. Signage must be posted on the subject property fourteen (14) calendar days in advance of the staff decision on Type II applications and twenty (20) calendar days in advance of the initial hearing before the Hearing Authority for Type III, IV and V applications.**
 - a. on-site posted notice shall provide a general description of the land use action proposed, the project number and where additional information can be obtained.**
 - b. On-site posted notice shall be designed to be read by motorists passing by; the exact size and font style to be determined by the City.**
 - c. On-site posted notice shall be located on the property in a manner to be visible from the public street. For large sites or sites with multiple street frontages, more than one sign may be required.**

C. Mailed Notice

- 1. For Type II, III, IV and V actions specific to a property or group of properties, the City shall send written notice by regular mail to owners of record of all real property within one thousand (1,000) feet from the property subject to the land use action. Written notice shall also be sent to Oregon Department of Transportation (ODOT), Metro, the applicable transit service provider and other affected or potentially affected agencies. If the subject property is located adjacent to or split by a railroad crossing ODOT Rail Division shall also be sent public notice.**
- 2. Written notice to property owners shall be mailed at least fourteen (14) calendar days prior to a decision being made on a Type II land use action and at least twenty (20) calendar days in advance of the initial public hearing before the Hearing Authority. If two (2) or more hearings are required on a land use action, notices shall be mailed at least ten (10) calendar days in advance of the initial hearing before the Commission or Council.**
- 3. For the purposes of mailing the written notice, the names and addresses of the property owners of record, as shown on the most recent County Assessor's records in the**

possession of the City, shall be used. Written notice shall also be mailed to homeowners associations when the homeowners association owns common property within the notification area and is listed in the County Assessor's records.

4. For written notices required by this Code, other than written notices to property owners of record, the City shall rely on the address provided by the persons so notified. The City shall not be responsible for verifying addresses so provided.

5. If a zone change application proposes to change the zone of property which includes all or part of a manufactured home park, the City shall give written notice by first class mail to each existing mailing address for tenants of the manufactured home park at least twenty (20) days but not more than forty (40) days before the date of the first hearing on the application. Such notice costs are the responsibility of the applicant.

D. Failure to Receive Notice

1. The failure of a property owner or other party to an application to receive notice of a public hearing as provided in Code of this Chapter or to receive notice of continuances and appeals as provided by this Code due to circumstances beyond the control of the City, including but not limited to recent changes in ownership not reflected in County Assessors records, loss of the notice by the postal service, or an inaccurate address provided by the County Assessor or the party to the application, shall not invalidate the applicable public hearing or land use action. The City shall prepare and maintain affidavits demonstrating that public notices were mailed, published, and posted pursuant to this Code.

2. Persons who should have received notice of a proposed land use action but can prove, to the City's satisfaction that notice was not received due to circumstances beyond their control, may be permitted, at the City's discretion, to exercise the right to appeal the action as per Chapter 16.76. All appeals filed under such conditions shall cite the circumstances resulting in the non-receipt of the notice.

(Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 2003-1148, § 3; 99-1079; 98-1053; 91-922, § 3; Ord. 86-851)

16.72.030 - Content of Notice

Public notices shall include the following information:

A. The nature of the application and proposed use(s).

B. A list of the applicable Code or Comprehensive Plan criteria to be applied to the review of the proposed land use action.

C. The location and street address of the property subject to the land use action (if any).

D. The date, time, place, location of the public hearing.

E. The name and telephone number of a local government representative to contact for additional information.

F. The availability of all application materials for inspection at no cost, or copies at reasonable cost.

G. The availability of the City planning staff report for inspection at no cost, or copies at a reasonable cost, at least seven (7) calendar days in advance of the hearing.

H. The requirements for the submission of testimony and the procedures for conducting hearings, including notice that failure to raise an issue accompanied by statements or evidence sufficient to offer the City, applicant or other parties to the application the opportunity to respond, will preclude appeal on said issue to the Council or to the State Land Use Board of Appeals (LUBA).

(Ord. No. 2010-015, § 2, 10-5-2010; Ord. 98-1053 § 1; 91-922)

16.72.040 - Planning Staff Reports

Recommended findings of fact and conditions of approval for each land use action shall be made in writing in a City planning staff report. Said staff report shall be published seven (7) calendar days in advance of the initial required public hearing before the Hearing Authority. Copies shall be provided to the applicant and the Hearing Authority no later than seven (7) calendar days in advance of the scheduled public hearing. Staff reports shall be available to the public for inspection at no cost. Copies of the staff report shall be provided to the public, upon request, at a cost defined by the City's schedule of miscellaneous fees and charges.

(Ord. 91-922, § 3)

16.72.050 - Conduct of Public Hearings

A. Hearing Disclosure Statements

The following information or statements shall be verbally provided by the Hearing Authority at the beginning of any public hearing on a land use action:

1. The findings of fact and criteria specified by the Code that must be satisfied for approval of the land use action being considered by the Hearing Authority.
2. That public testimony should be limited to addressing said findings of fact and criteria, or to other City or State land use standards which the persons testifying believe apply to the proposed land use action.
3. That failure to raise an issue, or failure to raise an issue with sufficient specificity so as to provide the City, applicant, or other parties to the application with a reasonable opportunity to respond, will preclude appeal on said issue to the Council or to the State Land Use Board of Appeals (LUBA).
4. The rights of persons to request, as per this Code, that a hearing be continued or that the hearing record remain open.
5. That all persons testifying shall be deemed parties to the application, and must provide their name and full mailing address if they wish to be notified of continuances, appeals, or other procedural actions as required by this Code.

B. Persons Testifying

Any person, whether the applicant, a person notified of the public hearing as per Section 16.72.020, the general public, or the authorized representative of any of the foregoing persons, may testify at a public hearing on a land use action. Testimony may be made verbally or in writing. The applicant, the applicant's representative, or any person so testifying, or that person's authorized representative, shall be deemed a party to the application, and shall be afforded all rights of appeal allowed by this Code and the laws of the State of Oregon.

C. Hearing Record

1. Prior to the conclusion of the initial evidentiary hearing, any participant may request an opportunity to present additional evidence or testimony regarding the application. The local Hearing Authority shall grant such request by continuing the public hearing pursuant to paragraph 2 of this section or leaving the record open for additional written evidence or testimony pursuant to paragraph 3 of this section.
2. If the hearing authority grants a continuance, the hearing shall be continued to a date, time and place certain at least seven (7) days from the date of the initial evidentiary hearing. An opportunity shall be provided at the continued hearing for persons to present and rebut new

evidence and testimony. If new written evidence is submitted at the continued hearing, any person may request, prior to the conclusion of the continued hearing, that the record be left open for at least seven (7) days to submit additional written evidence or testimony for the purpose of responding to the new written evidence.

3. If the Hearing Authority leaves the record open for additional written evidence or testimony, the record shall be left open for at least seven (7) days. Any participant may file a written request with the local government for an opportunity to respond to new evidence submitted during the period the record was left open. If such a request is filed, the Hearing Authority shall reopen the record pursuant to subsection 6 of this Section.
4. A continuance or extension granted pursuant to this section shall be subject to the limitations of ORS 215.427 or 227.178, unless the continuance or extension is requested or agreed to by the applicant.
5. Unless waived by the applicant, the local government shall allow the applicant at least seven (7) days after the record is closed to all other parties to submit final written arguments in support of the application. The applicant's final submittal shall be considered part of the record, but shall not include any new evidence.
6. When a Hearing Authority reopens a record to admit new evidence or testimony, any person may raise new issues which relate to the new evidence, testimony or criteria for decision-making which apply to the matter at issue.

D. Ex-parte Contacts

Ex-parte contacts with a member of the Hearing Authority shall not invalidate a final decision or action of the Hearing Authority, provided that the member receiving the contact indicates the substance of the content of the ex parte communication and of the right of parties to rebut said content at the first hearing where action will be considered or taken.

(Ord. No. 2010-015, § 2, 10-5-2010; Ord. 99-1079, § 3; 91-922, § 3)

16.72.060 - Notice of Decision

Within seven (7) calendar days of a land use action by the Hearing Authority, the City shall notify the applicant in writing of said action. This notice of decision shall list the terms and conditions of approval or denial, and explain the applicant's rights of appeal.

(Ord. 91-922, § 3)

16.72.070 - Registry of Decisions

The City shall maintain a registry of all land use actions taken in the preceding twelve (12) months. This registry shall be kept on file in the City Recorder's office and shall be made available to the public for inspection at no cost. Copies of the registry shall be provided to the public, upon request, at a cost defined by the City's fee schedule.

(Ord. No. 2010-015, § 2, 10-5-2010; Ord. 91-922, § 3)

16.72.080 - Final Action on Permit or Zone Change

Except for plan and land use regulation amendments or adoption of new regulations that must be submitted to the Director of the State Department of Land Conservation and Development under ORS 197.610(1), final action on a permit, appeal, or zone change application shall be taken within one hundred and twenty (120) days of the application submittal. The one hundred and twenty (120) days may be

extended for a reasonable period of time at the request of the applicant. An applicant whose application does not receive final consideration within one hundred and twenty (120) days after the application was accepted by the City may seek a writ of mandamus to compel issuance of the permit or zone change or a determination that approval would violate the City's Comprehensive Plan or land use regulations.

(Ord. 91-922, § 3)

Chapter 16.84 - VARIANCES^[29]

Editor's note— Ord. No. 2011-003, § 2, adopted April 5, 2011, amended the Code by repealing former Ch. 16.84, §§ 16.84.010 and 16.84.020, and adding a new Ch. 16.84. Former Ch. 16.84 pertained to similar subject matter, and derived from Ords. 86-851, 91-922, 92-943, and 2003-1148; and Ord. No. 2010-015, adopted October 5, 2010.

16.84.010 - Purpose

This Chapter provides standards and procedures for variances, which are modifications to land use or development standards that are not otherwise permitted elsewhere in this Code as exceptions to Code standards. This Chapter provides flexibility, while maintaining the purposes and intent of the Code. No variances shall be granted to allow the use of property for a purpose not authorized within the zone in which the proposed use is located. In granting a variance, conditions may be imposed when necessary to protect the best interests of surrounding properties and neighborhoods, and otherwise achieve the purposes of the adopted Comprehensive Plan, the Transportation System Plan, and other Code provisions.

(Ord. No. 2011-003, § 2, 4-5-2011)

16.84.020 - Applicability

A. Exceptions and Modifications versus Variances

A code standard or approval criterion may be modified without approval of a variance if the applicable code section expressly allows exceptions or modifications. If the code provision does not expressly provide for exceptions or modifications then a variance is required to modify that code section and the provisions of Chapter 16.84 apply.

B. Combining Variances with Other Approvals; Permit Approvals by Other Agencies.

Variance requests may be combined with and reviewed concurrently by the City approval body with other land use and development applications (e.g., development review, site plan review, subdivision, conditional use, etc.); however, some variances may be subject to approval by other permitting agencies, such as ODOT in the case of State Highway access.

We will need a Variance for the visual setback corridors both on the 10' visual setback frontage Borchers Drive and for the 25' visual setback along Pacific Hwy 99.

We will also need a Variance to change the drainage disposal system from a pond to a filtered catch basin and we are requesting to pay a fee-in-lieu of for the required detention as there will not be adequate room to provide storage.

The 10' setback on Borchers Drive is for the existing condition, which we are not planning to change, but the existing setback for a portion of the frontage along Borchers 5.5' the rest of the frontage is the required 10' setback.

The 25' visual setback corridor variance along Pacific Hwy 99 was approved, in 2007 with the original project, for a portion of the frontage for a modification to 17'. With the redesign of

this project we have reduced the modification to allow for a visual setback of 21.9' minimum, so we have increased this visual setback greatly. Since the Variance was approved for the original project, we hope that it can be re-approved since we are making it better.

- C. Adjustments and variances cannot be applied to change any existing Planned Unit Development (PUD). **N/A**

(Ord. No. 2011-003, § 2, 4-5-2011)

16.84.030 - Types of Variances

As provided in this Section, there are three types of variances: Adjustments, Class A variance and Class B variance; the type of variance required depends on the extent of the variance request and the discretion involved in the decision making process.

A. Adjustments

1. Applicability: The following variances are reviewed using a Type I procedure, as governed by Chapter 16.72, using the approval criteria in Subsection 2, below:
 - a. Front yard setbacks Up to a 10 percent change to the front yard setback standard in the land use district.
 - b. Interior setbacks Up to a 10 percent reduction of the dimensional standards for the side and rear yard setbacks required in the base land use district so long as the three foot setback is maintained based on Building Code requirements where applicable.
 - c. Landscape area Up to a 10% reduction in landscape area (overall area or interior parking lot landscape area).
 - d. A 5% increase or decrease in other Code standards or dimensions not otherwise specifically identified in this section and not applicable at the time of the subdivision or partition approval.
2. Approval Criteria: Adjustments shall be granted if the applicant demonstrates compliance with all of the following criteria:
 - a. The adjustment requested is required due to the lot configuration, or other conditions of the site;
 - b. The adjustment does not result in the removal of trees, or it is proposed in order to preserve trees, if trees are present in the development area;
 - c. The adjustment will not result in violation(s) of any other adopted ordinance or code standard; each code standard to be modified shall require a separate adjustment request.
 - d. An application for an adjustment is limited to one lot or parcel per application.
 - e. No more than three adjustments may be approved for one lot or parcel in 12 months.

B. Class B Variances

1. Generally
 - a. The Class B variance standards apply to individual platted and recorded lots only.
 - b. A variance shall not be approved that would vary the "permitted uses" or "prohibited uses" of a land use zoning district.
 - c. Front yard setbacks: Up to a 20 percent change to the front yard setback standard in the land use district.

- d. Interior setbacks: Up to a 20 percent reduction of the dimensional standards for the side and rear yard setbacks required in the base land use district so long as the three foot setback is maintained if required by the Building Code requirements.
 - e. A 20% or less increase or decrease in other Code standards or dimensions not otherwise specifically identified in this section.
2. Approval Process: Class B variances shall be reviewed using a Type II procedure. In addition to the application requirements contained in Chapter 16.72.010, the applicant shall provide a written narrative describing the reason for the variance, why it is required, alternatives considered, and compliance with the criteria in subsection 3.
 3. Approval Criteria: The City shall approve, approve with conditions, or deny an application for a Class B Variance based on the following criteria:
 - a. The variance requested is required due to the lot configuration, or other conditions of the site;
 - b. The variance does not result in the removal of trees, or it is proposed in order to preserve trees, if trees are present in the development area;
 - c. The variance will not result in violation(s) of any other adopted ordinance or code standard; each code standard to be modified shall require a separate variance request.
 - d. An application for a Class B variance is limited to three or fewer lots per application.
 - e. The variance will have minimal impact to the adjacent properties.
 - f. The variance is the minimum needed to achieve the desired result and the applicant has considered alternatives.
- C. Class A Variances
1. Generally
 - a. The Class A variance procedure may be used to modify a standard for three (3) or fewer lots, including lots yet to be created through a partition process.
 - b. An applicant who proposes to vary a standard for lots yet to be created through a subdivision process may not utilize the Class A variance procedure. Approval of a Planned Unit Development shall be required to vary a standard for lots yet to be created through a subdivision process, where a specific code section does not otherwise permit exceptions.
 - c. A Class A Variance shall not be approved that would vary the "permitted, conditional or prohibited uses" of a land use district.
 2. Approval Process:
 - a. Class A Variances shall be processed using a Type IV procedure, as governed by Chapter 16.84, using the approval criteria in subsection 3, below.
 - b. In addition to the application requirements contained in Chapter 16.72.010, the applicant shall provide a written narrative describing the reason for the variance, why it is required, alternatives considered, and compliance with the criteria in subsection 3.
 3. Approval Criteria: The City shall approve, approve with conditions, or deny an application for a Class A Variance based on the following criteria:
 - a. The proposed variance will not be materially detrimental to the purposes of this Code, to any other applicable policies and standards, and to other properties in the same land use district or vicinity;
 - b. A hardship to development exists which is peculiar to the lot size or shape, topography, or other similar circumstances related to the property over which the applicant has no control,

and which are not applicable to other properties in the vicinity (e.g., the same land use district);

- c. The use proposed will be the same as permitted under this title and City standards will be maintained to the greatest extent that is reasonably possible while permitting reasonable economic use of the land;
- d. Existing physical and natural systems, such as but not limited to traffic, drainage, natural resources, and parks will not be adversely affected any more than would occur if the development occurred as specified by the subject Code standard;
- e. The hardship is not self-imposed; and
- f. The variance requested is the minimum variance that would alleviate the hardship.

(Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2011-003, § 2, 4-5-2011)

Chapter 16.90 - SITE PLANNING*

16.90.010 - Purpose

Site planning review is intended to:

- A. Encourage development that is compatible with the existing natural and manmade environment, existing community activity patterns, and community identity.
- B. Minimize or eliminate adverse visual, aesthetic or environmental effects caused by the design and location of new development, including but not limited to effects from:
 1. The scale, mass, height, areas, appearance and architectural design of buildings and other development structures and features.
 2. Vehicular and pedestrian ways and parking areas.
 3. Existing or proposed alteration of natural topographic features, vegetation and water-ways.

(Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 86-851, § 3)

16.90.020 - Site Plan Review

A. Site Plan Review Required

Site Plan review is required prior to any substantial change to a site or use that does not meet the criteria of a minor or major modification, issuance of building permits for a new building or structure, or for the substantial alteration of an existing structure or use.

For the purposes of Section 16.90.020, the terms "substantial change" and "substantial alteration" mean any development activity as defined by this Code that generally requires a building permit and may exhibit one or more of the following characteristics:

1. The activity alters the exterior appearance of a structure, building or property and is not considered a modification. **The drive isles and parking locations are being modified**
2. The activity involves changes in the use of a structure, building, or property from residential to commercial or industrial and is not considered a modification. **N/A**
3. The activity involves non-conforming uses as defined in Chapter 16.48. **N/A**
4. The activity constitutes a change in a City approved plan, per Section 16.90.020 and is not considered a modification. **N/A**
5. The activity is subject to site plan review by other requirements of this Code.

6. The activity increases the size of the building by more than 100% (i.e. the building more than doubles in size), regardless of whether it would be considered a major or minor modification.
N/A

B. Exemption to Site Plan Requirement

1. Single and two family uses
2. Manufactured homes located on individual residential lots per Section 16.46.010, but including manufactured home parks.

C. Reserved

D. Required Findings

No site plan approval will be granted unless each of the following is found:

1. The proposed development meets applicable zoning district standards and design standards in Division II, and all provisions of Divisions V, VI, VIII and IX.
2. The proposed development can be adequately served by services conforming to the Community Development Plan, including but not limited to water, sanitary facilities, storm water, solid waste, parks and open space, public safety, electric power, and communications.
3. Covenants, agreements, and other specific documents are adequate, in the City's determination, to assure an acceptable method of ownership, management, and maintenance of structures, landscaping, and other on-site features.
4. The proposed development preserves significant natural features to the maximum extent feasible, including but not limited to natural drainage ways, wetlands, trees, vegetation (including but not limited to environmentally sensitive lands), scenic views, and topographical features, and conforms to the applicable provisions of Division VIII of this Code and Chapter 5 of the Community Development Code.
5. For developments that are likely to generate more than 400 average daily trips (ADTs), or at the discretion of the City Engineer, the applicant must provide adequate information, such as a traffic impact analysis (TIA) or traffic counts, to demonstrate the level of impact to the surrounding transportation system. The developer is required to mitigate for impacts attributable to the project, pursuant to TIA requirements in Section 16.106.080 and rough proportionality requirements in Section 16.106.090. The determination of impact or effect and the scope of the impact study must be coordinated with the provider of the affected transportation facility.
6. The proposed commercial, multi-family, institutional or mixed-use development is oriented to the pedestrian and bicycle, and to existing and planned transit facilities. Urban design standards include the following:
 - a. Primary, front entrances are located and oriented to the street, and have significant articulation and treatment, via facades, porticos, arcades, porches, portal, forecourt, or stoop to identify the entrance for pedestrians. Additional entrance/exit points for buildings, such as a postern, are allowed from secondary streets or parking areas.
 - b. Buildings are located adjacent to and flush to the street, subject to landscape corridor and setback standards of the underlying zone.
 - c. The architecture of buildings are oriented to the pedestrian and designed for the long term and be adaptable to other uses. Aluminum, vinyl, and T-111 siding are prohibited. Street facing elevations have windows, transparent fenestration, and divisions to break up the mass of any window. Roll up and sliding doors are acceptable. Awnings that provide a minimum 3 feet of shelter from rain are required unless other architectural elements are provided for similar protection, such as an arcade.
 - d. As an alternative to the standards in Section 16.90.020.D.6.a—c, the following Commercial Design Review Matrix may be applied to any commercial, multi-family, institutional or mixed use development (this matrix may not be utilized for developments within the Old

Town Overlay). A development must propose a minimum of 60 percent of the total possible points to be eligible for exemption from the standards in Section 16.90.020.D.6.a—c. In addition, a development proposing between 15,001 and 40,000 square feet of floor area, parking or seating capacity and proposing a minimum of 80 percent of the total possible points from the matrix below may be reviewed as a Type II administrative review, per the standards of Section 16.72.010.A.2.

COMMERCIAL DESIGN REVIEW MATRIX

Design Criteria	Possible Points				
	0	1	2	3	4
<p>Building Design (21 Total Points Possible; Minimum 12 Points Required)</p> <p>These standards may be applied to individual buildings or developments with multiple buildings.</p>					
Materials ¹ □	Concrete, artificial materials (artificial or "spray" stucco, etc.)	Cultured stone, brick, stone, decorative patterned masonry, wood	A mixture of at least two (2) materials (i.e. to break up vertical facade)	A mixture of at least three (3) materials (i.e. to break up vertical facade)	A mixture of at least three (3) of the following materials: brick, stone, cultured stone, decorative patterned masonry, wood
Roof Form ² □	Flat (no cornice) or single-pitch (no variation)	Distinctive from existing adjacent structures (not applicable to expansion of same building) or either variation in pitch or flat roof with cornice treatment	Distinctive from existing adjacent structures (not applicable to expansion of same building) and either variation in pitch or flat roof with cornice treatment	—	—
Glazing ³ □	0—20% glazing on street-facing side(s)	>20% glazing on at least one street-facing side (inactive, display or façade windows)	>20% glazing on all street-facing sides (inactive, display or façade windows)	>20% glazing on at least one street-facing side (active glazing—actual windows)	>20% glazing on all street-facing sides (active glazing—actual windows)
Fenestration on street-facing elevation(s)	One distinct "bay" with no vertical building elements	Multiple "bays" with one or more "bay" exceeding 30 feet in width	Vertical building elements with no "bay" exceeding 30 feet in width	Vertical building elements with no "bay" exceeding 20 feet in width	—
Entrance Articulation	No weather protection provided	Weather protection provided via awning, porch, etc.	—	Weather protection provided via awning, porch, etc. and pedestrian amenities such as benches, tables and	Weather protection provided via awning, porch, etc. and pedestrian amenities such as

				chairs, etc. provided near the entrance but not covered	benches, tables and chairs, etc. provided near the entrance and covered
Structure Size ⁴ to discourage "big box" style development	Greater than 80,000 square feet	60,000—79,999 square feet	40,000—59,999 square feet	20,000—39,999 square feet	Less than 20,000 square feet
Building Location and Orientation (6 Total Points Possible; Minimum 3 Points Required)					
Location ⁵	Building(s) not flush to any right-of-way (including required PUE adjacent to ROW, setbacks or visual corridor) (i.e. parking or drive aisle intervening)	Building(s) located flush to right-of-way on at least one side (with the exception of required setbacks, easements or visual corridors)	Buildings flush to all possible right-of-way (with the exception of required setbacks, easements or visual corridors) (i.e. "built to the corner")	—	—
Orientation	Single-building site primary entrance oriented to parking lot	—	Single-building site primary entrance oriented to the pedestrian (i.e. entrance is adjacent to public sidewalk or adjacent to plaza area connected to public sidewalk and does not cross a parking area)	—	—
	Multiple building site primary entrance to anchor tenant or primary entrance to development oriented to parking lot	—	Multiple building site primary entrance to anchor tenant or primary entrance to development oriented to the pedestrian	—	—
Secondary Public Entrance ⁶			Secondary public pedestrian entrance provided adjacent to public sidewalk or adjacent to plaza area connected to public sidewalk		

Parking and Loading Areas (13 Total Points Possible; Minimum 7 Points Required)					
Location of Parking	Greater than 50 percent of required parking is located between any building and a public street	25—50 percent of required parking is located between any building and a public street	Less than 25 percent of required parking is located between any building and a public street	<i>No parking is located between any building and a public street</i>	—
Loading Areas	Visible from public street and not screened	Visible from public street and screened	Not visible from public street	—	—
Vegetation	At least one "landscaped" island every 13—15 parking spaces in a row	At least one "landscaped" island every 10—12 parking spaces in a row	At least one "landscaped" island every 8—9 parking spaces in a row	At least one "landscaped" island every 6—7 parking spaces in a row	—
Number of Parking Spaces ⁷ ¶	>120%	101—120%	100%	<100% (i.e. joint use or multiple reduction) (1 bonus)	—
Parking Surface	<i>Impervious</i>	Some pervious paving (10—25%)	Partially pervious paving (26—50%)	Mostly pervious paving (>50%)	—
Landscaping (24 Total Point Possible, Minimum 14 Points Required)					
Tree Retention ⁸ ¶	Less than 50% of existing trees on-site retained	51—60% of existing trees on-site retained	61—70% of existing trees on-site retained	71—80% of existing trees on-site retained	<i>81—100% of existing trees on-site retained</i>
Mitigation Trees ⁹ ¶	Trees mitigated off-site or fee-in-lieu	25—50% of trees mitigated on-site	51—75% of trees mitigated on-site	76—100% of trees mitigated on-site	—
Landscaping Trees ¹⁰ ¶	Less than one tree for every 500 square feet of landscaping	1 tree for every 500 square feet of landscaping	2 trees for every 500 square feet of landscaping	3 trees for every 500 square feet of landscaping	<i>4 trees for every 500 square feet of landscaping</i>
Landscaped Areas	Greater than 35% of landscaped areas are less than 100 square feet in size	Less than 25% of landscaped areas are less than 100 square feet in size	No landscaped areas are less than 100 square feet in size	—	—
Landscaping Trees greater than 3-inch Caliper	<25%	25—50%	<i>>50%</i>	—	—

Amount of Grass ^{11,12} □	>75% of landscaped areas	50—75% of landscaped areas	25—49% of landscaped areas	<i><25% of landscaped areas</i>	—
Total Amount of Site Landscaping ¹³ □	<10% of gross site	10—15% of gross site	16—20% of gross site	21—25% of gross site	>25% of gross site
Automatic Irrigation	No	Partial	<i>Yes</i>	—	—
Miscellaneous (10 Total Points Possible; Minimum 5 Points Required)					
Equipment Screening (roof)	Equipment not screened	Equipment partially screened	Equipment fully screened	Equipment fully screened by materials matching building architecture/finish	—
Fences and Walls ¹⁴ □	Standard fencing and wall materials (i.e. wood fences, CMU walls etc.)	—	Fencing and wall materials match building materials	—	—
On-Site Pedestrian Amenities Not Adjacent to Building Entrances	No	Yes; 1 per building	Yes; more than 1 per building	—	—
Open Space Provided for Public Use	No	Yes; <500 square feet	Yes; 500—1,000 square feet	Yes; >1,000 square feet	—
Green Building Certification				LEED, Earth Advantage, etc. (Bonus)	

- e. As an alternative to the standards in Sections 16.90.020.D.6.a—c, the Old Town Design Standards (Chapter 16.162) may be applied to achieve this performance measure.
 - f. As an alternative to the standards in Sections 16.90.020.D.6.a.—e, an applicant may opt to have a design review hearing before the Planning Commission to demonstrate how the proposed development meets or exceeds the objectives in Section 16.90.010.B of this Code. This design review hearing will be processed as a Type IV review with public notice and a public hearing.
7. Industrial developments provide employment opportunities for citizens of Sherwood and the region as a whole. The proposed industrial development is designed to enhance areas visible from arterial and collector streets by reducing the "bulk" appearance of large buildings. Industrial design standards include the following:

- a. Portions of the proposed industrial development within 200 feet of an arterial or collector street and visible to the arterial or collector (i.e. not behind another building) must meet any four of the following six design criteria:
 - (1) A minimum 15% window glazing for all frontages facing an arterial or collector.
 - (2) A minimum of two (2) building materials used to break up vertical facade street facing frontages (no T-111 or aluminum siding).
 - (3) Maximum thirty-five (35) foot setback for all parts of the building from the property line separating the site from all arterial or collector streets (required visual corridor falls within this maximum setback area).
 - (4) Parking is located to the side or rear of the building when viewed from the arterial or collector.
 - (5) Loading areas are located to the side or rear of the building when viewed from the arterial or collector. If a loading area is visible from an arterial or collector, it must be screened with vegetation or a screen made of materials matching the building materials.
 - (6) All roof-mounted equipment is screened with materials complimentary to the building design materials.
- b. As an alternative to Section 16.90.020.D.7.a, an applicant may opt to have a design review hearing before the Planning Commission to demonstrate how the proposed development meets or exceeds the applicable industrial design objectives below (this design review hearing will be processed as a Type IV review):
 - (1) Provide high-value industrial projects that result in benefits to the community, consumers and developers.
 - (2) Provide diversified and innovative working environments that take into consideration community needs and activity patterns.
 - (3) Support the City's goals of economic development.
 - (4) Complement and enhance projects previously developed under the industrial design standards identified in Section 16.90.020.D.7.
 - (5) Enhance the appearance of industrial developments visible from arterials and collectors, particularly those considered "entrances" to Sherwood, including but not limited to: Highway 99W, Tualatin-Sherwood Road and Oregon Street.
 - (6) Reduce the "bulk" appearance of large industrial buildings as viewed from the public street by applying exterior features such as architectural articulation, windows and landscaping.
 - (7) Protect natural resources and encourage integration of natural resources into site design (including access to natural resources and open space amenities by the employees of the site and the community as a whole).
8. Driveways that are more than twenty-four (24) feet in width shall align with existing streets or planned streets as shown in the Local Street Connectivity Map in the adopted Transportation System Plan (Figure 17), except where prevented by topography, rail lines, freeways, pre-existing development, or leases, easements, or covenants.

E. Approvals

The application is reviewed pursuant to Chapter 16.72 and action taken to approve, approve with conditions, or deny the application for site plan review. Conditions may be imposed by the Review Authority if necessary to fulfill the requirements of the adopted Comprehensive Plan, Transportation System Plan or the Zoning and Community Development Code. The action must include appropriate

findings of fact as required by Section 16.90.020. The action may be appealed to the Council in accordance with Chapter 16.76.

F. Time Limits

Site plan approvals are void after two (2) years unless construction on the site has begun, as determined by the City. The City may extend site plan approvals for an additional period not to exceed one (1) year, upon written request from the applicant showing adequate cause for such extension, and payment of an extension application fee as per Section 16.74.010. A site plan approval granted on or after January 1, 2007 through December 31, 2009, is extended until December 31, 2013.

(Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2012-003, § 2, 5-1-2012; Ord. No. 2011-011, § 1, 10-4-2011)

Editor's note— Ord. No. 2011-011, § 1, adopted October 4, 2011, amended the Code by, in effect, repealing former § 16.90.020, and adding new §§ 16.90.020 and 16.90.030. Former § 16.90.020 pertained to site plan review, and derived from Ord. 86-851; Ord. 91-922; Ord. 98-1053; Ord. 2003-1148; Ord. 2005-009; Ord. 2006-021; Ord. No. 2009-005, adopted June 2, 2009; Ord. No. 2010-05, adopted April 6, 2010; Ord. No. 2010-06, adopted April 6, 2010; and Ord. No. 2010-015, adopted October 5, 2010.

Footnotes:

--- () ---

No aluminum or T-111 siding permitted.

--- () ---

Pictures and/or artistic renderings must be submitted for review by the Planning Commission if metal roofs are proposed.

--- () ---

Two (2) points if there is only one street-facing side and it is >20% glazing with inactive windows.

--- () ---

If multiple buildings are proposed, average the building sizes in the development.

--- () ---

If multiple buildings are proposed in one development, one point is awarded if one or more buildings are located adjacent to one or more rights-of-way and two points are awarded if there is at least one building adjacent to each right-of-way.

--- () ---

If primary entrance is oriented to the pedestrian, the project is automatically given these points without need for a second entrance.

--- () ---

Percent of minimum required.

--- () ---

Based on tree inventory submitted with development application.

--- () ---

When no mitigation is required, the project receives zero points.

--- () ---

In addition to mitigated trees on-site, does not include Water Quality Facility Plantings.

--- () ---

Shrubs and drought resistant ground cover are better.

Schools automatically receive the full 3 points and are not penalized for amount of grass.

--- () ---

Includes visual corridor.

--- () ---

Including retaining walls.

16.90.030 - Site Plan Modifications and Revocation

A. Modifications to Approved Site Plans

1. Major Modifications to Approved Site Plans

a. Defined. A major modification review is required if one or more of the changes listed below are proposed:

- (1) A change in land use (i.e. residential to commercial, commercial to industrial, etc.); N/A
- (2) An increase in density by more than ten (10) percent, provided the resulting density does not exceed that allowed by the land use district; N/A
- (3) A change in setbacks or lot coverage by more than ten (10) percent, provided the resulting setback or lot coverage does not exceed that allowed by the land use district; N/A

- (4) A change in the type and/or location of access-ways, drives or parking areas negatively affecting off-site traffic or increasing Average Daily Trips (ADT) by more than 100; *The change from one isle to two isles will have a positive affect, by increasing the storage lines and preventing waiting cars from backing up and onto Borchers Drive. Or at the least greatly reduce the possibility of this backup.*
 - (5) An increase in the floor area or height proposed for non-residential use by more than ten (10) percent; *N/A*
 - (6) A reduction of more than ten (10) percent of the area reserved for common open space; or *N/A*
 - (7) Change to a condition of approval that was specifically applied to this approval (i.e. not a "standard condition"), or a change similar to items identified in Section 16.90.030.A.1.a.(1)—(2) as determined by the Review Authority. *Visual corridor setbacks that were approved will be slightly changing, along with the original parking locations. Also, changes to the existing drainage will need to be addressed.*
- b. Approval Criteria. An applicant may request a major modification as follows:
- (1) *Upon the review authority determining that the proposed modification is a major modification, the applicant must submit an application form, filing fee and narrative, and a site plan using the same plan format as in the original approval. The review authority may require other relevant information, as necessary, to evaluate the request.*
 - (2) The application is subject to the same review procedure (Type II, III or IV), decision making body, and approval criteria used for the initial project approval, except that adding a Conditional Use to an approved Type II project is reviewed using a Type III procedure.
 - (3) The scope of review is limited to the modification request and does not open the entire site up for additional review unless impacted by the proposed modification. For example, a request to modify a parking lot requires site design review only for the proposed parking lot and any changes to associated access, circulation, pathways, lighting, trees, and landscaping.
 - (4) Notice must be provided in accordance with Chapter 16.72.020.
 - (5) The decision maker approves, denies, or approves with conditions an application for major modification based on written findings of the criteria.
2. Minor Modifications to Approved Site Plans
- a. A Minor Modification is any modification to a land use decision or approved development plan that is not within the description of a major modification.
 - b. Minor Modification Review Procedure. An application for approval of a minor modification is reviewed by the review authority using a Type I review procedure under Section 16.72.010.A. Minor modifications involve only clear and objective Code standards.
 - c. Minor Modification Applications. An application for minor modification must include an application form, filing fee and narrative, updated Clean Water Services (CWS) Service Provider Letter or equivalent acknowledgement from CWS, and a site plan using the same plan format as in the original approval if possible. The review authority may require other relevant information, as necessary, to evaluate the request.
 - d. Minor Modification Approval Criteria. The review authority approves, denies, or approves with conditions an application for minor modification based on written findings that the modification is in compliance with all applicable requirements of the Development Code

and conditions of approval on the original decision, and the modification is not a major modification.

B. Revocation

Any departure from an approved plan is cause for revocation of applicable building and occupancy permits. Furthermore if, in the City's determination, a condition or conditions of site plan approval are not or cannot be satisfied, the site plan approval, or building and occupancy permits, will be revoked.

(Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2014-012, § 3, 7-17-2014; Ord. No. 2011-011, § 1, 10-4-2011)

Chapter 16.92 - LANDSCAPING

16.92.010 - Landscaping Plan Required

All proposed developments for which a site plan is required pursuant to Section 16.90.020 shall submit a landscaping plan that meets the standards of this Chapter. All areas not occupied by structures, paved roadways, walkways, or patios shall be landscaped or maintained according to an approved site plan.

(Ord. No. 2012-008, § 2, 7-17-2012; Ord. 2006-021; Ord. 86-851, § 3)

16.92.020 - Landscaping Materials

A. Type of Landscaping

Required landscaped areas shall include an appropriate combination of native evergreen or deciduous trees and shrubs, evergreen ground cover, and perennial plantings. Trees to be planted in or adjacent to public rights-of-way shall meet the requirements of this Chapter. Plants may be selected from the City's "Suggested Plant Lists for Required Landscaping Manual" or suitable for the Pacific Northwest climate and verified by a landscape architect or certified landscape professional.

1. Ground Cover Plants

- a. All of the landscape that is not planted with trees and shrubs must be planted in ground cover plants, which may include grasses. Mulch is not a substitute for ground cover, but is allowed in addition to the ground cover plants. **Existing landscaping will be maintained and is very mature. Not all species of plants planted in 2007 survived, but the ones that did survive are large and would choke out any new small plants. In areas of open space new species of plants can be added to give the area more diversity of plant material.**
- b. Ground cover plants other than grasses must be at least the four-inch pot size and spaced at distances appropriate for the plant species. Ground cover plants must be planted at a density that will cover the entire area within three (3) years from the time of planting. **Most of the ground is covered in plant materials. The remaining open area will be planted with new materials.**

2. Shrubs

- a. All shrubs must be of sufficient size and number to be at full growth within three (3) years of planting. **All existing shrubs are mature and are at full growth.**
- b. Shrubs must be at least the one-gallon container size at the time of planting. **Existing shrubs are very mature and will be maintained on site. Some of which will need to be transplanted to open area on the site.**

3. Trees

- a. Trees at the time of planting must be fully branched and must be a minimum of two (2) caliper inches and at least six (6) feet in height. **There are 9 existing trees on site which are to remain. The minimum existing tree caliper is 4"**
- b. Existing trees may be used to meet the standards of this chapter, as described in Section 16.92.020.C.2. **There are 9 existing trees on site which are to remain. The minimum existing tree caliper is 4"**

B. Plant Material Selection and Preparation

1. Required landscaping materials shall be established and maintained in a healthy condition and of a size sufficient to meet the intent of the approved landscaping plan. Specifications shall be submitted showing that adequate preparation of the topsoil and subsoil will be undertaken. **Yes, and there is a sprinkler system in place which will be relocated as needed.**
2. Landscape materials should be selected and sited to produce a hardy and drought-resistant landscape area. Selection of the plants should include consideration of soil type, and depth, the amount of maintenance required, spacing, exposure to sun and wind, the slope and contours of the site, and compatibility with existing native vegetation preserved on the site.

C. Existing Vegetation

1. All developments subject to site plan review per Section 16.90.020 and required to submit landscaping plans per this section shall preserve existing trees, woodlands and vegetation on the site to the maximum extent possible, as determined by the Review Authority, in addition to complying with the provisions of Section 16.142.(Parks, Trees and Open Space) and Chapter 16.144 (Wetland, Habitat, and Natural Resources). **All existing landscaping will be preserved and relocated as necessary**
2. Existing vegetation, except those plants on the Nuisance Plants list as identified in the "Suggested Plant Lists for Required Landscaping Manual" may be used to meet the landscape standards, if protected and maintained during the construction phase of the development.
 - a. If existing trees are used, each tree six (6) inches or less in diameter counts as one (1) medium tree.
 - b. Each tree that is more than six (6) inches and up to nine (9) inches in diameter counts as two (2) medium trees.
 - c. Each additional three (3) inch diameter increment above nine (9) inches counts as an additional medium tree.

D. Non-Vegetative Features

1. Landscaped areas as required by this Chapter may include architectural features interspersed with planted areas, such as sculptures, benches, masonry or stone walls, fences, rock groupings, bark dust, semi-pervious decorative paving, and graveled areas. **None were required in 2007**

2. Impervious paving shall not be counted toward the minimum landscaping requirements unless adjacent to at least one (1) landscape strip and serves as a pedestrian pathway.
3. Artificial plants are prohibited in any required landscaped area.

(Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 86-851, § 3)

16.92.030 - Site Area Landscaping and Perimeter Screening Standards

A. Perimeter Screening and Buffering

1. Perimeter Screening Separating Residential Zones:

A minimum six-foot high sight-obscuring wooden fence, decorative masonry wall, or evergreen screen, shall be required along property lines separating single and two-family uses from multi-family uses, and along property lines separating residential zones from commercial, institutional/public or industrial zones subject to the provisions of Chapter 16.48.020 (Fences, Walls and Hedges). N/A

- a. For new uses adjacent to inventoried environmentally sensitive areas, screening requirements shall be limited to vegetation only to preserve wildlife mobility. In addition, the Review Authority may require plants and other landscaping features in locations and sizes necessary to protect the privacy of residences and buffer any adverse effects of adjoining uses.
- b. The required screening shall have breaks, where necessary, to allow pedestrian access to the site. The design of the wall or screening shall also provide breaks or openings for visual surveillance of the site and security.
- c. Evergreen hedges used to comply with this standard shall be a minimum of thirty-six (36) inches in height at maturity, and shall be of such species, number and spacing to provide the required screening within one (1) year after planting.

2. Perimeter Landscaping Buffer

- a. A minimum ten (10) foot wide landscaped strip comprised of trees, shrubs and ground cover shall be provided between off-street parking, loading, or vehicular use areas on separate, abutting, or adjacent properties. **This is currently not provided for with the tobacco store located at the SW corner of the property. The store has parking up to the property line. Currently there is approx. 3' of landscaping on the proposed property and in order to get the two drive isles this area will need to be reduced to 0.5'. We are not sure if this will require a variance or not?**
- b. The access drives to a rear lots in the residential zone (i.e. flag lot) shall be separated from abutting property(ies) by a minimum of forty-two-inch sight-obscuring fence or a forty-two-inch to an eight (8) feet high landscape hedge within a four-foot wide landscape buffer. Alternatively, where existing mature trees and vegetation are suitable, Review Authority may waive the fence/buffer in order to preserve the mature vegetation.

3. Perimeter Landscape Buffer Reduction

If the separate, abutting property to the proposed development contains an existing perimeter landscape buffer of at least five (5) feet in width, the applicant may reduce the proposed site's required perimeter landscaping up to five (5) feet maximum, if the development is not adjacent to a residential zone. For example, if the separate abutting perimeter landscaping is five (5) feet, then applicant may reduce the perimeter landscaping to five (5) feet in width on their site so there is at least five (5) feet of landscaping on each lot. **Not possible.**

B. Parking Area Landscaping

1. Purpose

The standard is a landscape treatment that uses a combination of trees, shrubs, and ground cover to provide shade, storm water management, aesthetic benefits, and screening to soften the impacts of large expanses of pavement and vehicle movement. It is applied to landscaped areas within and around the parking lot and loading areas.

2. Definitions

a. Parking Area Landscaping: Any landscaped area on the site that is not required as perimeter landscaping § 16.92.030 (Site Landscaping and Screening).

b. Canopy Factor

(1) Landscape trees are assigned a canopy factor to determine the specific number of required trees to be planted. The canopy factor is calculated based on the following formula:

$$\text{Canopy Factor} = \text{Mature Height (in feet)} \times \text{Canopy Spread (in feet)} \times \text{Growth Rate Factor} \times .01$$

(2) Growth Rate Factor: The growth rate factor is three (3) for fast-growing trees, two (2) for medium growing trees, and one (1) for slow growing trees. The growth rate of a tree is identified in the "Suggested Plant Lists for Required Landscaping Manual."

3. Required Landscaping

There shall be at least forty-five (45) square feet parking area landscaping for each parking space located on the site. The amount of required plant materials are based on the number of spaces as identified below.

4. Amount and Type of Required Parking Area Landscaping

a. Number of Trees required based on Canopy Factor

Small trees have a canopy factor of less than forty (40), medium trees have a canopy factor from forty (40) to ninety (90), and large trees have a canopy factor greater than ninety (90);

This project is well in excess of the required tree canopy.

The total area of this lot is 7093 sq. ft. The required tree canopy coverage is 30% so the needed tree canopy area is 2128 sq. ft.

The existing trees include the following

- ***one 30" ponderosa pine tree, located at the NE corner of the property with an existing canopy of 40' which equates to a coverage of 1256 sq ft***
- ***one existing 8" deciduous tree at the NW corner of the property with an existing canopy of 20' which equates to a coverage of 314 sq. ft.***
- ***There are 7 Raywood ash trees that were planted in 2007 and their mature canopy is 20' and these 7 trees equate to a canopy of 2199 sq. ft.***

The total canopy of existing trees and trees planted in 2007 all of which are to be retained is a total of 3769 sq. ft.

The excess of 1641 sq. ft. of tree canopy should satisfy the requirements for parking area tree canopy factor.

- (1) Any combination of the following is required:
 - (i) One (1) large tree is required per four (4) parking spaces;
 - (ii) One (1) medium tree is required per three (3) parking spaces; or
 - (iii) One (1) small tree is required per two (2) parking spaces.
 - (iv) At least five (5) percent of the required trees must be evergreen.
 - (2) Street trees may be included in the calculation for the number of required trees in the parking area.
- b. Shrubs:
- (1) Two (2) shrubs are required per each space. **Existing shrubs can be transplanted to fulfill this requirement.**
 - (2) For spaces where the front two (2) feet of parking spaces have been landscaped instead of paved, the standard requires one (1) shrub per space. Shrubs may be evergreen or deciduous.
- c. Ground cover plants:
- (1) Any remainder in the parking area must be planted with ground cover plants.
 - (2) The plants selected must be spaced to cover the area within three (3) years. Mulch does not count as ground cover.
5. Individual Landscape Islands Requirements
- a. Individual landscaped areas (islands) shall be at least ninety (90) square feet in area and a minimum width of five (5) feet and shall be curbed to protect the landscaping. **There are no landscape islands proposed. There is a island separating the two drive isles to accommodate an ordering board. This island is at a maximum of 4' due to available area. It will be landscaped with appropriate material.**
 - b. Each landscape island shall be planted with at least one (1) tree.
 - c. Landscape islands shall be evenly spaced throughout the parking area.
 - d. Landscape islands shall be distributed according to the following:
 - (1) Residential uses in a residential zone: one (1) island for every eight (8) contiguous parking spaces.
 - (2) Multi or mixed-uses, institutional and commercial uses: one (1) island for every ten (10) contiguous parking spaces.
 - (3) Industrial uses: one (1) island for every twelve (12) contiguous parking spaces.
 - e. Storm water bio-swales may be used in lieu of the parking landscape areas and may be included in the calculation of the required landscaping amount.
 - f. Exception to Landscape Requirement

Linear raised or marked sidewalks and walkways within the parking areas connecting the parking spaces to the on-site buildings may be included in the calculation of required site landscaping provide that it:

 - (1) Trees are spaced a maximum of thirty (30) feet on at least one (1) side of the sidewalk.
 - (2) The minimum unobstructed sidewalk width is at least six (6) feet wide.
 - (3) The sidewalk is separated from the parking areas by curbs, bollards, or other means on both sides.

6. Landscaping at Points of Access

When a private access-way intersects a public right-of-way or when a property abuts the intersection of two (2) or more public rights-of-way, landscaping shall be planted and maintained so that minimum sight distances shall be preserved pursuant to Section 16.58.010.

7. Exceptions

- a. For properties with an environmentally sensitive area and/or trees or woodlands that merit protection per Chapters 16.142 (Parks, Trees and Open Space) and 16.144 (Wetland, Habitat and Natural Areas) the landscaping standards may be reduced, modified or "shifted" on-site where necessary in order to retain existing vegetation that would otherwise be removed to meet the above referenced landscaping requirements.
- b. The maximum reduction in required landscaping buffer permitted through this exception process shall be no more than fifty (50) percent. The resulting landscaping buffer after reduction may not be less than five (5) feet in width unless otherwise permitted by the underlying zone. Exceptions to the required landscaping may only be permitted when reviewed as part of a land use action application and do not require a separate variance permit.

C. Screening of Mechanical Equipment, Outdoor Storage, Service and Delivery Areas

All mechanical equipment, outdoor storage and manufacturing, and service and delivery areas, shall be screened from view from all public streets and any adjacent residential zones. If unfeasible to fully screen due to policies and standards, the applicant shall make efforts to minimize the visual impact of the mechanical equipment.

D. Visual Corridors

Except as allowed by subsection 6. above, new developments shall be required to establish landscaped visual corridors along Highway 99W and other arterial and collector streets, consistent with the Natural Resources and Recreation Plan Map, Appendix C of the Community Development Plan, Part II, and the provisions of Chapter 16.142(Parks, Trees, and Open Space). Properties within the Old Town Overlay are exempt from this standard. **Existing landscaping currently exists within the visual corridors and is proposed to be undisturbed.**

(Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2011-003, § 2, 4-5-2011; Ord. No. 2011-001, §§ 1, 2, 2-15-2011; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 91-922, § 3; Ord. 86-851 § 3)

16.92.040 - Installation and Maintenance Standards

A. Installation

All required landscaping must be in-ground, except when in raised planters that are used to meet minimum Clean Water Services storm water management requirements. Plant materials must be installed to current nursery industry standards. Plant materials must be properly supported to ensure survival. Support devices such as guy wires or stakes must not interfere with vehicular or pedestrian movement.

B. Maintenance and Mitigation of Landscaped Areas

1. Maintenance of existing non-invasive native vegetation is encouraged within a development and required for portions of the property not being developed.
2. All landscaping shall be maintained in a manner consistent with the intent of the approved landscaping plan.
3. Any required landscaping trees removed must be replanted consistent with the approved landscaping plan and comply with § 16.142, (Parks, Trees and Open Space).

C. Irrigation

The intent of this standard is to ensure that plants will survive the critical establishment period when they are most vulnerable due to lack of watering. All landscaped areas must provide an irrigation system, as stated in Option 1, 2, or 3.

A current sprinkler system is in place and is called out on the plans to be relocated and fixed as needed.

1. Option 1: A permanent built-in irrigation system with an automatic controller installed.
2. Option 2: An irrigation system designed and certified by a licensed landscape architect or other qualified professional as part of the landscape plan, which provides sufficient water to ensure that the plants become established. The system does not have to be permanent if the plants chosen can survive independently once established.
3. Option 3: Irrigation by hand. If the applicant chooses this option, an inspection will be required one (1) year after final inspection to ensure that the landscaping has become established.

D. Deferral of Improvements

Landscaping shall be installed prior to issuance of occupancy permits, unless security equal to one hundred twenty-five (125) percent of the cost of the landscaping is filed with the City. "Security" may consist of a performance bond payable to the City, cash, certified check, or other assurance of completion approved by the City. If the installation of the landscaping is not completed within one (1) year, the security may be used by the City to complete the installation.

(Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 86-851 § 3)

Chapter 16.94 - OFF-STREET PARKING AND LOADING

16.94.010 - General Requirements

A. Off-Street Parking Required

No site shall be used for the parking of vehicles until plans are approved providing for off-street parking and loading space as required by this Code. Any change in uses or structures that reduces the current off-street parking and loading spaces provided on site, or that increases the need for off-street parking or loading requirements shall be unlawful and a violation of this Code, unless additional off-street parking or loading areas are provided in accordance with Section 16.94.020, or unless a variance from the minimum or maximum parking standards is approved in accordance with Chapter 16.84 Variances. **4 off street parking stalls are proposed. One is handicap van accessible and one is compact. Two are standard.**

B. Deferral of Improvements

Off-street parking and loading spaces shall be completed prior to the issuance of occupancy permits, unless the City determines that weather conditions, lack of available surfacing materials, or other circumstances beyond the control of the applicant make completion impossible. In such circumstances, security equal to one hundred twenty five (125) percent of the cost of the parking and loading area is provided the City. "Security" may consist of a performance bond payable to the City, cash, certified check, or other assurance of completion approved by the City. If the installation of the parking or loading area is not completed within one (1) year, the security may be used by the City to complete the installation.

C. Options for Reducing the Required Parking Spaces

1. Two (2) or more uses or, structures on multiple parcels of land may utilize jointly the same parking and loading spaces when the peak hours of operation do not substantially overlap,

provided that satisfactory evidence is presented to the City, in the form of deeds, leases, or contracts, clearly establishing the joint use.

- a. Within commercial, institutional and public, or industrial zones, shared parking may be provided on lots that are within five hundred (500) feet of the property line of the use to be served.
 - b. Shared parking is allowed if the application can show that the combined peak use is available by a parking study that demonstrates:
 - (1) There is a sufficient number of parking spaces to accommodate the requirements of the individual businesses; or
 - (2) That the peak hours of operation of such establishments do not overlap, and
 - (3) That an exclusive permanent easement over a delineated area has been granted for parking space use.
2. Mixed use projects are developments where a variety of uses occupies a development project or complex. For example, an eating establishment, professional office building and movie theater are all components of a mixed use site. It does not include a secondary use within a primary use such as an administrative office associated with a retail establishment. In mixed-use projects, the required minimum vehicle parking shall be determined using the following formula:
- a. Primary use: i.e. that with the largest proportion of total floor area within the development at one hundred (100) percent of the minimum vehicle parking required for that use.
 - b. Secondary Use: i.e. that with the second largest percentage of total floor area within the development, at ninety (90) percent of the vehicle parking required for that use.
 - c. Subsequent use or uses, at eighty (80) percent of the vehicle parking required for that use.

D. Prohibited Uses

Required parking, loading and maneuvering areas shall not be used for long-term storage or sale of vehicles or other materials, and shall not be rented, leased or assigned to any person or organization not using or occupying the building or use served.

E. Location

1. Residential off-street parking spaces:
 - a. Shall be located on the same lot or development as the residential use.
 - b. Shall not include garages or enclosed buildings with the exception of a parking structure in multifamily developments where three (3) or more spaces are not individually enclosed. (Example: Underground or multi-level parking structures).
2. For other uses, required off-street parking spaces may include adjacent on-street parking spaces, nearby public parking and shared parking located within five hundred (500) feet of the use. The distance from the parking, area to the use shall be measured from the nearest parking space to a building entrance, following a sidewalk or other pedestrian route. The right to use private off-site parking must be evidenced by a recorded deed, lease, easement, or similar written notarized letter or instrument.
3. Vehicle parking is allowed only on improved parking shoulders that meet City standards for public streets, within garages, carports and other structures, or on driveways or parking lots that have been developed in conformance with this code. Specific locations and types of spaces (car pool, compact, etc.) for parking shall be indicated on submitted plans and located to the side or rear of buildings where feasible. **No on street parking is proposed**
 - a. All new development with forty (40) employees or more shall include preferential spaces for carpool/vanpool designation. Carpool and vanpool parking spaces shall be located closer

to the main employee entrance than all other parking spaces with the exception of ADA parking spaces. Carpool/vanpool spaces shall be clearly marked as reserved for carpool/vanpool only.

- b. Existing development may redevelop portions of designated parking areas for multi-modal facilities (transit shelters, park and ride, and bicycle parking), subject to meeting all other applicable standards, including minimum space standards.

F. Marking

All parking, loading or maneuvering areas shall be clearly marked and painted. All interior drives and access aisles shall be clearly marked and signed to show the direction of flow and maintain vehicular and pedestrian safety. **As shown on the plans.**

G. Surface and Drainage

1. All parking and loading areas shall be improved with a permanent hard surface such as asphalt, concrete or a durable pervious surface. Use of pervious paving material is encouraged and preferred where appropriate considering soils, location, anticipated vehicle usage and other pertinent factors.
2. Parking and loading areas shall include storm water drainage facilities approved by the City Engineer or Building Official. **We have proposed a filtered catch basin system and it has been tentatively approved in concept.**

H. Repairs

Parking and loading areas shall be kept clean and in good repair. Breaks in paved surfaces shall be repaired. Broken or splintered wheel stops shall be replaced. Painted parking space boundaries and directional symbols shall be maintained in a readable condition.

I. Parking and Loading Plan

An off-street parking and loading plan, drawn to scale, shall accompany requests for building permits or site plan approvals, except for single and two-family dwellings, and manufactured homes on residential lots. The plan shall show but not be limited to:

1. Delineation of individual parking and loading spaces and dimensions. **Shown**
2. Circulation areas necessary to serve parking and loading spaces. **The 2 drive isles are one way entering from the southwest and exiting to the north**
3. Location of accesses to streets, alleys and properties to be served, and any curb cuts. **The project is not requesting any alterations to the points of access.**
4. Landscaping as required by Chapter 16.92.
5. Grading and drainage facilities.
6. Signing and bumper guard specifications.
7. Bicycle parking facilities as specified in Section 16.94.020.C.
8. Parking lots more than one (1) acre in size shall provide street-like features including curbs, sidewalks, and street trees or planting strips.

J. Parking Districts

The City may establish a parking district (i.e., permits or signage) in residential areas in order to protect residential areas from spillover parking generated by adjacent commercial, employment or mixed-use areas, or other uses that generate a high demand for parking. The district request shall be made to the City Manager, who will forward a recommendation to the City Council for a decision.

- K. Structured parking and on-street parking are exempt from the parking space maximums in Section 16.94.020.A.

(Ord. No. 2014-012, § 3, 7-17-2014; Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; 2000-2001, § 3; Ord. 2000-2001, § 3; Ord. 86-851, § 3)

16.94.020 - Off-Street Parking Standards

A. Generally

Where square feet are specified, the area measured shall be the gross building floor area primary to the functioning of the proposed use. Where employees are specified, persons counted shall be those working on the premises, including proprietors, during the largest shift at peak season. Fractional space requirements shall be counted as a whole space. The Review Authority may determine alternate off - street parking and loading requirements for a use not specifically listed in this Section based upon the requirements of comparable uses.

**Table 1: Minimum and Maximum Parking Standards
(Metro spaces are based on 1 per 1,000 sq ft of gross leasable area)**

	Minimum Parking Standard	Maximum Permitted Parking Zone A ¹	Maximum Permitted Parking Zone B ²
Single, two-family and manufactured home on lot ³	1 per dwelling unit	None	None
Multi-family ⁴	1 per unit under 500 sf 1.25 per 1 bdr 1.5 per 2 bdr 1.75 per 3 bdr	None	None
Hotel or motel	1 per room	None	None
Boarding house	None	None	None
General retail or personal service	4.1 (244 sf)	5.1	6.2
Vehicle sales, nursery	4.1	5.1	6.2
Furniture/appliance store	4.1	5.1	6.2
Tennis racquetball court	1.0	1.3	1.5
Golf course	None	None	None
Sports club/recreation facility	4.3 (233 sf)	5.4	6.5

General office	2.7 (370 sf)	3.4	4.1
Bank with drive-thru	4.3 (233 sf)	5.4	6.5
Eating or drinking establishment	15.3 (65 sf)	19.1	23.0
Fast food drive-thru	9.9 (101 sf)	12.4	14.9
Movie theater	0.3 per seat	0.4	0.5
Day care	None	None	None
Elementary and junior high	None	None	None
High school and college	0.2 per student + teacher	0.3	0.3
Places of worship	0.5 per seat	0.6	0.8
Nursing home	None	None	None
Library	None	None	None
Industrial	1.6	None	None
Warehouse (gross square feet; parking ratios apply to warehouses 150,000 gsf or greater)	0.3	0.4	0.5

¹ Parking Zone A reflects the maximum number of permitted vehicle parking spaces allowed for each listed land use. Parking Zone A areas include those parcels that are located within one-quarter (¼) mile walking distance of bus transit stops, one-half (½) mile walking distance of light rail station platforms, or both, or that have a greater than twenty-minute peak hour transit service.

² Parking Zone B reflects the maximum number of permitted vehicle parking spaces allowed for each listed land use. Parking Zone B areas include those parcels that are located at a distance greater than one-quarter (¼) mile walking distance of bus transit stops, one-half (½) mile walking distance of light rail station platforms, or both.

³ If the street on which the house has direct access does not permit on-street parking or is less than twenty-eight (28) feet wide, two (2) off-street parking spaces are required per single-family residential unit. (includes single-family detached or attached, two-family dwelling or a manufactured home on an

individual lot) If the abutting street is twenty-eight (28) feet or wider, one (1) standard (9 ft. x 20 ft.) parking space is required.

⁴ Visitor parking in residential developments: Multi-family dwelling units with more than ten (10) required parking spaces shall provide an additional fifteen (15) percent of the required number of parking spaces for the use of guests of the residents of the development. The spaces shall be centrally located or distributed throughout the development. Required bicycle parking facilities shall also be centrally located within or evenly distributed throughout the development.

B. Dimensional and General Configuration Standards

1. Dimensions For the purpose of this Chapter, a "parking space" means a stall nine (9) feet in width and twenty (20) feet in length. Up to twenty five (25) percent of required parking spaces may have a minimum dimension of eight (8) feet in width and eighteen (18) feet in length so long as they are signed as compact car stalls.

2. Layout

Parking space configuration, stall and access aisle size shall be of sufficient width for all vehicle turning and maneuvering. Groups of more than four (4) parking spaces shall be served by a driveway so as to minimize backing movements or other maneuvering within a street, other than an alley. All parking areas shall meet the minimum standards shown in the following table and diagram.

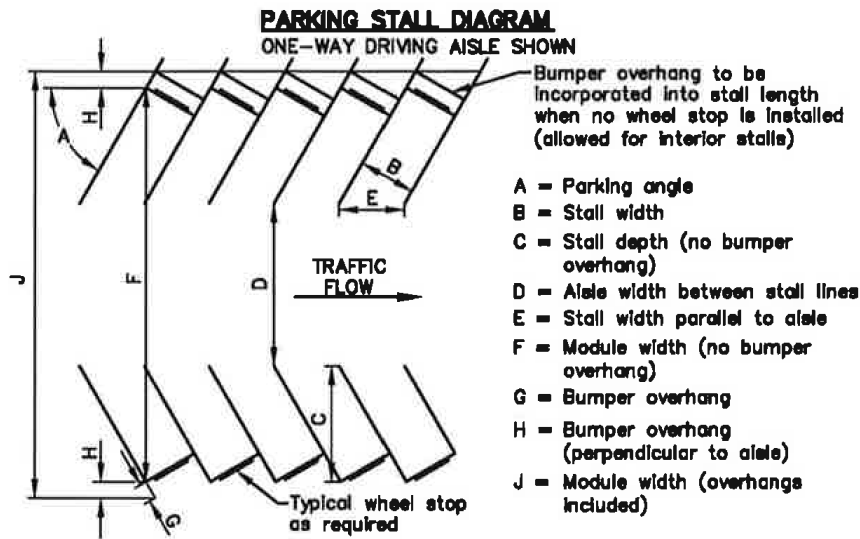
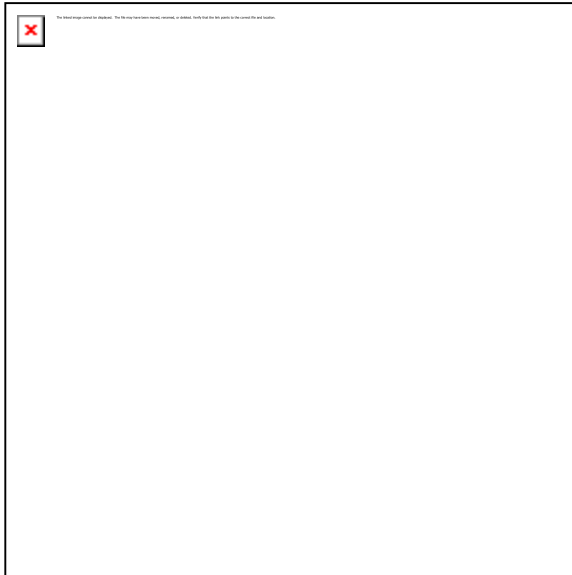


Table 2: Minimum Parking Dimension Requirements
One-Way Driving Aisle (Dimensions in Feet)

A	B	C	D	E	F	G	H	J
45°	8.0	16.5	13.0	11.3	46.0	3.0	2.5	51.0
	9.0	18.5	12.0	12.7	49.0	3.0	2.5	54.0
60°	8.0	17.0	18.0	9.2	52.0	3.0	2.5	57.0
	9.0	19.5	16.0	10.4	55.0	3.0	2.5	60.0

75°	8.0	16.5	26.0	8.3	59.0	3.0	3.0	65.0
	9.0	19.0	23.0	9.3	61.0	3.0	3.0	67.0
90°	8.0	18.0	26.0	8.0	56.0	3.0	3.0	62.0
	9.0	20.0	24.0	9.0	58.0	3.0	3.0	64.0

Table 3: Two-Way Driving Aisle
(Dimensions in Feet)

A	B	C	D	E	F	G	H	J
45°	8.0	16.5	24.0	11.3	57.0	3.0	2.5	62.0
	9.0	18.5	24.0	12.7	61.0	3.0	2.5	66.0
60°	8.0	17.0	24.0	9.2	58.0	3.0	2.5	63.0
	9.0	19.5	24.0	10.4	63.0	3.0	2.5	68.0
75°	8.0	16.5	26.0	8.3	59.0	3.0	3.0	65.0
	9.0	19.0	24.0	9.3	62.0	3.0	3.0	68.0
90°	8.0	18.0	26.0	8.0	56.0	3.0	3.0	62.0
	9.0	20.0	24.0	9.0	58.0	3.0	3.0	64.0

3. Wheel Stops

- a. Parking spaces along the boundaries of a parking lot or adjacent to interior landscaped areas or sidewalks shall be provided with a wheel stop at least four (4) inches high, located three (3) feet back from the front of the parking stall as shown in the above diagram.
- b. Wheel stops adjacent to landscaping, bio-swales or water quality facilities shall be designed to allow storm water runoff.
- c. The paved portion of the parking stall length may be reduced by three (3) feet if replaced with three (3) feet of low lying landscape or hardscape in lieu of a wheel stop; however, a

curb is still required. In other words, the traditional three-foot vehicle overhang from a wheel stop may be low-lying landscaping rather than an impervious surface.

4. Service Drives

Service drives shall be clearly and permanently marked and defined through use of rails, fences, walls, or other barriers or markers, and shall have minimum vision clearance area formed by the intersection of the driveway center line, the street right-of-way line, and a straight line joining said lines through points fifteen (15) feet from their intersection.

5. Credit for On-Street Parking

a. On-Street Parking Credit. The amount of off-street parking required shall be reduced by one (1) off-street parking space for every on-street parking space adjacent to the development. On-street parking shall follow the established configuration of existing on-street parking, except that angled parking may be allowed for some streets, where permitted by City standards.

b. The following constitutes an on-street parking space:

- (1) Parallel parking, each twenty-four (24) feet of uninterrupted curb;
- (2) Forty-five (45)/sixty (60) degree diagonal, each with ten (10) feet of curb;
- (3) Ninety (90) degree (perpendicular) parking, each with eight (8) feet of curb;
- (4) Curb space must be connected to the lot which contains the use;
- (5) Parking spaces that would not obstruct a required clear vision area, nor any other parking that violates any law or street standard; and;
- (6) On-street parking spaces credited for a specific use may not be used exclusively by that use, but shall be available for general public use at all times. No signs or actions limiting general public use of on-street spaces is permitted.

6. Reduction in Required Parking Spaces

Developments utilizing Engineered storm water bio-swales or those adjacent to environmentally constrained or sensitive areas may reduce the amount of required parking spaces by ten (10) percent when twenty-five (25) through forty-nine (49) parking spaces are required, fifteen (15) percent when fifty (50) and seventy-four (74) parking spaces are required and twenty (20) percent when more than seventy-five (75) parking spaces are required, provided the area that would have been used for parking is maintained as a habitat area or is generally adjacent to an environmentally sensitive or constrained area.

7. Parking Location and Shared Parking

Owners of off-street parking facilities may post a sign indicating that all parking on the site is available only for residents, customers and/or employees, as applicable.

C. Bicycle Parking Facilities

1. General Provisions

- a. Applicability. Bicycle parking spaces shall be provided for new development, changes of use, and major renovations, defined as construction valued at twenty-five (25) percent or more of the assessed value of the existing structure.
- b. Types of Spaces. Bicycle parking facilities shall be provided in terms of short-term bicycle parking and long-term bicycle parking. Short-term bicycle parking is intended to encourage customers and other visitors to use bicycles by providing a convenient and readily accessible place to park bicycles. Long-term bicycle parking provides employees, students, residents, commuters, and others who generally stay at a site for at least several hours a weather-protected place to park bicycles.

- c. Minimum Number of Spaces. The required total minimum number of bicycle parking spaces for each use category is shown in Table 4, Minimum Required Bicycle Parking Spaces. **There is one existing bicycle parking space located at the northeast corner of the structure.**
 - d. Minimum Number of Long-term Spaces. If a development is required to provide eight (8) or more required bicycle parking spaces in Table 4, at least twenty-five (25) percent shall be provided as long-term bicycle with a minimum of one (1) long-term bicycle parking space.
 - e. Multiple Uses. When there are two or more primary uses on a site, the required bicycle parking for the site is the sum of the required bicycle parking for the individual primary uses.
2. Location and Design.
- a. General Provisions
 - (1) Each space must be at least two (2) feet by six (6) feet in area, be accessible without moving another bicycle, and provide enough space between the rack and any obstructions to use the space properly.
 - (2) There must be an aisle at least five (5) feet wide behind all required bicycle parking to allow room for bicycle maneuvering. Where the bicycle parking is adjacent to a sidewalk, the maneuvering area may extend into the right-of-way.
 - (3) Lighting. Bicycle parking shall be at least as well lit as vehicle parking for security.
 - (4) Reserved Areas. Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only.
 - (5) Bicycle parking in the Old Town Overlay District can be located on the sidewalk within the right-of-way. A standard inverted "U shaped" or staple design is appropriate. Alternative, creative designs are strongly encouraged.
 - (6) 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.
 - b. Short-term Bicycle Parking
 - (1) Provide lockers or racks that meet the standards of this section.
 - (2) Locate inside or outside the building within thirty (30) feet of the main entrance to the building or at least as close as the nearest vehicle parking space, whichever is closer.
 - c. Long-term Bicycle Parking
 - (1) Provide racks, storage rooms, or lockers in areas that are secure or monitored (e.g., visible to employees or customers or monitored by security guards).
 - (2) Locate the outside bicycle parking spaces within one hundred (100) feet of the entrance that will be accessed by the intended users.
 - (3) All of the spaces shall be covered.
 - d. Covered Parking (Weather Protection)
 - (1) When required, covered bicycle parking shall be provided in one (1) of the following ways: inside buildings, under roof overhangs or awnings, in bicycle lockers, or within or under other structures.
 - (2) Where required covered bicycle parking is not within a building or locker, the cover must be permanent and designed to protect the bicycle from rainfall and provide seven-foot minimum overhead clearance.
 - (3) Where required bicycle parking is provided in lockers, the lockers shall be securely anchored.

Table 4: Minimum Required Bicycle Parking Spaces

Use Categories	Minimum Required Spaces
Residential Categories	
Household living	Multi-dwelling — 2 or 1 per 10 auto spaces. All other residential structure types — None
Group living	1 per 20 auto spaces
Commercial Categories	
Retail sales/service office	2 or 1 per 20 auto spaces, whichever is greater
Drive-up vehicle servicing	None
Vehicle repair	None
Commercial parking facilities, commercial, outdoor recreation, major event entertainment	4 or 1 per 20 auto spaces, whichever is greater
Self-service storage	None
Industrial Categories	
Industrial	2 or 1 per 40 spaces, whichever is greater
Public and Institutional Categories	
Park and ride facilities	2 or 1 per 20 auto spaces
Community service essential service providers parks and open areas	2 or 1 per 20 auto spaces, whichever is greater
Schools	High schools — 4 per classroom

	Middle schools — 2 per classroom
	Grade schools — 2 per 4th & 5th grade classroom
Colleges, medical centers, religious institutions, daycare uses	2 or 1 per 20 auto spaces whichever is greater

(Ord. No. 2018-007, § 2, 10-2-2018; Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2014-012, § 3, 7-17-2014; Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; 2005-009 § 8; Ord. 2000-2001 § 3; Ord. 86-851 § 3)

16.94.030 - Off-Street Loading Standards

A. Minimum Standards

1. A driveway designed for continuous forward flow of passenger vehicles for the purpose of loading and unloading passengers shall be located on the site of any school, or other public meeting place, which is designed to accommodate more than twenty five (25) persons at one time.
2. The minimum loading area for non-residential uses shall not be less than ten (10) feet in width by twenty-five (25) feet in length and shall have an unobstructed height of fourteen (14) feet.
3. Multiple uses on the same parcel or adjacent parcels may utilize the same loading area if it is shown in the development application that the uses will not have substantially overlapping delivery times.
4. The following additional minimum loading space is required for buildings in excess of twenty thousand (20,000) square feet of gross floor area:
 - a. Twenty thousand (20,000) to fifty (50,000) sq. ft. - five hundred (500) sq. ft.
 - b. Fifty (50,000) sq. ft. or more - seven hundred fifty (750) sq. ft.

B. Separation of Areas

Any area to be used for the maneuvering of delivery vehicles and the unloading or loading of materials shall be separated from designated off-street parking areas and designed to prevent the encroachment of delivery vehicles onto off-street parking areas or public streets. Off-street parking areas used to fulfill the requirements of this Chapter shall not be used for loading and unloading operations.

C. Exceptions and Adjustments.

The review authority, through Site Plan Review, may approve loading areas within a street right-of-way in the Old Town Overlay District when all of the following conditions are met:

1. Short in duration (i.e., less than one (1) hour);
2. Infrequent (less than three (3) operations occur daily between 5:00 a.m. and 12:00 a.m. or all operations occur between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);
3. Does not unreasonably obstruct traffic; [or] Does not obstruct traffic during peak traffic hours;

4. Does not obstruct a primary emergency response route; and
5. Is acceptable to the applicable roadway authority.

(Ord. No. 2014-012, § 3, 7-17-2014; Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. No. 2009-005, § 2, 6-2-2009; Ord. 86-851, § 3)

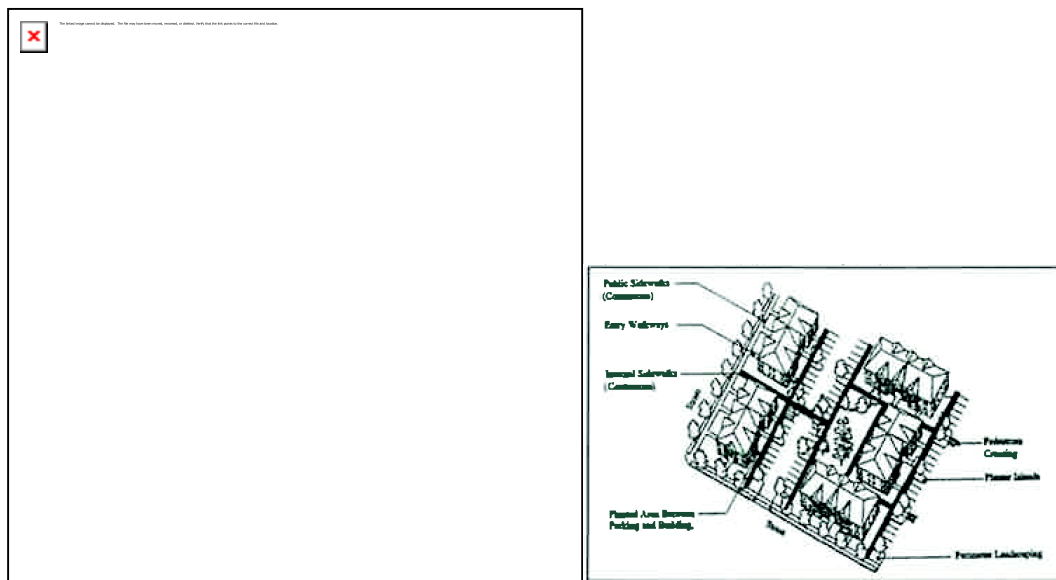
Chapter 16.96 - ON-SITE CIRCULATION

16.96.010 - On-Site Pedestrian and Bicycle Circulation

A. Purpose

On-site facilities shall be provided that accommodate safe and convenient pedestrian access within new subdivisions, multi-family developments, planned unit developments, shopping centers and commercial districts, and connecting to adjacent residential areas and neighborhood activity centers within one-half mile of the development. Neighborhood activity centers include but are not limited to existing or planned schools, parks, shopping areas, transit stops or employment centers. All new development, (except single-family detached housing), shall provide a continuous system of private pathways/sidewalks.

On-Site Circulation System (Multi-Family Example)



B. Maintenance

No building permit or other City permit shall be issued until plans for ingress, egress and circulation have been approved by the City. Any change increasing any ingress, egress or circulation requirements, shall be a violation of this Code unless additional facilities are provided in accordance with this Chapter.

C. Joint Access

Two (2) or more uses, structures, or parcels of land may utilize the same ingress and egress when the combined ingress and egress of all uses, structures, or parcels of land satisfied the other requirements of this Code, provided that satisfactory legal evidence is presented to the City in the form of deeds, easements, leases, or contracts to clearly establish the joint use.

D. Connection to Streets **There is walk up access to the current structure located at the north side of the building adjacent to SW Borchers Drive. No alterations are proposed.**

1. Except for joint access per this Section, all ingress and egress to a use or parcel shall connect directly to a public street, excepting alleyways with paved sidewalk.
2. Required private sidewalks shall extend from the ground floor entrances or the ground floor landing of stairs, ramps or elevators to the public sidewalk or curb of the public street which provides required ingress and egress.

E. Maintenance of Required Improvements

Required ingress, egress and circulation improvements shall be kept clean and in good repair.

F. Access to Major Roadways

Points of ingress or egress to and from Highway 99W and arterials designated on the Transportation Plan Map, attached as Appendix C of the Community Development Plan, Part II, shall be limited as follows:

1. Single and two-family uses and manufactured homes on individual residential lots developed after the effective date of this Code shall not be granted permanent driveway ingress or egress from Highway 99W and arterial roadways. If alternative public access is not available at the time of development, provisions shall be made for temporary access which shall be discontinued upon the availability of alternative access.
2. Other private ingress or egress from Highway 99W and arterial roadways shall be minimized. Where alternatives to Highway 99W or arterials exist or are proposed, any new or altered uses developed after the effective date of this Code shall be required to use the alternative ingress and egress.
3. All site plans for new development submitted to the City for approval after the effective date of this Code shall show ingress and egress from existing or planned local or collector streets, consistent with the Transportation Plan Map and Section VI of the Community Development Plan.

G. Service Drives

Service drives shall be provided pursuant to Section 16.94.030.

(Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 2005-009, § 6; Ord. 86-851)

16.96.020 Minimum - Residential standards

Minimum standards for private, on-site circulation improvements in residential developments:

A. Driveways

1. Single-Family: One (1) driveway improved with hard surface pavement with a minimum width of ten (10) feet, not to exceed a grade of 14%. Permeable surfaces and planting strips between driveway ramps are encouraged in order to reduce stormwater runoff.
2. Two-Family: One (1) shared driveway improved with hard surface pavement with a minimum width of twenty (20) feet; or two (2) driveways improved with hard surface pavement with a minimum width of ten (10) feet each. Permeable surfaces and planting strips between driveway ramps are encouraged in order to reduce stormwater runoff.
3. Multi-Family: Improved hard surface driveways are required as follows:

Number of Units	Number of Driveways	One Way Drive Width (Pair)	Two Way Drive Width

3—49	1	15 feet	24 feet
50 or more	2	15 feet	24 feet

B. Sidewalks, Pathways and Curbs

1. Single, Two-Family, and Manufactured Home on Individual Residential Lot: No on-site sidewalks and curbs are required when not part of a proposed partition or subdivision.
2. Multi-family:
 - a. A system of private pedestrian sidewalks/pathways extending throughout the development site shall connect each dwelling unit to vehicular parking areas, common open space, storage areas, recreation facilities, adjacent developments, transit facilities within five hundred (500) feet of the site, and future phases of development. Main building entrances shall also be connected to one another.
 - b. Required private pathways/sidewalks shall extend from the ground floor entrances or the ground floor landing of stairs, ramps or elevators, on one (1) side of approved driveways connecting to the public sidewalk or curb of the public street that provides required ingress and egress. Curbs shall also be required at a standard approved by the Review Authority.
 - c. Private Pathway/Sidewalk Design. Private pathway surfaces shall be concrete, brick/masonry pavers, or other durable surface, at least five (5) feet wide and conform to ADA standards. Where the system crosses a parking area, driveway or street, it shall be clearly marked with contrasting paving materials or raised crosswalk (hump).
 - d. Exceptions Private pathways/sidewalks shall not be required where physical or topographic conditions make a connection impracticable, where buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or pathways would violate provisions of leases, restrictions or other agreements.

(Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 2005-009, §§ 5, 8; 91-922)

16.96.030 - Minimum Non-Residential Standards

Minimum standards for private, on-site circulation improvements in non-residential developments:

A. Driveways

1. Commercial: Improved hard surface driveways are required as follows:

Required Parking Spaces	# Driveways	Minimum Width	
		One-Way Pair	Two-Way

1 - 49	1	15 feet	24 feet
50 & above	2	15 feet	24 feet

- Industrial: Improved hard surfaced driveways are required as follows:

Required Parking Spaces	# Driveways	Minimum Width	
		One-Way Pair	Two-Way
1 - 249	1	15 feet	24 feet
250 & above	2	15 feet	24 feet

- Surface materials are encouraged to be pervious when appropriate considering soils, anticipated vehicle usage and other pertinent factors.

B. Sidewalks and Curbs

Existing sidewalks along both public street will not be altered. Curbs will be reconstructed to the new drive isle layout. The existing system does not need any alterations.

- A private pathway/sidewalk system extending throughout the development site shall be required to connect to existing development, to public rights-of-way with or without improvements, to parking and storage areas, and to connect all building entrances to one another. The system shall also connect to transit facilities within five hundred (500) feet of the site, future phases of development, and whenever possible to parks and open spaces.
- Curbs shall also be required at a standard approved by the Hearing Authority. Private pathways/sidewalks shall be connected to public rights-of-way along driveways but may be allowed other than along driveways if approved by the Hearing Authority.
- Private Pathway/Sidewalk Design. Private pathway surfaces shall be concrete, asphalt, brick/masonry pavers, or other pervious durable surface. Primary pathways connecting front entrances to the right of way shall be at least 6 feet wide and conform to ADA standards. Secondary pathways between buildings and within parking areas shall be a minimum of four (4) feet wide and/or conform to ADA standards. Where the system crosses a parking area, driveway or street, it shall be clearly marked with contrasting paving materials or raised crosswalk (hump). At a minimum all crosswalks shall include painted striping.
- Exceptions. Private pathways/sidewalks shall not be required where physical or topographic conditions make a connection impracticable, where buildings or other existing development on adjacent lands physically preclude a connection now or in the future

considering the potential for redevelopment; or pathways would violate provisions of leases, restrictions or other agreements.

(Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 2005-009, § 8; Ord. 86-851)

16.96.040 - On-Site Vehicle Circulation

A. Maintenance

No building permit or other City permit shall be issued until plans for ingress, egress and circulation have been approved by the City. Any change increasing any ingress, egress or circulation requirements, shall be a violation of this Code unless additional facilities are provided in accordance with this Chapter.

B. Joint Access [See also Chapter 16.108]

Two (2) or more uses, structures, or parcels of land are strongly encouraged to utilize jointly the same ingress and egress when the combined ingress and egress of all uses, structures, or parcels of land satisfy the other requirements of this Code, provided that satisfactory legal evidence is presented to the City in the form of deeds, easements, leases, or contracts to clearly establish the joint use. In some cases, the City may require a joint access to improve safety, vision clearance, site distance, and comply with access spacing standards for the applicable street classification. **There is an existing joint access with the gas station at the east side of the property. No alternation are proposed.**

C. Connection to Streets

1. Except for joint access per this Section, all ingress and egress to a use or parcel shall connect directly to a public street, excepting alleyways.
2. Required private sidewalks shall extend from the ground floor entrances or the ground floor landing of stairs, ramps or elevators to the public sidewalk or curb of the public street which provides required ingress and egress.

D. Maintenance of Required Improvements

Required ingress, egress and circulation improvements shall be kept clean and in good repair.

E. Service Drives

Service drives shall be provided pursuant to Section 16.94.030.

(Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2005-009 § 8)

Chapter 16.98 - ON-SITE STORAGE*

16.98.010 - Recreational Vehicles and Equipment

Recreational vehicles and equipment may be stored only within designated and improved off-street parking areas. Such areas shall meet the screening and landscaping requirements of Section 16.92.030.

16.98.020 - Solid Waste and Recycling Storage

All uses shall provide solid waste and recycling storage receptacles which are adequately sized to accommodate all solid waste generated on site. All solid waste and recycling storage areas and receptacles shall be located out of public view. Solid waste and recycling receptacles for multi-family, commercial, industrial and institutional uses shall be screened by six (6) foot high sight-obscuring fence or masonry wall and shall be easily accessible to collection vehicles.

(Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 86-851, § 3)

16.98.030 - Material Storage

- A. Generally. Except as otherwise provided herein, external material storage is prohibited, except in commercial and industrial zones where storage areas are approved by the Review Authority as part of a site plan or per Section 16.98.040.
- B. Standards. Except as per Section 16.98.040, all service, repair, storage, and merchandise display activities carried on in connection with any commercial or industrial activity, and not conducted within an enclosed building, shall be screened from the view of all adjacent properties and adjacent streets by a six (6) foot to eight (8) foot high, sight obscuring fence subject to chapter 16.58.020. In addition, unless adjacent parcels to the side and rear of the storage area have existing solid evergreen screening or sight-obscuring fencing in place, new evergreen screening no less than three (3) feet in height shall be planted along side and rear property lines. Where other provisions of this Code require evergreen screening, fencing, or a landscaped berm along side and rear property lines, the additional screening stipulated by this Section shall not be required.
- C. Hazardous Materials. Storage of hazardous, corrosive, flammable, or explosive materials, if such storage is otherwise permitted by this Code, shall comply with all local fire codes, and Federal and State regulations.

(Ord. No. 2011-003, § 2, 4-5-2011; Ord. No. 2011-001, §§ 1, 2, 2-15-2011; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 89-901, § 1; Ord. 86-851, § 3)

16.98.040 - Outdoor Sales and Merchandise Display

A. Sales Permitted

Outdoor sales and merchandise display activities, including sales and merchandise display that is located inside when the business is closed but otherwise located outside, shall be permitted when such activities are deemed by the Commission to be a customary and integral part of a permitted commercial or industrial use.

1. Permanent outdoor sales and merchandise display are in use year round or in excess of four (4) months per year and require the location to be reviewed through a site plan review. They will be reviewed as conditional uses in accordance with Chapter 16.82. Permanent outdoor and merchandise display are subject to the standards outlined in subsection B, below.
2. Temporary outdoor sales and merchandise display are seasonal and are not displayed year round and must meet the requirements of Chapter 16.86 (temporary uses). When the temporary use is not occurring the site shall return to its original state.
3. Food vendors including food carts, ice cream trucks, hotdog stands or similar uses are only permitted as a permanent outdoor sale use as described in A.1 above.

B. Standards

1. Outdoor sales and merchandise display areas shall be kept free of debris. Merchandise shall be stacked or arranged, or within a display structure. Display structures shall be secured and stable.
2. Outdoor sales and merchandise display shall not be located within required yard, building, or landscape setbacks, except where there is intervening right-of-way of a width equal to or greater than the required setback; and shall not interfere with on-site or off-site pedestrian or vehicular circulation.
3. Outdoor retail sales and merchandise display areas for vehicles, boats, manufactured homes, farm equipment, and other similar uses shall be improved with asphalt surfacing, crushed rock, or other dust-free materials.

4. Additional standards may apply to outdoor sales and merchandise display dependent on specific restrictions in the zone.

(Ord. No. 2012-001, § 2, 1-3-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 89-901, § 1)

Chapter 16.114 - STORM WATER*

16.114.010 - Required Improvements

Storm water facilities, including appropriate source control and conveyance facilities, shall be installed in new developments and shall connect to the existing downstream drainage systems consistent with the Comprehensive Plan and the requirements of the Clean Water Services water quality regulations contained in their Design and Construction Standards R&O 04-9, or its replacement.

(Ord. 2006-021; 2000-1092 § 3; 93-972)

(Note: Section 16.114.015, Street Systems Improvement Fees (SIF) was repealed by Ordinance 91-922 § 19) to be removed from the SZCDC and permanently located in the Municipal Code).

16.114.020 - Design Standards

A. Capacity

Storm water drainage systems shall be sized, constructed, located, and installed at standards consistent with this Code, the Storm Drainage Master Plan Map, attached as Exhibit E, Chapter 7 of the Community Development Plan, other applicable City standards, the Clean Water Services Design and Construction standards R&O 04-9 or its replacement, and hydrologic data and improvement plans submitted by the developer. **We have proposed a filtered catch basin and payment in lieu of storage because there is insufficient room and head to do a enclosed storage system. This solution has been approved in concept with City staff and CWS.**

B. On-Site Source Control

Storm water detention and groundwater recharge improvements, including but not limited to such facilities as dry wells, detention ponds, and roof top ponds shall be constructed according to Clean Water Services Design and Construction Standards.

C. Conveyance System

The size, capacity and location of storm water sewers and other storm water conveyance improvements shall be adequate to serve the development and accommodate upstream and downstream flow. If an upstream area discharges through the property proposed for development, the drainage system shall provide capacity to the receive storm water discharge from the upstream area. If downstream drainage systems are not sufficient to receive an increase in storm water caused by new development, provisions shall be made by the developer to increase the downstream capacity or to provide detention such that the new development will not increase the storm water caused by the new development.

(Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; 2000-1092 § 3; 91-922; Ord. 86-851 § 3)

16.114.030 - Service Availability

Approval of construction plans for new storm water drainage facilities pursuant to Chapter 16.106, and the issuance of building permits for new development to be served by existing storm water drainage systems shall include certification by the City that existing or proposed drainage facilities are adequate to serve the development.

(Ord. 86-851, § 3)

Chapter 16.118 - PUBLIC AND PRIVATE UTILITIES⁴⁹¹

Footnotes:

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Editor's note— Some sections may not contain a history.

16.118.010 - Purpose

Public telecommunication conduits as well as conduits for franchise utilities including, but not limited to, electric power, telephone, natural gas, lighting, and cable television shall be installed to serve all newly created lots and developments in Sherwood.

The project does not include any new Utilities as the current ones are working and do not need to be changed. The only exception is there will need to be new conduit placed for the two new call boxes for coffee ordering.

16.118.020 - Standard

- A. Installation of utilities shall be provided in public utility easements and shall be sized, constructed, located and installed consistent with this Code, and applicable utility company and City standards.
- B. Public utility easements shall be a minimum of eight (8) feet in width unless a reduced width is specifically exempted by the City Engineer. An eight-foot wide public utility easement (PUE) shall be provided on private property along all public street frontages. This standard does not apply to developments within the Old Town Overlay.
- C. Where necessary, in the judgment of the City Manager or his designee, to provide for orderly development of adjacent properties, public and franchise utilities shall be extended through the site to the edge of adjacent property(ies).
- D. Franchise utility conduits shall be installed per the utility design and specification standards of the utility agency.
- E. Public Telecommunication conduits and appurtenances shall be installed per the City of Sherwood telecommunication design standards.
- F. Exceptions: Installation shall not be required if the development does not require any other street improvements. In those instances, the developer shall pay a fee in lieu that will finance installation when street or utility improvements in that location occur.

(Ord. No. 2018-007, § 2, 10-2-2018; Ord. No. 2009-005, § 2, 6-2-2009)

16.118.030 - Underground Facilities

Except as otherwise provided, all utility facilities, including but not limited to, electric power, telephone, natural gas, lighting, cable television, and telecommunication cable, shall be placed underground, unless specifically authorized for above ground installation, because the points of connection to existing utilities make underground installation impractical, or for other reasons deemed acceptable by the City.

16.118.040 - Exceptions

Surface-mounted transformers, surface-mounted connection boxes and meter cabinets, temporary utility service facilities during construction, high capacity electric and communication feeder lines, and utility transmission lines operating at fifty thousand (50,000) volts or more may be located above ground. The City reserves the right to approve location of all surface-mounted transformers.

(Ord. 2005-17 § 5; 91-922)

16.118.050 - Private Streets

The construction of new private streets, serving single-family residential developments shall be prohibited unless it provides principal access to two or fewer residential lots or parcels i.e. flag lots. Provisions shall be made to assure private responsibility for future access and maintenance through recorded easements. Unless otherwise specifically authorized, a private street shall comply with the same standards as a public street identified in the Community Development Code and the Transportation System Plan. A private street shall be distinguished from public streets and reservations or restrictions relating to the private street shall be described in land division documents and deed records. A private street shall also be signed differently from public streets and include the words "Private Street". **No new private street are being proposed**

(Ord. No. 2009-005, § 2, 6-2-2009; Ord. No. 2009-005, § 2, 6-2-2009; Ord. 2005-009 § 5; Ord. 86-851)

Chapter 16.142 - PARKS, TREES AND OPEN SPACES^[57]

Footnotes:

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Editor's note— Ord. No. 2012-003, § 2, adopted May 1, 2012, amended the Code by retitling Ch. 16.142. Formerly, Ch. 16.142 was entitled "Parks and Open Spaces."

16.142.010 - Purpose

This Chapter is intended to assure the provision of a system of public and private recreation and open space areas and facilities consistent with this Code and applicable portions of Chapter 5 of the Community Development Plan Part 2. The standards of this section do not supersede the open space requirements of a Planned Unit Development, found in Chapter 16.40 - Planned Unit Development (PUD).

(Ord. No. 2011-009, § 2, 7-19-2011; Ord. 2006-021; 91-922, § 3)

16.142.040 - Visual Corridors

A. Corridors Required

New developments located outside of the Old Town Overlay with frontage on Highway 99W, or arterial or collector streets designated on Figure 8-1 of the Transportation System Plan shall be required to establish a landscaped visual corridor according to the following standards: **The visual corridors are shown on the plans.**

	Category	Width
1.	Highway 99W	25 feet
2.	Arterial	15 feet
3.	Collector	10 feet

In residential developments where fences are typically desired adjoining the above described major street the corridor may be placed in the road right-of-way between the property line and the sidewalk. In all other developments, the visual corridor shall be on private property adjacent to the right-of-way.

B. Landscape Materials

The required visual corridor areas shall be planted as specified by the review authority to provide a continuous visual and/or acoustical buffer between major streets and developed uses. Except as provided for above, fences and walls shall not be substituted for landscaping within the visual corridor. Uniformly planted, drought resistant street trees and ground cover, as specified in Section 16.142.060, shall be planted in the corridor by the developer. The improvements shall be included in the compliance agreement. In no case shall trees be removed from the required visual corridor. **The project is not encroaching any more into the visual corridor than what was allow in the original development of the coffee stand. The project is only upgrading from one drive isle to two drive isles.**

C. Establishment and Maintenance

Designated visual corridors shall be established as a portion of landscaping requirements pursuant to Chapter 16.92. To assure continuous maintenance of the visual corridors, the review authority may require that the development rights to the corridor areas be dedicated to the City or that restrictive covenants be recorded prior to the issuance of a building permit.

D. Required Yard

Visual corridors may be established in required yards, except that where the required visual corridor width exceeds the required yard width, the visual corridor requirement shall take precedence. In no case shall buildings be sited within the required visual corridor, with the exception of front porches on townhomes, as permitted in Section 16.44.010(E)(4)(c).

E. Pacific Highway 99W Visual Corridor

1. Provide a landscape plan for the highway median paralleling the subject frontage. In order to assure continuity, appropriate plant materials and spacing, the plan shall be coordinated with the City Planning Department and ODOT. **This was not required during the original project.**

2. Provide a visual corridor landscape plan with a variety of trees and shrubs. Fifty percent (50%) of the visual corridor plant materials shall consist of groupings of at least five (5) native evergreen trees a minimum of ten (10) feet in height each, spaced no less than fifty (50) feet apart, if feasible. Deciduous trees shall be a minimum of four (4) inches DBH and twelve (12) feet high, spaced no less than twenty-five (25) feet apart, if feasible. **The existing trees shown on the plans are 2- 4" trees and 1 – 8" tree. The frontage along Hwy 99 is less than 100'. This was adequate when the project was constructed in 2007**

(Ord. No. 2012-003, § 2, 5-1-2012; Ord. No. 2011-009, § 2, 7-19-2011; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2009-005, § 2, 6-2-2009; Ord. 2006-021)

Editor's note— Ord. No. 2011-009, § 2, adopted July 19, 2011, amended the Code by adding a new § 16.142.030, and renumbering former §§ 16.142.030—16.142.080 as new §§ 16.142.040—16.142.090.

16.142.050 - Park Reservation

Areas designated on the Natural Resources and Recreation Plan Map, in Chapter 5 of the Community Development Plan, which have not been dedicated pursuant to Section 16.142.030 or 16.134.020, may be required to be reserved upon the recommendation of the City Parks Board, for purchase by the City within a period of time not to exceed three (3) years.

(Ord. No. 2011-009, § 2, 7-19-2011; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; 91-922, § 3)

Note— See editor's note, § 16.142.040.

16.142.060 - Street Trees

A. Installation of Street Trees on New or Redeveloped Property.

Trees are required to be planted to the following specifications along public streets abutting or within any new development or re-development. Planting of such trees shall be a condition of development approval. The City shall be subject to the same standards for any developments involving City-owned property, or when constructing or reconstructing City streets. After installing street trees, the property owner shall be responsible for maintaining the street trees on the owner's property or within the right-of-way adjacent to the owner's property.

Street trees were planted in 2007 between the sidewalk and curb and have matured. There are currently 3-4" trees, 1-5" tree and 1-6" tree along SW Borchers Drive and appear to be in good health. No additional street trees are anticipated. The frontage along Borchers is approx. 174'

1. Location: Trees shall be planted within the planter strip along a newly created or improved streets. In the event that a planter strip is not required or available, the trees shall be planted on private property within the front yard setback area or within public street right-of-way between front property lines and street curb lines or as required by the City.
2. Size: Trees shall have a minimum trunk diameter of two (2) caliper inches, which is measured six inches above the soil line, and a minimum height of six (6) feet when planted.
3. Types: Developments shall include a variety of street trees. The trees planted shall be chosen from those listed in 16.142.080 of this Code.
4. Required Street Trees and Spacing:

- a. The minimum spacing is based on the maximum canopy spread identified in the recommended street tree list in section 16.142.080 with the intent of providing a continuous canopy without openings between the trees. For example, if a tree has a canopy of forty (40) feet, the spacing between trees is forty (40) feet. If the tree is not on the list, the mature canopy width must be provided to the planning department by a certified arborist.
- b. All new developments shall provide adequate tree planting along all public streets. The number and spacing of trees shall be determined based on the type of tree and the spacing standards described in a. above and considering driveways, street light locations and utility connections. Unless exempt per c. below, trees shall not be spaced more than forty (40) feet apart in any development.
- c. A new development may exceed the forty-foot spacing requirement under section b. above, under the following circumstances:
 - (1) Installing the tree would interfere with existing utility lines and no substitute tree is appropriate for the site; or
 - (2) There is not adequate space in which to plant a street tree due to driveway or street light locations, vision clearance or utility connections, provided the driveways, street light or utilities could not be reasonably located elsewhere so as to accommodate adequate room for street trees; and
 - (3) The street trees are spaced as close as possible given the site limitations in (1) and (2) above.
 - (4) The location of street trees in an ODOT or Washington County right-of-way may require approval, respectively, by ODOT or Washington County and are subject to the relevant state or county standards.
 - (5) For arterial and collector streets, the City may require planted medians in lieu of paved twelve-foot wide center turning lanes, planted with trees to the specifications of this subsection.

B. Removal and Replacement of Street Trees.

The removal of a street tree shall be limited and in most cases, necessitated by the tree. A person may remove a street tree as provided in this section. The person removing the tree is responsible for all costs of removal and replacement. Street trees less than five (5) inches DBH can be removed by right by the property owner or his or her assigns, provided that they are replaced. A street tree that is removed must be replaced within six (6) months of the removal date.

1. Criteria for All Street Tree Removal for trees over five (5) inches DBH. No street tree shall be removed unless it can be found that the tree is:
 - a. Dying, becoming severely diseased, or infested or diseased so as to threaten the health of other trees, or
 - b. Obstructing public ways or sight distance so as to cause a safety hazard, or
 - c. Interfering with or damaging public or private utilities, or
 - d. Defined as a nuisance per City nuisance abatement ordinances.
2. Street trees between five (5) and ten (10) inches DBH may be removed if any of the criteria in 1. above are met and a tree removal permit is obtained.
 - a. The Tree Removal Permit Process is a Type I land use decision and shall be approved subject to the following criteria:
 - (1) The person requesting removal shall submit a Tree Removal Permit application that identifies the location of the tree, the type of tree to be removed, the proposed replacement and how it qualifies for removal per Section 1. above.

- (2) The person shall post a sign, provided by the City, adjacent to the tree for ten (10) calendar days prior to removal that provides notice of the removal application and the process to comment on the application.
 - (3) If an objection to the removal is submitted by the City or to the City during the ten (10) calendar day period, an additional evaluation of the tree will be conducted by an arborist to determine whether the tree meets the criteria for street tree removal in Section 1. above. The person requesting the Tree Removal Permit shall be responsible for providing the arborist report and associated costs.
 - (4) Upon completion of the additional evaluation substantiating that the tree warrants removal per Section 1. above or if no objections are received within the ten-day period, the tree removal permit shall be approved.
 - (5) If additional evaluation indicates the tree does not warrant removal, the Tree Removal Permit will be denied.
3. Street trees over ten (10) inches DBH may be removed through a Type I review process subject to the following criteria.
- a. The applicant shall provide a letter from a certified arborist identifying:
 - (1) The tree's condition,
 - (2) How it warrants removal using the criteria listed in Section 1. above, and identifying any reasonable actions that could be taken to allow the retention of the tree.
 - b. The applicant shall provide a statement that describes whether and how the applicant sought assistance from the City, HOA or neighbors to address any issues or actions that would enable the tree to be retained.
 - c. The person shall post a sign, provided by the City, adjacent to the tree for ten (10) calendar days prior to removal that provides notice of the removal application and the process to comment on the application.
 - d. Review of the materials and comments from the public confirm that the tree meets the criteria for removal in Section 1. above.

C. Homeowner's Association Authorization.

The Planning Commission may approve a program for the adoption, administration and enforcement by a homeowners' association (HOA) of regulations for the removal and replacement of street trees within the geographic boundaries of the association.

1. An HOA that seeks to adopt and administer a street tree program must submit an application to the City. The application must contain substantially the following information:
 - a. The HOA must be current and active. The HOA should meet at least quarterly and the application should include the minutes from official HOA Board meetings for a period not less than eighteen (18) months (six (6) quarters) prior to the date of the application.
 - b. The application must include proposed spacing standards for street trees that are substantially similar to the spacing standards set forth in 16.142.060.A above.
 - c. The application must include proposed street tree removal and replacement standards that are substantially similar to the standards set forth in 16.142.060.B above.
 - d. The application should include a copy of the HOA bylaws as amended to allow the HOA to exercise authority over street tree removal and replacement, or demonstrate that such an amendment is likely within ninety (90) days of a decision to approve the application.
 - e. The application should include the signatures of not less than seventy-five (75) percent of the homeowners in the HOA in support of the application.

2. An application for approval of a tree removal and replacement program under this section shall be reviewed by the City through the Type IV land use process. In order to approve the program, the City must determine:
 - a. The HOA is current and active.
 - b. The proposed street tree removal and replacement standards are substantially similar to the standards set forth in 16.142.060.B above.
 - c. The proposed street tree spacing standards are substantially similar to the standards set forth in 16.142.060.A above.
 - d. The HOA has authority under its bylaws to adopt, administer and enforce the program.
 - e. The signatures of not less than seventy-five (75) percent of the homeowners in the HOA in support of the application.
3. A decision to approve an application under this section shall include at least the following conditions:
 - a. Beginning on the first January 1 following approval and on January 1 every two (2) years thereafter, the HOA shall make a report to the city planning department that provides a summary and description of action taken by the HOA under the approved program. Failure to timely submit the report that is not cured within sixty (60) days shall result in the immediate termination of the program.
 - b. The HOA shall comply with the requirements of Section 12.20 of the Sherwood Municipal Code.
4. The City retains the right to cancel the approved program at any time for failure to substantially comply with the approved standards or otherwise comply with the conditions of approval.
 - a. If an HOA tree removal program is canceled, future tree removals shall be subject to the provisions of section 16.142.060.
 - b. A decision by the City to terminate an approved street tree program shall not affect the validity of any decisions made by the HOA under the approved program that become final prior to the date the program is terminated.
 - c. If the city amends the spacing standards or the removal and replacement standards in this section (SZCDC 16.142.060) the City may require that the HOA amend the corresponding standards in the approved street tree program.
5. An approved HOA tree removal and replacement program shall be valid for five (5) years; however the authorization may be extended as approved by the City, through a Type II Land Use Review.

D. Exemption from Replacing Street Trees.

A street tree that was planted in compliance with the Code in effect on the date planted and no longer required by spacing standards of section A.4. above may be removed without replacement provided:

1. Exemption is granted at the time of street tree removal permit or authorized homeowner's association removal per Section 16.142.060.C. above.
2. The property owner provides a letter from a certified arborist stating that the tree must be removed due to a reason identified in the tree removal criteria listed in Section 16.142.060.B.1. above, and
3. The letter describes why the tree cannot be replaced without causing continued or additional damage to public or private utilities that could not be prevented through reasonable maintenance.

- E. Notwithstanding any other provision in this section, the city manager or the manager's designee may authorize the removal of a street tree in an emergency situation without a tree removal permit when the tree poses an immediate threat to life, property or utilities. A decision to remove a street tree under this section is subject to review only as provided in ORS 34.100.
- F. Trees on Private Property Causing Damage.
Any tree, woodland or any other vegetation located on private property, regardless of species or size, that interferes with or damages public streets or utilities, or causes an unwarranted increase in the maintenance costs of same, may be ordered removed or cut by the City Manager or his or her designee. Any order for the removal or cutting of such trees, woodlands or other vegetation, shall be made and reviewed under the applicable City nuisance abatement ordinances.
- G. Penalties. The abuse, destruction, defacing, cutting, removal, mutilation or other misuse of any tree planted on public property or along a public street as per this Section, shall be subject to the penalties defined by Section 16.02.040, and other penalties defined by applicable ordinances and statutes, provided that each tree so abused shall be deemed a separate offense.

(Ord. No. 2012-003, § 2, 5-1-2012; Ord. No. 2011-009, § 2, 7-19-2011; Ord. No. 2011-001, §§ 1, 2, 2-15-2011; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; Ord. 91-922, § 3)

Note— See editor's note, § 16.142.040.

16.142.070 - Trees on Property Subject to Certain Land Use Applications

No trees are anticipated to be removed for this project.

A. Generally

The purpose of this Section is to establish processes and standards which will minimize cutting or destruction of trees and woodlands within the City. This Section is intended to help protect the scenic beauty of the City; to retain a livable environment through the beneficial effect of trees on air pollution, heat and glare, sound, water quality, and surface water and erosion control; to encourage the retention and planting of tree species native to the Willamette Valley and Western Oregon; to provide an attractive visual contrast to the urban environment, and to sustain a wide variety and distribution of viable trees and woodlands in the community over time.

B. Applicability

All applications including a Type II - IV land use review, shall be required to preserve trees or woodlands, as defined by this Section to the maximum extent feasible within the context of the proposed land use plan and relative to other codes, policies, and standards of the City Comprehensive Plan.

C. Inventory

1. To assist the City in making its determinations on the retention of trees and woodlands, land use applications including Type II - IV development shall include a tree and woodland inventory and report. The report shall be prepared by a qualified professional and must contain the following information:

The project is not proposing to remove any tree from this site. All trees will be preserved. There is no reason to prepare a report as all trees will be protected during construction.

- a. Tree size (in DBH and canopy area)
- b. Tree species
- c. The condition of the tree with notes as applicable explaining the assessment
- d. The location of the tree on the site

- e. The location of the tree relative to the planned improvements
 - f. Assessment of whether the tree must be removed to accommodate the development
 - g. Recommendations on measures that must be taken to preserve trees during the construction that are not proposed to be removed.
2. In addition to the general requirements of this Section, the tree and woodland inventory's mapping and report shall also include, but is not limited to, the specific information outlined in the appropriate land use application materials packet.
 3. Definitions for the inventory purposes of this Section
 - a. A tree is a living woody plant having a trunk diameter as specified below at Diameter at Breast Height (DBH). Trees planted for commercial agricultural purposes, and/or those subject to farm forest deferral, such as nut and fruit orchards and Christmas tree farms, are excluded from this definition and from regulation under this Section, as are any living woody plants under six (6) inches at DBH. All trees six (6) inches or greater shall be inventoried.
 - b. A woodland is a biological community dominated by trees covering a land area of 20,000 square feet or greater at a density of at least fifty (50) trees per every 20,000 square feet with at least fifty percent (50%) of those trees of any species having a six (6) inches or greater at DBH. Woodlands planted for commercial agricultural purposes and/or subject to farm forest deferral, such as nut and fruit orchards and Christmas tree farms, are excluded from this definition, and from regulation under this Section.
 - c. A large stature tree is over 20 feet tall and wide with a minimum trunk diameter of 30 inches at DBH.

D. Retention requirements

1. Trees may be considered for removal to accommodate the development including buildings, parking, walkways, grading etc., provided the development satisfies of D.2 or D.3, below.
2. Required Tree Canopy - Residential Developments (Single Family Attached, Single Family Detached and Two - Family)

Each net development site shall provide a variety of trees to achieve a minimum total tree canopy of 40 percent. The canopy percentage is based on the expected mature canopy of each tree by using the equation πr^2 to calculate the expected square footage of canopy for each tree. The expected mature canopy is counted for each tree regardless of an overlap of multiple tree canopies.

The canopy requirement can be achieved by retaining existing trees or planting new trees. Required street trees can be used toward the total on site canopy required to meet this standard. The expected mature canopy spread of the new trees will be counted toward the needed canopy cover. A certified arborist or other qualified professional shall provide the estimated tree canopy of the proposed trees to the planning department for review.

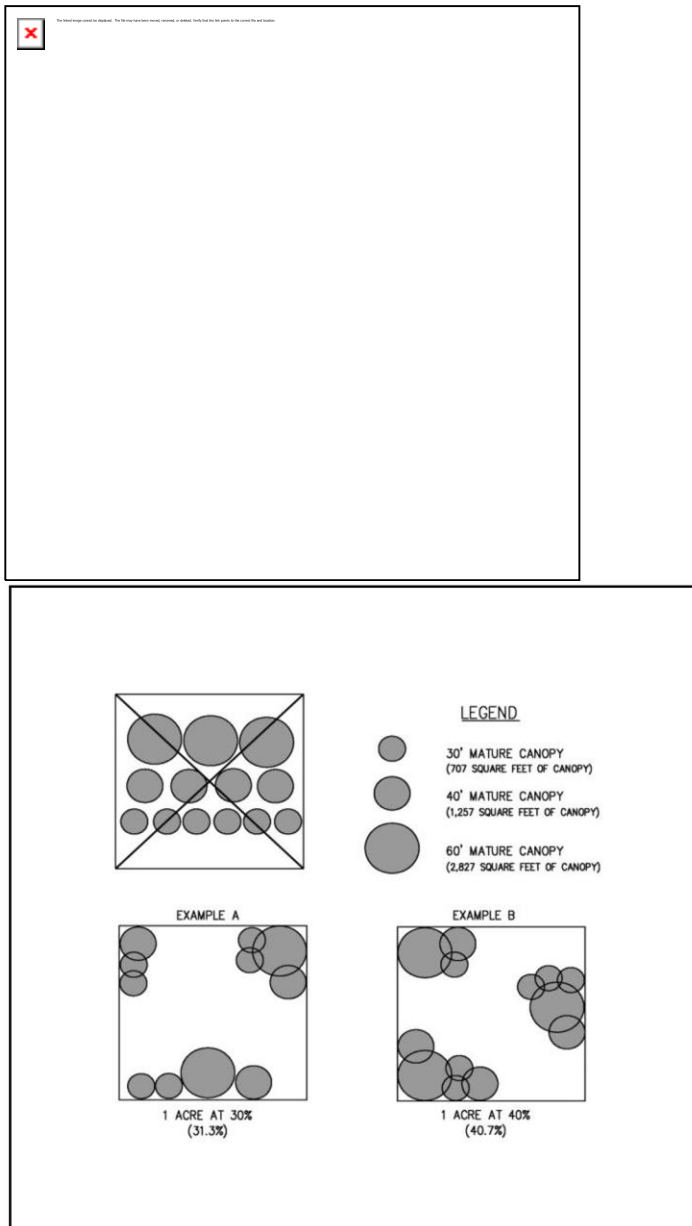
3. Required Tree Canopy - Non-Residential and Multi-family Developments

Each net development site shall provide a variety of trees to achieve a minimum total tree canopy of 30 percent. The canopy percentage is based on the expected mature canopy of each tree by using the equation πr^2 to calculate the expected square footage of each tree. The expected mature canopy is counted for each tree even if there is an overlap of multiple tree canopies.

The canopy requirement can be achieved by retaining existing trees or planting new trees. Required landscaping trees can be used toward the total on site canopy required to meet this standard. The expected mature canopy spread of the new trees will be counted toward the required canopy cover. A certified arborist or other qualified professional shall provide an

estimated tree canopy for all proposed trees to the planning department for review as a part of the land use review process.

	Residential (single family & two family developments)	Old Town & Infill developments	Commercial, Industrial, Institutional Public and Multi-family
Canopy Requirement	40%	N/A	30%
Counted Toward the Canopy Requirement			
Street trees included in canopy requirement	Yes	N/A	No
Landscaping requirements included in canopy requirement	N/A	N/A	Yes
Existing trees onsite	Yes x2	N/A	Yes x2
Planting new trees onsite	Yes	N/A	Yes
<p>Mature Canopy in Square Feet Equation πr^2 or $(3.14159 * \text{radius}^2)$ (This is the calculation to measure the square footage of a circle. The Mature Canopy is given in diameter. In gardening and horticulture reference books, therefore to get the radius you must divide the diameter in half.</p>			
<p>Canopy Calculation Example: Pin Oak Mature canopy = 35' $(3.14159 * 17.5^2) = 962$ square feet</p>			



4. The City may determine that, regardless of D.1 through D.3, that certain trees or woodlands may be required to be retained. The basis for such a decision shall include; specific findings that retention of said trees or woodlands furthers the purposes and goals of this Section, is feasible and practical both within the context of the proposed land use plan and relative to other policies and standards of the City Comprehensive Plan, and are:
 - a. Within a Significant Natural Area, 100-year floodplain, City greenway, jurisdictional wetland or other existing or future public park or natural area designated by the City Comprehensive Plan, or
 - b. A landscape or natural feature as per applicable policies of the City Comprehensive Plan, or are necessary to keep other identified trees or woodlands on or near the site from being damaged or destroyed due to windfall, erosion, disease or other natural processes, or
 - c. Necessary for soil stability and the control of erosion, for managing and preserving surface or groundwater quantities or quality, or for the maintenance of a natural drainageway, as

per Clean Water Services stormwater management plans and standards of the City Comprehensive Plan, or

- d. Necessary in required buffers between otherwise incompatible land uses, or from natural areas, wetlands and greenways, or
 - e. Otherwise merit retention because of unusual size, size of the tree stand, historic association or species type, habitat or wildlife preservation considerations, or some combination thereof, as determined by the City.
5. Tree retention requirements for properties located within the Old Town Overlay or projects subject to the infill standards of Chapter 16.68 are only subject to retention requirements identified in D.4. above.
 6. The Notice of Decision issued for the land use applications subject to this Section shall indicate which trees and woodlands will be retained as per subsection D of this Section, which may be removed or shall be retained as per subsection D of this Section and any limitations or conditions attached thereto.
 7. All trees, woodlands, and vegetation located on any private property accepted for dedication to the City for public parks and open space, greenways, Significant Natural Areas, wetlands, floodplains, or for storm water management or for other purposes, as a condition of a land use approval, shall be retained outright, irrespective of size, species, condition or other factors. Removal of any such trees, woodlands, and vegetation prior to actual dedication of the property to the City shall be cause for reconsideration of the land use plan approval.

E. Tree Preservation Incentive

Retention of existing native trees on site which are in good health can be used to achieve the required mature canopy requirement of the development. The expected mature canopy can be calculated twice for existing trees. For example, if one existing tree with an expected mature canopy of 10 feet (78.5 square feet) is retained it will count as twice the existing canopy (157 square feet).

F. Additional Preservation Incentives

1. General Provisions. To assist in the preservation of trees, the City may apply one or more of the following flexible standards as part of the land use review approval. To the extent that the standards in this section conflict with the standards in other sections of this Title, the standards in this section shall apply except in cases where the City determines there would be an unreasonable risk to public health, safety, or welfare. Flexibility shall be requested by the applicant with justification provided within the tree preservation and protection report as part of the land use review process and is only applicable to trees that are eligible for credit towards the effective tree canopy cover of the site. A separate adjustment application as outlined in Section 16.84.030.A is not required.
2. Flexible Development Standards. The following flexible standards are available to applicants in order to preserve trees on a development site. These standards cannot be combined with any other reductions authorized by this code.
 - a. Lot size averaging. To preserve existing trees in the development plan for any Land Division under Division VII, lot size may be averaged to allow lots less than the minimum lot size required in the underlying zone as long as the average lot area is not less than that allowed by the underlying zone. No lot area shall be less than 80 percent of the minimum lot size allowed in the zone;
 - b. Setbacks. The following setback reductions will be allowed for lots preserving existing trees using the criteria in subsection (1) below. The following reductions shall be limited to the minimum reduction necessary to protect the tree.
 - (1) Reductions allowed:

- (a.) Front yard - up to a 25 percent reduction of the dimensional standard for a front yard setback required in the base zone. Setback of garages may not be reduced by this provision.
 - (b.) Interior setbacks - up to a 40 percent reduction of the dimensional standards for an interior side and/or rear yard setback required in the base zone.
 - (c.) Perimeter side and rear yard setbacks shall not be reduced through this provision.
- c. Approval criteria:
 - (1.) A demonstration that the reduction requested is the least required to preserve trees; and
 - (2.) The reduction will result in the preservation of tree canopy on the lot with the modified setbacks; and
 - (3.) The reduction will not impede adequate emergency access to the site and structure.
- 3. Sidewalks. Location of a public sidewalk may be flexible in order to preserve existing trees or to plant new large stature street trees. This flexibility may be accomplished through a curb-tight sidewalk or a meandering public sidewalk easement recorded over private property and shall be reviewed on a case by case basis in accordance with the provisions of the Engineering Design Manual, Street and Utility Improvement Standards. For preservation, this flexibility shall be the minimum required to achieve the desired effect. For planting, preference shall be given to retaining the planter strip and separation between the curb and sidewalk wherever practicable. If a preserved tree is to be utilized as a street tree, it must meet the criteria found in the Street Tree section, 16.142.060.
- 4. Adjustments to Commercial and Industrial development Standards. Adjustments to Commercial or Industrial Development standards of up to 20 feet additional building height are permitted provided;
 - a. At least 50% of a Significant Tree stand's of canopy within a development site (and not also within the sensitive lands or areas that areas dedicated to the City) is preserved;
 - b. The project arborist or qualified professional certifies the preservation is such that the connectivity and viability of the remaining significant tree stand is maximized;
 - c. Applicable buffering and screening requirements are met;
 - d. Any height adjustments comply with state building codes;
 - e. Significant tree stands are protected through an instrument or action subject to approval by the City Manager or the City manager's designee that demonstrates it will be permanently preserved and managed as such;
 - (1.) A conservation easement;
 - (2.) An open space tract;
 - (3.) A deed restriction; or
 - (4.) Through dedication and acceptance by the City.

G. Tree Protection During Development

The applicant shall prepare and submit a final Tree and Woodland Plan prior to issuance of any construction permits, illustrating how identified trees and woodlands will be retained, removed or protected as per the Notice of Decision. Such plan shall specify how trees and woodlands will be protected from damage or destruction by construction activities, including protective fencing, selective pruning and root treatments, excavation techniques, temporary drainage systems, and like methods. At a minimum, trees to be protected shall have the area within the drip line of the tree protected from grading, stockpiling, and all other construction related activity unless specifically reviewed and recommended by a

certified arborist or other qualified professional. Any work within the dripline of the tree shall be supervised by the project arborist or other qualified professional onsite during construction.

H. Penalties

Violations of this Section shall be subject to the penalties defined by Section 16.02.040, provided that each designated tree or woodland unlawfully removed or cut shall be deemed a separate offense.

(Ord. No. 2012-003, § 2, 5-1-2012; Ord. No. 2011-009, § 2, 7-19-2011; Ord. 2006-021; Ord. 91-922, § 3)

Note— See editor's note, § 16.142.040.

16.142.080 - Trees on Private Property — not subject to a land use action

A. Generally

In general, existing mature trees on private property shall be retained unless determined to be a hazard to life or property. For the purposes of this section only, existing mature trees shall be considered any deciduous tree greater than ten (10) inches diameter at the breast height (dbh) or any coniferous tree greater than twenty (20) inches dbh.

B. Residential (Single Family and Two-Family) Standards

In the event a property owner determines it necessary to remove existing mature trees on their property that are not a hazard, they may remove the trees as described below;

1. Removal of up to five (5) trees, or up to 10 percent of the number of trees on site, whichever is greater, within a twelve month period. No review or approval required provided that trees are not located within a wetland, floodplain or protected through prior land use review per section 3.b. (1.) - (5.) below, that the planning department is notified in writing 48 hours prior to removing the tree, including the property address, property owner name and contact information, and provided with the type and size of the tree. Failure to notify the Planning Department shall not result in a violation of this code unless it is determined that the tree removal is located within a wetland, floodplain or protected through prior land use review per section 3.b. (1.) - (5.) below, or in excess of that permitted outright.
2. Removal of six (6) or more trees, or more than 10 percent of the number of trees on site, whichever is greater, within a twelve month period except as allowed in subsection 1, above.
 - a. The applicant shall submit the following;
 - (1.) A narrative describing the need to remove the tree(s),
 - (2.) A statement describing when and how the Homeowner's Association (HOA) was informed of the proposed tree cutting and their response. If there is not an active HOA, the applicant shall submit as statement indicating that there is not a HOA to contact.
 - (3.) A plan showing the location of the tree and
 - (4.) The applicant shall submit a replacement tree plan. Half of the number of trees removed shall be replaced on site with native trees within six months from the date of removal.
3. The City may determine that, regardless of B.1 through B.2, that certain trees or stands of trees may be required to be retained.
 - a. If removal is proposed within a wetland, floodplain or protected through prior land use review per section 3.b. (1.) - (5.) below, the applicant shall submit documentation from a licensed qualified professional in natural resources management such as a wetland

scientist, a botanist, or biologist, discussing the proposed tree removal and how it would or would not compromise the integrity of the resource. It shall also discuss the feasibility and practicality of tree removal relative to policies and standards of the City Comprehensive Plan, listed in section 3.b. below.

- b. The basis for such a City decision shall include; specific findings that retention of said trees or woodlands furthers the purposes and goals of this Section, is feasible and practical relative to other policies and standards of the City Comprehensive Plan, and are:
 - (1.) Within a Significant Natural Area, 100-year floodplain, City greenway, jurisdictional wetland or other existing or future public park or natural area designated by the City Comprehensive Plan, or
 - (2.) A landscape or natural feature as per applicable policies of the City Comprehensive Plan, or are necessary to keep other identified trees or woodlands on or near the site from being damaged or destroyed due to windfall, erosion, disease or other natural processes, or
 - (3.) Necessary for soil stability and the control of erosion, for managing and preserving surface or groundwater quantities or quality, or for the maintenance of a natural drainageway, as per Clean Water Services stormwater management plans and standards of the City Comprehensive Plan, or
 - (4.) Necessary in required buffers between otherwise incompatible land uses, or from natural areas, wetlands and greenways, or
 - (5.) Otherwise merit retention because of unusual size, size of the tree stand, historic association or species type, habitat or wildlife preservation considerations, or some combination thereof, as determined by the City.

C. Non-Residential and Multi-family Standards

In the event a property owner determines it necessary to remove existing mature trees on their property that are not a hazard, they may remove the trees as described below;

- 1. Trees required by a land use decision after the effective date of this code can be removed. Any trees removed shall be replaced within six months of removing the tree with an appropriate tree for the area.
- 2. Trees that were not required by land use or planted prior to the effective date of this code can be removed after receiving approval from the City of Sherwood.
 - a. Removal of up to 25 percent of the trees on site can be removed and replaced through a type I review process. The applicant shall submit the following;
 - (1.) A narrative describing the need to remove the trees,
 - (2.) A plan showing the location of the trees and
 - (3.) A replacement tree plan. One-half (1/2) of the number of trees removed shall be replaced. The replacement shall take place on site with similar trees within six months from the date of removal.
 - (4.) Exemption to replacement. If less than one-half (1/2) of the trees removed will be replanted due to site crowding and constraints precluding the healthy growth of additional trees, a report from a qualified professional shall describe the site specific crowding or constraints, and provide a report to the City requesting the exemption in order to be exempt from replacing the removed trees.
 - b. Removal of more than 25 percent of the trees on site can be removed and replaced through a type II review process. The applicant shall submit the following;
 - (1.) An arborists report describing the need to remove the trees. The cause for removal must be necessitated by the trees,

- (2.) A plan showing the location of the tree and
 - (3.) A replacement tree plan. Two-thirds of the number of trees removed shall be replaced on site with similar trees within six months from the date of removal.
 - (4.) Exemption to replacement. If less than one-half (½) of the trees removed will be replanted due to site crowding and constraints precluding the healthy growth of additional trees, a report from a qualified professional shall describe the site specific crowding or constraints, and provide a report to the City requesting the exemption in order to be exempt from replacing the removed trees.
3. The City may determine that, regardless of C.1 through C.2, that certain trees or stands of trees may be required to be retained.
- a. The applicant shall submit documentation from a licensed qualified professional in natural resources management such as wetland scientist, botanist or biologist, discussing the proposed tree removal within the context of the proposed land use plan and relative to other policies and standards of the City Comprehensive Plan, listed in section 3.b. below.
 - b. The basis for such a City decision shall include; specific findings that retention of said trees or woodlands furthers the purposes and goals of this Section, is feasible and practical both within the context of the proposed land use plan and relative to other policies and standards of the City Comprehensive Plan, and are:
 - (1.) Within a Significant Natural Area, 100-year floodplain, City greenway, jurisdictional wetland or other existing or future public park or natural area designated by the City Comprehensive Plan, or
 - (2.) A landscape or natural feature as per applicable policies of the City Comprehensive Plan, or are necessary to keep other identified trees or woodlands on or near the site from being damaged or destroyed due to windfall, erosion, disease or other natural processes, or
 - (3.) Necessary for soil stability and the control of erosion, for managing and preserving surface or groundwater quantities or quality, or for the maintenance of a natural drainageway, as per Clean Water Services stormwater management plans and standards of the City Comprehensive Plan, or
 - (4.) Necessary in required buffers between otherwise incompatible land uses, or from natural areas, wetlands and greenways, or
 - (5.) Otherwise merit retention because of unusual size, size of the tree stand, historic association or species type, habitat or wildlife preservation considerations, or some combination thereof, as determined.

(Ord. No. 2012-003, § 2, 5-1-2012; Ord. No. 2011-009, § 2, 7-19-2011; Ord. No. 2011-001, §§ 1, 2, 2-15-2011; Ord. No. 2010-015, § 2, 10-5-2010)

Note— See editor's note, § 16.142.040.

16.142.090 - Recommended Street Trees

A. Recommended Street Trees:

Common Name	Botanical Name	Canopy Spread (feet)

Acer - Maple		
Cavalier Norway Maple	<i>Acer platanoides cavalier</i>	
Cleveland Norway Maple	p. Cleveland	30
Cleveland II Norway Maple	p. Cleveland	25
Columnar Norway Maple	p. columnare	15
Fairway Sugar Maple (sugar maple)	p. fairway	40
Olmsted Norway Maple	p. olmsted	20—25
Roughbark Maple	<i>Acer triflorum</i>	20
Trident Maple	<i>Acer buergeranum</i>	20
Rocky Mountain Glow Maple	<i>Acer grandidentatum</i> 'Schmidt'	15
David's Maple	<i>Acer davidii</i>	20
Metro Gold Hedge Maple	<i>Acer campestre</i> 'Panacek'	25
Red Sunset Maple (Old Town)	<i>Acer rubrum</i> red sunset - Red Sunset Maple (Old Town) (Provided that a root barrier is installed)	25—40
Royal Red Maple	r. royal red	20—25
Gerling Red Maple	r. gerling	25—35
Tilford Red Maple	r. tilford	30
Carpinus - Hornbeam		
Pyramidal European Hornbeam	<i>Carpinus betulus pyramidalis</i>	30—40

Pyramidal European Hornbeam	b. columnaris	15
Pyramidal European Hornbeam	b. fastigiata	15—20
Eastern Redbud	Cercic, canadensis - Canadian Red Bud	10—20
Fraxinus - Ash		
Dr. Pirone Ash	augustifolia dr. pirone	35—50
Raywood Ash	raywoodi	20
Oregon Ash	latifolia	25—40
Ginkgo		
Autumn Gold	biloba	25—35
Fairmount	biloba	15—25
Gleditsia		
Honey Locust	triacanthos sunburst	20—30
Liquidamber		
American Sweetgum	styraciflua	40
Liriodenrod		
Magnolia		
Evergreen Magnolia	grandiflora vars	
Southern Magnolia	grandiflora	40
Dr. Merrill Magnolia	kobus dr. merrill	15—20

Edith Bogue Magnolia	Magnolia grandiflora 'Edith Bogue'	15
Purnus - Cherry - Plum		
Double Flowering Cherry	avium plena	30—40
Scanlon Globe Cherry	avium scanlon	30—40
Japanese Cherry	serrulata vars (nonweeping)	15—30
Okame Cherry	okame	20—30
Blireana Plum	blireana	20
Pissardi Plum	pissardi	10
Krauter's Vesuvius Plum	Vesuvius	15
Amur Chokecherry	maacki	25—30
Redbark Cherry	serrula	20—30
European Birdcherry	padus	35
Bigflowered Birdcherry	grandiflora	10—20
Rancho Birdcherry	berg	15—20
Purpleleaf Birdcherry	purpurea	10—20
Prairifire Crabapple	Malus 'Prairifire'	20
Quercus		
Crimson Spire Oak	Quercus alba x Q. robur 'Crimschmidt'	15
Pin Oak	palustris	35
Tilia - Linden		

American Linden	americana	35—40
Little Leaf Linden	cordata	40
Crimean Linden	euchlora	20—30
Silver Linden	tomentosa	40
Bicentennial Linden	bicentennial	30
Greenspire Linden	greenspire	20
Salem Linden	salem	20—30
Chancellor Linden	Tiliacordata 'Chancole'	20

B. Recommended Street Trees under Power Lines:

Acer ginnala — Amur Maple 20' spread

Acer campestre — Hedge Maple 30' spread

Acer palmatum — Japanese Maple 25' spread

Acer griseum — Paperbark Maple 20' spread

Acer circinatum — Vine Maple 25' spread

Amelanchier x grandiflora — Apple Serviceberry 20' spread

Amelanchier Canadensis — Shadblow Serviceberry 20' spread

Cercis Canadensis — Eastern Redbud 25—30' spread

Clerodendrum trichotomum — Glorybower Tree 20' spread

Cornus florida — Flowering Dogwood 20-25' spread

Cornus kousa — Japanese Dogwood 25' spread

Crataegus phaenopyrum — Washington Hawthorn 25' spread

Crataegus x lavellei — Lavelle Hawthorn 20' spread

Fraxinus excelsior globosum — Globe-Headed European Ash 12—15' spread

Fraxinus ornus — Flowering Ash 20—30' spread

Fraxinus oxycarpa aureopolia — Golden Desert Ash 18' spread

Koelreuteria paniculata — Goldenrain Tree 10—20' spread

Laburnum x waterii — Golden Chain Tree 15' spread

Malus — Flowering Crabapple 20-25' spread

Prunus — Flowering Cherry 20—25' spread

Pyrus calleryana — Flowering Pear "Cleveland Select" 20' spread

Styrax japonica — Japanese Snowbell 25' spread

Syringa reticulata — Japanese Tree Lilac 20—25' spread

C. Prohibited Street Trees:

Acer, Silver Maple

Acer, Boxelder

Ailanthus, glandulosa - Tree-of-heaven

Betula; common varieties of Birch

Ulmus; common varieties of Elm

Morus; common varieties of Mulberry

Salix; common varieties of willow

Coniferous Evergreen (Fir, Pine, Cedar, etc.)

Populus; common varieties of poplar, cottonwood and aspen

Female Ginkgo

- D. Alternative Street Trees: Trees that are similar to those on the recommended street tree list can be proposed provided that they are non-fruit bearing, non-invasive and not listed on the prohibited street tree list. A letter from a certified arborist must be submitted, explaining why the tree is an equivalent or better street tree than the recommended street trees that are identified in this section.

(Ord. No. 2011-009, § 2, 7-19-2011; Ord. No. 2011-001, §§ 1, 2, 2-15-2011; Ord. No. 2010-015, § 2, 10-5-2010)

Note— See editor's note, § 16.142.040.

Roadway Engineering

Civil Engineering / Land Development
20015 SW Tillamook Ct,
Tualatin OR 97062
Ph 503-267-8433
roadengr@comcast.net

5. Existing Conditions Plans

See new plan sheet C-2A for existing conditions

- a) Confirm existing parcel size and indicate on plans. Property size indicated on land use form appears to be incorrect. **Corrected lot area is 0.16 AC**
- b) Show existing site striping, vehicle parking stalls, drive aisles **A new sheet C-2A has been added to the plans showing the existing conditions including trees and landscaping.**
- c) Show existing trees and landscaping **A new sheet C-2A has been added to the plans showing the existing conditions including trees and landscaping.**
- d) Show and label existing easements. **The existing easement have been added to the new sheet c-2a**
- e) Confirm, show and label existing property lines. Right-of-way line along SW Borchers Dr. appears to be incorrect. **The right-of-way line along Borchers Dr. has been corrected and labeled. All property and ROW lines have been labeled.**
- f) Show and label half-street right-of-way width for SW Borchers Dr. **The ROW width for the north and south sides of SW Borchers Dr. at this location is 35.0' The ROW width does vary up and down the street, probably due to the fact that the old existing road went through to the south to Hwy 99. Again, we are not proposing to change anything within the public ROW and this curb and sidewalk placement was made in 2007 when the previous coffee stand was constructed. This information was taken from the As-Built drawings (electronic AutoCad drawings) supplied to me by SFA Design Group.**

g) Show and label curb along SW Borchers Dr. Show and label distance from right-of-way center line. **The curb line is dimensioned from centerline for both sides of the roadway. It is noted that because of the curvature of the new street the curbs were not designed or constructed to fit exactly along the centerline of the right-of-way. There was probably an old construction centerline that was used to construct the curb line for this section of the roadway. We are not proposing to change the street configuration and are not proposing any work within the City right-of-way. The street seems to be functioning adequately as it currently configured. We are only trying to reconfigure the existing drive up lanes from one oversized lane to two 10' drive up lanes and have additional storage available so that backups will less likely overflow onto Borchers Dr.**

h) Show and label where existing roof drains will discharge. **The locations are shown on the new sheet C-2a of the plans. No alterations are being proposed for the building so the roof drains will not be changing.**

i) Show and label existing sanitary lateral. **The existing sewer line is labeled on the new sheet C-2a. No changes are proposed for the building so no changes to the existing 4" sewer lateral.**

j) Show and label existing water line and service. **The existing water services location is labeled on the new sheet C-2a. No changes are proposed for the building so no changes to the existing water meter or water service.**

k) Show and label the location of the nearest fire hydrant. **The existing fire hydrant location is labeled on the new sheet C-2a.**

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6. Preliminary Development Plans

See revised preliminary set of plans

- a) Show final proposed width of visual corridor on private property adjacent to SW Borchers Dr. **The required width of the visual corridor on SW Borchers Dr. is 10'. The entire frontage with the redesign lies outside of this visual corridor. The only portion of the project that lies within this 10' visual corridor is adjacent to the existing building in the area that we are not proposing to alter. The minimum visual corridor for this short section of existing building is 5.5'. These dimensions are shown on the site plan, see sheet C-4**
- b) Show final proposed width of visual corridor on private property and within the right-of-way adjacent to OR 99W. **The required visual corridor adjacent to OR 99W is 25'. The previous design was approved with a reduction to 16.6' visual corridor. The proposed redesign shows an average visual corridor of 22', with a minimum corridor width of 17', which is better than what was originally constructed. See dimension on the site plan, sheet C-4 of the plans.**
- c) Show and label width of drive aisles throughout entire site, including adjacent to the parallel parking stalls at the northeast corner of the site. **The minimum width of drive aisles is 10' as shown on sheet C-4 of the plans. Adjacent to the parking stalls at the northeast corner the drive aisle the width is 14.2' See dimensions shown on sheet C-4 of the plans.**
- d) Provide a final landscaping plan that includes trees, shrubs, and ground cover. **See sheet C-7 for the landscape plan for this project. Remember this is just a revision to the width of the drive isles and we would like to salvage all the existing mature vegetation on site and reuse it. The existing vegetation is 13 years old and the surviving plants are very large and mature. Some of the existing vegetation that was planted in 2007 has been chocked out by the more aggressive plants and it does not seem reasonable to replant small plants as they would probably not survive. If the goal is to provide large mature plants then we would propose the best solution would be to salvage the existing plants and relocate them as shown on sheet C-7 of the proposed improvement plans.**

e) Provide calculations on the amount of tree canopy coverage proposed for the site.

The total area of this lot is 7093 sq. ft. The required tree canopy coverage is 30% so the needed tree canopy area is 2128 sq. ft.

The existing trees include the following

- one 30" ponderosa pine tree, located at the NE corner of the property with an existing canopy of 40' which equates to a coverage of 1256 sq ft**
- one existing 8" deciduous tree at the NW corner of the property with an existing canopy of 20' which equates to a coverage of 314 sq. ft.**
- There are 7 Raywood ash trees that were planted in 2007 and their mature canopy is 20' and these 7 trees equate to a canopy of 2199 sq. ft.**

The total canopy of existing trees and trees planted in 2007 all of which are to be retained is a total of 3769 sq. ft.

It appears that the tree canopy requirement is met.

f) Show and label length of proposed ADA stalls. **The ADA parking stall dimension is shown on sheet C-4 of the plans and measures 9'x18' and is sloped at 2% maximum. The Van unloading area measures 8'x18' and is sloped at 2% maximum. The compact parking stall measure 8.5'x18'. All parking stalls are dimensioned on sheet C-4 of the plans.**

g) Show and label any proposed outdoor storage (trash enclosure), delivery loading and circulation areas. **The outdoor trash enclosure is labeled on sheet C-4 of the plans and is located adjacent to the building just to the north. It is a covered area and screened from the street.**

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Type 'B' Variance Report for 21003 SW Pacific Hwy, Sherwood Oregon

1-13-2021

A Total of three Type 'B' Variances are being requested for Ziggy's Coffee Stand

- **Variance # 1 Width of drive aisle below 15'**

The proposed width of the exit drive aisle is 13.8' which is a reduction of $(15-13.8)/15 = 8.0\%$ which is less than the maximum 20% reduction allowed for this variance. This reduction is due to the lot configuration, due to size and shape along with setbacks and visual corridors.

- **Variance # 2 Width of parking space drive aisle below 26'**

The proposed width of the parking space drive aisle for the compact and ADA parking stall is 24.0' which is a reduction of $(26-24)/26 = 7.7\%$ which is less than the maximum 20% reduction allowed for this variance. This reduction is due to the lot configuration of size and shape of the lot, along with setbacks and visual corridors. The rear bumper overhang will also aid in gaining additional depth for the parking space drive aisle, which reduces the 7.7% even more.

- **Variance # 3 Width of visual corridor below 25'**

The proposed width of the visual corridor adjacent to Pacific Hwy is 21.9' which is a reduction of $(25-21.9)/25 = 12.4\%$ which is less than

the maximum 20% reduction allowed for by this variance. This reduction is due to the lot configuration of both size and shape, along with setbacks and is the minimum needed to make this configuration work. The proposed configuration is better than the existing configuration as it now sits as there is only a 17' visual corridor, so the new configuration is going to be an improvement from what currently exists. Also, the lots to the east and west are presently non-conforming to the required 25' visual corridor as they were constructed prior to this requirement. There is no impact to the adjacent lots.

In addition to the reasoning above the follow criteria apply:

This variance does not result in the removal of trees

This variance will not result in violations of any other adopted ordinance or code standard

This variance will have minimal impact to the adjacent properties.

This variance is the minimum needed to achieve the desired result and we have considered alternatives.

Steve Farnsworth PE
Roadway Engineering, Inc
20015 SW Tillamook Ct.
Tualatin OR 97062
503-267-8433

ZIGGI'S COFFEE PROJECT SITE DEVELOPMENT PERMIT

PERMIT # XXX ; PROJECT # XXXX; CASE FILE # XXXX
 XXXX SW BORCHERS DRIVE, CO RD. 1324
 SHERWOOD, OR 97140

DEED DOC NO. 2005-027602

LOCATED IN THE NE QUARTER OF SEC 30, T 2S, R 1 WM
 WASHINGTON COUNTY, OREGON



**NOTE: IF PLOTTED ON
 11" X 17" FORMAT THE
 SCALE WILL BE 1/2 OF
 SHOWN SCALE**

ENGINEER:
 ROADWAY ENGINEERING, INC.
 20015 SW TILLAMOOK CT.
 TUALATIN, OREGON 97062
 CONTACT: STEVE FARNSWORTH, P.E.
 PHONE: (503) 267-8433
 E-MAIL roadengr@comcast.net

OWNER:
 TIM HUBBARD
 21003 SW Pacific Hwy.
 SHERWOOD OR, 97140
 PHONE: (503) 625-2225
 E-MAIL shrwdchiro@gmail.com

INDEX OF DRAWINGS

SHEET NO.	TITLE
C-1	COVER SHEET
C-2	GENERAL NOTES
C-3	DEMO PLAN
C-4	SITE PLAN
C-5	GRADING & EROSION CONTROL PLAN & DETAILS
C-6	STORM PLAN & PROFILE
C-7	LANDSCAPE PLAN
C-8	DETAIL SHEET
C-9	CONTECH STORM FILTER DETAILS

BENCH MARK
 SET "PK" NEAR EXISTING ADA TRUNCATED DOMES IN LINE WITH ENTRANCE TO BLD. PT # 2001
ELEV = 98.70'

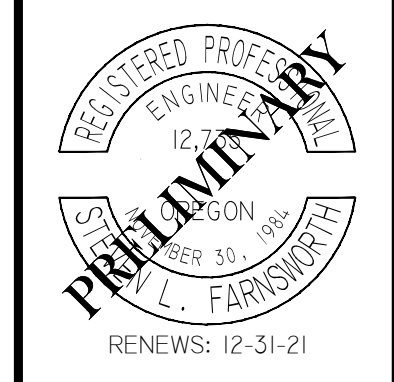
NOTICE TO EXCAVATORS
 ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-232-1987)

POTENTIAL UNDERGROUND FACILITY OWNERS
Dig Safely
 CALL THE OREGON ONE-CALL CENTER
 1-800-332-2344

EMERGENCY TELEPHONE NUMBERS

NW NATURAL GAS	503-226-4211 Ext. 4313
M-F 7am-6pm	503-226-4211
AFTER HOURS	503-464-7777
PGE	1-800-934-6489
COMCAST	503-823-1700
CITY BUREAU OF MAINTENANCE	503-823-4874
CITY WATER	1-800-483-1000
VERIZON	

REVISION INFORMATION	
SUBMITTAL	DATE
1ST SUBMITTAL	08/31/17



Roadway Engineering, Inc.
 SPECIALIZING IN CIVIL ENGINEERING
 20015 SW TILLAMOOK CT. TUALATIN, OR 97062
 PHONE: (503) 267-8433 FAX: (503) 486-5229
 Licensed in California, Oregon & Washington

ZIGGI'S COFFEE STAND
 MODIFICATIONS TO DRIVE UP
 21003 SW BORCHERS ROAD
 CITY OF SHERWOOD, OREGON
 COVER SHEET

DATE:	9/31/17
DESIGN:	SLF
DRAWN:	RFD
CHECK:	SLF
SCALE:	1" = 10' HORIZ

PRELIMINARY

C-1

CITY OF SHERWOOD STANDARD NOTES

1. CONTRACTOR SHALL NOTIFY CITY OF SHERWOOD ENGINEERING DEPARTMENT (AT 503-925-2306) TWO BUSINESS DAYS PRIOR TO COMMENCEMENT OF WORK ON GRADING, PUBLIC IMPROVEMENTS, OR STORM WATER TREATMENT FACILITIES.
2. ALL CONSTRUCTION WORK AND MATERIALS SHALL CONFORM TO APPLICABLE CITY OF SHERWOOD STANDARDS CONSTRUCTION SPECIFICATIONS, CLEAN WATER SERVICES (CWS) DESIGN AND CONSTRUCTION STANDARDS, UNIFORM PLUMBING CODE (UPC) AND UNIFORM BUILDING CODE (UBC). CONTRACTOR AND SUBCONTRACTOR(S) SHALL HAVE A MINIMUM OF ONE SET OF APPROVED PLANS AND CITY OF SHERWOOD STANDARD CONSTRUCTION SPECIFICATIONS ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.
3. APPLICANT(S) IS RESPONSIBLE FOR ALL COSTS OF CONSTRUCTION.
4. CITY OF SHERWOOD BUILDING DEPARTMENT PERMITS ARE REQUIRED FOR PRIVATELY MAINTAINED SEWER, INLETS, INLET LEADS, AND SERVICE LATERALS CONSTRUCTED OUTSIDE OF PUBLIC RIGHT-OF-WAY OR PUBLIC EASEMENT. ALL WORK APPROVED UNDER PLUMBING PERMITS SHALL BE PRIVATELY OWNED AND MAINTAINED.
5. ATTENTION EXCAVATORS: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING (503) 232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THESE RULES, YOU MAY CONTACT THE CALL CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING EXCAVATION. CALL (503) 246-6699
6. ALL TRENCH LINES AND EXCAVATIONS SHALL BE PROPERLY SHORED AND BRACED TO PREVENT CAVING. UNUSUALLY DEEP EXCAVATIONS MAY REQUIRE EXTRA SHORING AND BRACING. ALL SHEETING, SHORING, AND BRACING OF TRENCHES SHALL CONFORM TO OREGON OCCUPATIONAL SAFETY AND HEALTH DIVISION (OSHA) REGULATIONS AND CITY OF SHERWOOD STANDARD SPECIFICATIONS.
7. CONTRACTOR IS TO FEILD VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION
8. SITE EROSION CONTROL PLAN AND BMP'S MEETING CWS STANDARDS TO BE IN PLACE AND APPROVED PRIOR TO CONSTRUCTION
9. A TEMPORARY USE PERMIT, SUBJECT TO SECTION 16.86 OF THE CITY OF SHERWOOD CODE, IS REQUIRED PRIOR TO ANY USE OF AN ON-SITE CONSTRUCTION TRAILER. UNDER NO CIRCUMSTANCE SHALL THE TRAILER BE LOCATED IN THE PUBLIC RIGHT-OF-WAY.
10. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES BEFORE STARTING CONSTRUCTION. A COPY OF THE REQUIRED PERMITS AND ATTACHMENTS SHALL BE AT THE WORK SITE AND AVAILABLE DURING CONSTRUCTION.
11. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. TRAFFIC CONTROL PLAN SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
12. ANY INSPECTION OR CONSTRUCTION OBSERVATION BY THE CITY, COUNTY, STATE, OR OTHER JURISDICTIONAL AGENCIES SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATIONS, CITY STANDARDS, AND PROJECT CONTRACT DOCUMENTS.
13. CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING STRUCTURES AND UTILITIES NOT SHOWN TO BE REMOVED. CONTRACTOR SHALL REPLACE OR REPAIR ANY EXISTING STRUCTURES (SIDEWALKS, CURB, FENCE, STREET TREES, ETC.) DAMAGED DURING CONSTRUCTION, IN ACCORDANCE WITH CITY STANDARDS.
14. NO TRENCHES OR PITS WILL BE ALLOWED TO REMAIN OPEN OVERNIGHT. ALL TRENCHES AND PITS SHALL BE COVERED WITH STEEL PLATES OR FILLED IN AT NIGHT.
15. ANY ALTERATIONS OR VARIATIONS FROM THESE PLANS, EXCEPT MINOR FIELD ADJUSTMENTS NEEDED TO MEET EXISTING FIELD CONDITIONS, SHALL BE APPROVED THE THE ENGINEER AND APPLICABLE REGULATORY AGENCY REPRESENTATIVE.
16. ANY PRIVATE UTILITIES TO BE INSTALLED WITHIN CITY OF SHERWOOD RIGHT-OF-WAY THAT IS NOT SHOWN ON THE APPROVED CONSTRUCTION PLANS (POWER, TELECOMMUNICATIONS, GAS, IRRIGATION, ETC.) SHALL HAVE PLANS SUBMITTED FOR A RIGHT-OF-WAY PERMIT PRIOR TO CONSTRUCTION OF UTILITY. ANY PRIVATE OR FRANCHISE UTILITIES INSTALLED WITHOUT A RIGHT OF WAY PERMIT IS SUBJECT TO REMOVAL.
17. CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION OF A TRAFFIC CONTROL PLAN AND ITS CONTINUED FUNCTIONING FOR THE PROTECTION OF CONSTRUCTION WORKERS, VEHICULAR TRAFFIC, BICYCLE TRAFFIC AND PEDESTRIANS. ALL TRAFFIC CONTROL DEVICES/SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. APPROVAL OF THE TRAFFIC CONTROL PLAN BY THE CITY OF SHERWOOD DOES NOT NEGATE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN A SAFE WORK ZONE. THE CITY OF SHERWOOD BEARS NO LIABILITY FOR THE CONTRACTOR'S IMPLEMENTATION OF THIS TRAFFIC CONTROL PLAN. **ONLY NEEDED IF WORK EXTENDS OUT TO THE PUBLIC RIGHT-OF-WAY.**

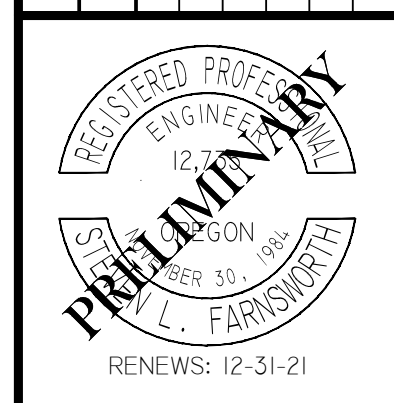
STORM SEWER NOTES - GENERAL

1. STORM SEWER PIPE SHALL BE AS NOTED ON PLANS AND CONFORM TO THE REQUIREMENTS BELOW.
2. STORM SEWER MATERIALS AND TESTING SHALL MEET CLEAN WATER SERVICES (CWS) DESIGN AND CONSTRUCTION SPECIFICATIONS AND THE CITY OF SHERWOOD'S ENGINEERING DESIGN MANUAL.
3. ALL STORM SERVICE STUB OUTS SHALL EXTEND A MINIMUM OF THREE FEET (3') BEYOND EASEMENT OR RIGHT-OF-WAY LINE AND BE MARKED WITH A PRESSURE TREATED 2" X 4". THE TOP 12" SHALL BE PAINTED WHITE AND LABELED "ST" FOR FUTURE LOCATION. THE 2" X 4" SHALL BE MARKED WITH DETECTABLE UNDERGROUND MAGNETIC TAPE GREEN IN COLOR AND BE MARKED "CAUTION STORM DRAIN BURIED BELOW". THE MAGNETIC TAPE SHALL BE PLACED FROM THE MAIN PIPELINE TO THE END OF THE SIDE LATERAL WITH 18" OF SEPARATION BETWEEN THE TAPE AND PIPE. THE SERVICE LATERAL SHALL ALSO HAVE TRACER WIRE INSTALLED. THE TRACER WIRE SHALL BE 12-GAGE STRANDED COPPER WIRE WITH WHITE HMW-PE INSULATION. TRACER WIRE SHALL RUN TO THE TOP OF THE 2 X 4 MARKER. STORM SERVICE STUB OUTS TO BE A MINIMUM OF 4-INCH DIAMETER PIPE AND HAVE A MINIMUM SLOPE OF 2%.
4. ALL STORM SEWER LINES SHALL BE VIDEO INSPECTED BY THE CONTRACTOR. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES. THIS WILL BE WITNESSED BY THE CITY. MINIMUM 48 HOUR NOTICE IS REQUIRED. CITY WITNESSED VIDEO INSPECTION SHALL OCCUR AFTER THE PLACEMENT OF ASPHALT. CITY STRONGLY ENCOURAGES VIDEO INSPECTION BY THE DEVELOPER AND/OR CONTRACTOR PRIOR TO ASPHALT PLACEMENT. SHOULD CONTRACTOR OR DEVELOPER HAVE QUESTIONS REGARDING SPECIFIC SECTIONS OF PRE-ASPHALT VIDEO, CITY INSPECTOR SHALL PROVIDE A RECOMMENDATION UPON THE ACCEPTABILITY OF THE SECTION IN QUESTION.
5. ALL STORM SEWER LINES SHALL HAVE A MANDREL PASSED THROUGH TO CHECK DEFLECTION. THIS WILL BE WITNESSED BY THE CITY. MINIMUM 48 HOUR NOTICE IS REQUIRED.
6. ANY NEW LATERAL TAPS INTO AN EXISTING STORM SEWER WILL REQUIRE VIDEO INSPECTION OF THAT EXISTING SEWER.

SITE SPECIFIC GENERAL NOTES

1. CONTRACTOR TO VERIFY EXISTING STORM SEWER PIPE LATERAL GOING TO THE EXISTING 48" MANHOLE IN SW BORCHERS ROAD AS EITHER 10" OR 12" PRIOR TO ORDERING MATERIALS.
2. EXISTING 60" MANHOLE TO BE SALVAGED AND REUSED SO TAKE CARE IN ITS REMOVAL.
3. XX

REVISION INFORMATION	AGENCY	
	WASH CO	
DATE	08/31/17	
SUBMITTAL		
1ST SUBMITTAL		



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ZIGGY'S COFFEE STAND
 MODIFICATIONS TO DRIVE UP

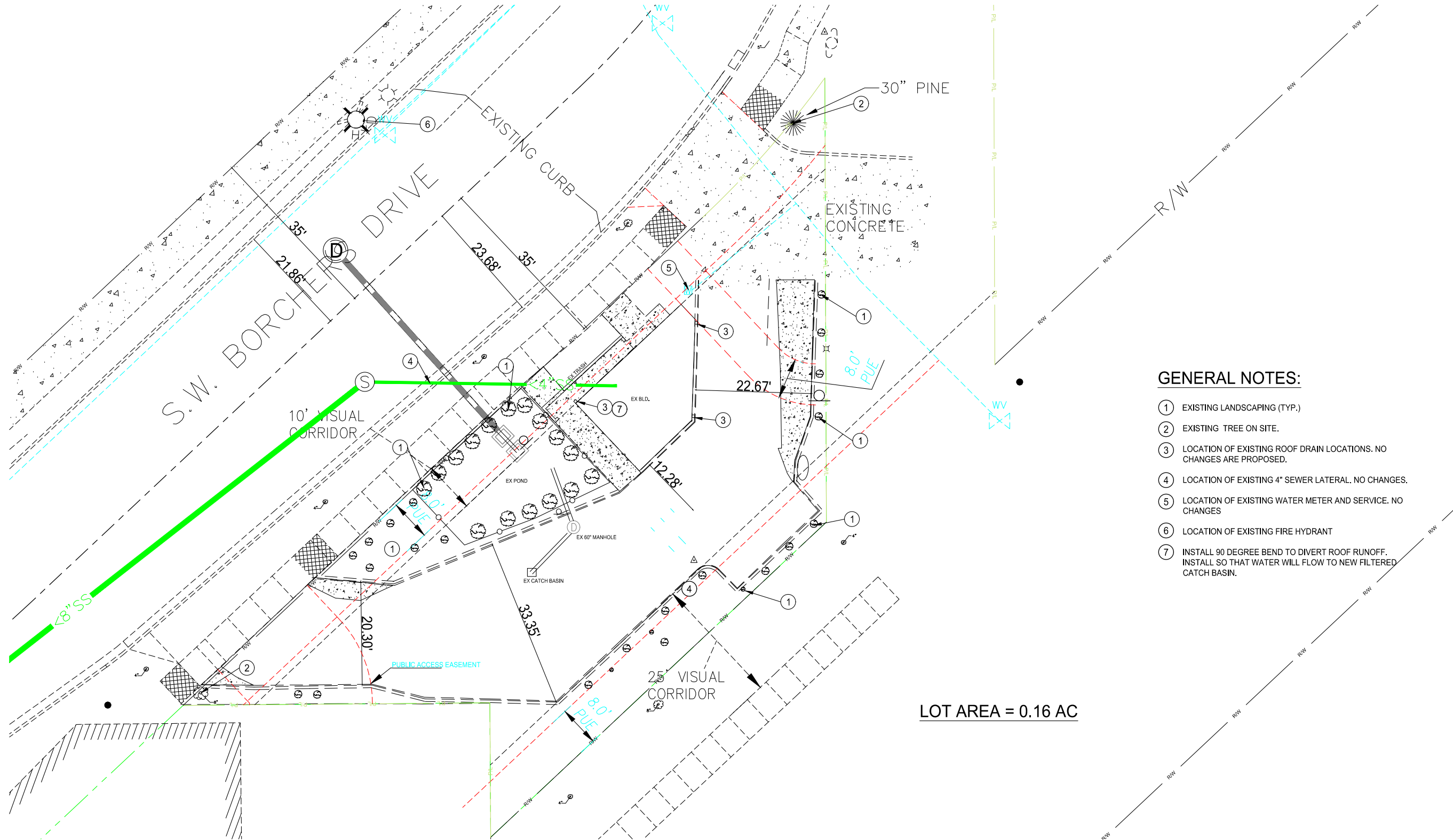
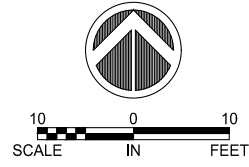
21003 SW BORCHERS ROAD
 CITY OF SHERWOOD, OREGON

GENERAL NOTES

DATE:	9/31/17
DESIGN:	SLF
DRAWN:	RFD
CHECK:	SLF
SCALE:	1" = 10' HORIZ

PRELIMINARY

C-2



GENERAL NOTES:

- ① EXISTING LANDSCAPING (TYP.)
- ② EXISTING TREE ON SITE.
- ③ LOCATION OF EXISTING ROOF DRAIN LOCATIONS. NO CHANGES ARE PROPOSED.
- ④ LOCATION OF EXISTING 4" SEWER LATERAL. NO CHANGES.
- ⑤ LOCATION OF EXISTING WATER METER AND SERVICE. NO CHANGES
- ⑥ LOCATION OF EXISTING FIRE HYDRANT
- ⑦ INSTALL 90 DEGREE BEND TO DIVERT ROOF RUNOFF. INSTALL SO THAT WATER WILL FLOW TO NEW FILTERED CATCH BASIN.

LOT AREA = 0.16 AC

EXISTING CONDITIONS PLAN

SCALE: 1" = 10'

C:_Roadway\Hubbard Coffee Stand\Base File\COFFEE BASE.dwg Jan 12, 2021 - 3:29pm

REVISION INFORMATION		AGENCY
SUBMITTAL	DATE	CITY OF SHERWOOD
1ST SUBMITTAL	11/17/2020	CITY OF SHERWOOD
2ND SUBMITTAL	12/17/2020	CITY OF SHERWOOD



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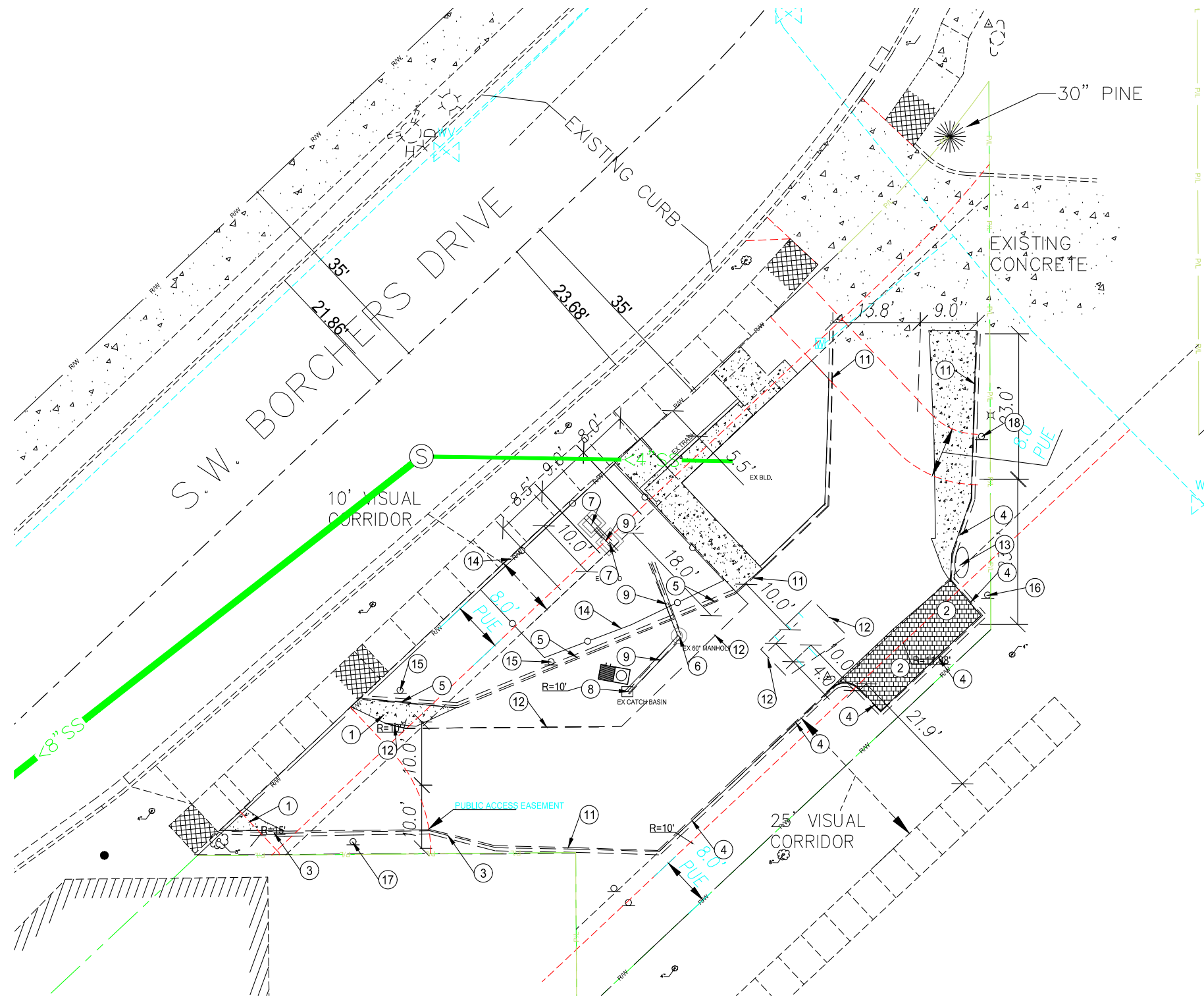
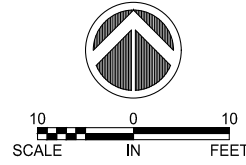
**ZIGGY'S COFFEE STAND
 MODIFICATIONS TO DRIVE UP**

21003 SW BORCHERS ROAD
 CITY OF SHERWOOD, OREGON

EXISTING CONDITIONS PLAN

DATE:	9/31/17
DESIGN:	SLF
DRAWN:	RFD
CHECK:	SLF
SCALE:	1" = 10' HORIZ

PRELIMINARY
C-2A



DEMOLITION PLAN
SCALE: 1" = 10'

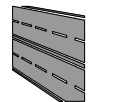
CONSTRUCTION NOTES:

- ① REMOVE EXISTING CONCRETE PAD.
- ② REMOVE EXISTING PAVERS.
- ③ STA 0+32.78 15.59' RT TO STA 0+67.46 10' RT REMOVE EXISTING CURB
- ④ STA 0+89.75 12.25' RT TO STA 1+50.50 15.63' RT REMOVE EXISTING CURB
- ⑤ STA 0+45.83 13.72' LT TO STA 1+21.67 12.33' LT REMOVE EXISTING CURB
- ⑥ REMOVE EXISTING 60" WATER QUALITY MANHOLE (SALVAGE)
- ⑦ REMOVE EXISTING DITCH INLET
- ⑧ REMOVE EXISTING LYNCH CATCH BASIN
- ⑨ REMOVE EXISTING PIPE
- ⑩ REMOVE AND RELOCATE SIGN
- ⑪ EXISTING CURB TO REMAIN
- ⑫ SAWCUT EXISTING ASPHALT AND CURB
- ⑬ REMOVE EXISTING BOULDER
- ⑭ REMOVE EXISTING IRON FENCE
- ⑮ REMOVE EXISTING SIGN & POST
- ⑯ RELOCATE SIGN TO NEW ADA PARKING LOCATION
- ⑰ RELOCATE EMPLOYEE PARKING SIGN TO NEW PARKING BAYS TO THE EAST
- ⑱ EXISTING SIGN TO REMAIN

REVISION INFORMATION		AGENCY
DATE	11/17/2020	CITY OF SHERWOOD
SUBMITTAL	12/17/2020	CITY OF SHERWOOD
1ST SUBMITTAL		
2ND SUBMITTAL		



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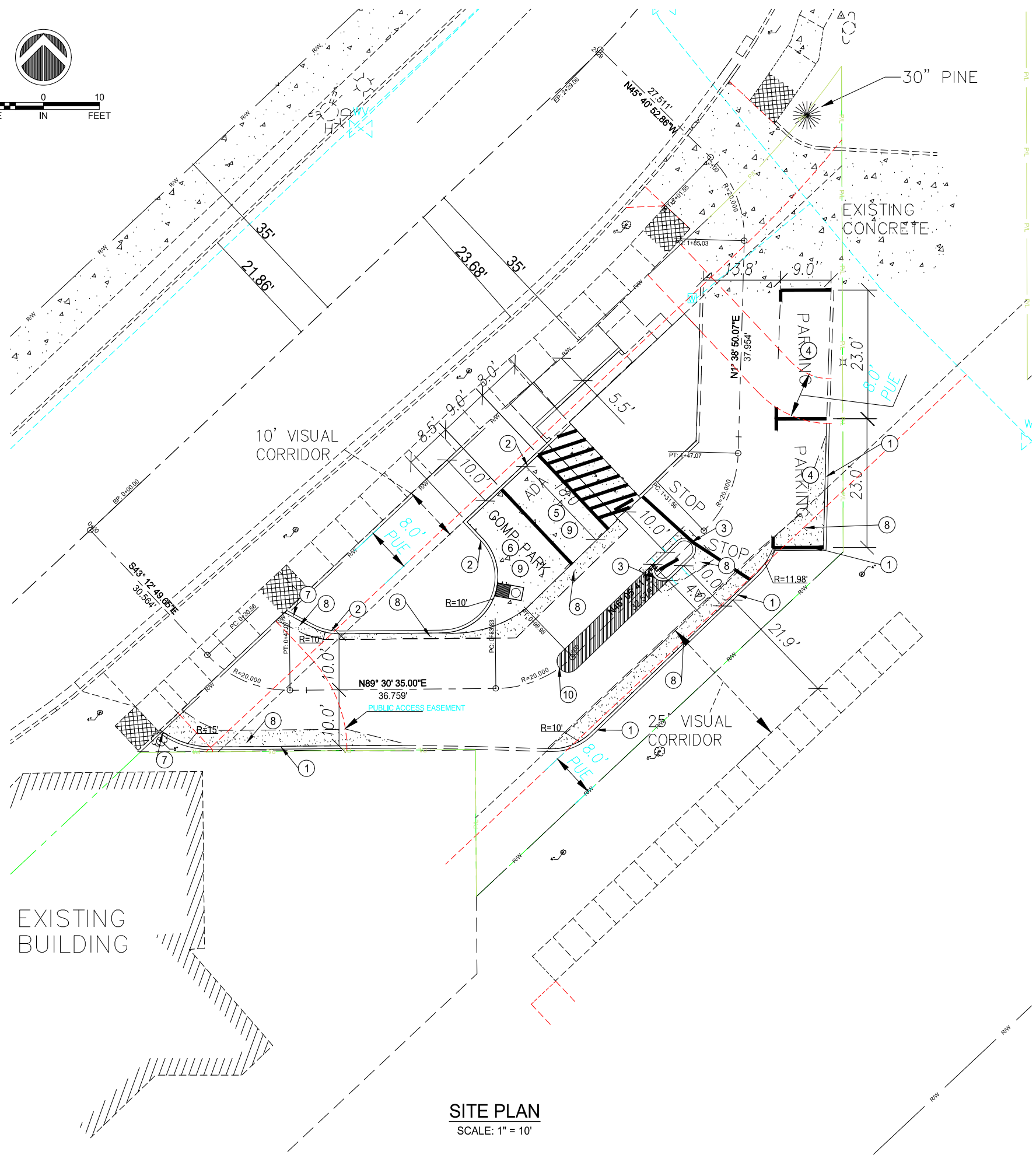
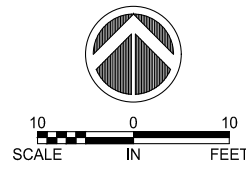
ZIGGY'S COFFEE STAND
MODIFICATIONS TO DRIVE UP

21003 SW BORCHERS ROAD
CITY OF SHERWOOD, OREGON
DEMOLITION PLAN

DATE:	10/28/2020
DESIGN:	SLF
DRAWN:	RFD
CHECK:	SLF
SCALE:	1" = 10' HORIZ

PRELIMINARY

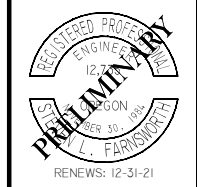
C-3



CONSTRUCTION NOTES:

- ① CONSTRUCT NEW VERTICAL CURB FROM STA 0+32.78 15.59' RT TO STA 0+67.46 10' RT & STA 0+89.75 12.25' RT TO STA 1+50.50 15.63' RT. SEE DETAIL RD-21 SHEET C-8. NOTE: VERTICAL CURB FROM STA 0+32.78 TO STA 0+67.46 RT TO BE 20" VERTICAL CURB AS PER DETAIL RD-21A ON SHEET C-8.
- ② CONSTRUCT NEW VERTICAL CURB FROM STA 0+44.40 13.83' LT TO STA 1+22.19 30.22' LT. SEE DETAIL RD-21 SHEET C-8
- ③ CONSTRUCT NEW VERTICAL CURB FROM STA 1+19.43 0' RT TO STA 1+28.75 0' RT. FOR ISLAND CURB. CURV RADIUS TO BE 2'. SEE DETAIL RD-21 SHEET C-8
- ④ PAINT 2 STANDARD PARKING STALLS
- ⑤ CONSTRUCT 1 HANDYCAP PARKING STALL WITH VAN ACCESSABILITY AT 2% MIN SLOPE.
- ⑥ CONSTRUCT 1 COMPACT PARKING STALL
- ⑦ TAPER CURB TO MATCH EXISTING GRADE.
- ⑧ INSTALL 3" ASPHALT CONCRETE OVER 8" CRUSHED ROCK. PAVE AT APPROX. 2% SLOPE TO NEW CURB UNLESS GRADING PLAN SHOWS A DIFFERENT SLOPE TO MAINTAIN.
- ⑨ CONSTRUCT PARKING PAD WITH 6" CONCRETE OVER 6" CRUSHED ROCK.
- ⑩ PAINT 4' ISLAND. SEE SHEET C-7

REVISION INFORMATION		AGENCY
DATE	11/17/2020	CITY OF SHERWOOD
SUBMITTAL	1ST SUBMITTAL	CITY OF SHERWOOD
	2ND SUBMITTAL	

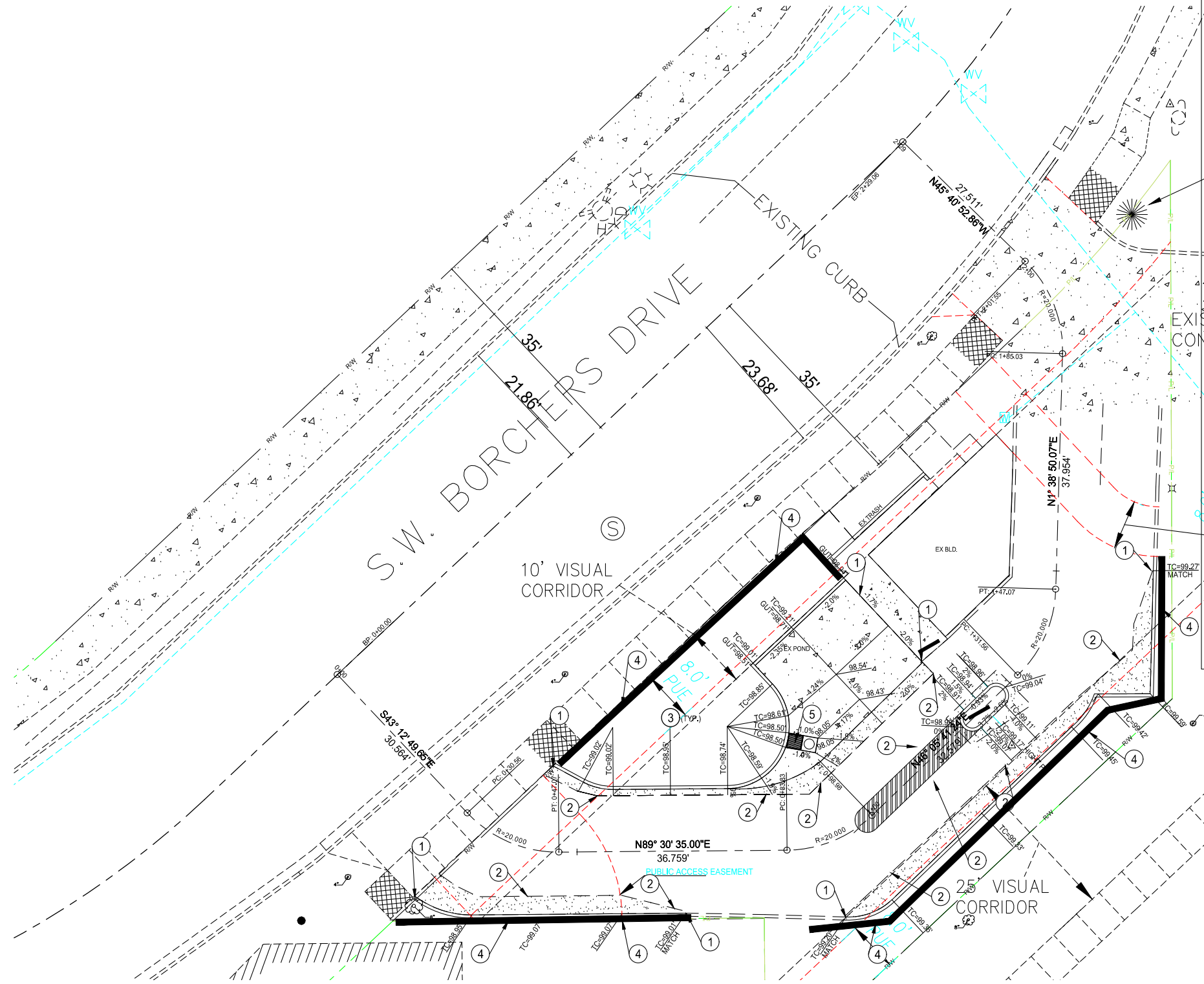
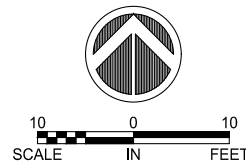


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ZIGGY'S COFFEE STAND
 MODIFICATIONS TO DRIVE UP
 21003 SW BORCHERS ROAD
 CITY OF SHERWOOD, OREGON
 SITE PLAN

DATE:	10/28/2020
DESIGN:	SLF
DRAWN:	RFD
CHECK:	SLF
SCALE:	1" = 10' HORIZ

PRELIMINARY
C-4



NOTES:

1. WHEN RAINFALL AND RUNOFF OCCURS DAILY INSPECTIONS OF THE EROSION AND SEDIMENT CONTROLS AND DISCHARGE OUTFALLS MUST BE PROVIDED BY SOME ONE KNOWLEDGEABLE AND EXPERIENCED IN THE PRINCIPLES, PRACTICES, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS WHO WORKS FOR THE PERMITTEE.
2. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31 EACH YEAR.
3. DURING WET WEATHER PERIOD, TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY.
4. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. THEY MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED.
5. ALL ACTIVE INLETS MUST HAVE SEDIMENT CONTROLS INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. UNLESS OTHERWISE APPROVED, A SURFACE MOUNTED AND ATTACHABLE, U-SHAPED FILTER BAG IS REQUIRED FOR ALL CURB INLET CATCH BASINS.
6. SIGNIFICANT AMOUNTS OF SEDIMENT WHICH LEAVES THE SITE MUST BE CLEANED UP WITHIN 24 HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIME FRAME.
7. SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES.
8. SEDIMENT MUST BE REMOVED FROM BEHIND ALL SEDIMENT CONTROL MEASURES WHEN IT HAS REACHED A HEIGHT OF 1/3RD THE BARRIER HEIGHT, AND PRIOR TO THE CONTROL MEASURES REMOVAL.
9. CLEANING OF ALL STRUCTURES WITH SUMPS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 50% AND AT COMPLETION OF PROJECT.
10. ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL.
11. THE PERMITTEE MUST PROPERLY MANAGE HAZARDOUS WASTES, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION.
12. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE MADE IN APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE.
13. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH CURRENT CLEAN WATER SERVICES STANDARDS AND STATE, AND FEDERAL REGULATIONS.
14. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD, UNLESS OTHERWISE APPROVED. NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE OWNER/PERMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.
15. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMPs THAT MUST BE INSTALLED ARE GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMPs MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
16. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAN SEPTEMBER 1ST; THE TYPE AND PERCENTAGES OF SEED IN THE MIX ARE AS IDENTIFIED ON THE PLANS OR AS SPECIFIED BY THE DESIGN ENGINEER.
17. WATER-TIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMPs; SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE.
18. ALL PUMPING OF SEDIMENT LADEN WATER MUST BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP (I.E. FILTER BAG).
19. THE ESC PLAN MUST BE KEPT ONSITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE WATER SYSTEM, ROADWAY, OR OTHER PROPERTIES.
20. THE ESC MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE MEASURES SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
21. WRITTEN ESC LOGS ARE SUGGESTED TO BE MAINTAINED ONSITE AND AVAILABLE TO DISTRICT INSPECTORS UPON REQUEST.
22. IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMPs MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING, OR OTHER APPROVED MEASURES.
23. ALL EXPOSED SOILS MUST BE COVERED DURING WET WEATHER PERIOD.

STANDARD EROSION CONTROL NOTES FOR SITES LESS THAN 1 ACRE
DRAWING NO. 945 REVISED 12-06



GRADING NOTES:

- 1 MATCH EXISTING GRADE. SLOPE LAST 3' OF CURB FROM FULL HEIGHT TO MATCHING EXISTING HEIGHT.
- 2 SAWCUT AND MATCH
- 3 TOP OF CURB ELEVATION WITH 6" EXPOSURE. SLOPE AT +2% TOWARDS THE CURB UNLESS OTHERWISE NOTED. NOTIFY THE ENGINEER, STEVE FARNSWORTH 503-267-8433 IF SLOPE DOES NOT APPEAR TO BE APPROXIMATELY + 2%, (TYP)

EROSION CONTROL NOTES:

- 4 INSTALL WATTLES PER DETAIL # 880. SEE DETAIL SHEET
- 5 INSTALL INLET PROTECTION TYPE 5 ON NEW CATCH BASIN. SEE DETAIL SHEET

GENERAL NOTES:

CONCRETE AND ASPHALT SHALL BE HAULED OFF SITE.
ALL ORGANIC MATERIAL SHALL BE REMOVED PRIOR TO ANY FILL ADDED TO EXISTING GROUND.
ALL FILL MATERIAL SHALL BE COMPACTED TO 95% RELATIVE COMPACTION (T-99) FOR ALL AREAS TO RECEIVE CONCRETE OR ASPHALT. IN WET WEATHER SAND OR GRANDULAR MATERIAL SHALL BE USED.

GRADING PLAN
SCALE: 1" = 10'

REVISION INFORMATION		AGENCY
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2ND SUBMITTAL	12/17/2020	CITY OF SHERWOOD



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ZIGGY'S COFFEE STAND
MODIFICATIONS TO DRIVE UP

21003 SW BORCHERS ROAD
CITY OF SHERWOOD, OREGON

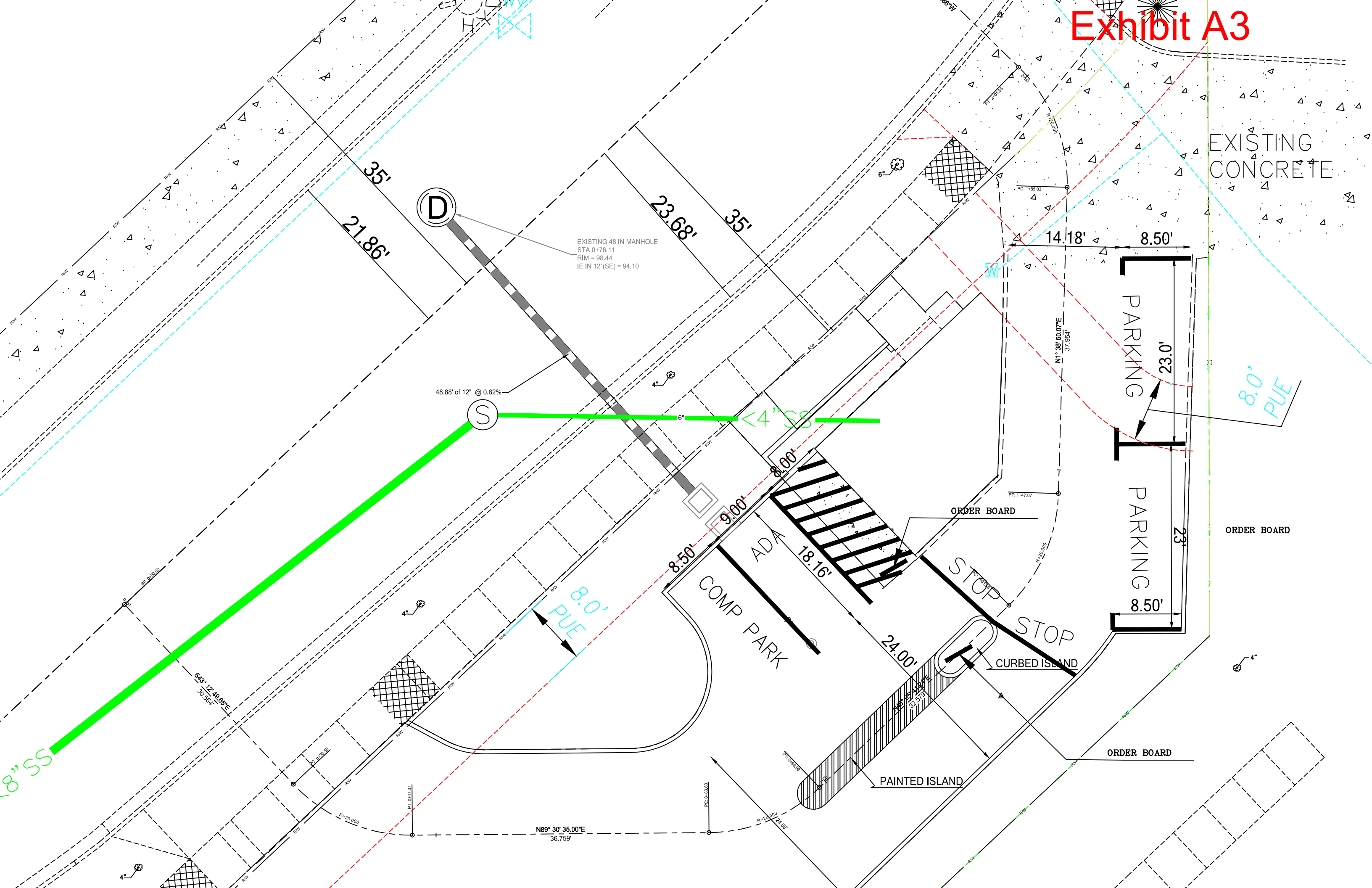
GRADING AND EROSION CONTROL PLAN

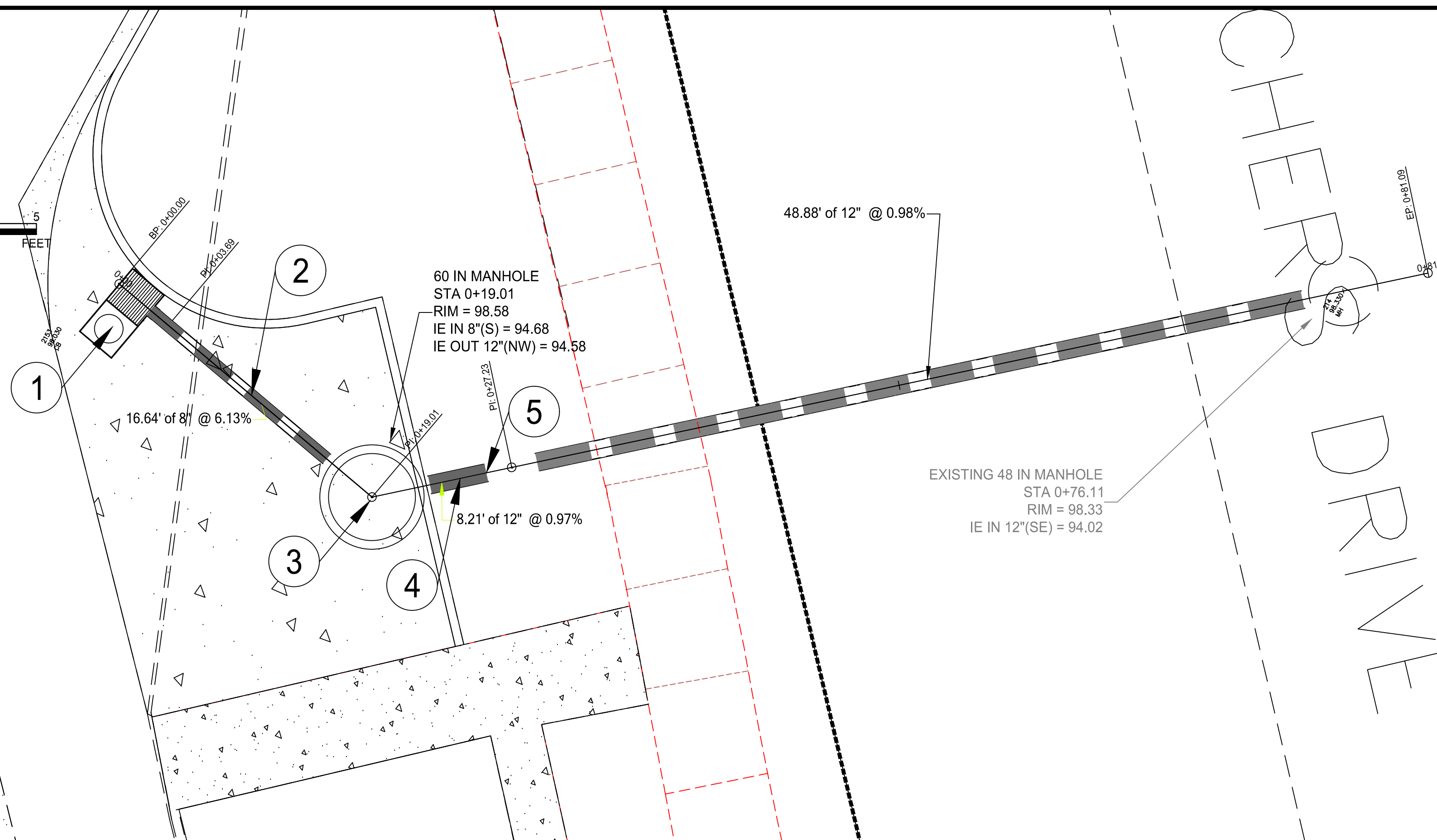
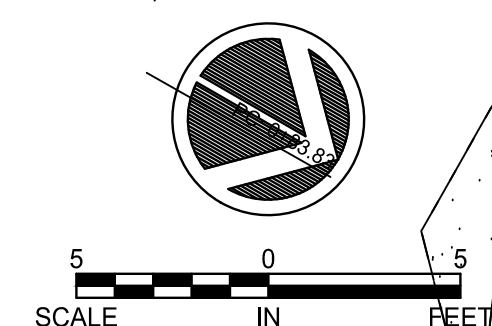
DATE:	9/31/17
DESIGN:	SLF
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SCALE:	1" = 10' HORIZ

PRELIMINARY

C-5

Exhibit A3



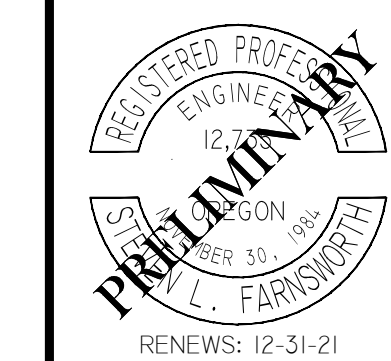


STORM DRAINAGE PLAN

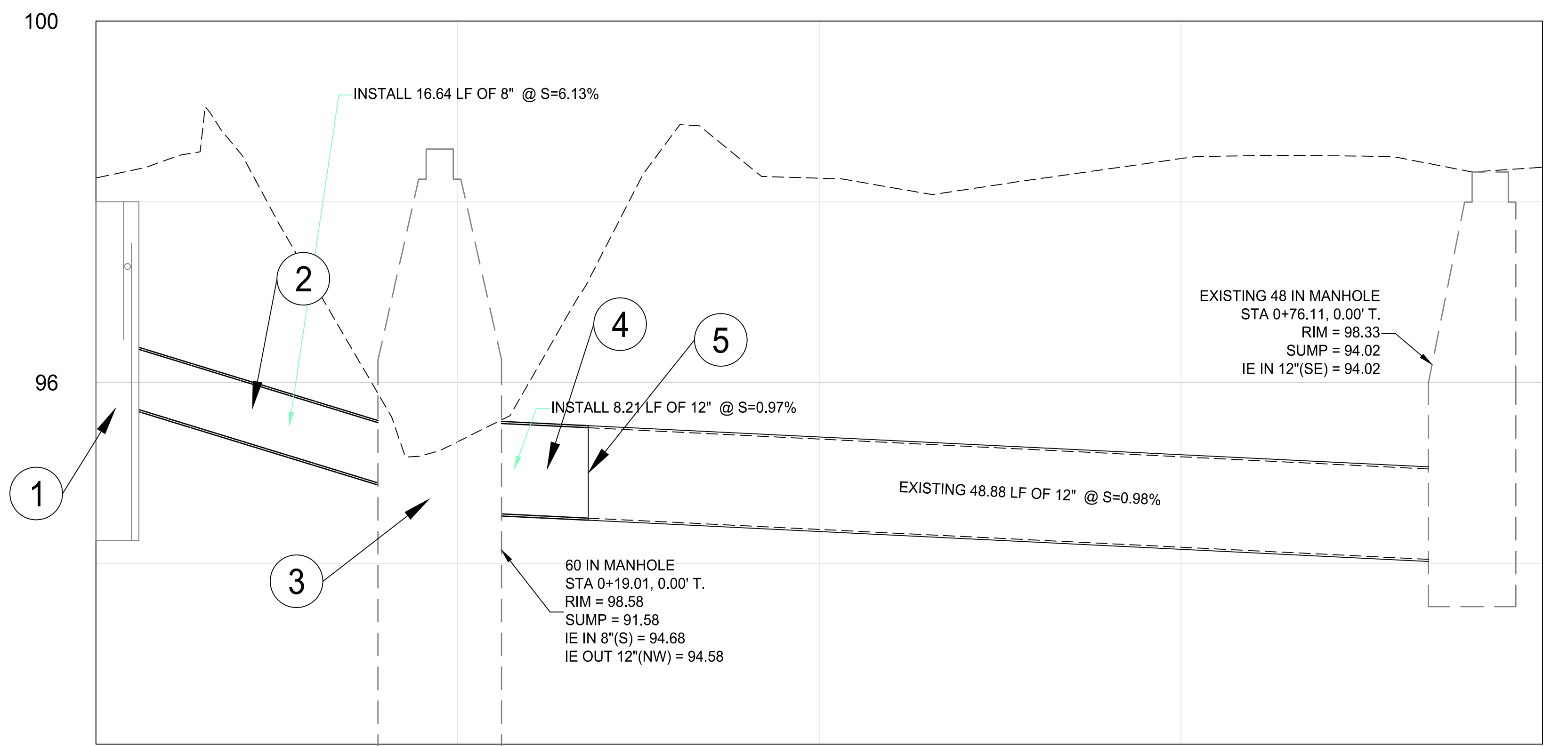
SCALE: 1" = 5'

CONSTRUCTION NOTES:

- ① STA 0+00 STORM STATIONING, INSTALL 1 CARTRIDGE CATCH BASIN CB-1 AS PER THE DETAILS ON SHEET C-9
IE GRATE = 98.00'
IE OUT 8" (N) = 95.70'
- ② INSTALL 16.64 LF OF 8" C-900 PIPE @ S = 0.0613
- ③ STA 0+19.01 STORM STATIONING, REINSTALL EXISTING 60" WC MANHOLE. ADJUST TO FINISH GRADE
RIM = XXX
IE IN 8" (S) = 94.68'
IE OUT 12" (NW) = 94.58'
SUMP = 91.58'
- ④ INSTALL 8.21 LF OF 12" C-900 PIPE AT S = 0.0097 FIELD VERIFY IE OF EXISTING 12" PIPE
- ⑤ CONNECT NEW 12" PIPE TO EXISTING 12" C-900 PIPE
- ⑥ EXISTING 48" MANHOLE
RIM = 98.33'
IE IN 12" (SE) = 94.02'



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PHONE: (503) 287-8433 FAX: (503) 486-5229
Licensed in California, Oregon & Washington



STORM DRAINAGE PROFILE

SCALE: 1" = 5' HOR 1" = 1' VERT

ZIGGY'S COFFEE STAND
MODIFICATIONS TO DRIVE UP

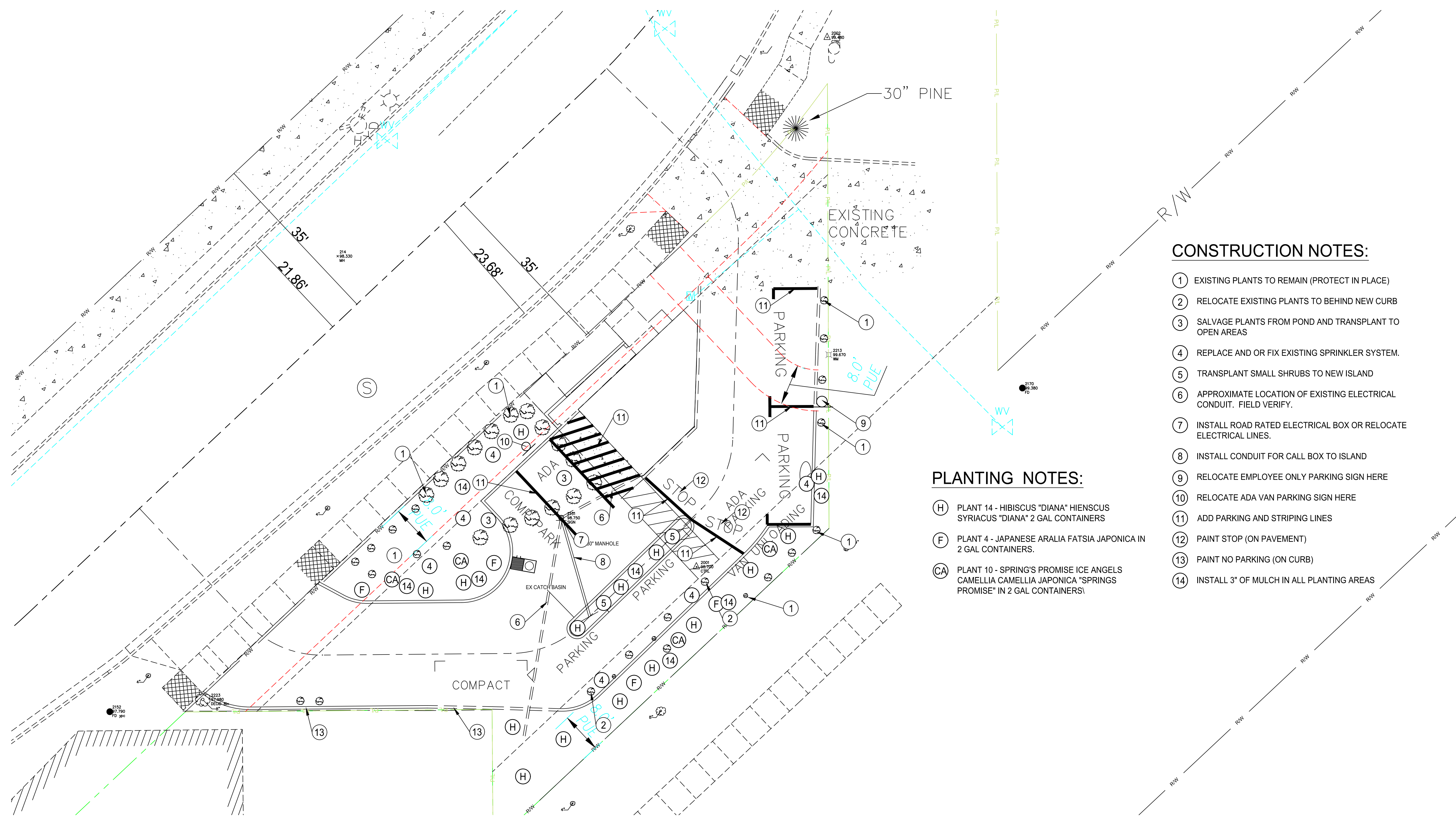
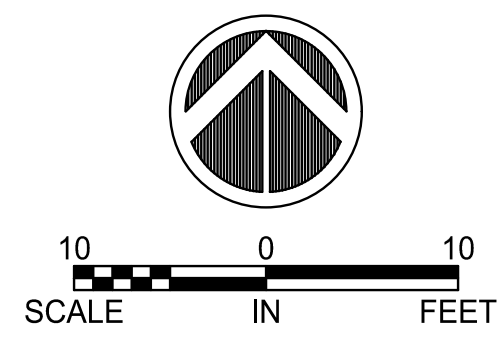
21003 SW BORCHERS ROAD
CITY OF SHERWOOD, OREGON

STORM DRAINAGE PLAN & PROFILE

DATE:	9/31/17
DESIGN:	SLF
DRAWN:	RFD
CHECK:	SLF
SCALE:	1" = 10' HORIZ

PRELIMINARY

C-6



CONSTRUCTION NOTES:

- ① EXISTING PLANTS TO REMAIN (PROTECT IN PLACE)
- ② RELOCATE EXISTING PLANTS TO BEHIND NEW CURB
- ③ SALVAGE PLANTS FROM POND AND TRANSPLANT TO OPEN AREAS
- ④ REPLACE AND OR FIX EXISTING SPRINKLER SYSTEM.
- ⑤ TRANSPLANT SMALL SHRUBS TO NEW ISLAND
- ⑥ APPROXIMATE LOCATION OF EXISTING ELECTRICAL CONDUIT. FIELD VERIFY.
- ⑦ INSTALL ROAD RATED ELECTRICAL BOX OR RELOCATE ELECTRICAL LINES.
- ⑧ INSTALL CONDUIT FOR CALL BOX TO ISLAND
- ⑨ RELOCATE EMPLOYEE ONLY PARKING SIGN HERE
- ⑩ RELOCATE ADA VAN PARKING SIGN HERE
- ⑪ ADD PARKING AND STRIPING LINES
- ⑫ PAINT STOP (ON PAVEMENT)
- ⑬ PAINT NO PARKING (ON CURB)
- ⑭ INSTALL 3" OF MULCH IN ALL PLANTING AREAS

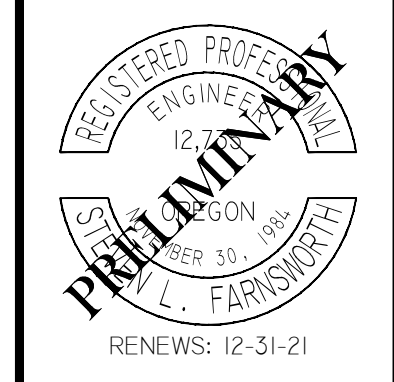
PLANTING NOTES:

- (H) PLANT 14 - HIBISCUS "DIANA" HIENSCUS SYRIACUS "DIANA" 2 GAL CONTAINERS
- (F) PLANT 4 - JAPANESE ARALIA FATSIA JAPONICA IN 2 GAL CONTAINERS.
- (CA) PLANT 10 - SPRING'S PROMISE ICE ANGELS CAMELLIA CAMELLIA JAPONICA "SPRINGS PROMISE" IN 2 GAL CONTAINERS!

LANDSCAPE, IRRIGATION & SIGNING AND STRIPING PLAN

SCALE: 1" = 10'

REVISION INFORMATION	
AGENCY	CITY OF SHERWOOD
DATE	11/17/2020
SUBMITTAL	1ST SUBMITTAL
DATE	12/17/2020
AGENCY	CITY OF SHERWOOD



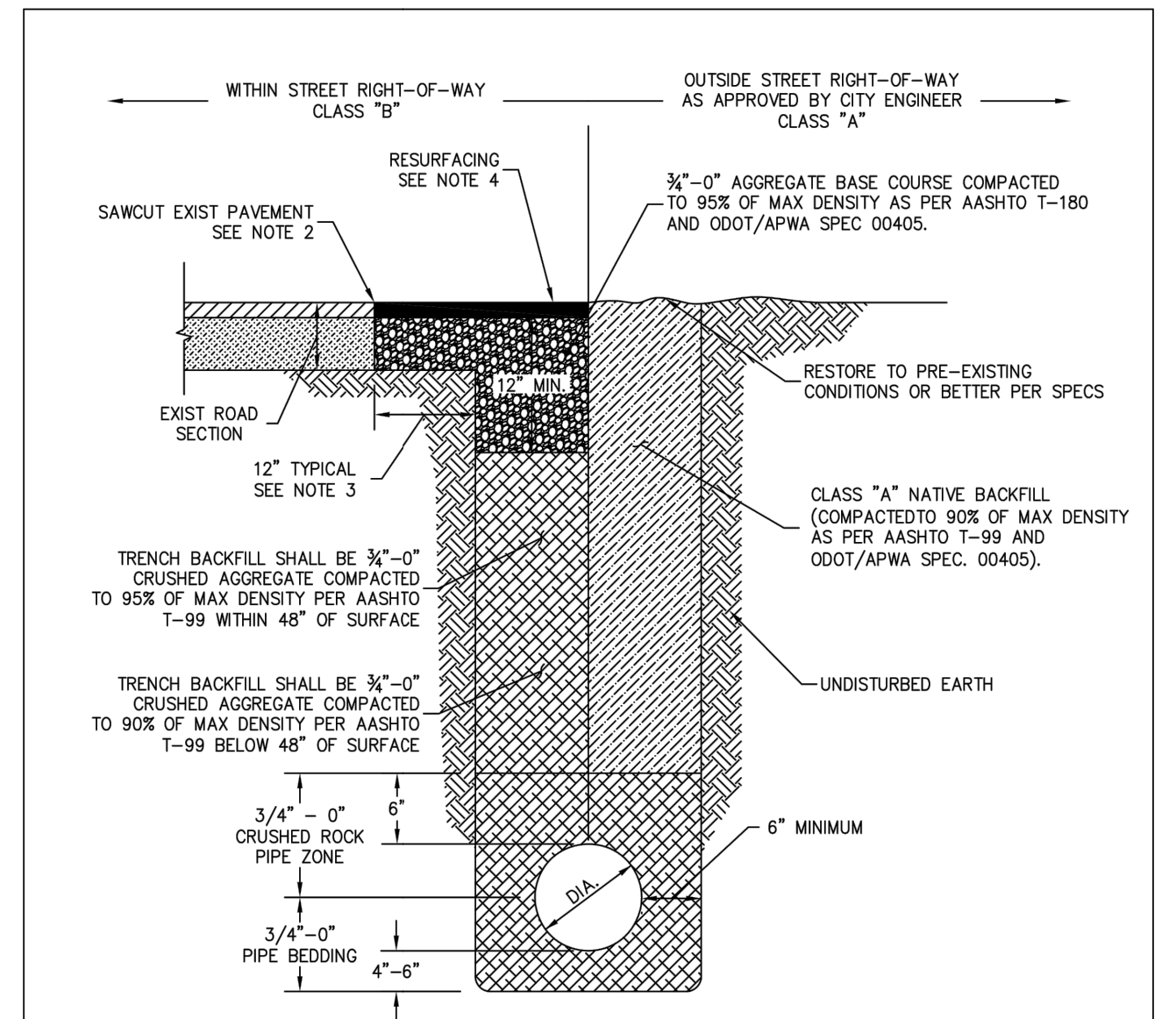
Roadway Engineering, Inc.
 SPECIALIZING IN CIVIL ENGINEERING
 2015 SW TILLAMOOK CT. TUALATIN, OR 97062
 PHONE: (503) 287-8433 FAX: (503) 486-5229
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**ZIGGY'S COFFEE STAND
 MODIFICATIONS TO DRIVE UP
 LANDSCAPE IRRIGATION & SIGNING PLAN**

DATE:	9/31/17
DESIGN:	SLF
DRAWN:	RFD
CHECK:	SLF
SCALE:	1" = 10' HORIZ

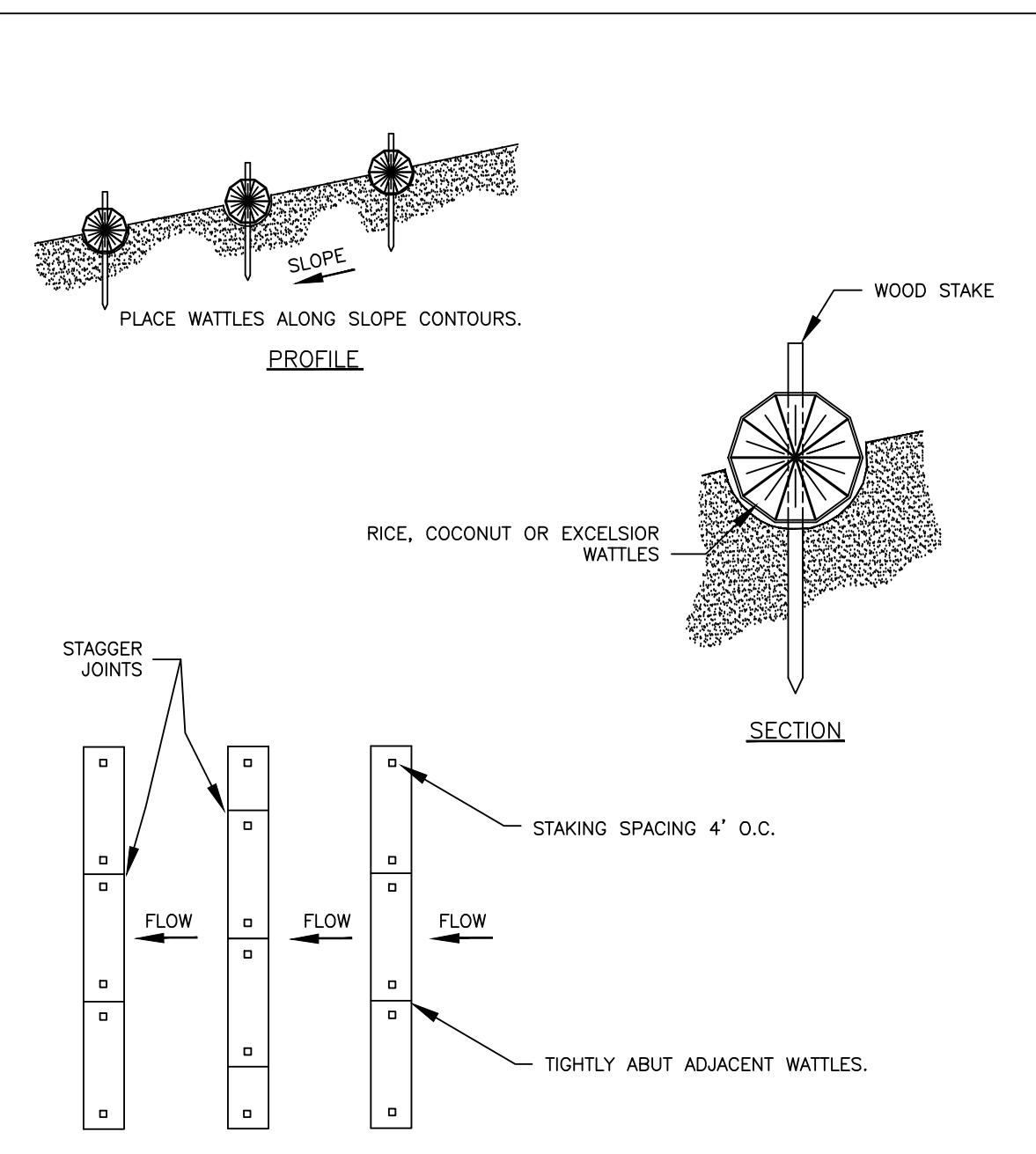
PRELIMINARY

C-7



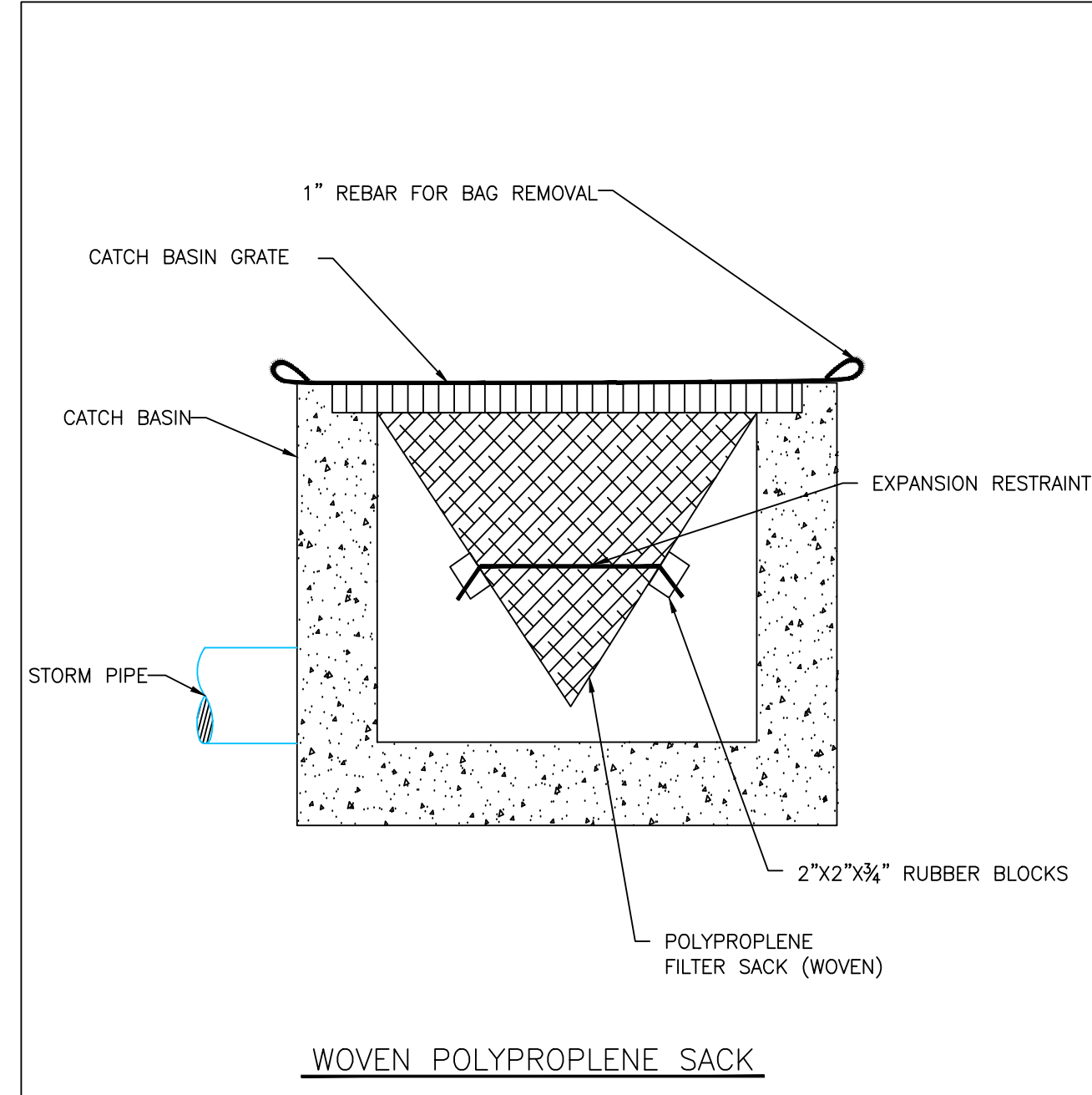
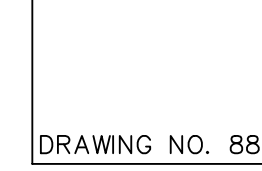
- NOTES:
1. THESE TRENCH BACKFILL REQUIREMENTS APPLY TO ALL PUBLIC UTILITY PIPES. FOR ADDITIONAL REQUIREMENTS, SEE CITY STANDARD DESIGN MANUAL SECTION 210.19.
 2. SAWCUT EXISTING HMA PAVEMENT FULL DEPTH. SAWCUT EXISTING PCC PAVEMENT ACCORDING TO CITY STANDARD DETAILS.
 3. 12" FOR TRENCHES WIDER THAN 12". 6" FOR TRENCHES LESS THAN 12".
 4. MATCH EXISTING PAVEMENT MATERIAL(S). THICKNESS SHALL BE AS FOLLOWS:
 - 4.1. FOR EXISTING HMA: RESURFACE TO A MINIMUM OF 3" OF LEVEL 2, 1/2" DENSE HMA OR EXISTING AC THICKNESS PLUS 2", WHICHEVER IS GREATER, BUT DO NOT EXCEED 6". COMPACT AC IN 2" MAX LIFTS TO 92% OF MAXIMUM DENSITY (RICE).
 - 4.2. FOR EXISTING PCC: EXISTING PAVEMENT THICKNESS PLUS 2", BUT NOT LESS THAN 8". ON ARTERIAL AND COLLECTOR STREETS, CONCRETE PATCHING MATERIAL SHALL BE HIGH EARLY STRENGTH CLASS 5000 PSI PCC APPROVED BY CITY ENGINEER.
 5. ALL CUT EDGES OF AC SHALL BE SAND SEALED WITH CRS-1 OR CRS-2 EMULSIFIED ASPHALT OR EQUIVALENT.

STANDARD DRAWING TITLE		DRAWING NUMBER
PIPE TRENCH BACKFILL		RD-47
SCALE	DATE	
N.T.S.	MAR '16	



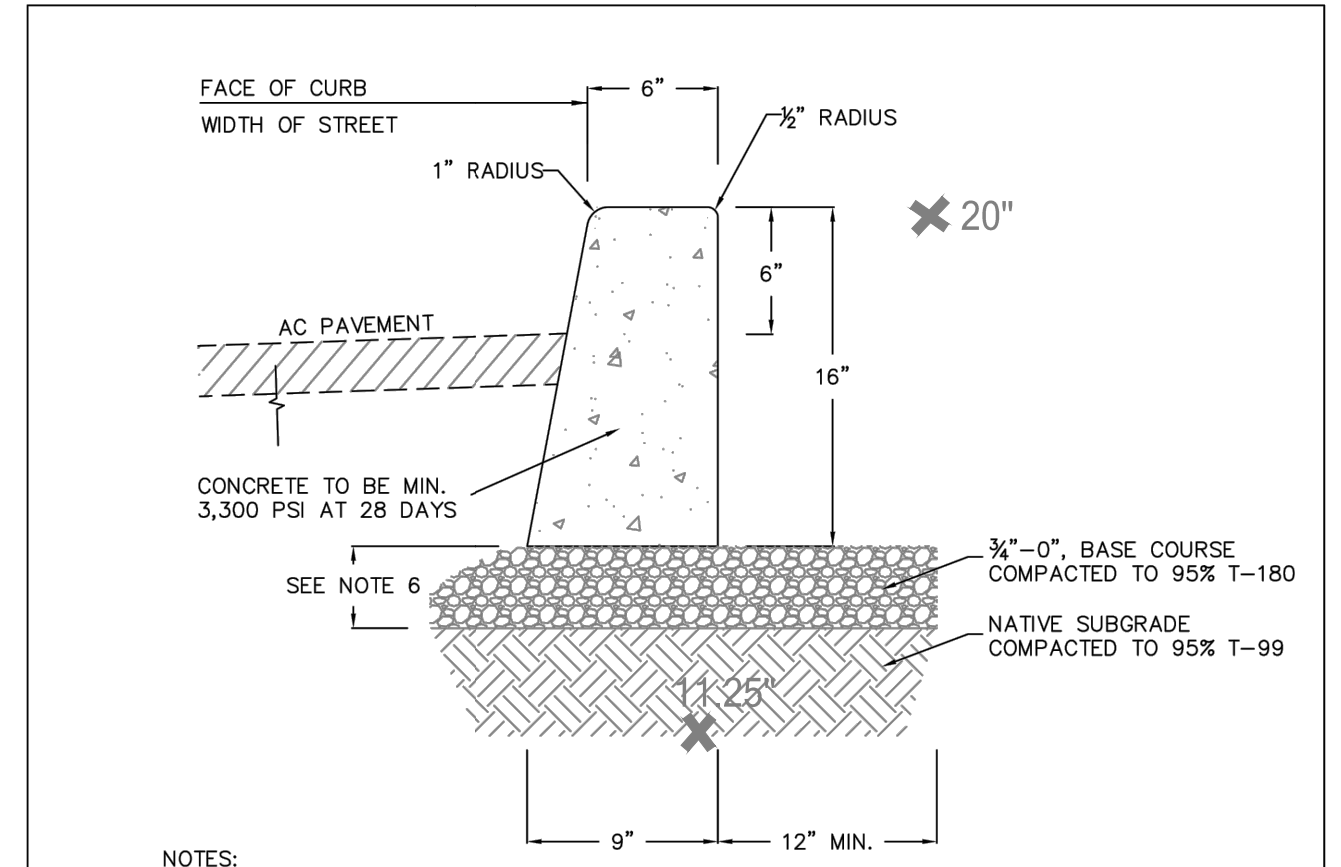
- NOTES:
1. STAKING SPECIFICATIONS:
 - a. 1"x2" WOODEN STAKES
 - b. ADDITIONAL STAKES MAY BE INSTALLED ON DOWNHILL SIDE OF WATTLES, ON STEEP SLOPE OR HIGHLY ERODIBLE SOILS.
 2. SPACING IN ACCORDANCE WITH DETAIL 940.
- FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

STANDARD DRAWING TITLE		DRAWING NUMBER
WATTLES		RD-47
SCALE	DATE	
N.T.S.	MAR '16	



- NOTE:
1. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS. SIZE OF FILTER FABRIC INLET SACKS TO BE DETERMINED BY MANUFACTURER.
- FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

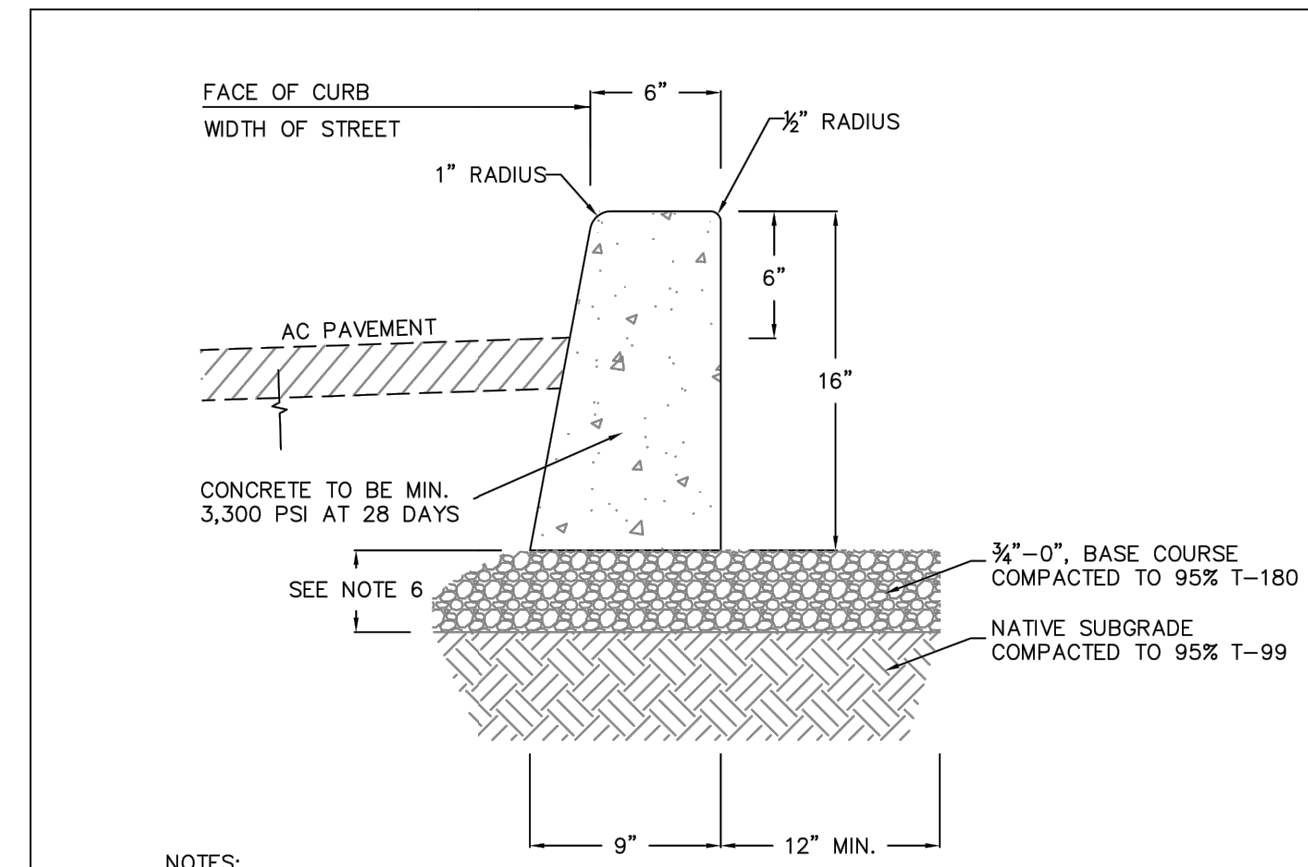
STANDARD DRAWING TITLE		DRAWING NUMBER
INLET PROTECTION TYPE 5		RD-47
SCALE	DATE	
N.T.S.	MAR '16	



- NOTES:
1. VERTICAL CURB TO BE USED AT MEDIANS AND MEDIAN PLANTING STRIPS, OR IN REPLACEMENT OF DAMAGED EXISTING VERTICAL CURBS.
 2. CONCRETE SHALL BE COMMERCIAL MIX. MIN. COMPRESSIVE STRENGTH OF 3,300 PSI AT 28 DAYS.
 3. EXPANSION JOINTS TO BE PROVIDED: AT POINT OF TANGENCY OF THE CURB, AT EACH COLD JOINT, AT THE SIDE OF INLET STRUCTURES, AT THE ENDS OF DRIVEWAYS AND AT LOCATIONS NECESSARY TO LIMIT SPACING TO 45 FEET.
 4. MATERIAL TO BE PRE-MOLDED, ASPHALT IMPREGNATED, NON-EXTRUDING, WITH A THICKNESS OF 1/2 INCH.
 5. CONTRACTION JOINTS SHALL NOT BE SPACED MORE THAN 15 FEET AND SHALL BE 1/2" IN DEPTH.
 6. BASE ROCK: 3/4"-0", COMPACTED TO 95% MAX DENSITY. BASE ROCK SHALL BE TO SUBGRADE OF STREET STRUCTURE OR 6" IN DEPTH, WHICHEVER IS GREATER.

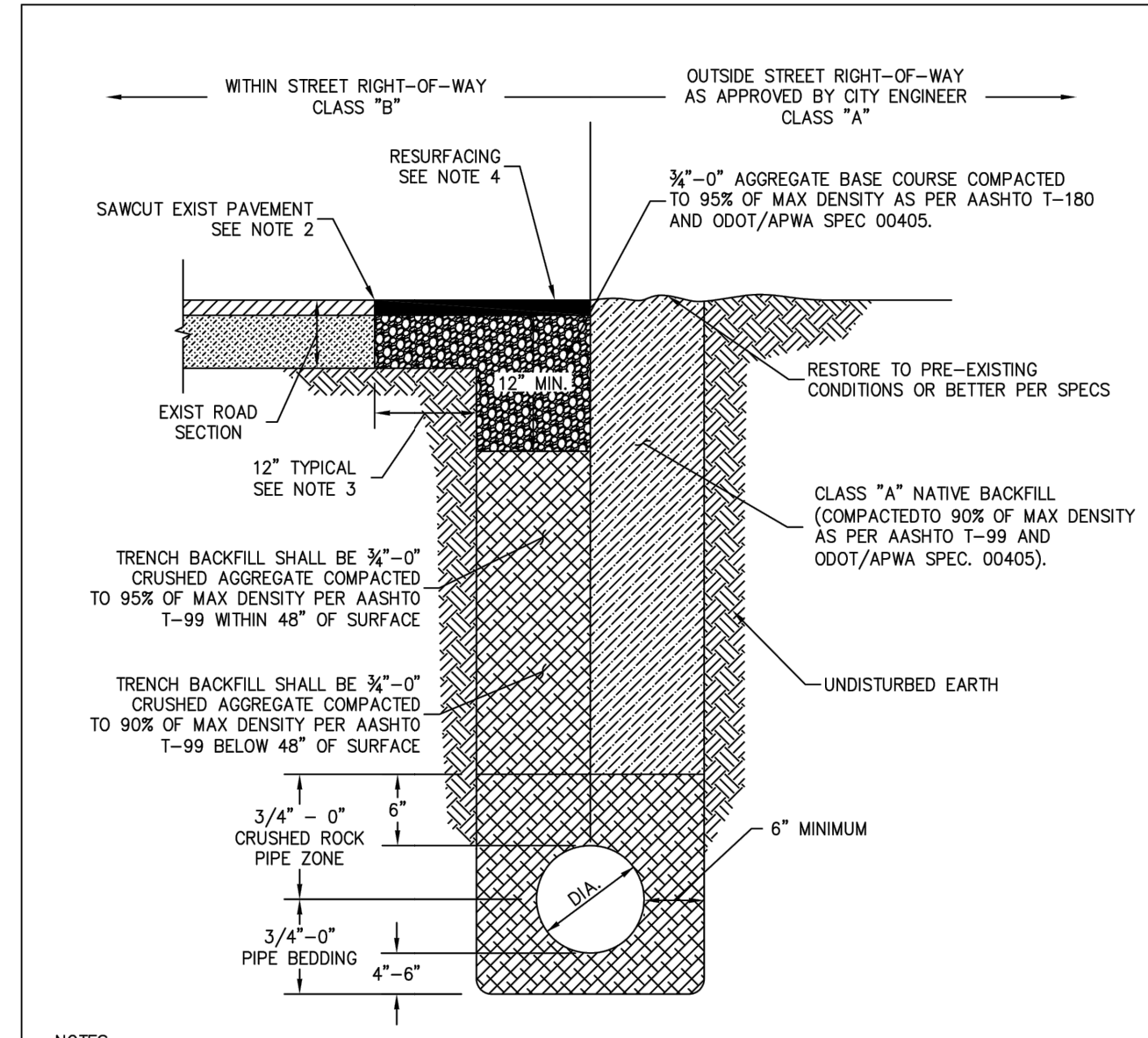
MODIFIED 28" TALL CURB REQUIREMENTS TO ALL OTHER REQUIREMENTS OF DETAIL RD-21

STANDARD DRAWING TITLE		DRAWING NUMBER
VERTICAL CURB		RD-21
SCALE	DATE	
N.T.S.	MAR '16	



- NOTES:
1. VERTICAL CURB TO BE USED AT MEDIANS AND MEDIAN PLANTING STRIPS, OR IN REPLACEMENT OF DAMAGED EXISTING VERTICAL CURBS.
 2. CONCRETE SHALL BE COMMERCIAL MIX. MIN. COMPRESSIVE STRENGTH OF 3,300 PSI AT 28 DAYS.
 3. EXPANSION JOINTS TO BE PROVIDED: AT POINT OF TANGENCY OF THE CURB, AT EACH COLD JOINT, AT THE SIDE OF INLET STRUCTURES, AT THE ENDS OF DRIVEWAYS AND AT LOCATIONS NECESSARY TO LIMIT SPACING TO 45 FEET.
 4. MATERIAL TO BE PRE-MOLDED, ASPHALT IMPREGNATED, NON-EXTRUDING, WITH A THICKNESS OF 1/2 INCH.
 5. CONTRACTION JOINTS SHALL NOT BE SPACED MORE THAN 15 FEET AND SHALL BE 1/2" IN DEPTH.
 6. BASE ROCK: 3/4"-0", COMPACTED TO 95% MAX DENSITY. BASE ROCK SHALL BE TO SUBGRADE OF STREET STRUCTURE OR 6" IN DEPTH, WHICHEVER IS GREATER.

STANDARD DRAWING TITLE		DRAWING NUMBER
VERTICAL CURB		RD-21
SCALE	DATE	
N.T.S.	MAR '16	

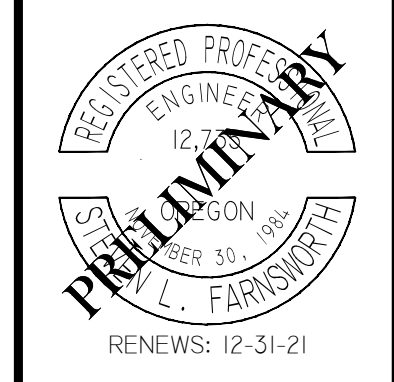


- NOTES:
1. THESE TRENCH BACKFILL REQUIREMENTS APPLY TO ALL PUBLIC UTILITY PIPES. FOR ADDITIONAL REQUIREMENTS, SEE CITY STANDARD DESIGN MANUAL SECTION 210.19.
 2. SAWCUT EXISTING HMA PAVEMENT FULL DEPTH. SAWCUT EXISTING PCC PAVEMENT ACCORDING TO CITY STANDARD DETAILS.
 3. 12" FOR TRENCHES WIDER THAN 12". 6" FOR TRENCHES LESS THAN 12".
 4. MATCH EXISTING PAVEMENT MATERIAL(S). THICKNESS SHALL BE AS FOLLOWS:
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 - 4.2. FOR EXISTING PCC: EXISTING PAVEMENT THICKNESS PLUS 2", BUT NOT LESS THAN 8". ON ARTERIAL AND COLLECTOR STREETS, CONCRETE PATCHING MATERIAL SHALL BE HIGH EARLY STRENGTH CLASS 5000 PSI PCC APPROVED BY CITY ENGINEER.
 5. ALL CUT EDGES OF AC SHALL BE SAND SEALED WITH CRS-1 OR CRS-2 EMULSIFIED ASPHALT OR EQUIVALENT.

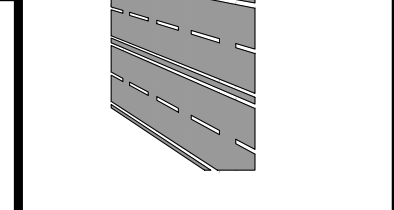
STANDARD DRAWING TITLE		DRAWING NUMBER
PIPE TRENCH BACKFILL		RD-47
SCALE	DATE	
N.T.S.	MAR '16	



REVISION INFORMATION	
AGENCY	CITY OF SHERWOOD
DATE	11/17/2020
SUBMITTAL	12/17/2020
1ST SUBMITTAL	



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**ZIGGY'S COFFEE STAND
 MODIFICATIONS TO DRIVE UP**

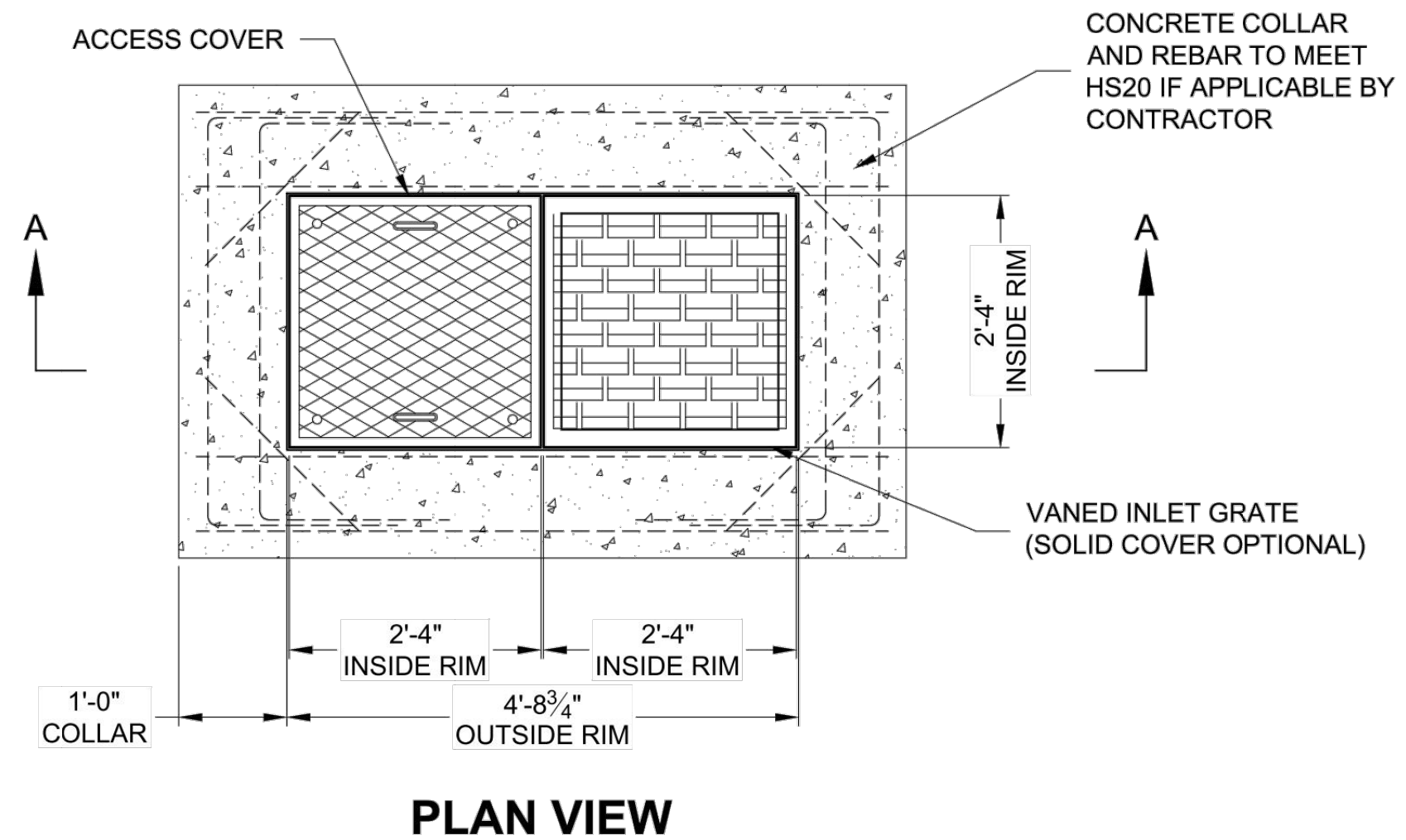
21003 SW BORCHERS ROAD
 CITY OF SHERWOOD, OREGON

DETAIL SHEET

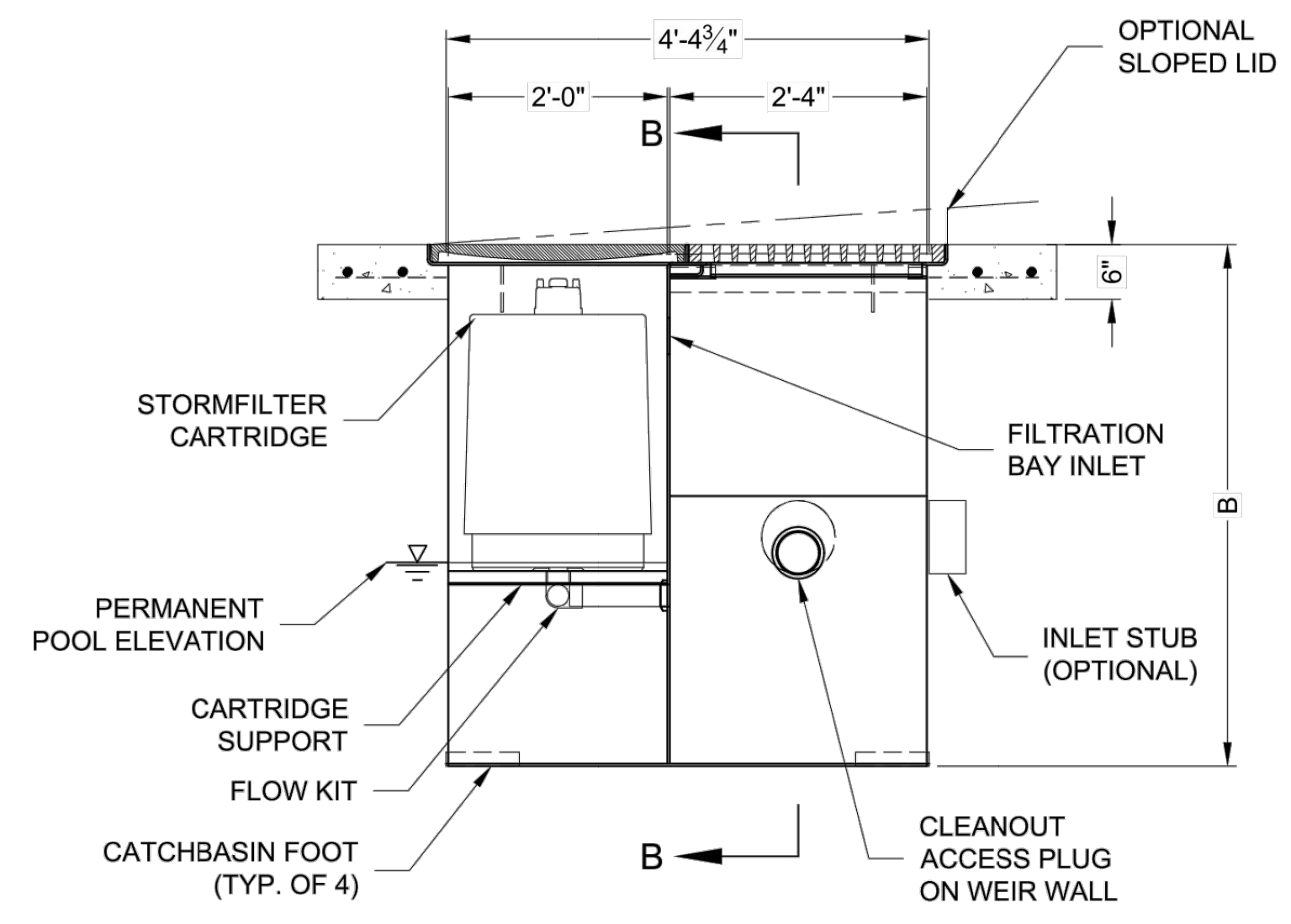
DATE:	9/31/17
DESIGN:	SLF
DRAWN:	RFD
CHECK:	SLF
SCALE:	1" = 10' HORIZ

PRELIMINARY

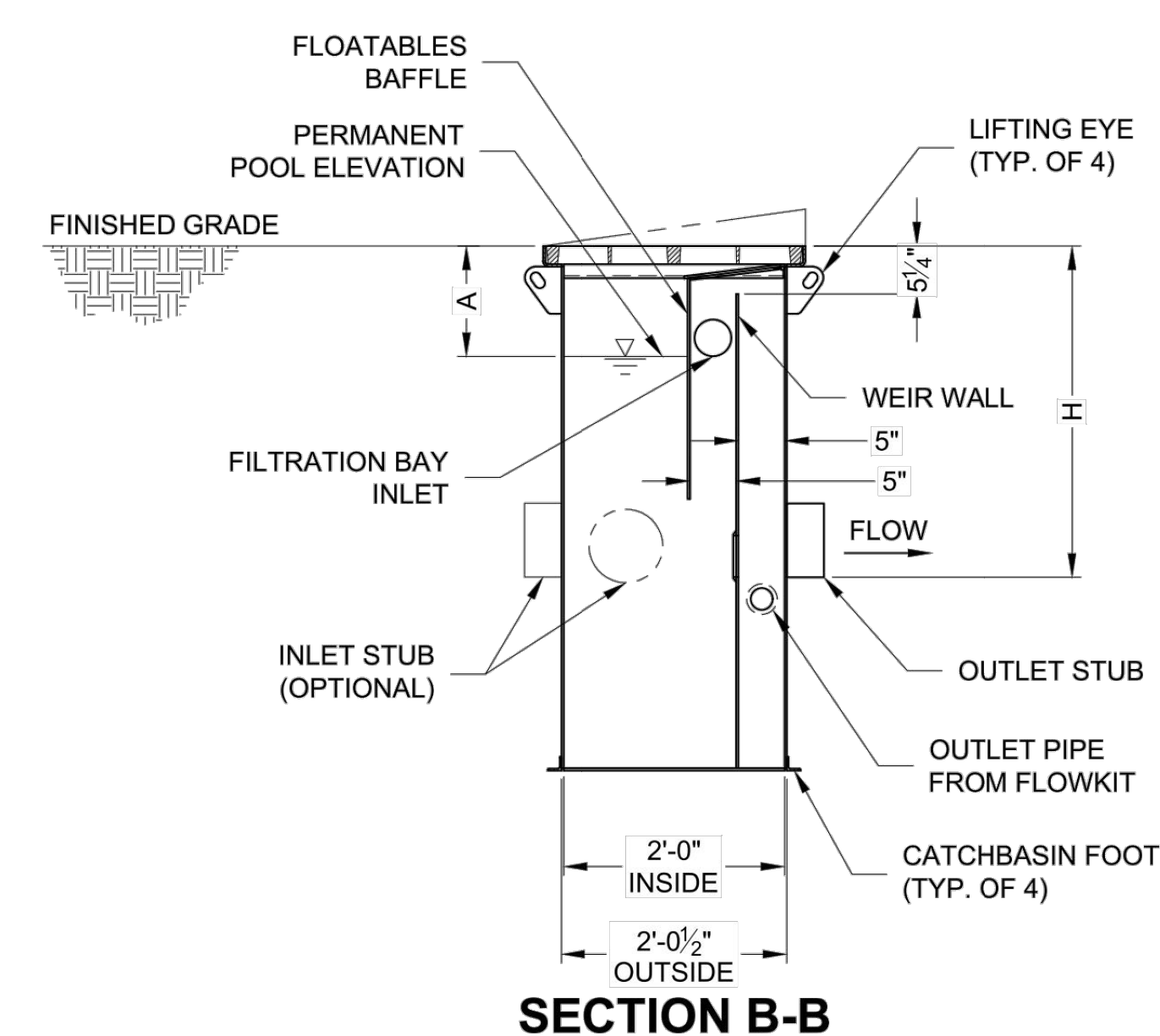
C-8



PLAN VIEW



SECTION A-A



SECTION B-B

STORMFILTER STEEL CATCHBASIN DESIGN NOTES

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

CARTRIDGE SELECTION

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

- * 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY
- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
 - STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
 - INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
 - MANUFACTURER TO APPLY A SURFACE BEAD WELD IN THE SHAPE OF THE LETTER "O" ABOVE THE OUTLET PIPE STUB ON THE EXTERIOR SURFACE OF THE STEEL SFCB.
 - STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
 - STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
 - FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
 - SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
 - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

1-CARTRIDGE CATCHBASIN STORMFILTER DATA

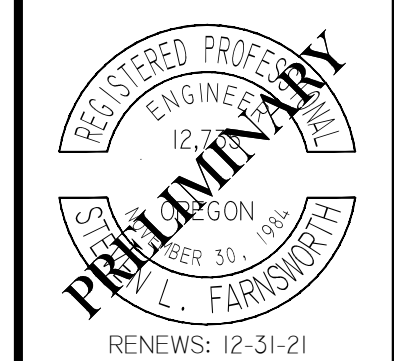
STRUCTURE ID	CB-1	
WATER QUALITY FLOW RATE (cfs)	0.011	
PEAK FLOW RATE (<1 cfs)	0.11	
RETURN PERIOD OF PEAK FLOW (yrs)	10 YR	
CARTRIDGE HEIGHT (27", 18", 18" DEEP)	18"	
CARTRIDGE FLOW RATE (gpm)	12.53	
MEDIA TYPE (PERLITE, ZPG, PSORB)	XXXXX	
RIM ELEVATION	98.00'	
PIPE DATA:		
INLET STUB	I.E.	DIAMETER
OUTLET STUB	95.70'	8"
CONFIGURATION		
SLOPED LID	YES	
SOLID COVER	NO	
NOTES/SPECIAL REQUIREMENTS:		

1 CARTRIDGE CATCHBASIN STORMFILTER STANDARD DETAIL

CONTECH
ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-526-3999 513-645-7000 513-645-7993 FAX

REVISION INFORMATION

DATE	AGENCY
08/31/17	WASH CO



Roadway Engineering, Inc.
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ZIGGY'S COFFEE STAND
MODIFICATIONS TO DRIVE UP
STORM FILTER DETAILS
21003 SW BORCHERS ROAD
CITY OF SHERWOOD, OREGON

DATE:	9/31/17
DESIGN:	SFL
DRAWN:	RFD
CHECK:	SFL
SCALE:	1" = 10' HORIZ

PRELIMINARY
C-9



Roadway Engineering

Civil Engineering / Land Development
20015 SW Tillamook Ct,
Tualatin OR 97062
Ph 503-267-8433
roadengr@comcast.net

Drainage Report 21003 SW Borchers Drive, Sherwood Oregon

Updated 12-16-2020

Change:

The City and CWS informed me that if we pay the fee-in-lieu for water detention then we only need to count the new and modified impervious area (739 Sq. Ft.) for the fee. After a second conversation with City staff I was informed that since we are below the criteria of 1000 Sq. Ft. of new or modified impervious area there will be no fee required for detention.

Drainage Calculation:

Calculations for this project shall be analyzed by the Santa Barbara Unit Hydrograph Method.

Design Rainfall Event:

The Frequency of Rain Fall Event for Design Storm will be Clean Water Services 10 Year Event

Design Criteria:

2 Yr. Event = 2.50" / Hr.

5 Yr. Event = 3.1" / Hr.

10 Yr. Event = 3.45" / Hr. (Design Event)

25 Yr. Event = 3.90" / Hr.

50 Yr. Event = 4.2" / Hr.

100 Yr. Event = 4.50" / Hr.

Storm Type:

SCS Type 1

Roadway Engineering

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20015 SW Tillamook Ct,
Tualatin OR 97062
Ph 503-267-8433

Existing Conditions:

Impervious Area = 0.1081 ACC

Proposed Conditions:

Pervious Area = 0.0367 ACC

Impervious Area = 0.1175 AC

Runoff Coefficients:

Pervious Area used Curve # 75

Impervious Area used Curve # 98

Time of Concentration Existing Conditions:

Tc = 5 Min. See attached Santa Barbara Urban Hydrograph Output.

Water Quality Flow

Using the equation

$$WQ_{cfs} = 0.36" \times \text{Area (Sq. Ft.)} / ((12"/ft)(4hr)(60min/hr)(60s/min))$$

Area of impervious 5117 Sq. Ft.

$$WQ_{cfs} = (0.36 \times 5117) / ((12 \times 4 \times 60 \times 60)) = \underline{\underline{0.011 \text{ cfs}}}$$

$$\text{Water Quality Flow} = 0.011 \text{ cfs}$$

Water Quality to be obtained with the use of a 1 cartridge filtered catch basin manufactured by Contech.

Roadway Engineering

Civil Engineering / Land Development
20015 SW Tillamook Ct,
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Ph 503-267-8433

Proposed Flow to point of Discharge (See attached calculation)

$Q_{wc}=0.011$ cfs.

$Q_{2yr}=0.08$ cfs.

$Q_{5yr}=0.10$ cfs.

$Q_{10yr}=0.11$ cfs.

$Q_{25yr}=0.13$ cfs.

$Q_{50yr}=0.14$ cfs.

$Q_{100yr}=0.15$ cfs.

The 1 cartridge catch basin can take a flow of up to 1 cfs so it can pass all required storms.

Detention - Storage:

There is only 1.20' of elevation between the outlet of the filter catch basin to the invert of the existing 12" C-900 that carries the discharge out to Borchers Drive, and that does not allow enough elevation difference to do the required storage for this project. If you also allow for 25 lf of pipe @ 2% slope you would only have an elevation difference of 0.70' to provide detention.

We are requesting to pay a fee in lieu of \$ 1 per Sq. Ft. of impervious area to offset this storage requirement.

The amount of private development new or modified impervious area for the project is 739 Sq. Ft.

The required fee in acceptable would then be **\$ 0 as we would be under the threshold amount of 1000 Sq. Ft.**

DATE	01/11/20
DESIGN	SEF
CHECK	SDP
SCALE	1" = 10' MAX

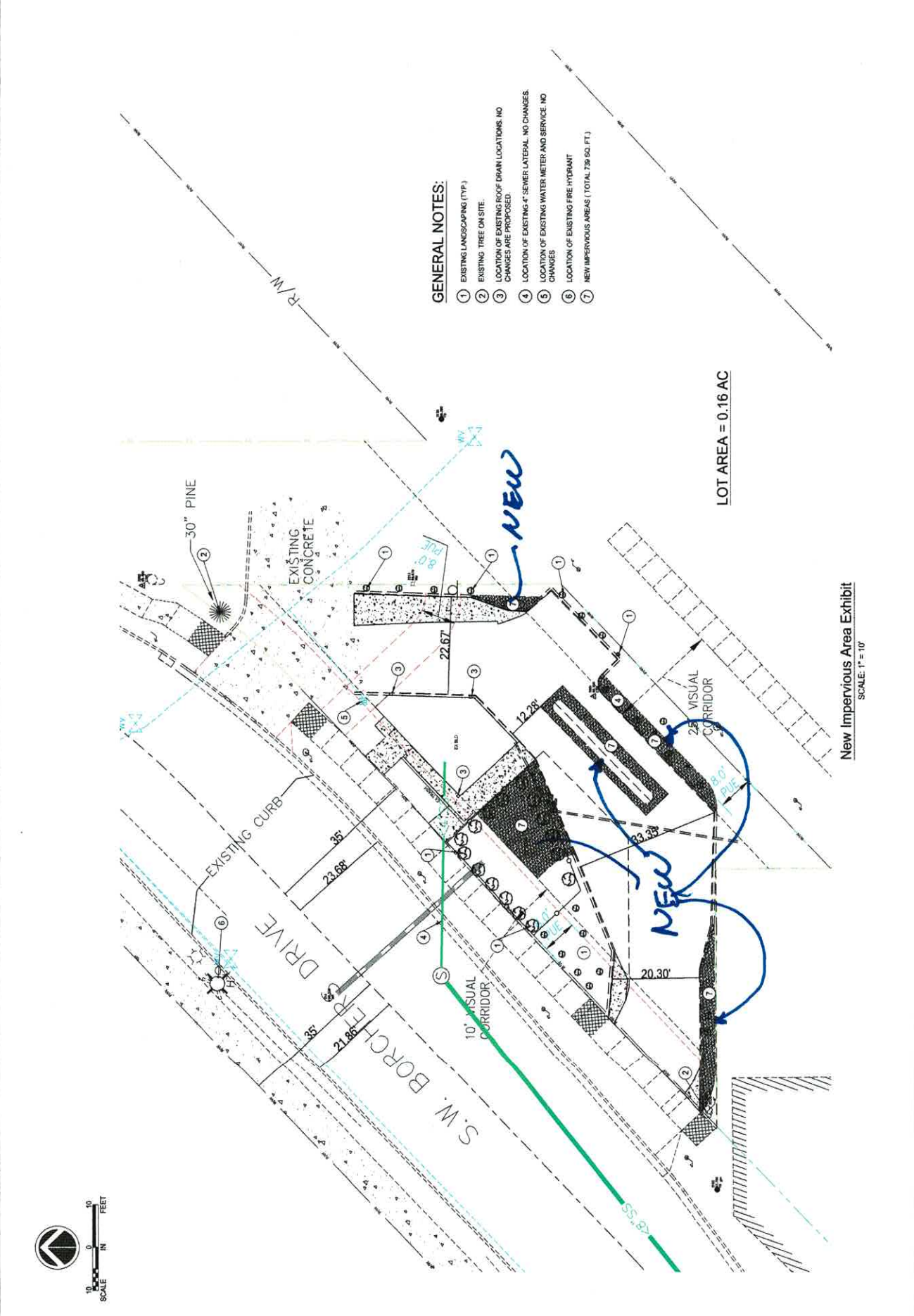
ZIGGY'S COFFEE STAND
MODIFICATIONS TO DRIVE UP
EXISTING CONDITIONS PLAN

Exhibit A4

Roadway Engineering, Inc.
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2818 NW TILLAMOOK CT. TILLAMOOK, OR 97141
PHONE: 503.339.4433 FAX: 503.339.4529
Licensed in California, Oregon & Washington



REVISION INFORMATION	
SUBMITTAL	DATE
1ST SUBMITTAL	11/17/20
2ND SUBMITTAL	12/7/20
CITY OF SHERWOOD	



- GENERAL NOTES:**
- EXISTING LANDSCAPING (TYP)
 - EXISTING TREE ON SITE
 - LOCATION OF EXISTING ROOF DRAIN LOCATIONS. NO CHANGES ARE PROPOSED.
 - LOCATION OF EXISTING 4" SEWER LATERAL. NO CHANGES.
 - LOCATION OF EXISTING WATER METER AND SERVICE. NO CHANGES.
 - LOCATION OF EXISTING FIRE HYDRANT
 - NEW IMPERVIOUS AREAS (TOTAL 739 SQ. FT.)

New Impervious Area Exhibit
SCALE: 1" = 10'

Roadway Engineering

Civil Engineering / Land Development
20015 SW Tillamook Ct,
Tualatin OR 97062
Ph 503-267-8433

Catchment Area Diagrams

&

Proposed Santa Barbara Urban Hydrograph Project Calculation

Roadway Engineering

Civil Engineering / Land Development
20015 SW Tillamook Ct,
Tualatin OR 97062
Ph 503-267-8433

Catchment Area Diagrams

&

Proposed Santa Barbara Urban Hydrograph Project Calculation

ROADWAY ENGINEERING, INC.**SLF - PE 16:35 09-Nov-20****Project** ZIGGI'S Coffee

Proposed flows for Ziggi's Coffee Property on Hwy 99

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH

2 yr Post Dev Flow from Impervious Surfacxe

total Time of Concentration = 5.0'

storm hyetograph: SCS TypeI

return period = 2 years

storm duration = 24 hr.

total rainfall = 2.50 in.

pervious area = 0.04 A CN = 75 GpB:Res,1/4-A.lots

impervious area = 0.12 A CN = 98

total site area = 0.15 A

hydrograph file: c:\quick3\sharkey coffee\2 yr post development.hyd

peak flow = 0.08cfs @ 10.00 hr.

runoff volume = 1,055 cu.ft.

ROADWAY ENGINEERING, INC.**SLF - PE 16:36 09-Nov-20****Project** ZIGGI'S Coffee

Proposed flows for Ziggi's Coffee Property on Hwy 99

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH

5 yr Post Dev Flow from Impervious Surface

total Time of Concentration = 5.0'

storm hyetograph: SCS Type I
return period = 5 years
storm duration = 24 hr.
total rainfall = 3.10 in.

pervious area = 0.04 A CN = 75 GpB:Res,1/4-A.lots
impervious area = 0.12 A CN = 98
total site area = 0.15 A

hydrograph file: c:\quick3\sharkey coffee\5 yr post development.hyd

peak flow = 0.10cfs @ 10.00 hr.
runoff volume = 1,360 cu.ft.

ROADWAY ENGINEERING, INC.**SLF - PE 16:36 09-Nov-20****Project** ZIGGI'S Coffee

Proposed flows for Ziggi's Coffee Property on Hwy 99

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH

10 yr Post Dev Flow from Impervious Surface

total Time of Concentration = 5.0'

storm hyetograph: SCS Type I

return period = 10 years

storm duration = 24 hr.

total rainfall = 3.45 in.

pervious area = 0.04 A CN = 75 GpB:Res,1/4-A.lots

impervious area = 0.12 A CN = 98

total site area = 0.15 A

hydrograph file: c:\quick3\sharkey coffee\10 yr post development.hyd

peak flow = 0.11cfs @ 10.00 hr.

runoff volume = 1,541 cu.ft.

ROADWAY ENGINEERING, INC.

SLE - PE 16:37 09-Nov-20

Project ZIGGI'S Coffee

Proposed flows for Ziggi's Coffee Property on Hwy 99

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH

25 yr Post Dev Flow from Impervious Surface

total Time of Concentration = 5.0'

storm hyetograph: SCS Type I

return period = 25 years

storm duration = 24 hr.

total rainfall = 3.90 in.

pervious area = 0.04 A CN = 75 GpB:Res,1/4-A.lots

impervious area = 0.12 A CN = 98

total site area = 0.15 A

hydrograph file: c:\quick3\sharkey coffee\25 yr post development.hyd

peak flow = 0.13cfs @ 10.00 hr.

runoff volume = 1,775 cu.ft.

ROADWAY ENGINEERING, INC.**SLF - PE 16:39 09-Nov-20****Project** ZIGGI'S Coffee

Proposed flows for Ziggi's Coffee Property on Hwy 99

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH

50 yr Post Dev Flow from Impervious Surface

total Time of Concentration = 5.0'

storm hyetograph: SCS Type I
return period = 50 years
storm duration = 24 hr.
total rainfall = 4.20 in.

pervious area = 0.04 A CN = 75 GpB:Res,1/4-A.lots
impervious area = 0.12 A CN = 98
total site area = 0.15 A

hydrograph file: c:\quick3\sharkey coffee\50 yr post development.hyd

peak flow = 0.14cfs @ 10.00 hr.
runoff volume = 1,933 cu.ft.

ROADWAY ENGINEERING, INC.**SLF - PE 16:39 09-Nov-20****Project** ZIGGI'S Coffee

Proposed flows for Ziggi's Coffee Property on Hwy 99

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH

100 yr Post Dev Flow from Impervious Surface

total Time of Concentration = 5.0'

storm hyetograph: SCS Type I

return period = 100 years

storm duration = 24 hr.

total rainfall = 4.50 in.

pervious area = 0.04 A CN = 75 GpB:Res,1/4-A.lots

impervious area = 0.12 A CN = 98

total site area = 0.15 A

hydrograph file: c:\quick3\sharkey coffee\100 yr post development.hyd

peak flow = 0.15cfs @ 10.00 hr.

runoff volume = 2,092 cu.ft.

SENSITIVE AREA PRE-SCREENING SITE ASSESSMENT

Clean Water Services File Number 20-002066

1. Jurisdiction: Sherwood

2. Property Information (example: 1S234AB01400)
Tax lot ID(s): _____
2S130AD15000

3. Owner Information
Name: Tim Hubbard
Company: _____
Address: 4018 Northeast 42nd Street
City, State, Zip: Neotsu, OR, 97364
Phone/fax: 5419922258
Email: shrwdchiro@gmail.com

OR Site Address: 21003 SW Pacific Hwy
City, State, Zip: Sherwood, Oregon, 97140
Nearest cross street: Borcher's Drive and Edy Rd

4. Applicant Information
Name: Tim Hubbard
Company: _____
Address: 4018 Northeast 42nd Street
City, State, Zip: Neotsu, OR, 97364
Phone/fax: 5419922258
Email: shrwdchiro@gmail.com

4. Development Activity (check all that apply)
- Addition to single family residence (rooms, deck, garage)
 - Lot line adjustment Minor land partition
 - Residential condominium Commercial condominium
 - Residential subdivision Commercial subdivision
 - Single lot commercial Multi lot commercial
- Other Remove water detention pond for a cartridge system

6. Will the project involve any off-site work? Yes No Unknown
Location and description of off-site work: _____

7. Additional comments or information that may be needed to understand your project: _____
Want to replace pond with H/C parking spot and plants as well as remove plants add two new parking spaces east side PKG

This application does NOT replace Grading and Erosion Control Permits, Connection Permits, Building Permits, Site Development Permits, DEQ 1200-C Permit or other permits as issued by the Department of Environmental Quality, Department of State Lands and/or Department of the Army COE. All required permits and approvals must be obtained and completed under applicable local, state, and federal law.

By signing this form, the Owner or Owner's authorized agent or representative, acknowledges and agrees that employees of Clean Water Services have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related to the project site. I certify that I am familiar with the information contained in this document, and to the best of my knowledge and belief, this information is true, complete, and accurate.

Print/type name Tim Hubbard

Print/type title _____

Signature ONLINE SUBMITTAL

Date 8/3/2020

FOR DISTRICT USE ONLY

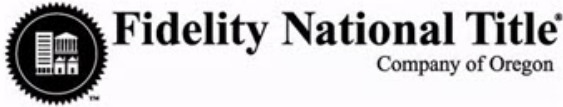
- Sensitive areas potentially exist on site or within 200' of the site. **THE APPLICANT MUST PERFORM A SITE ASSESSMENT PRIOR TO ISSUANCE OF A SERVICE PROVIDER LETTER.** If Sensitive Areas exist on the site or within 200 feet on adjacent properties, a Natural Resources Assessment Report may also be required.
- Based on review of the submitted materials and best available information sensitive areas do not appear to exist on site or within 200' of the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider Letter as required by Resolution and Order 19-5, Section 3.02.1, as amended by Resolution and Order 19-22. All required permits and approvals must be obtained and completed under applicable local, State and federal law.
- Based on review of the submitted materials and best available information the above referenced project will not significantly impact the existing or potentially sensitive area(s) found near the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect additional water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider Letter as required by Resolution and Order 19-5, Section 3.02.1, as amended by Resolution and Order 19-22. All required permits and approvals must be obtained and completed under applicable local, state and federal law.
- THIS SERVICE PROVIDER LETTER IS NOT VALID UNLESS _____ CWS APPROVED SITE PLAN(S) ARE ATTACHED.**
- The proposed activity does not meet the definition of development or the lot was platted after 9/9/95 ORS 92.040(2). **NO SITE ASSESSMENT OR SERVICE PROVIDER LETTER IS REQUIRED.**

Reviewed by Lindsey Obermiller

Date 08/17/2020

Once complete, email to: SPLReview@cleanwaterservices.org • Fax: (503) 681-4439

OR mail to: SPL Review, Clean Water Services, 2550 SW Hillsboro Highway, Hillsboro, Oregon 97123



**PUBLIC RECORD REPORT
FOR NEW SUBDIVISION
OR LAND PARTITION**

THIS REPORT IS ISSUED BY THE ABOVE-NAMED COMPANY ("THE COMPANY") FOR THE EXCLUSIVE USE OF THE FOLLOWING CUSTOMER:

Fidelity National Title Company of Oregon
Phone No.:

Date Prepared: December 4, 2020
Effective Date: November 19, 2020 / 08:00 AM
Charge: \$250.00
Order No.: 45142038604
Reference: Borchers Road Coffee Shop

The information contained in this report is furnished to the Customer by Fidelity National Title Company of Oregon (the "Company") as an information service based on the records and indices maintained by the Company for the county identified below. This report is not title insurance, is not a preliminary title report for title insurance, and is not a commitment for title insurance. No examination has been made of the Company's records, other than as specifically set forth in this report ("the Report"). Liability for any loss arising from errors and/or omissions is limited to the lesser of the fee paid or the actual loss to the Customer, and the Company will have no greater liability by reason of this report. This report is subject to the Definitions, Conditions and Stipulations contained in it.

REPORT

- A. The Land referred to in this report is located in the County of Washington, State of Oregon, and is described as follows:
As fully set forth on Exhibit "A" attached hereto and by this reference made a part hereof.
- B. As of the Effective Date, the tax account and map references pertinent to the Land are as follows:
As fully set forth on Exhibit "B" attached hereto and by this reference made a part hereof.
- C. As of the Effective Date and according to the Public Records, we find title to the land apparently vested in:
As fully set forth on Exhibit "C" attached hereto and by this reference made a part hereof.
- D. As of the Effective Date and according to the Public Records, the Land is subject to the following liens and encumbrances, which are not necessarily shown in the order of priority:
As fully set forth on Exhibit "D" attached hereto and by this reference made a part hereof.

Fidelity National Title Company of Oregon
Public Record Report for New Subdivision or Land Partition
Order No. 45142038604

EXHIBIT "A"
(Land Description)

A parcel of land lying in the Southeast one-quarter of the Northeast one-quarter of Section 30, Township 2 South, Range 1 West, Willamette Meridian, in the City of Sherwood, Washington County, Oregon and being a portion of that property described in that Deed to the State of Oregon, by and through its State Highway Commission, recorded October 16, 1954 in Book 361, Page 515, Deed Records of Washington County; the said parcel being that portion of said property lying between lines parallel with and 40.00 feet Northwesterly and 110.00 feet Northwesterly of the center line of the Southbound lane of the Pacific Highway West which center line is described in said State of Oregon Deed.

EXCEPT THEREFROM that property described in that Quitclaim Deed to Paul S. Dripps, recorded June 2, 1959 in Book 418, Page 291, Deed Records of Washington County.

FURTHER EXCEPT THEREFROM that portion described in Right-of Way Dedication recorded January 15, 2008 as Recording No. 2008-003825, Deed Records of Washington County.

Fidelity National Title Company of Oregon
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EXHIBIT "B"
(Tax Account and Map)

APN/Parcel ID(s) R2134120 as well as Tax/Map ID(s) 2S130AD15000

Fidelity National Title Company of Oregon
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EXHIBIT "C"
(Vesting)

Timothy D. Hubbard and Carla C. Hubbard, as tenants by the entirety

Fidelity National Title Company of Oregon
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Order No. 45142038604

EXHIBIT "D"
(Liens and Encumbrances)

1. Unpaid Property Taxes are as follows:
Fiscal Year: 2020-2021
Amount: \$2,140.62, plus interest, if any
Levy Code: 088.30
Account No.: R2134120
Map No.: 2S130AD-15000
2. City Liens, if any, in favor of the City of Sherwood.
3. Easement, including terms and provisions contained therein:
Recording Date: March 16, 2005
Recording No.: 2005-027801
In Favor of: Enserv, LLC
For: Ingress and Egress
4. Abutter's rights of ingress and egress to or from Pacific Highway 99W have been relinquished in the document,
Recording Date: March 16, 2005
Recording No.: 2005-027802
5. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document
Recording Date: March 16, 2005
Recording No.: 2005-027802
6. Easement, including terms and provisions contained therein:
Recording Date: January 15, 2008
Recording No.: 2008-003821
In Favor of: City of Sherwood, an Oregon Municipal Corporation
For: Public Access
7. Easement, including terms and provisions contained therein:
Recording Date: January 15, 2008
Recording No.: 2008-003822
In Favor of: City of Sherwood, an Oregon Municipal Corporation
For: Public Utility
8. Easement, including terms and provisions contained therein:
Recording Date: January 15, 2008
Recording No.: 2008-003823
In Favor of: City of Sherwood, an Oregon Municipal Corporation
For: Public Utility

Fidelity National Title Company of Oregon
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EXHIBIT "D"
(Liens and Encumbrances)
 (continued)

9. Easement, including terms and provisions contained therein:
 Recording Date: January 15, 2008
 Recording No.: 2008-003824
 In Favor of: City of Sherwood, an Oregon Municipal Corporation
 For: Public Utility
10. Easement, including terms and provisions contained therein:
 Recording Date: January 15, 2008
 Recording No.: 2008-003825
 In Favor of: City of Sherwood, an Oregon Municipal Corporation
 For: Right-of-Way Dedication
11. A deed of trust to secure an indebtedness in the amount shown below,
 Original Amount: \$135,000.00
 Dated: May 25, 2016
 Grantor/Trustor: Timothy D. Hubbard and Carla C. Hubbard
 Trustee: First American Title Company of Oregon
 Grantee/Beneficiary: KeyBank National Association
 Loan No.: 2
 Recording Date: May 25, 2016
 Recording No.: 2016-039741
12. Assignment of leases and/or rents and the terms and conditions thereof,
 Assignor: Timothy D. Hubbard and Carla C. Hubbard
 Assignee: KeyBank National Association
 Recording Date: May 25, 2016
 Recording No.: 2016-039742
13. Rights of tenants, as tenants only, in unrecorded leaseholds.
14. Any right, interest or claim that may exist, arise or be asserted under or pursuant to the Perishable Agricultural Commodities Act of 1930, as amended, 7 USC 499a et seq., the Packers and Stockyard Act of 1921, as amended, 7 USC 181 et seq., or any similar state laws.

****End of Liens & Encumbrances****

BOUNDARY DEEDS:

96-46716
 96-49683
 96-78477
 2014-06999

Fidelity National Title Company of Oregon
Public Record Report for New Subdivision or Land Partition
Order No. 45142038604

DEFINITIONS, CONDITIONS AND STIPULATIONS

1. **Definitions.** The following terms have the stated meaning when used in this report:
 - (a) "Customer": The person or persons named or shown as the addressee of this report.
 - (b) "Effective Date": The effective date stated in this report.
 - (c) "Land": The land specifically described in this report and improvements affixed thereto which by law constitute real property.
 - (d) "Public Records": Those records which by the laws of the state of Oregon impart constructive notice of matters relating to the Land.
2. **Liability of Company.**
 - (a) This is not a commitment to issue title insurance and does not constitute a policy of title insurance.
 - (b) The liability of the Company for errors or omissions in this public record report is limited to the amount of the charge paid by the Customer, provided, however, that the Company has no liability in the event of no actual loss to the Customer.
 - (c) No costs (including without limitation attorney fees and other expenses) of defense, or prosecution of any action, is afforded to the Customer.
 - (d) In any event, the Company assumes no liability for loss or damage by reason of the following:
 - (1) Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records.
 - (2) Any facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
 - (3) Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.
 - (4) Discrepancies, encroachments, shortage in area, conflicts in boundary lines or any other facts which a survey would disclose.
 - (5) (i) Unpatented mining claims; (ii) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (iii) water rights or claims or title to water.
 - (6) Any right, title, interest, estate or easement in land beyond the lines of the area specifically described or referred to in this report, or in abutting streets, roads, avenues, alleys, lanes, ways or waterways.
 - (7) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the Public Records at the effective date hereof.
 - (8) Any governmental police power not excluded by 2(d)(7) above, except to the extent that notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the Public Records at the effective date hereof.
 - (9) Defects, liens, encumbrances, adverse claims or other matters created, suffered, assumed, agreed to or actually known by the Customer.
3. **Report Entire Contract.** Any right or action or right of action that the Customer may have or may bring against the Company arising out of the subject matter of this report must be based on the provisions of this report. No provision or condition of this report can be waived or changed except by a writing signed by an authorized officer of the Company. By accepting this form report, the Customer acknowledges and agrees that the Customer has elected to utilize this form of public record report and accepts the limitation of liability of the Company as set forth herein.
4. **Charge.** The charge for this report does not include supplemental reports, updates or other additional services of the Company.

Fidelity National Title Company of Oregon
Public Record Report for New Subdivision or Land Partition
Order No. 45142038604

LIMITATIONS OF LIABILITY

"CUSTOMER" REFERS TO THE RECIPIENT OF THIS REPORT.

CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES THAT IT IS EXTREMELY DIFFICULT, IF NOT IMPOSSIBLE, TO DETERMINE THE EXTENT OF LOSS WHICH COULD ARISE FROM ERRORS OR OMISSIONS IN, OR THE COMPANY'S NEGLIGENCE IN PRODUCING, THE REQUESTED REPORT, HEREIN "THE REPORT." CUSTOMER RECOGNIZES THAT THE FEE CHARGED IS NOMINAL IN RELATION TO THE POTENTIAL LIABILITY WHICH COULD ARISE FROM SUCH ERRORS OR OMISSIONS OR NEGLIGENCE. THEREFORE, CUSTOMER UNDERSTANDS THAT THE COMPANY IS NOT WILLING TO PROCEED IN THE PREPARATION AND ISSUANCE OF THE REPORT UNLESS THE COMPANY'S LIABILITY IS STRICTLY LIMITED. CUSTOMER AGREES WITH THE PROPRIETY OF SUCH LIMITATION AND AGREES TO BE BOUND BY ITS TERMS

THE LIMITATIONS ARE AS FOLLOWS AND THE LIMITATIONS WILL SURVIVE THE CONTRACT:

ONLY MATTERS IDENTIFIED IN THIS REPORT AS THE SUBJECT OF THE REPORT ARE WITHIN ITS SCOPE. ALL OTHER MATTERS ARE OUTSIDE THE SCOPE OF THE REPORT.

CUSTOMER AGREES, AS PART OF THE CONSIDERATION FOR THE ISSUANCE OF THE REPORT AND TO THE FULLEST EXTENT PERMITTED BY LAW, TO LIMIT THE LIABILITY OF THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS FOR ANY AND ALL CLAIMS, LIABILITIES, CAUSES OF ACTION, LOSSES, COSTS, DAMAGES AND EXPENSES OF ANY NATURE WHATSOEVER, INCLUDING ATTORNEY'S FEES, HOWEVER ALLEGED OR ARISING, INCLUDING BUT NOT LIMITED TO THOSE ARISING FROM BREACH OF CONTRACT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF WARRANTY, EQUITY, THE COMMON LAW, STATUTE OR ANY OTHER THEORY OF RECOVERY, OR FROM ANY PERSON'S USE, MISUSE, OR INABILITY TO USE THE REPORT OR ANY OF THE MATERIALS CONTAINED THEREIN OR PRODUCED, **SO THAT THE TOTAL AGGREGATE LIABILITY OF THE COMPANY AND ITS AGENTS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS SHALL NOT IN ANY EVENT EXCEED THE COMPANY'S TOTAL FEE FOR THE REPORT.**

CUSTOMER AGREES THAT THE FOREGOING LIMITATION ON LIABILITY IS A TERM MATERIAL TO THE PRICE THE CUSTOMER IS PAYING, WHICH PRICE IS LOWER THAN WOULD OTHERWISE BE OFFERED TO THE CUSTOMER WITHOUT SAID TERM. CUSTOMER RECOGNIZES THAT THE COMPANY WOULD NOT ISSUE THE REPORT BUT FOR THIS CUSTOMER AGREEMENT, AS PART OF THE CONSIDERATION GIVEN FOR THE REPORT, TO THE FOREGOING LIMITATION OF LIABILITY AND THAT ANY SUCH LIABILITY IS CONDITIONED AND PREDICATED UPON THE FULL AND TIMELY PAYMENT OF THE COMPANY'S INVOICE FOR THE REPORT.

THE REPORT IS LIMITED IN SCOPE AND IS NOT AN ABSTRACT OF TITLE, TITLE OPINION, PRELIMINARY TITLE REPORT, TITLE REPORT, COMMITMENT TO ISSUE TITLE INSURANCE, OR A TITLE POLICY, AND SHOULD NOT BE RELIED UPON AS SUCH. THE REPORT DOES NOT PROVIDE OR OFFER ANY TITLE INSURANCE, LIABILITY COVERAGE OR ERRORS AND OMISSIONS COVERAGE. THE REPORT IS NOT TO BE RELIED UPON AS A REPRESENTATION OF THE STATUS OF TITLE TO THE PROPERTY. THE COMPANY MAKES NO REPRESENTATIONS AS TO THE REPORT'S ACCURACY, DISCLAIMS ANY WARRANTY AS TO THE REPORT, ASSUMES NO DUTIES TO CUSTOMER, DOES NOT INTEND FOR CUSTOMER TO RELY ON THE REPORT, AND ASSUMES NO LIABILITY FOR ANY LOSS OCCURRING BY REASON OF RELIANCE ON THE REPORT OR OTHERWISE.

Fidelity National Title Company of Oregon
Public Record Report for New Subdivision or Land Partition
Order No. 45142038604

IF CUSTOMER (A) HAS OR WILL HAVE AN INSURABLE INTEREST IN THE SUBJECT REAL PROPERTY, (B) DOES NOT WISH TO LIMIT LIABILITY AS STATED HEREIN AND (C) DESIRES THAT ADDITIONAL LIABILITY BE ASSUMED BY THE COMPANY, THEN CUSTOMER MAY REQUEST AND PURCHASE A POLICY OF TITLE INSURANCE, A BINDER, OR A COMMITMENT TO ISSUE A POLICY OF TITLE INSURANCE. NO ASSURANCE IS GIVEN AS TO THE INSURABILITY OF THE TITLE OR STATUS OF TITLE. CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES IT HAS AN INDEPENDENT DUTY TO ENSURE AND/OR RESEARCH THE ACCURACY OF ANY INFORMATION OBTAINED FROM THE COMPANY OR ANY PRODUCT OR SERVICE PURCHASED.

NO THIRD PARTY IS PERMITTED TO USE OR RELY UPON THE INFORMATION SET FORTH IN THE REPORT, AND NO LIABILITY TO ANY THIRD PARTY IS UNDERTAKEN BY THE COMPANY.

CUSTOMER AGREES THAT, TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT WILL THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS, AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES AND SUBCONTRACTORS BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE, EXEMPLARY, OR SPECIAL DAMAGES, OR LOSS OF PROFITS, REVENUE, INCOME, SAVINGS, DATA, BUSINESS, OPPORTUNITY, OR GOODWILL, PAIN AND SUFFERING, EMOTIONAL DISTRESS, NON-OPERATION OR INCREASED EXPENSE OF OPERATION, BUSINESS INTERRUPTION OR DELAY, COST OF CAPITAL, OR COST OF REPLACEMENT PRODUCTS OR SERVICES, REGARDLESS OF WHETHER SUCH LIABILITY IS BASED ON BREACH OF CONTRACT, TORT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTIES, FAILURE OF ESSENTIAL PURPOSE, OR OTHERWISE AND WHETHER CAUSED BY NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, BREACH OF WARRANTY, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE OR ANY OTHER CAUSE WHATSOEVER, AND EVEN IF THE COMPANY HAS BEEN ADVISED OF THE LIKELIHOOD OF SUCH DAMAGES OR KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY FOR SUCH DAMAGES.

END OF THE LIMITATIONS OF LIABILITY

NOTICE OF NEIGHBORHOOD MEETING

A neighborhood meeting will be held on-line (Zoom) on November 24, 2020 to inform the community about a proposed site modification project at the old Sharkie's / Coffee Cottage drive thru property off of Borchers Dr. Interested community members are encouraged to attend on-line (due to COVID-19) for the open forum. Please contact Timothy Hubbard at 541-992-2258 for additional information.

Project Proposal: Owners are proposing a removal of the water containment pond and replacing it with a Cartridge Filtration System to meet Clean Water Services standards. This will allow then to add a center island "Y" formation 2-lane drive thru (like McDonald's); moving two of the parking spaces over the top of the existing pond. The other two parking spaces will be left on the East curb of the existing driveway.

(see back side of this page for proposed plan diagram)

Open House Information:

Date: November 24, 2020

Time: 10:00 a.m.

Location: On-line Zoom meeting ID: 935 257 1399 Pass Code: Y5bk6w

Telephone call-in: 1-253-215-8782

Contact: Tim Hubbard, Owner/Project Manager (541)992-2258

11/24/20

NEIGHBORHOOD MEETING SIGN IN SHEET

Proposed Project: Sherwood Coffee Shop Modification

Proposed Project Location: 21003 SW Pacific Hwy Sherwood

Project Contact: Timothy Hubbard

Meeting Location: Zoom

Meeting Date: 11/24/20 10:00 am meeting started./opened up and stayed open till 12:00 noon

Name	Address	E-Mail	Please identify yourself (check all that apply)							
			Resident	Property owner	Business owner	Other				
<p>out of \$7 Letters Mailed we got No one to Log on to the Zoom meeting for Questions, Complaints or Suggestions. Consider this My Report on the Community/Neighborhood Meeting & Documentation of the Meeting.</p>										

Witnesses: Tim Hubbard
Carla Hubbard
 11/24/20

Affidavit of Mailing

DATE: November 13, 2020

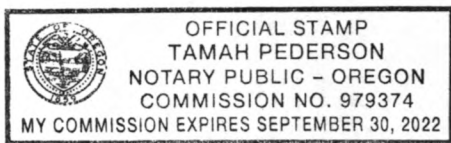
STATE OF OREGON)
)
 Washington County)

Property Address/mod.
 21003 SW Pacific Hwy #
 Sherwood, OR 97140

I, Timothy Hubbard, representative for the Ziggi's Coffee Modification proposed development project do hereby certify that the attached notice to adjacent property owners and recognized neighborhood organizations that are within 1,000 feet of the subject project, was placed in a U.S. Postal receptacle on Nov. 13, 2020

Timothy Hubbard 11/13/20

 Representatives Name:
 Name of the Organization:



Tal & Co
 11/13/2020
 State of Oregon
 county of Washington

Harvey, Gerald R Rev Living Trust
16895 SW Edy Rd
Sherwood, OR 97140

Robert Tsarouhas
20757 SW Lavender Ave
Sherwood, OR 97140

Christina Haverkamp
20781 SW Lavender Ave
Sherwood, OR 97140

Joshua Martinez
16890 SW Daffodil St
Sherwood, OR 97140

Robert B Thomson
16868 SW Daffodil St
Sherwood, OR 97140

Susan Dunaway
16846 SW Daffodil St
Sherwood, OR 97140

Austin Coblentz
16824 SW Daffodil St
Sherwood, OR 97140

Elaine Hunter
16819 SW Daffodil St
Sherwood, OR 97140

Ronna Murillo
16843 SW Daffodil St
Sherwood, OR 97140

Jonathan Kim
20698 SW Lavender Ave
Sherwood, OR 97140

Juhi Singh
16540 SW Daffodil St
Sherwood, OR 97140

Scott Adams
16606 SW Daffodil St
Sherwood, OR 97140

Jose B L Fregoso
16622 SW Daffodil St
Sherwood, OR 97140

Alissa Gaebe
16638 SW Daffodil St
Sherwood, OR 97140

Marleina Heim
16656 SW Daffodil St
Sherwood, OR 97140

Belinda Kjensrud
16702 SW Daffodil St
Sherwood, OR 97140

Joan B Corey
16730 SW Daffodil St
Sherwood, OR 97140

Donald Lee
16744 SW Daffodil St
Sherwood, OR 97140

Leo Kappus
16786 SW Daffodil St
Sherwood, OR 97140

Timothy Smith
16800 SW Daffodil St
Sherwood, OR 97140

Jillian Amaranthus
20733 SW Windflower Ave
Sherwood, OR 97140

Felipe Carrillo
20705 SW Windflower Ave
Sherwood, OR 97140

Stanley Cage
20700 SW Windflower Ave
Sherwood, OR 97140

Frances White
20728 SW Windflower Ave
Sherwood, OR 97140

Adriana Burrola
20756 SW Windflower Ave
Sherwood, OR 97140

Timothy Hurley
20635 SW Sundrop Pl
Sherwood, OR 97140

Cynthia Pearce
20647 SW Sundrop Pl
Sherwood, OR 97140

Alex Mellinger
20673 SW Sundrop Pl
Sherwood, OR 97140

Nancy Lockwood
20685 SW Sundrop Pl
Sherwood, OR 97140

Benjamin Wolf
20692 SW Sundrop Pl
Sherwood, OR 97140

Kim McCloskey
20680 SW Sun Drop Pl
Sherwood, OR 97140

Robert D Christensen
20668 SW Sun Drop Pl
Sherwood, OR 97140

Faith Wayne
20642 SW Sun Drop Pl
Sherwood, OR 97140

Horton Beirne II
20630 SW Sun Drop Pl
Sherwood, OR 97140

Kelly Maxwell
20606 SW Sun Drop Pl
Sherwood, OR 97140

Francisco Aguayo
20621 SW Windflower Ave
Sherwood, OR 97140

Barbara Bigoni
20629 Windflower Ave
Sherwood, OR 97140

Monica Woods
20637 SW Windflower Ave
Sherwood, OR 97140

Carol Vanderzanden
20645 SW Windflower Ave
Sherwood, OR 97140

Bradley Nelson
20665 SW Windflower Ave
Sherwood, OR 97140

Darby J Cullen
20677 SW Windflower Ave
Sherwood, OR 97140

Cody Gibson
20689 SW Windflower Ave
Sherwood, OR 97140

Raquel Orona
20684 SW Windflower Ave
Sherwood, OR 97140

Joren Ross
20672 SW Windflower Ave
Sherwood, OR 97140

Michael Gross
20660 SW Windflower Ave
Sherwood, OR 97140

Phuong Hoang
20648 SW Windflower Ave
Sherwood, OR 97140

Jerry Zemmer
20640 SW Windflower Ave
Sherwood, OR 97140

Dale Bonet
20632 SW Windflower Ave
Sherwood, OR 97140

Kathleen Strader
20624 SW Windflower Ave
Sherwood, OR 97140

Jane Schuster
20600 SW Windflower Ave
Sherwood, OR 97140

Roberta Johnson
16525 SW Daylily St
Sherwood, OR 97140

Kala Klink
16677 SW Daffodil St
Sherwood, OR 97140

Richard Alberts
16675 SW Daffodil St
Sherwood, OR 97140

Justin Hemp
16699 SW Daffodil St
Sherwood, OR 97140

Aaron Lee
16765 SW Daffodil St
Sherwood, OR 97140

Alan Rasmussen
16791 SW Daffodil St
Sherwood, OR 97140

Anthony Galindo
16789 SW Daffodil St
Sherwood, OR 97140

Jeffrey Handley
20787 SW Nettle Pl
Sherwood, OR 97140

Pamela Duvall
20768 SW Nettle Pl
Sherwood, OR 97140

Gregorio Barajas
20403 SW Borchers Dr
Sherwood, OR 97140

Kristin Roberts
16259 SW Holland Ln
Sherwood, OR 97140

Michele Machiels
16251 SW Holland Ln
Sherwood, OR 97140

Michelle Holland
16245 SW Holland Ln
Sherwood, OR 97140

Janet Lasher
16233 SW Holland Ln
Sherwood, OR 97140

Katrina Howell
16260 SW Holland Ln
Sherwood, OR 97140

Enserv LLC
20945 SW Pacific Hwy
Sherwood, OR 97140

Sherwood Chiropractic & Rehab

Dr. Timothy Hubbard D.C.

20055 SW Pacific Hwy. Suite 210

Sherwood, OR 97140

503-625-2225 Fax 503-925-8840

November 12th, 2020

Sherwood Ice Arena
20407 SW Borchers Dr.
Sherwood, OR 97140

Re: Agreement for Parking Space Usage

Sherwood Ice Arena Owner, Oregon Ice Entertainment hereby grants permission to Timothy Hubbard's coffee shop employees located at 21003 SW Pacific Hwy., the right to park in the Sherwood Ice Arena parking lot directly across for the coffee shop. Maximum 3-4 spaces would be used closest to the coffee drive thru business off of Borchers Dr. This will satisfy the City of Sherwood's (parking) shared space agenda for high traffic times at the drive thru. Typically, this would be during the hours of 6:00am – 2:00pm daily.

The coffee shop has no legal right to property. Sherwood Ice Arena is graciously granting access to 3-4 parking spaces when needed by the coffee shop employees without fault of being towed. The coffee shop must provide the license plate numbers of any potential vehicle that may park in the Sherwood Ice Arena lot. Sherwood Ice Arena requires the contact information of the managers/ownership in case of emergency. No coffee shop employee will leave their vehicle parked overnight without prior written approval from Sherwood Ice Arena management. In addition, Sherwood Ice Arena is not responsible for theft or damage of vehicles or property while parked on the premises. There will be 3-4 times per year where the Sherwood Ice Arena will be holding special events that will not allow for parking lot usage. You will be notified in advance of these dates and ask that you abide by this exclusion.

This shared parking agreement is authorized until further notice by:



Owner, ~~Sherwood Ice Arena~~

Oregon Ice Entertainment

*Both Managers
and owners to
introduce themselves
to Roy & Eric*

Timothy D. Hubbard – Coffee Shop Owner
Roy MacMillan – Sherwood Ice Arena Co-owner
Dave Flora – Sherwood Ice Arena Co-owner



Engineering Land Use Application Comments

To: Eric Rutledge, Planning Associate

From: Craig Christensen, P.E., Engineering Department

Project: Ziggy's Coffee (LU 20-023)

Date: February 17, 2020

Engineering staff has reviewed the information provided for the above cited project. Final construction plans will need to meet the standards established by the City of Sherwood Engineering Department and Public Works Department, Clean Water Services (CWS) and Tualatin Valley Fire & Rescue in addition to requirements established by other jurisdictional agencies providing land use comments. City of Sherwood Engineering Department comments are as follows:

Sanitary Sewer

Currently an 8-inch diameter public sanitary sewer exists within SW Borchers Drive along a portion of the subject property frontage. The existing building within the subject development is currently connected to the public sanitary sewer within SW Borchers Drive. The surrounding properties all currently have public sanitary sewer service. Therefore no extension of the public sanitary sewer is required. No changes to the on-site sanitary sewer are anticipated for this project.

CONDITION: Prior to Approval of the Engineering Public Improvement Plans, the applicant shall demonstrate an appropriately sized grease interceptor/removal device exists as part of the site plumbing, or design to provide an appropriately sized grease interceptor/removal device.

Water

Currently a 10-inch diameter public water main exists within SW Borchers Drive along the subject property frontage. There is also a 12-inch diameter public water main within the northeastern portion of the subject property that crosses beneath Highway 99W interconnecting the water main within SW Borchers Drive to the water main within SW Langer Drive. There is currently no public water line within Highway 99W along the subject property frontage. The existing building within the subject development is currently connected to the public water. No changes to the on-site water are anticipated for this project. Since conditioning installation of a public water line within Highway 99W would not be proportional to the project's impact to the water system, no extension of the public water main along the subject property frontage of Highway 99 is required.

Project: Ziggy's Coffee (LU 2020-023)
Date: February 17, 2020
Page: 2 of 4

CONDITION: Prior to Approval of the Engineering Public Improvement Plans, if any water fixtures are to be added, water flows calculations (domestic, irrigation and fire) shall be provided by the developer.

CONDITION: Prior to Approval of the Engineering Public Improvement Plans, the proposed development shall design for the installation of a Backflow Assembly meeting Sherwood Engineering Department standards.

CONDITION: Prior to Final Acceptance of the Constructed Public Improvements, any public water facilities located on private property shall have a recorded public water line easement encompassing the related public water infrastructure meeting Sherwood Engineering standards.

Storm Sewer

Currently a 12-inch diameter public storm sewer exists within SW Borchers Drive along the subject property frontage. There is also a 12-inch diameter public storm sewer within Highway 99W. Currently the subject property is connected to the public storm sewer within SW Borchers Drive. The surrounding properties all currently have public sanitary sewer service. No extension of the public storm sewer is required.

Currently the subject property has a water quality/detention pond. As part of the development of the subject property the developer proposes to remove the existing facility and replace it with a proprietary system. The new water quality treatment system shall provide treatment for all existing, modified and new impervious area within the subject property. The detention will not need to be replaced as there is no known downstream deficiency and the runoff from the sight is not significant enough to warrant on-site detention due to the small size of the subject property. However, if the subject development creates/modifies impervious area in the amount of 1,000 square feet or greater, then the subject development will either need to provide for hydro-modification or a payment-in-lieu thereof.

CONDITION: Prior to Approval of the Engineering Public Improvement Plans, the proposed development shall design to provide storm water quality treatment in compliance with Clean Water Services' standards.

CONDITION: Prior to Approval of the Engineering Public Improvement Plans, if the amount of new/modified impervious area is 1,000 square feet or greater, then the proposed development shall design to provide storm water hydro-modification in compliance with Clean Water Services' standards or a payment-in-lieu thereof.

CONDITION: Prior to Acceptance of Public Improvements, private water quality/hydro-modification facilities shall have a recorded Private Storm Water Facility Access and Maintenance Covenant. An Operation and Maintenance Plan for all private water quality/hydro-modification facilities is also required to be submitted to the Sherwood Engineering Department.

Project: Ziggy's Coffee (LU 2020-023)
Date: February 17, 2020
Page: 3 of 4

CONDITION: Prior to Issuance of a Plumbing Permit, the proposed development shall design for private storm water runoff within the subject property to be collected and conveyed in accordance with the current Oregon Plumbing Specialty Code.

Transportation

The subject property has frontage on Highway 99W (principal arterial) to the southeast and SW Borchers Drive (collector street) to the northwest. Both Highway 99W and SW Borchers Drive are developed street sections with sidewalk along the frontage of the subject property. The street width of SW Borchers Drive is approximately 40 feet from curb to curb along the subject property frontage. This exceeds city standards for a 2-lane collector with no parking which has an overall width of 34 feet (two 11-foot wide lanes with two 6-foot wide bike lanes), however it is less than what is necessary for a 2-lane collector with parking which requires an overall width of 50 feet. Currently SW Borchers Drive is not signed for no parking. This area of SW Borchers Drive does not appear to have a need for onsite parking as aerial photos don't show vehicles parking on-street. Since on-street parking is not needed in this area and since the width of the street is adequate for a collector status street with no on-street parking, no street frontage improvements are required. The developer will need to install no-parking signs along the frontage of the subject property on both sides of the street so that the street width is in compliance with city standards.

The subject property currently has 2 existing driveways onto SW Borchers Drive. The subject development is proposing to modify the existing drive-through to allow for a one-way dual drive-through. Vehicles will enter the subject property via the southern driveway and exit back out to SW Borchers Drive via the northern driveway.

CONDITION: Prior to Approval of the Engineering Public Improvement Plans, the developer shall design for the installation of "No Parking" signs meeting the approval of the Sherwood Engineering Department.

Grading and Erosion Control:

City policy requires that prior to grading, a permit is obtained from the Building Department for all grading on the private portion of the site.

The Engineering Department requires a grading permit for all areas graded as part of the public improvements. The Engineering permit for grading of the public improvements is reviewed, approved and released as part of the public improvement plans.

An erosion control plan and permit are required from the Sherwood Engineering Department for all public and private improvements. The erosion control permit is reviewed, approved and released as part of the public improvement plans.

The proposed disturbance area for the subject development is less than 1 acre in area therefore a DEQ NPDES permit is not required for this project.

Project: Ziggy's Coffee (LU 2020-023)
Date: February 17, 2020
Page: 4 of 4

CONDITION: Prior to Grading Permit, the subject development shall obtain approval of a site erosion control plan from the Sherwood Engineering Department.

Other Engineering Issues:

A Clean Water Services Service Provider Letter has already been obtained for the proposed development.

CONDITION: Prior to Approval of the Engineering Public Improvement Plans, a Storm Water Connection Permit Authorization shall be obtained.

CONDITION: Prior to Approval of the Engineering Public Improvement Plans or Issuance of Building Permits, an Engineering Compliance Agreement shall be obtained from the Sherwood Engineering Department.

CONDITION: Prior to Occupancy, the subject development shall receive Final Acceptance of Public Improvements.

PUE exists along SW Borchers Drive and Highway 99W along the subject property frontage. Therefore no PUE dedication is required.

Sherwood Broadband exists aerially around/over the subject property. There are no broadband conduits along the subject property frontage of SW Murdock Road or Highway 99W. Due to no building construction being performed on the subject property, installation of Sherwood Broadband vaults and conduit is not required except as necessary to bring service to the building if desired.

If Sherwood Broadband is desired for the subject development, then it should be coordinated with the City of Sherwood.

END OF COMMENTS.

From: [Jeff Groth](#)
To: [Eric Rutledge](#)
Cc: [Joseph Gall](#)
Subject: RE: Notice of Land Use Application - Opportunity for Comment (LU 2020-023 Ziggy's Coffee)
Date: Monday, February 1, 2021 10:01:50 AM
Attachments: [image002.jpg](#)

Ok perfect, thank you. So, I'm excited at the prospect of a new shop going in there, but if it turns out to be popular I can see traffic backing up onto Borchers Dr, especially with 2 drive thrus. I know it seems like the extra drive thru would alleviate that problem but it may actually exacerbate it by drawing more customers. I would like to see some kind of design that would add extra space for customers to wait without blocking the northbound lane of travel on Borchers (if possible).

Happy to discuss more if you like.

Thx-JG

Chief Jeff Groth
Sherwood PD
(503) 625-5523
grothj@sherwoodoregon.gov

From: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Sent: Monday, February 1, 2021 9:55 AM
To: Jeff Groth <GrothJ@SherwoodOregon.gov>
Subject: RE: Notice of Land Use Application - Opportunity for Comment (LU 2020-023 Ziggy's Coffee)

Hi Chief Groth,

The existing building will remain and the site parking, landscaping, and drive aisles will be reconfigured. The site currently has one drive thru and a second parallel drive thru lane will be added.

A very small island with an ordering kiosk will be added between the lanes.

If that doesn't clarify, let me know and I can share more.

Thanks,

Eric Rutledge
City of Sherwood
Associate Planner
rutledgee@sherwoodoregon.gov
Desk 503.625.4242
Cell 971.979.2315

Covid-19 Update: The City's Planning Department is fully operational, however, with limited face to face contact. We are processing permits via email/phone where possible and by appointment when "in person" interaction is required. Please stay safe and healthy.

From: Jeff Groth <GrothJ@SherwoodOregon.gov>
Sent: Monday, February 1, 2021 9:52 AM
To: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Subject: RE: Notice of Land Use Application - Opportunity for Comment (LU 2020-023 Ziggy's Coffee)

Good Morning Eric,
I'm not sure I understand how there will 2 lanes at this location and the site plan didn't help much. Will the little building be in the middle? I'm worried about traffic but before I comment I'm wondering if you can help me visualize.

Thx-JG

Chief Jeff Groth
Sherwood PD
(503) 625-5523
grothj@sherwoodoregon.gov

From: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Sent: Monday, February 1, 2021 7:55 AM
To: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Cc: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Subject: Notice of Land Use Application - Opportunity for Comment (LU 2020-023 Ziggy's Coffee)

Hi Agency Partners:

The City of Sherwood Sherwood Planning Department is requesting agency comments on the following land use application:

- **Proposal:** The applicant is proposing a Class B Variance and Major Modification to an Approved Site Plan at 21003 SW Pacific Hwy. The subject site is 0.16 acres and is improved with a 417 SF drive-thru coffee stand (former Coffee Cottage) and associated site improvements. The development proposal will reconfigure the on-site vehicle circulation, parking, and landscaping. The on-site stormwater detention pond will be removed and replaced with a cartridge system. A second on-site drive aisle will be added to increase capacity and reduce vehicle queue times. The existing four (4) parking stalls will be re-located on-site. Site access will continue to be provided from SW Borchers Drive. No building expansion is proposed at this time. A Class B Variance is requested to reduce the required width of the one-way drive aisle by 8%, the parking drive aisle by 8%, and the visual corridor along Pacific Hwy by 12.4% to accommodate the additional drive-thru lane. The variances are being requested due to small lot size and narrow configuration.
- **Location:** 21003 SW Pacific Hwy, Sherwood OR 97140

- **Comment Deadline:** Monday February 15, 2021 for consideration in the staff report
- **Hearing Date:** Virtual Hearing before the Sherwood Hearings officer on Wednesday February 24, 2021. Agencies impacted by the proposal are welcome to attend online, however, all testimony must be submitted in writing prior to the hearing. All hearings can be viewed at <https://www.youtube.com/user/CityofSherwood>
- **Applicable code criteria:** Sherwood Zoning & Community Development Code Chapter 16.22 – Commercial Land Use Districts; Chapter 16.58 - Clear Vision and Fence Standards; Chapter 16.72 - Procedures for Processing Development Permits; Chapter 16.84 – Variances; Chapter 16.90 - Site Planning; Chapter 16.92 – Landscaping; Chapter 16.94 - Off-Street Parking and Loading; Chapter 16.96 - On-Site Circulation; Chapter 16.114- Storm Water; Chapter 16.118 - Public and Private Utilities; Chapter 16.142 - Parks, Trees and Open Spaces
- **Application materials:** <https://www.sherwoodoregon.gov/planning/project/ziggys-coffee>

Eric Rutledge
City of Sherwood
Associate Planner
rutledgee@sherwoodoregon.gov
Desk 503.625.4242
Cell 971.979.2315



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From: [Mooney, Thomas A.](#)
To: [Eric Rutledge](#)
Subject: RE: Notice of Land Use Application - Opportunity for Comment (LU 2020-023 Ziggy's Coffee)
Date: Tuesday, February 2, 2021 9:32:51 AM
Attachments: [image001.jpg](#)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you are expecting this email and/or know the content is safe.

Ok, thanks. I will not have comments then.

Tom Mooney, MIAAI-CFI
Deputy Fire Marshal | Tualatin Valley Fire & Rescue
Direct: 503-259-1419
www.tvfr.com

From: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Sent: Tuesday, February 2, 2021 9:31 AM
To: Mooney, Thomas A. <Thomas.Mooney@tvfr.com>
Subject: RE: Notice of Land Use Application - Opportunity for Comment (LU 2020-023 Ziggy's Coffee)

*****The sender is from outside TVF&R – Do not click on links or attachments unless you are sure they are safe*****

Hi Tom,

Correct, no changes to the building footprint. Just adding a second drive-thru lane.

Eric Rutledge
City of Sherwood
Associate Planner
rutledgee@sherwoodoregon.gov
Desk 503.625.4242
Cell 971.979.2315

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From: Mooney, Thomas A. <Thomas.Mooney@tvfr.com>
Sent: Tuesday, February 2, 2021 9:30 AM
To: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Subject: RE: Notice of Land Use Application - Opportunity for Comment (LU 2020-023 Ziggy's Coffee)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you

are expecting this email and/or know the content is safe.

Hi Eric,

From looking over the project it looks like they are not proposing any changes to the building? The changes to the drive aisle would not affect us as we would not drive in those areas.

Thanks,

Tom Mooney, MIAAI-CFI
 Deputy Fire Marshal | Tualatin Valley Fire & Rescue
 Direct: 503-259-1419
www.tvfr.com

From: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Sent: Monday, February 1, 2021 7:55 AM
To: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Cc: Eric Rutledge <RutledgeE@SherwoodOregon.gov>
Subject: Notice of Land Use Application - Opportunity for Comment (LU 2020-023 Ziggy's Coffee)

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24, 2021. Agencies impacted by the proposal are welcome to attend online, however, all testimony must be submitted in writing prior to the hearing. All hearings can be viewed at <https://www.youtube.com/user/CityofSherwood>

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- **Application materials:** <https://www.sherwoodoregon.gov/planning/project/ziggys-coffee>

Eric Rutledge
City of Sherwood
Associate Planner
rutledgee@sherwoodoregon.gov
Desk 503.625.4242
Cell 971.979.2315



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MEMORANDUM

Date: February 15, 2021
To: Eric Rutledge, Associate Planner, City of Sherwood
From: Jackie Sue Humphreys, Clean Water Services (CWS)
Subject: Ziggy's Coffee Modification, LU 2020-023, 2S130AD15000

Please include the following comments when writing your conditions of approval:

PRIOR TO ANY WORK ON THE SITE

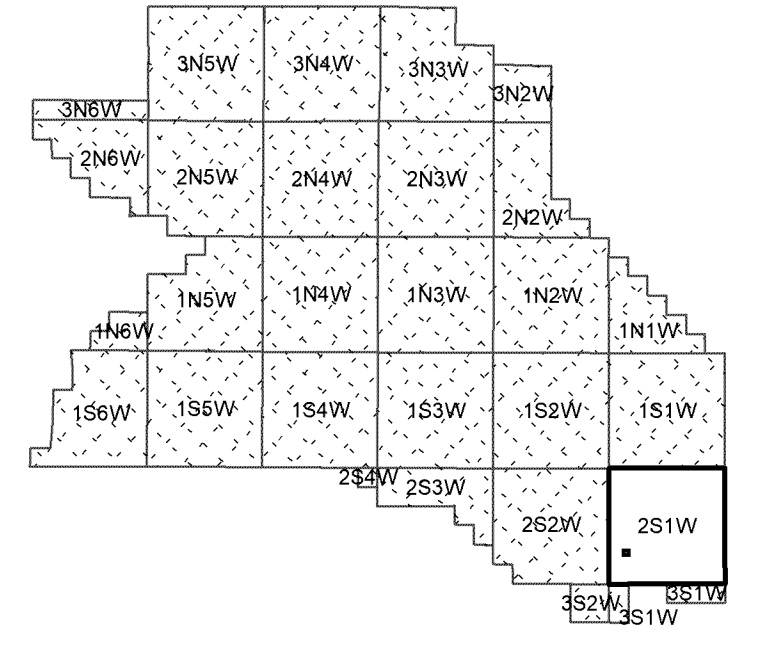
A Clean Water Services (CWS) Storm Water Connection Permit Authorization must be obtained. Application for CWS Permit Authorization must be in accordance with the requirements of the Design and Construction Standards, Resolution and Order No. 19-5 as amended by R&O 19-22, or prior standards as meeting the implementation policy of R&O 18-28, and is to include:

- a. Detailed plans prepared in accordance with Chapter 2, Section 2.04.
- b. Detailed grading and erosion control plan. An Erosion Control Permit will be required. Area of Disturbance must be clearly identified on submitted construction plans.
- c. Detailed plans showing the development having direct access by gravity to public storm and sanitary sewer.
- d. Provisions for water quality in accordance with the requirements of the above named design standards. Water Quality is required for all new development and redevelopment areas per R&O 19-5, Section 4.04. Access shall be provided for maintenance of facility per R&O 19-5, Section 4.07.6.
- e. If use of an existing offsite or regional Water Quality Facility is proposed, it must be clearly identified on plans, showing its location, condition, capacity to treat this site and, any additional improvements and/or upgrades that may be needed to utilize that facility.

- f. If private lot LIDA systems proposed, must comply with the current CWS Design and Construction Standards. A private maintenance agreement, for the proposed private lot LIDA systems, needs to be provided to the City for review and acceptance.
- g. Show all existing and proposed easements on plans. Any required storm sewer, sanitary sewer, and water quality related easements must be granted to the City.
- h. Application may require additional permitting and plan review from CWS Source Control Program. For any questions or additional information, please contact Source Control at (503) 681-5175.
- i. Any proposed offsite construction activities will require an update or amendment to the current Service Provider Letter for this project.

CONCLUSION

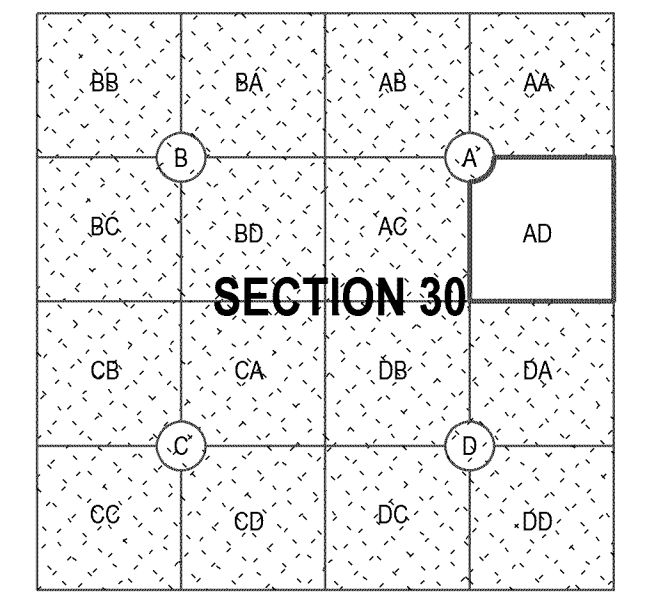
This Land Use Review does not constitute CWS approval of storm or sanitary sewer compliance to the NPDES permit held by CWS. CWS, prior to issuance of any connection permits, must approve final construction plans and drainage calculations.



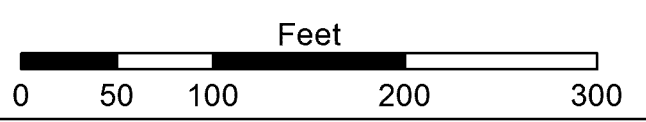
WASHINGTON COUNTY OREGON
 SE 1/4 NE 1/4 SECTION 30 T2S R1W W.M.
 SCALE 1" = 100'

36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6
12	7	8	9	10	11	12	7
13	18	17	16	15	14	13	18
24	19	20	21	22	23	24	19
25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT
www.co.washington.or.us

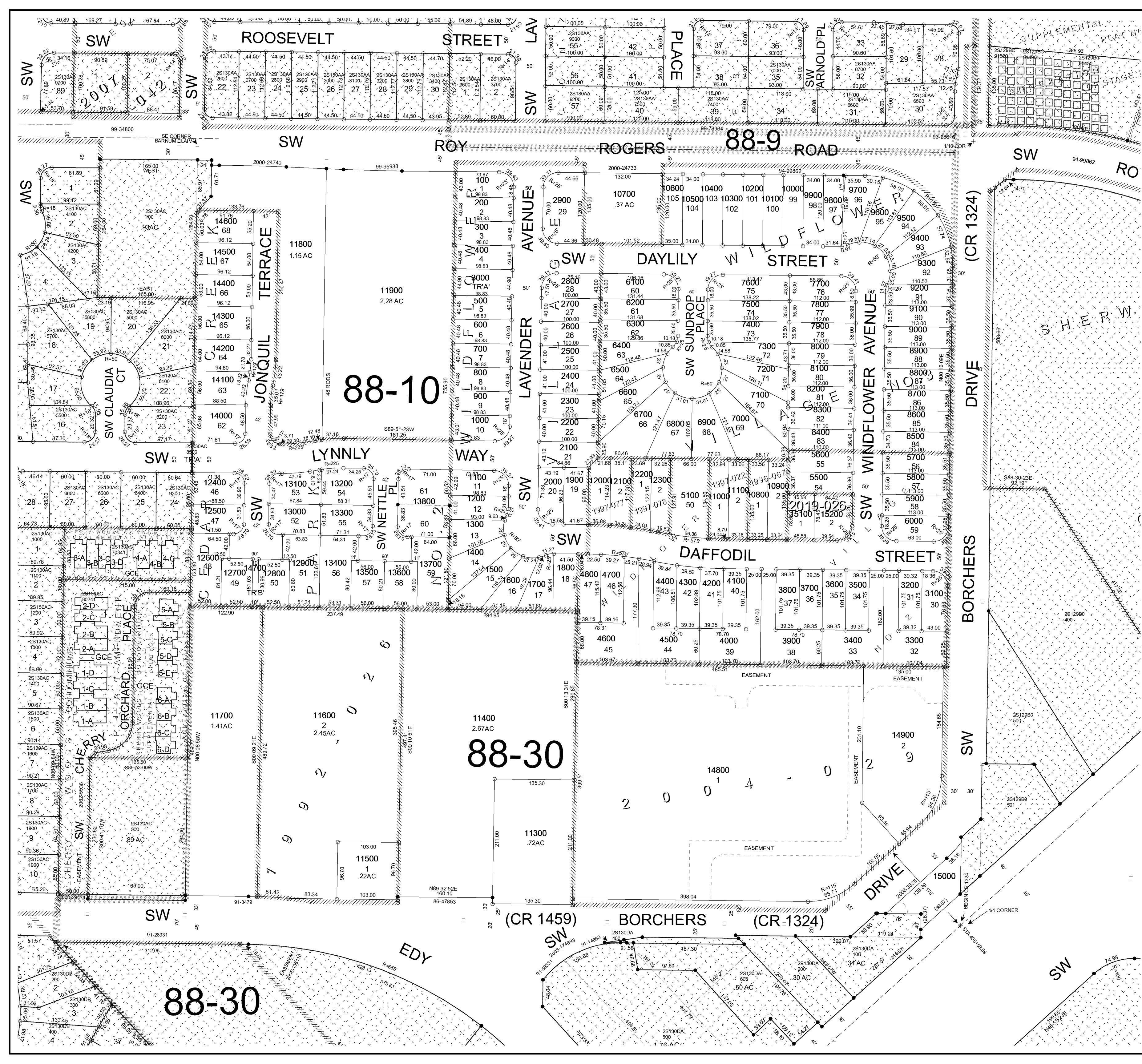


Cancelled Taxlots For: 2S130AD
 5300, 5200, 4900, 5000, 11901, 13900, 11200, 5400.




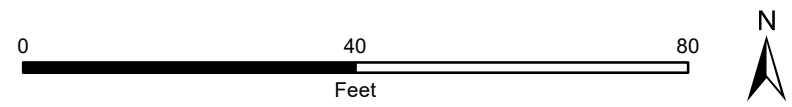
PLOT DATE: 9/18/2019
 Rotation: 0.5
FOR ASSESSMENT PURPOSES
 ONLY - DO NOT RELY ON
 FOR OTHER USE

Map areas delineated by either gray shading or a cross-hatched pattern are for reference only and may not indicate the most current property boundaries. Please consult the appropriate map for the most current information.





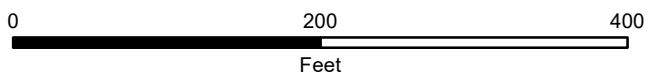
 Subject Site (21003 SW Pacific Hwy)



Map data provided by METRO and the City of Sherwood. The City of Sherwood's infrastructure records, drawings, and other documents have been gathered over many years, using many different formats and standards. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not guaranteed.



Subject Site (21003 SW Pacific Hwy)



Map data provided by METRO and the City of Sherwood. The City of Sherwood's infrastructure records, drawings, and other documents have been gathered over many years, using many different formats and standards. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not guaranteed.

RECORD OF SURVEY

LOCATED IN THE NORTHEAST QUARTER
OF SECTION 30, T.2S., R.1W., W.M.
CITY OF SHERWOOD, WASHINGTON COUNTY, OREGON

30,332

WASHINGTON COUNTY
SURVEYOR'S OFFICE

6 - 21 - 06
ACCEPTED FOR FILING

APRIL 13, 2006

SURVEYED FOR: CARLA HUBBARD
20055 SW PACIFIC HWY. SUITE 21
SHERWOOD, OR 97140

NARRATIVE

THE PURPOSE OF THIS SURVEY IS TO ESTABLISH THE BOUNDARY OF A PARCEL OF LAND DESCRIBED IN WASHINGTON COUNTY RECORDS DEED DOCUMENT NO. 2005-027802, FOR COMMERCIAL DEVELOPMENT.

THE BASIS OF BEARINGS IS SOUTH 46°47'29" WEST ALONG THE CENTER LINE OF SW PACIFIC HIGHWAY 99W PER DEPARTMENT OF TRANSPORTATION RIGHT OF WAY FROM MONUMENT TO MONUMENT PER SN 25595.

TO ESTABLISH THE RIGHT OF WAY OF SW PACIFIC HIGHWAY 99W I HELD FOUND MONUMENTS SHOWN PER SN 25595 AND A PARALLEL OFFSET DISTANCE OF 82 FEET.

TO ESTABLISH THE RIGHT OF WAY OF S.W. BORCHERS DRIVE I HELD MONUMENTS SHOWN IN PARTITION PLAT 2004-029 AND THE EAST LINE OF SECTION 30 BASED ON THE ONE QUARTER CORNER AND FOUND MONUMENTS AS SHOWN.

TO ESTABLISH THE EXCEPTED PORTION OF THE SUBJECT PARCEL I HELD COURSES AS SHOWN PER LEGAL DESCRIPTION FOUND IN BOOK 418, PAGE 291 REFERENCED IN DOCUMENT 2005-027802 AND ROTATED ON TO MY BEARING BASE.

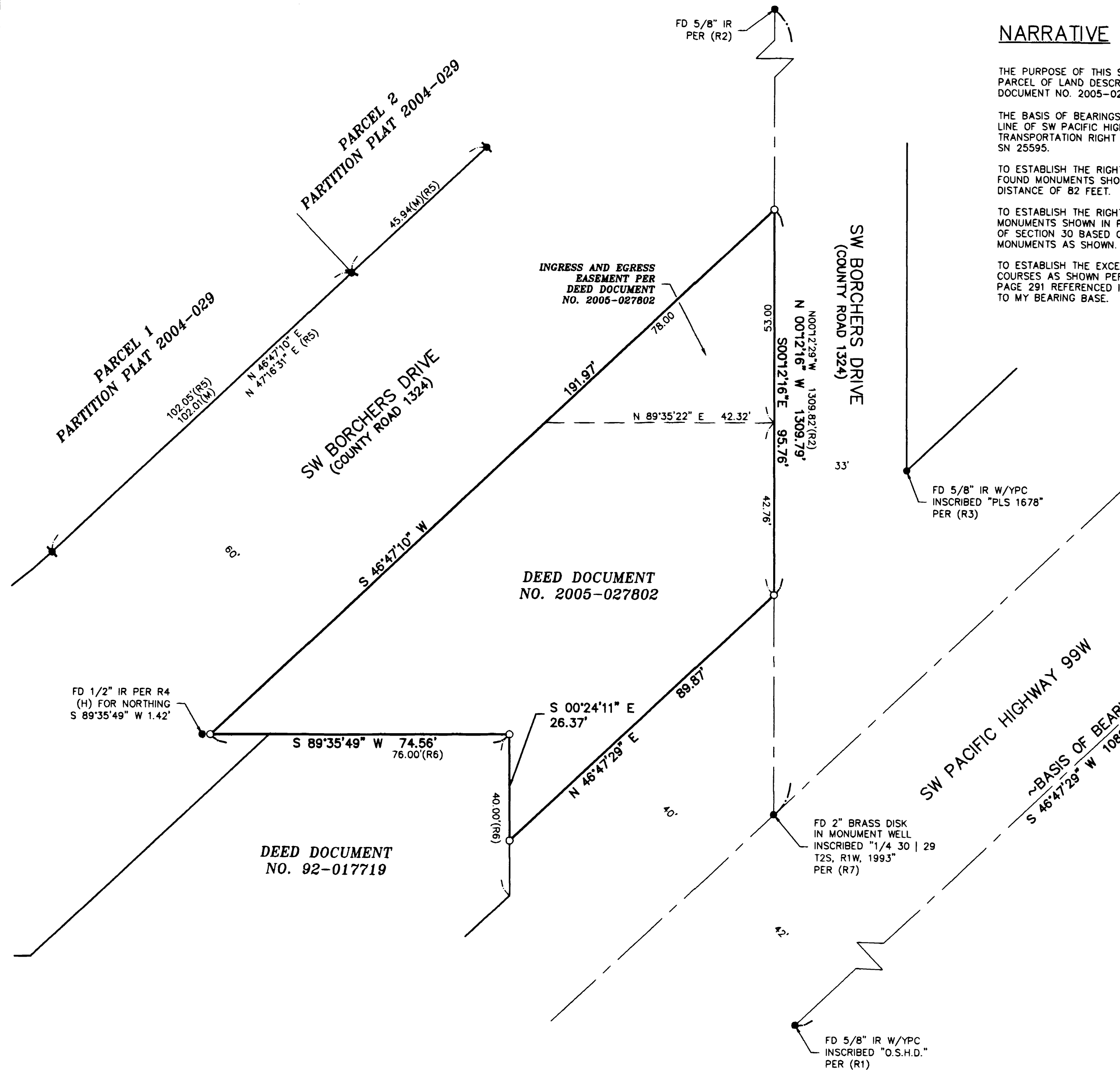
REFERENCES

- R1 SN 25,595
- R2 SN 22,597
- R3 SN 26,330
- R4 SN 28,588
- R5 PARTITION PLAT NO. 2004-029
- R6 BOOK 418, PAGE 291
- R7 USBT BOOK 7, PAGE 593



GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.



LEGEND

- FOUND MONUMENTS AS NOTED
- FOUND BRASS SCREW WITH 3/4" BRASS WASHER INSCRIBED "LS 1856"
- SET 5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "CMT PLS 50333"
- IR = IRON ROD
- FD = FOUND
- YPC = YELLOW PLASTIC CAP
- SN = SURVEY NUMBER
- (M) = MEASURED
- (R1) = REFERENCE SURVEY NUMBER OR PLAT NAME
- (H) = HELD

REGISTERED
PROFESSIONAL
LAND SURVEYOR
Shaun P. Fidler
OREGON
JULY 12, 2005
SHAUN P. FIDLER
50333

RENEWAL DATE DECEMBER 31, 2007

THIS SURVEY WAS PREPARED USING HEWLETT PACKARD
PRODUCT NO. 4844A ON MILANO MYLAR JPC4M2

CONSTRUCTION
MAPPING TEAM

14910 SE MORNING WAY
SUITE 202 CLACKAMAS, OR 97015
PHONE 503-558-9686 FAX 503-558-9293
Z:\500-027\dwg\21003ROS.dwg

RETRACEMENT OF COUNTY ROAD NO. 2291
AND PORTIONS OF COUNTY ROAD NO. 1070,
COUNTY ROAD NO. 1459, COUNTY ROAD NO.
1324 AND PACIFIC HIGHWAY (HWY. 99 W)
IN SECTIONS 28, 29 AND 30 OF T2S, R1W, W. M.

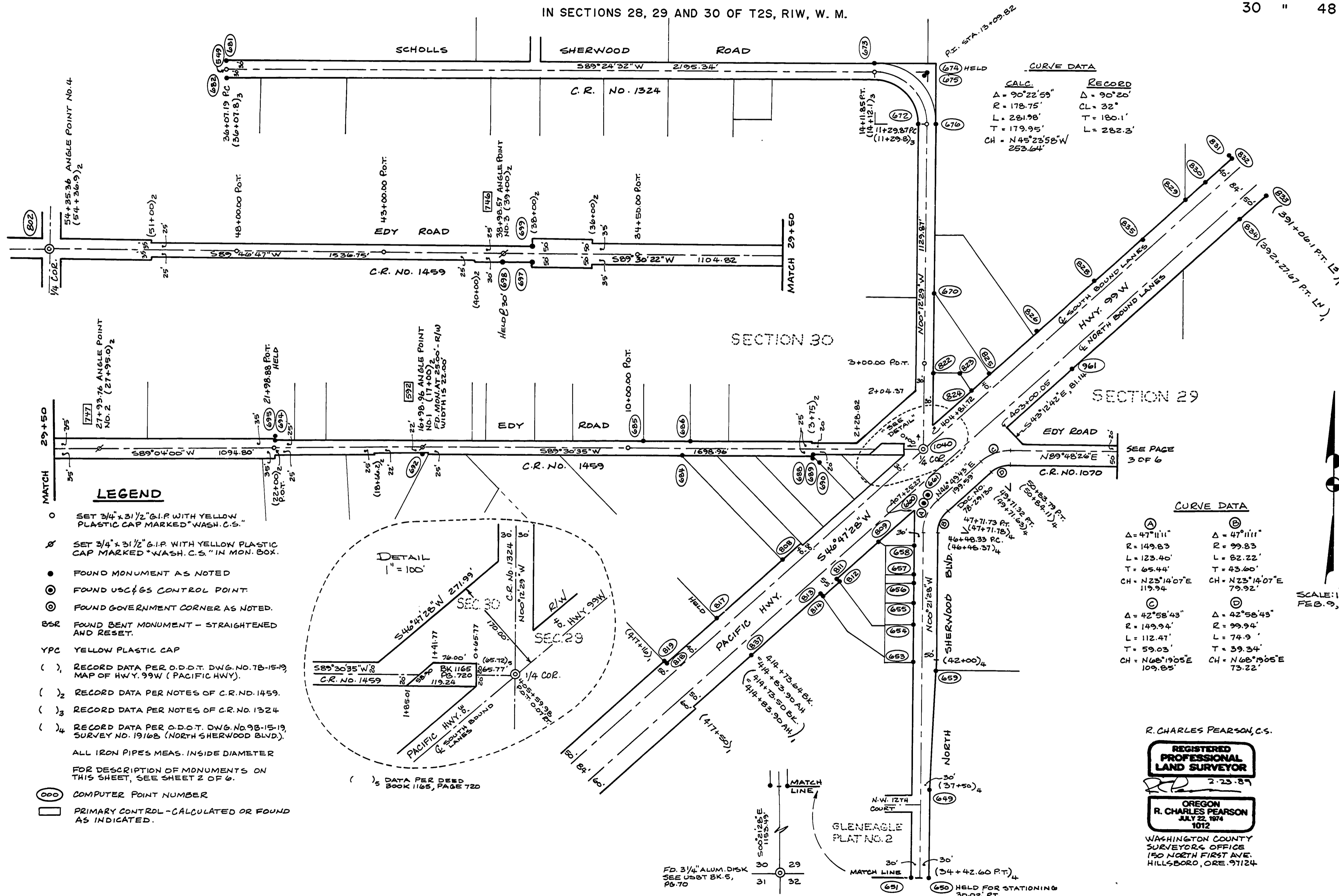


Exhibit C6





PORTLAND PLANT LIST

June 2016



Bureau of Planning and Sustainability
City of Portland, Oregon

1900 SW 4th Ave. Suite 7100, Portland, OR 97201



Portland City Council

Charlie Hales, *Mayor*

Nick Fish, *Commissioner*

Amanda Fritz, *Commissioner*

Steve Novick, *Commissioner*

Dan Saltzman, *Commissioner*

Bureau of Planning and Sustainability

Susan Anderson, *Planning and Sustainability Director*

Joseph Zehnder, *Chief Planner*

**Adopted by Portland City Council
November, 13, 1991
Effective December 13, 1991**

Ordinance No. 164838

Amended May 26, 1993

Ordinance No. 166572; September 21, 1994

Ordinance No. 168154; March 19, 1997

Ordinance No. 171000; June 24, 1998;

March 23, 2004; June 2009

**Re-established as administrative rule by
City Council February 10, 2010
Effective July 1, 2010**

Ordinance No. 183534

**Administrative rule update, Bureau of
Planning and Sustainability April 13, 2011
Effective May 13, 2011**

Ordinance No. 184521

Effective July 1, 2011

Ordinance No. 184524

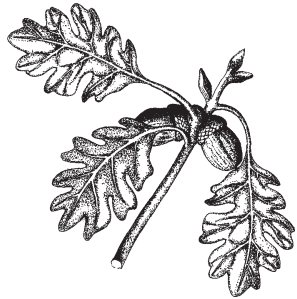
**Administrative rule update, Bureau of
Planning and Sustainability
Effective June 27, 2016**

The Portland native plants policy was selected as a semifinalist for the **1993 Innovations in State and Local Government Awards** sponsored by the Ford Foundation and The JFK School of Government at Harvard University.



The Bureau of Planning and Sustainability is committed to providing meaningful access. For accommodations, modifications, translation, interpretation or other services, please contact at 503-823-7700 or use City TTY 503-823-6868, or Oregon Relay Service: 711. Traducción o interpretación | Chuyển Ngữ hoặc Phiên Dịch | 翻译或传译 | Письменный или устный перевод | Traducere sau Interpretare | ترجمة تحريرية أو شفوية | Письмовий або усний переклад | 翻訳または通訳 | Turjumida ama Fasiraadda | ການແປພາສາ ຫຼື ການອະທິບາຍ — 503-823-7700.

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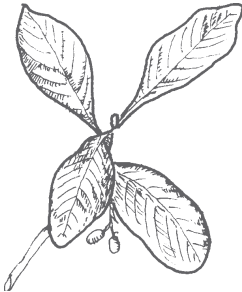
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1. Introduction

THE NATIVE PLANTS LIST AND THE NUISANCE PLANTS LIST



Indian plum

The City of Portland's environmental protection efforts include a focus on ensuring the continued viability and diversity of indigenous plant and animal communities, promoting the use of plants naturally adapted to local conditions, and educating citizens about the region's natural heritage and the values and uses of native plants.

A healthy native plant community serves many important functions:

- Provides habitat and food for native wildlife;
- Preserves critical habitat for rare, threatened and endangered animals and plants;
- Enhances air quality by trapping airborne particulates;
- Enhances water quality by filtering sediments (and pollutants attached to sediments) from runoff before the water enters streams;
- Stabilizes streambanks and hillside slopes by dissipating erosive forces;
- Enhances local microclimate, and reduces water and energy needs;
- Provides a place for native plants to continue to exist;
- Provides scenic and recreational and educational values, which, in turn, enhance Portland's livability. Native plants are part of the region's heritage.

The *Portland Plant List* is comprised of two lists and supporting information: the Native Plants List and the Nuisance Plants List. Both plant lists are integral to the City of Portland's natural resource protection program and invasive species management strategy. Only those plants on the Native Plants List are allowed to be planted within the City's Environmental Overlay Zone and the Pleasant Valley Natural Resources Overlay Zone. Native plants are also encouraged to be planted in the Greenway Overlay Zone.

The plants identified on the Nuisance Plants List are prohibited from being planted within the Environmental Overlay Zone, Greenway Overlay Zone, and the Pleasant Valley Natural Resources Overlay Zone. In addition, species on the Nuisance Plant List cannot be installed in City required landscaping areas. Plants — trees, shrubs, and groundcovers — on the Nuisance Plants List may be removed in the Environmental Overlay Zone, the Greenway Overlay Zone, and the Pleasant Valley Natural Resources Overlay Zone without a land use review. Plant removal methods that result in ground disturbance may require a permit or land use review when proposed within the Environmental Overlay Zone, Greenway Overlay Zone, and the Pleasant Valley Natural Resources Overlay Zone. Herbicide application may require a permit in the Greenway Overlay Zone.

In some situations in these overlay zones, tree removal may require a permit and tree replacement. Please consult the City of Portland *Zoning Code*,¹ other City codes,² and City staff for more detailed analysis of applicable requirements relating to removal and installation of plants on the Nuisance Plants List.

Certain species on the Nuisance Plants List are required to be removed if found on the property, regardless of whether a land use review or building permit is submitted. These plants are currently limited in distribution; however, they spread rapidly and they are very difficult to control once they become

established. These plants are identified in the *Portland Plant List* as the Nuisance Plants List, Required Eradication List. The requirements related to these plants are found in Portland City Code in Title 29, Property Maintenance Regulations, and the related administrative rule.

There are several useful definitions in this discussion. Some of these definitions are used in the *City of Portland Invasive Plants Strategy Report 2008*, and are revised for use in the *Portland Plant List*; other definitions are terms of use.

- **Native:** Species that were likely found historically (prior to European settlement) in the Portland area. Ecologically, many of these plants are exclusive food sources for native invertebrates; thus birds and other native animals that consume them rely upon this food source.
- **Ornamental:** Commercially sold non-native plants typically used in landscape areas.
- **Nuisance:** Species that threaten the health and safety of Portland citizens and/or degrade the habitat quality of natural areas.
- **Invasive:** Species that spread at such a rate that they cause harm to human health, the environment, and /or the economy. In natural areas, invasive plants are those species that displace native plants and become the dominant species in that vegetation layer. Invasive plants can halt successional processes by limiting the establishment and the growth patterns of native species. They can deprive native invertebrates of food sources, disrupting the food chain for native wildlife.
- **Weed:** A plant that grows where it is not wanted. Ecological weeds are pests in natural areas, agricultural weeds are pests in farmed areas, landscaping weeds are pests in landscaped areas, and so on.
- **Noxious weed:** A weed designated as noxious by the Oregon Department of Agriculture.

The Oregon Department of Agriculture (ODA) has a statewide noxious weed list, including both agricultural and ecological weeds. However, some of the invasive species degrading our natural areas are not on the ODA noxious weed list. Nursery sales are regulated by ODA under administrative rule (OAR 603-052-1200). This rule prohibits import, transport, propagation or sale of select “A” and “B” state listed noxious weeds and plants on the Federal Noxious Weed List (7 C.F.R. 360.200). The City of Portland does not have jurisdiction to regulate nursery sales or agricultural commodities in Oregon, but the City can regulate the types of vegetation planted. Some of the plants on the ODA Noxious Weed List are included in the City’s Nuisance Plants List; these plants would remain subject to OAR 603. The City of Portland has made managing invasive plants a priority and has established programs, regulations, and policies accordingly. In addition, the City focuses efforts on education and outreach, working with the nursery and seed industry, and other actions to prevent the spread of invasive species.

A more localized list to characterize those species that threaten the health and safety of Portland citizens and natural areas is needed. When the first *Portland Plant List* was created, it contained, in addition to the list of native plants, a list of invasive species. For more information about the history of the *Portland Plant List*, see *Appendix A*.

The City of Portland recognizes that not all non-native plants are invasive. For example, there are many non-native, ornamental garden plants that don’t spread rapidly, nor do they alter ecosystem processes. Our knowledge of what is and is not invasive changes over time. The potential for a plant to be invasive can sometimes be predicted using two factors — the level of invasiveness of the plants in areas with similar geologic and climate conditions, and the reproductive methods of the plants. Although invasive potential has not been evaluated for all

1 www.portlandonline.com/bps/index.cfm?c=29205

2 www.portlandonline.com/index.cfm?c=27891

ornamental plants, some plants included here represent obvious threats. Plants identified on the Nuisance Plants List currently can or do threaten the vitality of native ecosystems. “When an invasive species colonizes a new environment, it leaves behind the natural enemies such as predators or parasites that controlled its population growth in its original home. It can quickly expand, out-competing and overwhelming native species. Native species have not evolved the necessary survival strategies to fend off unfamiliar species or diseases” (Oregon Department of Fish and Wildlife, Conservation Strategy, February 2006).

Modification of the Portland Plant List

The information in the *Portland Plant List* will be updated periodically or as needed to reflect current scientifically accepted information about the characteristics and status of plants on the Native Plants List and the Nuisance Plants List. Changes may include but are not limited to: modification of language in the body of the document, the addition or removal of plants from any list, or a re-assignment of plant ranking.

Changes proposed to the *Portland Plant List* will be made through the City’s administrative rule process. Administrative rules provide a streamlined process for reviewing and making changes to technical documents such as the *Portland Plant List*. The Bureau of Planning and Sustainability (BPS) will coordinate review of potential modifications to the *Portland Plant List*. The director of BPS, or their delegate, will make the final decision on the changes to the *Portland Plant List*. Potential modifications to the listed species and ranks will be reviewed by at least three or more knowledgeable persons with botany, biology, landscape architecture, or other qualified backgrounds. BPS will also inform key stakeholders of potential changes and provide reasonable opportunity for review and comment. The public can request changes to the list or changes to the ranks at any time by sending a written request to BPS. Potential amendments might be collected over a period of time and processed in batches, depending on the nature of the changes and resource availability.

The primary source for native plant determination is the five volume set, *Flora of the Pacific Northwest*, by Hitchcock and Cronquist. In some cases, the Oregon Vascular Plant Database (OSU Herbarium) samples, the Oregon Flora Project, and the Urbanizing Flora of Portland, Oregon 1806–2008 (Occasional Paper 3 of the Native Plant Society of Oregon, 2009) by J.A. Christy, A. Kimpo, Var. Marttala, P.K. Gaddis, and N.L. Christy, may also be used to determine whether plants are native to the Portland area.

How to Use the Lists

The Portland Plant List is divided into two sections: the Native Plants List (includes native plant communities, native plants in detail), and the Nuisance Plants List. These sections are summarized below.

Native Plants List

The Native Plants List has many uses, from public education and protection of our natural heritage to helping someone choose the most appropriate species for planting.

The Native Plants List is set up in several formats to assist the user. The plants are grouped into nine generalized “Native Plant Communities” for the City of Portland. Using the section “Native Plants in Detail,” one can find appropriate plants for particular sites within a plant community.

The lists identify groundcovers (ferns, forbs, grasses, sedges, rushes, and other), shrubs, and trees. The Native Plants List includes the scientific name, the common name, and the associated habitat type. Of special note, arborescent shrubs are shrubs that resemble trees in growth, structure, or appearance but they are technically considered shrubs. Arborescent shrubs may not be used to meet, in any City title, the standards, criteria, or conditions of approval which require trees.

When considering development, particularly in forested areas, building materials and plant types should be evaluated. The Native Plants List indicates trees and shrubs that are “fire accelerants.” Plants identified as *Fire Accelerant Y* are plants with higher than average flammable combustion potential due to flammability chemicals present within the leaves, needles, and stems. Plants identified as *Fire Accelerant N (neutral)* are plants with average flammable combustion potential (there are no chemicals present within the stems, leaves, and needles that make it less flammable or more flammable than average).

Native Plant Communities

The Native Plant Communities section describes the nine native plant communities found within the City of Portland. The lists include information about common and rare species.

Native Plants in Detail

The Native Plants in Detail section provides specific information on each of the native plants on the Native Plants List. The list divides the plants into the following subgroups: trees, shrubs, forbs, grasses, sedges and rushes, ferns, and others. For each group, the list includes the scientific (Latin) name of the species, common name, wetland indicator status, and life history characteristics. The life history characteristics include: information on flowering, light requirements, water requirements, and habitat type (wetland, riparian, forest, forested slopes, thicket, grass and rocky). Special lists are provided for groundcovers and vines, and native plants used as food by wildlife.

Nuisance Plants List

The plants on the Nuisance Plants List are invasive; they threaten the health and vitality of native habitats, humans, and cause economic harm to public and to private landowners. Planting of these plants should be avoided and removal encouraged. The Nuisance Plants List includes the common and scientific plant names, and assigns priority ranks of A, B, C, D, and W. The ranks were developed to educate the public about the distribution of and level of invasiveness of each species. In addition, these ranks help land managers prioritize actions when there are limited resources. The ranks apply to the named species only, and include any sub-species, varieties, or cultivars of these species, unless otherwise noted.

Taxa

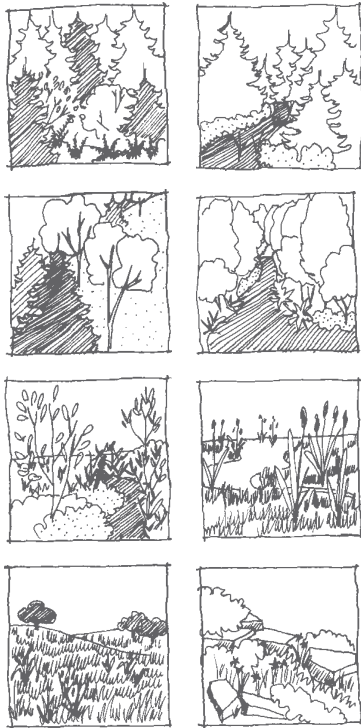
Plant names used in the *Portland Plant List* are taken primarily from Appendix III of *The Jepson Manual* (1993), and the five-volume set, *Flora of the Pacific Northwest* (1973), by Hitchcock and Cronquist. Other sources are *Flora of North America, Volume 2: Ferns and Gymnosperms* (Oxford University Press 1993), and research by the Carex Working Group and Barbara L. Wilson. Be aware that the names of some familiar species have been changed. Plant names can be determined online with the PLANTS database³ and by the Oregon Flora Project.⁴

³ <http://plants.usda.gov>

⁴ www.oregonflora.org

2. Native Plant Communities

This section introduces and describes the native plant communities in Portland. It can be used as a guide to select native plants for your particular situation. Use it in conjunction with the descriptions of the individual plants in the Portland Plant List when designing your landscape plans.



Choosing Native Plants

In choosing native plants for your landscape or restoration site, it is best to choose plants from the natural communities that have adapted to your particular site conditions. One of the best ways to do this is to observe the natural communities of your site or nearby, within your neighborhood. The following plant community lists represent very generalized communities.

With the Plant Community Lists as a guide, you can begin to narrow your choices and create a personal list of species suitable for your site.

The particular conditions of soil type, amount of sunlight, and amounts and seasonal patterns of rainfall and groundwater on your site will vary. The scientific term for this is “microclimate.” You need to select the right plants to fit the various microclimates that may be present on your particular site. Use the information in the section “Native Plants in Detail” to select your personal list of species. The detailed information on each species can help you determine specific plants for specific locations.

Plant Communities

Plant communities are most accurately described as loose associations of species that tolerate or thrive in similar conditions and are well-adapted to particular soils, climate, moisture and landscape features. Different plant communities blend into each other, usually without sharp boundaries.

These species associations are continually undergoing change in response to environmental changes. The type and age of plant species growing in your area can help you read the past history of environmental conditions.

Ecological Communities

An ecological community includes both the plants and animals which interact within a particular geographic area. The species within a community are interdependent. Plants rely on animals for seed dispersal and pollination, and animals rely on plants for food sources and nesting structure. When you choose native plants which are compatible with the ecological conditions in your area, you help maintain or expand the ecological communities around you.

Succession

Any landscape is always undergoing a change of some kind. Sudden changes are caused by natural disturbances such as fire, flooding, or landslides. Human activities like timber harvesting and home building also cause sudden changes to plants and the landscape.

Gradual changes take place as tree seedlings grow, altering the shade and moisture conditions around them.

Disturbance

When a tree falls in the forest, or when a mudslide takes place, the hole left in the canopy overhead allows more light into the forest floor. Small slow-growing trees and the seeds of light-tolerant species which may have lain dormant can now sprout and grow quickly.

Deciduous trees like Bigleaf Maple and Red Alder respond to sunlight and grow more quickly than evergreen seedlings like Western Hemlock and Western Red Cedar. In areas where deciduous trees are dominant it is likely that some past disturbance created space for them to take hold and grow.

These deciduous trees will grow until eventually the conifers overtake them and shade them out. Conifers have an advantage over deciduous trees in our climate of cool, moist winters. Except on the coldest days, conifers can continue to photosynthesize and grow all winter long when deciduous trees have dropped their leaves. In Portland, coniferous trees grow two or three times as tall as the deciduous trees, and eventually block the sunlight for shorter trees.

In many places you may find a predominance of Douglas fir trees. These are the fastest-growing of the conifers, and tolerate light shade or full sun.

Douglas fir seedlings do not grow well in dense shade. A predominance of Douglas fir generally indicates a past fire or clearcut which created a large opening in the forest.

An abundance of shade-tolerant western hemlock or grand fir indicates the forest canopy has been undisturbed for quite some time. Deciduous trees such as cottonwood or ash often indicate frequent disturbance by flood or inundation.

Variation Within Communities

Changes which have occurred in the landscape such as the loss of topsoil or development on an adjacent site may limit the ability to create or restore the same communities which existed historically on your site.

Read the introductions of each community and match the appropriate plant associations with the physical attributes of your site including soils, existing vegetation, moisture, and light. The hard edge at the perimeter of a large parking lot may require a different association of plants than is indicated by the Plant Communities Map. You need to evaluate the microclimates on your site.

Plants Are Creative and Adaptable

You may find that plants on your site and areas nearby do not fit neatly into the native plant community categories. However, you should be able to use these native plant community groupings as guidelines for plants that will be compatible with each other under similar conditions.

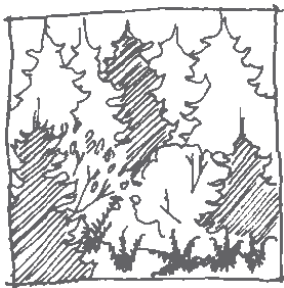
Variations in microclimate may create quite different conditions within a small area. For example, a coniferous forest may have a poorly-drained area which collects water and creates a wooded wetland or an open prairie can contain a marsh.

Remember . . .

Every plant you choose may not grow well. Have fun and experiment with different native plants from the community(ies) appropriate for your particular site.

2.1 WESTERN HEMLOCK-DOUGLAS FIR FOREST

This is the most common plant community found in the Portland area. The forest is dominated by large conifers, with a wide range of associated species of trees, understory shrubs and groundcovers. Forest Park and the Boring Lava Domes provide good examples of this community.



In this forested habitat, the most dominant or common tree species are coniferous trees such as Douglas fir, western hemlock, grand fir, and western red cedar. Deciduous trees are also found such as alder and bigleaf maple. The shrub layer is dominated by vine maple, Oregon grape, and Indian plum. Groundcover plants will vary based on how much sunlight and moisture reaches the forest floor. The dominant groundcover is sword fern. Forest soils tend to be moist and rich in humus.

At present, the remaining forested areas in Portland contain a strong deciduous component. This is more a reflection of the current successional stage resulting from recent (last 150 years) mass disturbance from logging, fires, and development.



Variations

On the plant communities map, three variations of this community are identified along a moisture gradient from moist to dry. A number of species are common throughout the gradient such as Oregon grape, sword fern, and salal but at the extremes on either end additional species are found along with the general mix. This variation is more evident in the shrub and groundcover layers and less prominent in the tree species.

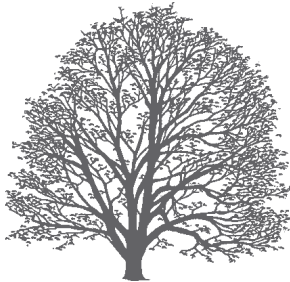
In places where the soil is well-drained, the slope is south-facing, or there are sunny conditions where the canopy is more open, the forest composition varies toward species more tolerant of dry conditions. Tree species such as madrone and Oregon White Oak may begin to appear. Species that tolerate the driest conditions within this community are indicated with a “☼” in the list below.

Along drainages or in places where the soil is poorly-drained or the slope is north-facing, the forest composition varies toward species more tolerant of moist conditions. Western red cedar and salmonberry are more common. Species that tolerate the wettest conditions—not necessarily wetland—within this community are indicated with a “☁” in the list below.






Next to streams in the riparian areas of the west hills and Boring lava domes, more deciduous trees and moisture-tolerant plants are found. In these areas cottonwoods, willows, and Redosier dogwood begin to appear.

KEY	Most common species appear in bold type
	<i>Italic type indicates species that rarely occur in this community within Portland</i>
	 Indicates species which tolerate moist conditions (but not necessarily wetland)
	 Indicates species which tolerate dry conditions

TREES


















Bigleaf Maple

Latin Name	Common Name
Acer macrophyllum	Bigleaf Maple
Alnus rubra	Red Alder
Pseudotsuga menziesii	Douglas Fir
 Thuja plicata	Western Red Cedar
Tsuga heterophylla	Western Hemlock
Abies grandis	Grand Fir
Cornus nuttallii	Western Flowering Dogwood
Frangula purshiana	Cascara, chitum
 Fraxinus latifolia	Oregon Ash
 Populus trichocarpa	Black Cottonwood
Prunus emarginata	Bitter Cherry
 Salix scouleriana	Scouler Willow
Taxus brevifolia	Pacific Yew
 <i>Arbutus menziesii</i>	<i>Madrone</i>
<i>Crataegus gaylussacia</i>	<i>Suksdorf's hawthorn</i>
 <i>Pinus ponderosa</i> var. <i>benthamiana</i>	<i>Willamette Valley ponderosa pine</i>
 <i>Quercus garryana</i>	<i>Oregon White Oak</i>

SHRUBS



Vine Maple

Latin Name	Common Name
 Acer circinatum	Vine Maple
 Amelanchier alnifolia	Western Serviceberry
Berberis nervosa	Cascade Oregon Grape
Corlyus cornuta ssp. californica	California hazelnut
 Cornus sericea	Redosier dogwood
Gaultheria shallon	Salal
Holodiscus discolor	Oceanspray
Oemleria cerasiformis	Indian Plum
 Physocarpus capitatus	Pacific Ninebark
 Ribes sanguineum	Red Currant
Rubus parviflorus	Thimbleberry
 Rubus spectabilis	Salmonberry
Sambucus racemosa var. arborescens	Red Elderberry
Symphoricarpos albus	Common Snowberry
Vaccinium parvifolium	Red Huckleberry
Berberis aquifolium	Tall Oregon Grape
 Euonymus occidentalis	Western Wahoo
 Lonicera hispidula	Hairy Honeysuckle
 Lonicera involucrata	Black Twinberry
 Malus fusca	Western Crabapple
Philadelphus lewisii	Mockorange
Prunus virginiana	Common Chokecherry
 Ribes viscosissimum	Sticky Currant
Rosa gymnocarpa	Baldhip Rose
 Rosa nutkana	Nootka Rose
 Rosa pisocarpa	Swamp Rose
 Rubus ursinus	Pacific blackberry
 Salix sitchensis	Sitka Willow
Sambucus nigra ssp. caerulea	Blue Elderberry
Symphoricarpos mollis	Creeping Snowberry
Viburnum ellipticum	Oval-leaved Viburnum

**SHRUBS
(continued)**

	Latin Name	Common Name
☼	<i>Ceanothus sanguineus</i>	Oregon Tea-tree
☼	<i>Ceanothus velutinus</i> var. <i>laevigatus</i>	Mountain Balm
☁	<i>Ribes bracteosum</i>	Blue Currant
	<i>Ribes divaricatum</i>	Straggly Gooseberry
☼	<i>Ribes lobbii</i>	Pioneer Gooseberry
	<i>Rubus leucodermus</i>	Blackcap Raspberry
☁	<i>Vaccinium ovatum</i>	Evergreen Huckleberry









**HERBACEOUS,
GRASSES, ETC.**















Vanillaleaf

☁	Achlys triphylla	Vanillaleaf
☁	Adiantum aleuticum	Northern Maidenhair Fern
☁	Asarum caudatum	Wild Ginger
☁	Athyrium filix-femina	Lady Fern
☁	Carex leptopoda	Slender-foot sedge
	Claytonia perfoliata	Miner's Lettuce
	Claytonia sibirica	Candy Flower
	Dicentra formosa ssp. <i>formosa</i>	Bleedingheart
☼	Elymus glaucus ssp. <i>glaucus</i>	Blue Wildrye
	Galium aparine	Cleavers
	Hydrophyllum tenuipes	Pacific Waterleaf
	Linnaea borealis	Twinflower
	Maianthemum racemosa	Western False Solomon's Seal
	Maianthemum stellata	Starry False Solomon's Seal
☁	Oxalis oregana	Oregon Oxalis
☁	Petasites frigidus var. <i>palmatus</i>	Palmate Coltsfoot
	Polypodium glycyrrhiza	Licorice Fern
	Polystichum munitum	Sword Fern
	Prosartes hookeri	Hooker's Fairybells
	Prosartes smithii	Smith's Fairybells
☼	Pteridium aquilinum	Bracken Fern
☁	Streptopus amplexifolius	Clasping-leaved Twisted-stalk







HERBACEOUS,
GRASSES, ETC.
(continued)

Latin Name	Common Name
Tellima grandiflora	Fringecup
Tiarella trifoliata var. unifoliata	Trefoil Tiarella
Tolmiea menziesii	Piggyback Plant
Trillium ovatum	Western Trillium
Vancouveria hexandra	Inside-out Flower
 Viola glabella	Stream Violet
Actaea rubra	Baneberry
Adenocaulon bicolor	Pathfinder
Agoseris grandiflora	Large-flowered Agoseris
Anemone deltoidea	Western White Anemone
☼ Apocynum androsaemifolium	Spreading Dogbane
Aquilegia formosa	Red Columbine
Aruncus dioicus var. acuminatus.	Goatsbeard
 Blechnum spicant	Deer Fern
Bromus carinatus	California Brome
☼ Campanula scouleri	Scouler's Bellflower
Canadanthus modestus	Few-flowered Aster
Cardamine angulata	Angled Bittercress
 Carex amplifolia	Bigleaf Sedge
 Carex hendersonii	Henderson's Wood Sedge
Chamerion angustifolium var. canescens	Fireweed
 Cinna latifolia	Woodreed
Circaea alpina	Enchanter's nightshade
Coptis laciniata	Cutleaf Goldthread
Cornus unalaschkensis	Bunchberry
 Corydalis scouleri	Western Corydalis
Disporum hookeri	Hooker Fairy-bell
Disporum smithii	Large-flowered Fairy-bell
 Dryopteris arguta	Wood Fern
 Dryopteris expansa	Spreading Wood Fern

HERBACEOUS,
GRASSES, ETC.
(continued)

	Latin Name	Common Name
	<i>Festuca occidentalis</i>	Western Fescue
	<i>Festuca subulata</i>	Bearded Fescue
	<i>Fragaria vesca</i> var. <i>bracteata</i>	Wood Strawberry
	<i>Galium triflorum</i>	Sweetscented Bedstraw
	<i>Geum macrophyllum</i>	Oregon Avens
	<i>Heracleum maximum</i>	Cow parsnip
	<i>Heuchera micrantha</i>	Smallflowered Alumroot
	<i>Hieracium albiflorum</i>	White-flowered Hawkweed
	<i>Iris tenax</i>	Oregon Iris
	<i>Ligusticum apiifolium</i>	Parsley-leaved Lovage
	<i>Ligusticum grayii</i>	Gray's Lovage
	<i>Lilium columbianum</i>	Columbia Lily
	<i>Lupinus latifolius</i>	Broadleaf Lupine
	<i>Luzula campestris</i>	Field Woodrush
	<i>Luzula parviflora</i>	Small-flowered Woodrush
	<i>Lysichiton americanus</i>	Skunk Cabbage
	<i>Maianthemum dilatatum</i>	False Lily-of-the-valley
	<i>Mertensia platyphylla</i>	Western Bluebells
	<i>Mitella caulescens</i>	Leafy Mitrewort
	<i>Mitella pentandra</i>	Five-stamened Mitrewort
	<i>Monotropa uniflora</i>	Indian-pipe
	<i>Montia parvifolia</i>	Streambank Springbeauty
	<i>Nemophila menziesii</i>	Baby Blue-eyes
	<i>Oplopanax horridus</i>	Devil's Club
	<i>Osmorhiza berteroi</i>	Mountain Sweet-Cicely
	<i>Potentilla glandulosa</i>	Sticky Cinquefoil
	<i>Prunella vulgaris</i> var. <i>lanceolata</i>	Native Heal-all
	<i>Pyrola asarifolia</i>	Wintergreen
	<i>Satureja douglasii</i>	Yerba Buena
	<i>Scirpus microcarpus</i>	Small-fruited Bullrush

HERBACEOUS,
GRASSES, ETC.
(continued)

	Latin Name	Common Name
	Stachys cooleyae	Cooley's hedgenettle
	Symphotrichum subspicatum	Douglas's Aster
	Thalictrum occidentale	Western Meadowrue
	Tiarella trifoliata	Foamflower
	Trientalis latifolia	Western Starflower
	Urtica dioica ssp. gracilis	Stinging Nettle
	Vicia gigantea	Giant Vetch
	<i>Anemone lyallii</i>	<i>Small Wind-flower</i>
	<i>Anemone oregana</i> var. <i>oregana</i>	<i>Oregon Anemone</i>
	<i>Boykinia occidentalis</i>	<i>Slender Boykinia</i>
	<i>Calypso bulbosa</i>	<i>Fairy Slipper</i>
	<i>Cynoglossum grande</i>	<i>Pacific Hound's-tongue</i>
	<i>Cypripedium montanum</i>	<i>Mountain Lady-slipper</i>
	<i>Cystopteris fragilis</i>	<i>Brittle Bladder Fern</i>
	<i>Erythronium oregonum</i>	<i>Giant Fawn-lily</i>
	<i>Goodyera oblongifolia</i>	<i>Giant Rattlesnake-plantain</i>
	<i>Gymnocarpium disjunctum</i>	<i>Oak Fern</i>
	<i>Lonicera ciliosa</i>	<i>Orange Honeysuckle</i>
	<i>Nothochelone nemorosa</i>	<i>Turtle Head</i>
	<i>Sanicula crassicaulis</i>	<i>Pacific Sanicle</i>
	<i>Synthyris reniformis</i>	<i>Snow Queen</i>
	<i>Trillium albidum</i> var. <i>parviflorum</i>	<i>Small-flowered trillium</i>
	<i>Viola hallii</i>	<i>Hall's Violet</i>
	<i>Viola sempervirens</i>	<i>Evergreen Violet</i>

2.2 MIXED CONIFEROUS/DECIDUOUS RIPARIAN FOREST

Along streams like Johnson Creek which flood periodically and have broad floodplains, a distinct mixed coniferous/deciduous community is found.



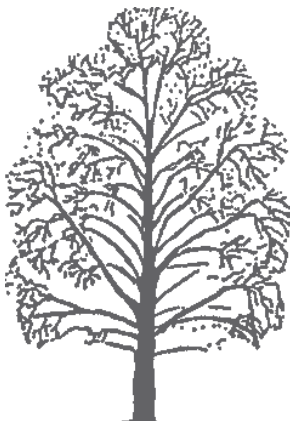
This community represents a mid-range between the narrow riparian areas and deep ravines characteristic of upper sections of streams in the west hills and the broad flood plains of the Columbia and Willamette. Western red cedars are common along with alder and bigleaf maple. Cottonwood, alder, and willows are common along the frequently flooded wet fringe on the banks of the stream. The shrub layer is dominated by Redosier dogwood, indian plum, and Pacific ninebark.

KEY

Most common species appear in bold type

Italic type indicates species that rarely occur in this community within Portland

TREES



Red Alder

Latin Name	Common Name
Acer macrophyllum	Bigleaf Maple
Alnus rubra	Red Alder
<i>Crataegus gaylussacia</i>	Suksdorf's hawthorn
<i>Fraxinus latifolia</i>	Oregon Ash
Populus balsamifera var. trichocarpa	Black Cottonwood
Populus tremuloides	Quaking Aspen
Salix lucida ssp. lasiandra	Pacific Willow
Thuja plicata	Western Red Cedar
<i>Abies grandis</i>	Grand Fir
<i>Cornus nuttallii</i>	Western Flowering Dogwood
<i>Frangula purshiana</i>	Cascara, chitum
<i>Pseudotsuga menziesii</i>	Douglas Fir

	Latin Name	Common Name
TREES (continued)	<i>Salix rigida</i> var. <i>macrogemma</i>	Rigid Willow
	<i>Salix scouleriana</i>	Scouler Willow
	<i>Tsuga heterophylla</i>	Western Hemlock
	<i>Taxus brevifolia</i>	<i>Pacific Yew</i>
SHRUBS	<i>Acer circinatum</i>	Vine Maple
	<i>Amelanchier alnifolia</i>	Serviceberry
	<i>Berberis nervosa</i>	Cascade Oregon Grape
	<i>Cornus sericea</i>	Redosier dogwood
	<i>Gaultheria shallon</i>	Salal
	<i>Oemleria cerasiformis</i>	Indian Plum
	<i>Physocarpus capitatus</i>	Pacific Ninebark
	<i>Rosa nutkana</i>	Nootka Rose
	<i>Rosa pisocarpa</i>	Swamp Rose
	<i>Rubus parviflorus</i>	Thimbleberry
	<i>Rubus spectabilis</i>	Salmonberry
	<i>Salix exigua</i> var. <i>sessilifolia</i>	Soft-leaved Willow
	<i>Salix sitchensis</i>	Sitka Willow
	<i>Sambucus racemosa</i> var. <i>arborescens</i>	Red Elderberry
	<i>Spiraea douglasii</i>	Douglas Spirea
	<i>Symphoricarpos albus</i>	Common Snowberry
	<i>Viburnum ellipticum</i>	Oval-leaved Viburnum
	<i>Euonymus occidentalis</i>	Western Wahoo
	<i>Lonicera involucrata</i>	Black Twinberry
	<i>Prunus virginiana</i>	Common Chokecherry
<i>Ribes bracteosum</i>	Blue Currant	
<i>Rubus leucodermis</i>	Blackcap Raspberry	
<i>Salix exigua</i> var. <i>columbiana</i>	Columbia River Willow	
<i>Salix hookeriana</i>	Hooker's willow	
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue Elderberry	
<i>Spiraea betulifolia</i> var. <i>lucida</i>	Shiny-leaf Spiraea	



Serviceberry

HERBACEOUS,
GRASSES, ETC.*Lady Fern*

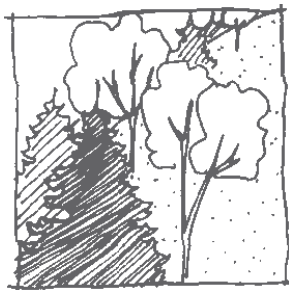
Latin Name	Common Name
<i>Achlys triphylla</i>	Vanillaleaf
<i>Adiantum aleuticum</i>	Northern Maidenhair Fern
<i>Athyrium filix-femina</i>	Lady Fern
<i>Carex leptopoda</i>	Slender-foot sedge
<i>Carex obnupta</i>	Slough Sedge
<i>Claytonia perfoliata</i>	Miner's Lettuce
<i>Dicentra formosa</i> ssp. <i>formosa</i>	Bleedingheart
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Blue Wildrye
<i>Equisetum arvense</i>	Common Horsetail
<i>Equisetum hyemale</i>	Common Scouring-rush
<i>Galium trifidum</i>	Small Bedstraw
<i>Hydrophyllum tenuipes</i>	Pacific Waterleaf
<i>Maianthemum racemosa</i>	Western False Solomon's Seal
<i>Maianthemum stellata</i>	Starry False Solomon's Seal
<i>Petasites frigidus</i> var. <i>palmatus</i>	Palmate Coltsfoot
<i>Polypodium glycyrrhiza</i>	Licorice Fern
<i>Polystichum munitum</i>	Sword Fern
<i>Prosartes hookeri</i>	Hooker's Fairybells
<i>Prosartes smithii</i>	Smith Fairybells
<i>Pteridium aquilinum</i>	Bracken Fern
<i>Tellima grandiflora</i>	Fringecup
<i>Tolmiea menziesii</i>	Piggyback Plant
<i>Trillium ovatum</i>	Western Trillium
<i>Trisetum canescens</i>	Tall Trisetum
<i>Urtica dioica</i> ssp. <i>gracilis</i>	Stinging Nettle
<i>Viola glabella</i>	Stream Violet
<i>Actaea rubra</i>	Baneberry
<i>Alisma triviale</i> var. <i>americanum</i>	American Water-plantain
<i>Alopecurus geniculatus</i>	Water Foxtail
<i>Blechnum spicant</i>	Deer Fern
<i>Carex hendersonii</i>	Henderson's Wood Sedge
<i>Claytonia sibirica</i>	Candy Flower

HERBACIOUS,
GRASSES, ETC.
(continued)

Latin Name	Common Name
<i>Dryopteris arguta</i>	Wood Fern
<i>Geum macrophyllum</i>	Oregon Avens
<i>Heracleum maximum</i>	Cow parsnip
<i>Lysichiton americanus</i>	Skunk Cabbage
<i>Maianthemum dilatatum</i>	False Lily-of-the-valley
<i>Mitella caulescens</i>	Leafy Mitrewort
<i>Mitella pentandra</i>	Five-stamened Mitrewort
<i>Oenanthe sarmentosa</i>	Pacific water parsley
<i>Oplopanax horridus</i>	Devil's Club
<i>Prunella vulgaris</i> var. <i>lanceolata</i>	Native Heal-all
<i>Pyrola asarifolia</i>	Wintergreen
<i>Rubus ursinus</i>	Pacific Blackberry
<i>Scirpus microcarpus</i>	Small-fruited Bulrush
<i>Thalictrum occidentale</i>	Western Meadowrue
<i>Trientalis latifolia</i>	Western Starflower
<i>Veronica americana</i>	American Brooklime
<i>Boykinia occidentalis</i>	Slender Boykinia
<i>Calamagrostis canadensis</i>	Bluejoint
<i>Canadanthus modestus</i>	Few-flowered Aster
<i>Carex amplifolia</i>	Bigleaf Sedge
<i>Dicentra formosa</i> ssp. <i>formosa</i>	Bleedingheart
<i>Dodecatheon pulchellum</i>	Few-flowered Shooting Star
<i>Myosotis laxa</i>	Small-flowered Forget-me-not
<i>Nothochelone nemorosa</i>	Turtle Head
<i>Sanicula crassicaulis</i>	Pacific Sanicle
<i>Trillium albidum</i> var. <i>parviflorum</i>	Small-flowered trillium

2.3 MIXED DECIDUOUS FOREST, STEEP DRY SLOPE

On south slopes that are exposed and extremely well drained, such as Overlook Bluff, the forest community is predominantly a mixture of deciduous trees, with scattered conifers.



Oregon White Oak and bigleaf maple are the dominant trees. Conifers do not favor the dry conditions and thin, rocky, and well-drained soils. In some areas, the tree canopy is more open, allowing a wider variety of grasses and other herbaceous plants.

KEY

Most common species appear in bold type

Italic type indicates species that rarely occur in this community within Portland

TREES



Oregon White Oak

Latin Name	Common Name
Acer macrophyllum	Bigleaf Maple
Quercus garryana	Oregon White Oak
<i>Alnus rubra</i>	Red Alder
<i>Arbutus menziesii</i>	Pacific Madrone
<i>Frangula purshiana</i>	Cascara, chitum
<i>Prunus emarginata</i>	Bitter Cherry
<i>Pseudotsuga menziesii</i>	Douglas Fir
<i>Crataegus gaylussacia</i>	<i>Suksdorf's hawthorn</i>
<i>Pinus ponderosa</i> var. <i>benthamiana</i>	<i>Willamette Valley ponderosa pine</i>

SHRUBS



Tall Oregongrape

Latin Name	Common Name
Amelanchier alnifolia	Western Serviceberry
Berberis aquifolium	Tall Oregongrape
Bromus carinatus	California Brome
Ceanothus cuneatus	Buckbrush
Holodiscus discolor	Oceanspray
Symphoricarpos albus	Common Snowberry
Symphoricarpos mollis	Creeping Snowberry
<i>Berberis nervosa</i>	Cascade Oregon grape
<i>Oemleria cerasiformis</i>	Indian Plum
<i>Philadelphus lewisii</i>	Mockorange
<i>Prunus virginiana</i>	Chokecherry
<i>Ribes sanguineum</i>	Red Currant
<i>Ribes viscosissimum</i>	Sticky Currant
<i>Rosa gymnocarpa</i>	Baldhip Rose
<i>Rosa nutkana</i>	Nootka Rose
<i>Rubus parviflorus</i>	Thimbleberry
<i>Sambucus nigra ssp. caerulea</i>	Blue Elderberry
<i>Vaccinium parvifolium</i>	Red Huckleberry
<i>Ceanothus sanguineous</i>	<i>Oregon Tea-tree</i>
<i>Lonicera hispidula</i>	<i>Hairy Honeysuckle</i>

HERBACIOUS,
GRASSES, ETC.



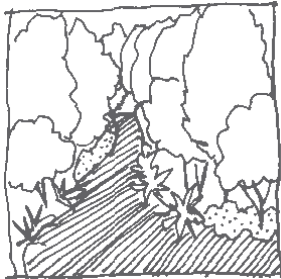
California Brome

Latin Name	Common Name
Bromus carinatus	California Brome
Carex leptopoda	Slender-foot sedge
Carex tumulicola	Foothill Sedge
Clarkia amoena	Farewell to Spring
Elymus glaucus ssp. glaucus	Blue Wildrye
Elymus trachycaulus	Bluebunch Wheatgrass
Festuca californica	California Fescue
Festuca occidentalis	Western Fescue
Olysynium douglasii	Grass-widows
Polystichum munitum	Sword Fern
Pteridium aquilinum	Bracken Fern
Pyrola Picta	White-vein pyrola
Sanicula bipinnatifida	Purple Sanicle
Tiarella trifoliata var. unifoliata	Trefoil Tiarella
Vicia americana	American Vetch
Agoseris grandiflora	Large-flowered Agoseris
Apocynum androsaemifolium	Spreading Dogbane
Campanula scouleri	Scouler's Bellflower
Chamerion angustifolium var. canescens	Fireweed
Clematis ligusticifolia	Western Clematis
Collinsia grandiflora	Large-flowered Blue-eyed Mary
Collinsia parviflora	Small-flowered Blue-eyed Mary
Delphinium nuttallii	Nuttall's Larkspur
Fragaria virginiana var. platypetala	Broadpetal Strawberry
Hieracium albiflorum	White-flowered Hawkweed
Ligusticum apiifolium	Parsley-leaved Lovage
Ligusticum grayii	Gray's Lovage
Melica subulata	Alaska Oniongrass
Osmorhiza berteroi	Mountain Sweet-Cicely

Latin Name	Common Name
<i>Potentilla glandulosa</i>	Sticky Cinquefoil
<i>Rubus ursinus</i>	Pacific Blackberry
<i>Vicia gigantea</i>	Giant Vetch
<i>Bromus vulgaris</i>	Columbia Brome
<i>Cypripedium montanum</i>	Mountain Lady-slipper
<i>Cystopteris fragilis</i>	Brittle Bladder Fern
<i>Erythronium oregonum</i>	Giant Fawn-Lily
<i>Lupinus laxiflorus</i>	Spurred Lupine
<i>Pentagramma triangularis</i>	Gold-back Fern
<i>Sanicula crassicaulis</i>	Pacific Sanicle
<i>Viola adunca</i>	Early Blue Violet

2.4 DECIDUOUS FORESTED WETLANDS AND FLOODPLAINS

Along the Willamette and the Columbia Rivers, the large floodplains and wetlands support a riparian community dominated by deciduous trees.



The soil ranges from loamy to sandy or gravelly, and well drained but with a high water table and frequent flooding. Water saturates the soil much of the year. The dominant trees are black cottonwood, Oregon ash, various willows, and red alder, all of which can quickly recover from periodic flooding.

On higher ground which floods less frequently Bigleaf maple and Oregon White Oak are common. Western red cedars appear in the transition zones between the lowlands and the forested bluffs overlooking the rivers.

This is a dynamic community that responds to periodic flooding and high disturbance; floods which can rip trees out of the ground or bury them with sediment. Plants are typically fast growing and can readily reestablish themselves after a disturbance.

KEY

Most common species appear in bold type

Italic type indicates species that rarely occur in this community within Portland

	Latin Name	Common Name
TREES	<i>Alnus rubra</i>	Red Alder
	<i>Crataegus gaylussacia</i>	Suksdorf's hawthorn
	<i>Fraxinus latifolia</i>	Oregon Ash
	Populus balsamifera var. trichocarpa	Black Cottonwood
	<i>Populus tremuloides</i>	Quaking Aspen
	Salix lasiandra var. lasiandra	Pacific Willow
	<i>Salix scouleriana</i>	Scouler Willow

	Latin Name	Common Name
TREES (continued)	<i>Acer macrophyllum</i>	Bigleaf Maple
	<i>Crataegus gaylussacia</i>	Suksdorf's hawthorn
	<i>Frangula purshiana</i>	Cascara, chitum
	<i>Quercus garryana</i>	Oregon White Oak
	<i>Salix prolixa</i>	Rigid Willow
	<i>Thuja plicata</i>	Western Red Cedar
SHRUBS	<i>Amelanchier alnifolia</i>	Western Serviceberry
	<i>Cornus sericea</i>	Redosier dogwood
	<i>Oemleria cerasiformis</i>	Indian Plum
	<i>Physocarpus capitatus</i>	Pacific Ninebark
	<i>Rosa gymnocarpa</i>	Baldhip Rose
	<i>Rosa nutkana</i>	Nootka Rose
	<i>Salix exigua</i> var. <i>columbiana</i>	Columbia River Willow
	<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue Elderberry
	<i>Sambucus racemosa</i> var. <i>arborescens</i>	Red Elderberry
	<i>Symphoricarpos albus</i>	Common Snowberry
	<i>Malus fusca</i>	Western Crabapple
	<i>Prunus virginiana</i>	Common Chokecherry
	<i>Ribes sanguineum</i>	Red Currant
	<i>Salix exigua</i> var. <i>sessilifolia</i>	Soft-leafed Willow
	<i>Salix hookeriana</i>	Hooker's willow
	<i>Salix sitchensis</i>	Sitka Willow
	<i>Spiraea douglasii</i>	Douglas' Spirea
<i>Ribes lobbii</i>	Pioneer Gooseberry	

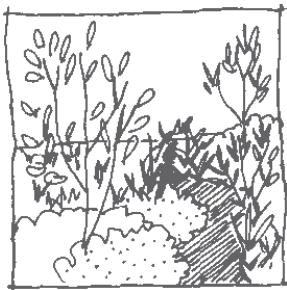
	Latin Name	Common Name
HERBACIOUS, GRASSES, ETC.	<i>Angelica arguta</i>	Sharptooth Angelica
	<i>Arnica amplexicaulis</i>	Clasping Arnica
	<i>Athyrium filix-femina</i>	Lady Fern
	<i>Bromus carinatus</i>	California Brome
	<i>Claytonia perfoliata</i>	Miner's Lettuce
	<i>Claytonia sibirica</i>	Candy Flower
	<i>Cyperus erythrorhizos</i>	Red-Rooted flatsedge
	<i>Cyperus squarrosus</i>	Awned flatsedge
	<i>Cyperus strigosus</i>	Straw-colored flatsedge
	<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Blue Wildrye
	<i>Equisetum arvense</i>	Common Horsetail
	<i>Galium trifidum</i>	Small Bedstraw
	<i>Heracleum maximum</i>	Cow parsnip
	<i>Juncus ensifolius</i>	Dagger-leaf Rush
	<i>Polypodium glycyrrhiza</i>	Licorice Fern
	<i>Polystichum munitum</i>	Sword Fern
	<i>Pteridium aquilinum</i>	Bracken
	<i>Ranunculus occidentalis</i>	Western Buttercup
	<i>Ranunculus uncinatus</i>	Little Buttercup
	<i>Scirpus cyperinus</i>	Wooly Sedge
<i>Tellima grandiflora</i>	Fringecup	
<i>Urtica dioica</i> ssp. <i>gracilis</i>	Stinging Nettle	
<i>Vancouveria hexandra</i>	Inside-out Flower	
	<i>Alopecurus geniculatus</i>	Water Foxtail
	<i>Adiantum aleuticum</i>	Northern Maidenhair Fern
	<i>Aquilegia formosa</i>	Red Columbine
	<i>Aruncus dioicus</i> var. <i>acuminatus</i> .	Goatsbeard
	<i>Blechnum spicant</i>	Deer Fern
	<i>Bromus sitchensis</i>	Alaska Brome
	<i>Cardamine oligosperma</i>	Little Western Bittergrass
	<i>Carex leptopoda</i>	Slender-foot sedge
	<i>Chamerion angustifolium</i> var. <i>canescens</i>	Fireweed
	<i>Corydalis scouleri</i>	Western Corydalis

HERBACIOUS,
GRASSES, ETC.
(continued)

Latin Name	Common Name
<i>Epilobium ciliatum</i> ssp. <i>glandulosum</i>	Common Willow–reed
<i>Epilobium ciliatum</i> ssp. <i>watsonii</i>	Watson’s Willow–reed
<i>Festuca occidentalis</i>	Western Fescue
<i>Fragaria vesca</i> var. <i>bracteata</i>	Wood Strawberry
<i>Geum macrophyllum</i>	Oregon Avens
<i>Heuchera glabra</i>	Smooth Alumroot
<i>Heuchera micrantha</i>	Smallflowered Alumroot
<i>Lupinus rivularis</i>	Stream Lupine
<i>Mertensia platyphylla</i>	Western Bluebells
<i>Mitella pentandra</i>	Five–stamened Mitrewort
<i>Oplopanax horridus</i>	Devil’s Club
<i>Oxalis trilliifolia</i>	Trillium–leaved Wood–sorrel
<i>Petasites frigidus</i> var. <i>palmatum</i>	Palmate Coltsfoot
<i>Pyrola asarifolia</i>	Wintergreen
<i>Ranunculus flammula</i>	Creeping Buttercup
<i>Ranunculus orthorhyncus</i>	Straightbeak Buttercup
<i>Rubus ursinus</i>	Pacific Blackberry
<i>Streptopus amplexifolius</i>	Clasping–leaved Twisted–stalk
<i>Thalictrum occidentale</i>	Western Meadowrue
<i>Tiarella trifoliata</i>	Foamflower
<i>Trillium ovatum</i>	Western Trillium
<i>Viola glabella</i>	Stream Violet
<i>Boykinia occidentalis</i>	<i>Slender Boykinia</i>
<i>Carex unilateralis</i>	<i>One-sided Sedge</i>
<i>Chrysosplenium glechomaefolium</i>	<i>Pacific Water–carpet</i>
<i>Cinna latifolia</i>	<i>Woodreed</i>
<i>Dicentra formosa</i> ssp. <i>formosa</i>	<i>Bleedingheart</i>
<i>Festuca subulata</i>	<i>Bearded Fescue</i>
<i>Festuca subuliflora</i>	<i>Coast Range Fescue</i>
<i>Symphotrichum subspicatum</i>	<i>Douglas’ Aster</i>
<i>Trisetum cernuum</i>	<i>Nodding Trisetum</i>

2.5 SCRUB-SHRUB WETLANDS

Shrub wetlands occur on lake shores, on gravel bars, and in poorly drained areas. Examples are found on the edges of Smith–Bybee Lakes and Beggars–tick Marsh near Johnson Creek. The plants growing here can tolerate seasonal variation in water levels.



Growing conditions range from moist soils, to periodic flooding, to standing water. At some of these riparian or wetland edges, shrubs predominate and can form dense thickets of willows, rose, and Redosier dogwood. In other areas, these wetlands support scattered trees such as ash and cottonwood that tolerate wet soils. At the edges of shrub wetlands, or where the ground is higher and less wet, thickets may form with shrubs and groundcovers that tolerate the somewhat drier conditions.

KEY

Most common species appear in bold type

Italic type indicates species that rarely occur in this community within Portland

	Latin Name	Common Name
TREES	Alnus rubra	Red Alder
	Crataegus gaylussacia	Suksdorf’s hawthorn
	Populus tremuloides	Quaking Aspen
	Salix lasiandra var. lasiandra	Pacific Willow
	Salix scouleriana	Scouler Willow
	Fraxinus latifolia	Oregon Ash
	Malus fusca	Western Crabapple
	Populus trichocarpa	Black Cottonwood
	<i>Salix prolixa</i>	<i>Rigid Willow</i>

	Latin Name	Common Name
SHRUBS	Cornus sericea	Redosier dogwood
	Physocarpus capitatus	Pacific Ninebark
	Rosa gymnocarpa	Baldhip Rose
	Rosa nutkana	Nootka Rose
	Salix exigua var. columbiana	Columbia River Willow
	Salix sitchensis	Sitka Willow
	Sambucus racemosa var. arborescens	Red Elderberry
	Spiraea douglasii	Douglas' Spirea
	Trichostema lanceolatum	Mt. Blue-Curls
	<i>Lonicera involucrata</i>	Black Twinberry
	<i>Rosa pisocarpa</i>	Swamp Rose
	<i>Salix exigua var. sessilifolia</i>	Soft-leaved Willow
	<i>Rubus parviflorus</i>	Thimbleberry
	<i>Salix hookeriana</i>	Hooker's willow
	<i>Sambucus mexicana</i>	Blue Elderberry
<i>Ribes divaricatum</i>	<i>Straggly Gooseberry</i>	
<i>Ribes lobbii</i>	<i>Pioneer Gooseberry</i>	

HERBACIOUS,
GRASSES, ETC.

Agrostis exarata	Spike Bentgrass
Agrostis scabra	Rough Hairgrass
Alisma gramineum	Narrow-leaved water plantain
Beckmania syzigachne	Slough Grass
Carex leptopoda	Slender-foot sedge
Carex obnupta	Slough Sedge
Deschampsia cespitosa	Tufted Hairgrass
Deschampsia elongata	Slender Hairgrass
Downingia elegans	Common Downingia
Eleocharis obtusa	Ovate Spikerush
Eleocharis palustris	Creeping Spikerush
Equisetum arvense	Common Horsetail
Equisetum hyemale	Common Scouring-rush
Galium trifidum	Small Bedstraw
Grindelia integrifolia	Willamette Valley Gumweed

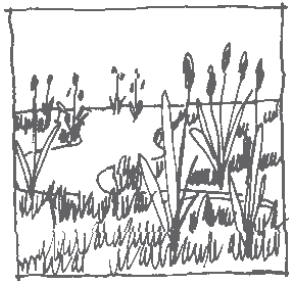
	Latin Name	Common Name
HERBACIOUS, GRASSES, ETC. (continued)	Juncus acuminatus	Tapertip Rush
	Juncus articulatus	Jointed Rush
	Juncus effusus var. pacificus	Soft Rush
	Juncus laccatus	Slender Soft Rush
	Juncus patens	Spreading Rush
	Leerisia oryzoides	Rice Cutgrass
	Navarretia intertexta	Needle-leaf Navarretia
	Nemophila pedunculata	Spreading Nemophila
	Potentilla gracilis var. gracilis	Slender cinquefoil
	Rumex salicifolius var. salicifolius	Willow-leaved Dock
	Saxifraga oregana	Oregon Saxifrage
	Typha latifolia	Common Cattail
	Urtica dioica ssp. gracilis	Stinging Nettle
	Veronica americana	American Brooklime
	Bidens cernua	Nodding Beggars-tick
	Bidens frondosa	Leafy Beggars-tick
	Camassia leichtlinii	Giant Camas
	Camassia quamash	Common Camas
	Carex aperta	Columbia Sedge
	Cystopteris fragilis	Brittle Bladder Fern
	Elymus glaucus ssp. glaucus	Blue Wildrye
	Epilobium ciliatum ssp. glandulosum	Common Willow-weed
	Galium aparine	Cleavers
	Gentiana sceptrum	Staff Gentian
	Geum macrophyllum	Oregon Avens
	Glyceria occidentalis	Northwest Mannagrass
	Juncus ensifolius	Dagger-leaf Rush
	Ligusticum apiifolium	Parsley-leaved Lovage
	Luzula campestris	Field Woodrush
	Marah oreganus	Manroot
	Mimulus guttatus	Common Monkeyflower
	Oenanthe sarmentosa	Pacific water parsley

HERBACIOUS,
GRASSES, ETC.
(continued)

Latin Name	Common Name
<i>Oplopanax horridus</i>	Devil's Club
<i>Petasites frigidus</i> var. <i>palmatus</i>	Palmate Coltsfoot
<i>Polypodium glycyrrhiza</i>	Licorice Fern
<i>Pteridium aquilinum</i>	Bracken Fern
<i>Ranunculus cymbalaria</i>	Shore Buttercup
<i>Ranunculus occidentalis</i>	Western Buttercup
<i>Rubus ursinus</i>	Pacific Blackberry
<i>Scirpus microcarpus</i>	Small-fruited Bulrush
<i>Symphyotrichum subspicatum</i>	Douglas' Aster
<i>Trisetum cernuum</i>	Nodding Trisetum
<i>Veratrum californicum</i>	False Hellebore
<i>Viola palustris</i>	Marsh Violet
<i>Cinna latifolia</i>	Woodreed
<i>Circaea alpina</i>	Enchanter's Nightshade
<i>Glyceria elata</i>	Fowl Mannagrass
<i>Lathyrus polyphyllus</i>	Leafy-pea
<i>Lindernia dubia</i>	Yellowseed false pimpernel
<i>Luzula parviflora</i>	Small-flowered Woodrush
<i>Lysichiton americanus</i>	Skunk Cabbage
<i>Melica subulata</i>	Alaska Oniongrass
<i>Piperia elegans</i>	Elegant Rein-orchid

2.6 MARSH

The marsh community occurs along the shores of rivers and sloughs, or in poorly–drained, low–lying areas where the ground is wet most of the year. Marsh areas occur at Beggar’s Tick Marsh and around Smith–Bybee Lakes.



In this open and sunny marsh habitat, occasional trees or shrubs may appear in small groups. The level of moisture may fluctuate between winter and summer. The ground water levels are generally very near to the surface, and may be accentuated by the presence of poorly draining soils and the seasonal flooding of nearby waterways. The plants which dominate in these conditions are those which can tolerate wet soil all or most of the year.

KEY

Most common species appear in bold type

Italic type indicates species that rarely occur in this community within Portland

	Latin Name	Common Name
TREES	<i>Salix lasiandra</i> var. <i>lasiandra</i>	<i>Pacific Willow</i>
	<i>Salix prolixa</i>	<i>Rigid Willow</i>
SHRUBS	<i>Cornus sericea</i>	<i>Redosier dogwood</i>
	<i>Salix hookeriana</i>	<i>Hooker’s willow</i>

	Latin Name	Common Name
HERBACEOUS, GRASSES, ETC.	Allium cernuum	Nodding Onion
	Arnica amplexicaulis	Clasping arnica
	Beckmania syzigachne	Slough Grass
	Camassia quamash	Common Camas
	Carex densa	Dense Sedge
	Carex obnupta	Slough Sedge
	Deschampsia cespitosa	Tufted Hairgrass
	Eleocharis acicularis	Needle Spike–rush
	Eleocharis palustris	Creeping Spike–rush
	Eriophyllum lanatum	Woolly Sunflower
	Glyceria elata	Fowl Mannagrass
	Glyceria occidentalis	Northwest Mannagrass
	Hordeum brachyantherum	Meadow Barley
	Juncus balticus	Baltic Rush
	Juncus effusus var. pacificus	Soft Rush
	Juncus ensifolius	Dagger–leaf Rush
	Juncus laccatus	Slender Soft Rush
	Juncus tenuis	Slender Rush
	Oenanthe sarmentosa	Pacific water parsley
	Schoenoplectus acutus var. occidentalis	Hardstem Bulrush
Schoenoplectus pungens	American Bulrush	
Sisyrinchium idahoense var. idahoense	Blue–eyed Grass	
Sparganium emersum	Simplestem Bur–reed	
Typha latifolia	Common Cattail	
	Alisma triviale var. americanum	American Water–plantain
	Allium ampletens	Slim–leaved Onion
	Alopecurus geniculatus	Water Foxtail
	Bidens cernua	Nodding Beggars–tick
	Bidens frondosa	Leafy Beggars–tick

	Latin Name	Common Name
HERBACEOUS, GRASSES, ETC. (continued)	<i>Camassia leichtlinii</i>	Giant Camas
	<i>Carex athrostachya</i>	Slenderbeaked Sedge
	<i>Carex stipata</i>	Sawbeak Sedge
	<i>Carex unilateralis</i>	One-sided Sedge
	<i>Gentiana sceptrum</i>	Staff Gentian
	<i>Mimulus guttatus</i>	Common Monkeyflower
	<i>Montia linearis</i>	Narrow-leaved Montia
	<i>Myosotis laxa</i>	Small-flowered Forget-me-not
	<i>Nuphar polysepala</i>	Yellow Water-lily
	<i>Ranunculus aquatilis</i> var. <i>aquatilis</i>	White Water-buttercup
	<i>Ranunculus cymbalaria</i>	Shore Buttercup
	<i>Ranunculus orthorhyncus</i>	Straightbeak Buttercup
	<i>Scirpus microcarpus</i>	Small-fruited Bulrush
	<i>Triteleia hyacinthina</i>	Hyacinth Brodiaea
	<i>Veratrum californicum</i>	False Hellebore
	<i>Veronica americana</i>	American Brooklime
	<i>Angelica arguta</i>	Sharptooth Angelica
	<i>Angelica genuflexa</i>	Kneeling angelica
	<i>Boykinia occidentalis</i>	Slender Boykinia
	<i>Carex aperta</i>	Columbia Sedge
<i>Carex utriculata</i>	Beaked Sedge	
<i>Lysichiton americanus</i>	Skunk Cabbage	
<i>Persicaria amphibia</i>	Water Smartweed	
<i>Plagiobothrys figuratus</i>	Fragrant Popcorn-flower	

2.7 PRAIRIE

Prairie is most common in the middle and southern Willamette Valley, although some prairies did exist within the Columbia Corridor, on Sauvie Island, and in the Tualatin Valley. A remnant prairie still exists on Elk Rock Island in the middle of the Willamette.



Historically, these areas were burned by Native Americans, which helped to maintain their open, grassy character. There are very few examples of this type of community in the Portland area.

Prairies are comprised primarily of grasses on well drained dry upland sites. If trees and shrubs are present, they are typically found singularly or in small groups and are tolerant of the shallow dry soils and sunny exposed conditions. These areas may include grassy knolls, treeless south facing slopes, and well drained grassland. The number of trees or shrubs present will depend on the depth of the soil and available moisture.

Oak savanna is a community that is no longer in existence in the Portland area. It was much like the prairie community except there were a greater number of trees present. The greater frequency of trees would likely have changed the assemblage of species growing under them but there is little information available to indicate what that assemblage may have been.

KEY

Most common species appear in bold type

Italic type indicates species that rarely occur in this community within Portland

	Latin Name	Common Name
TREES	Quercus garryana	Oregon White Oak
	<i>Arbutus menziesii</i>	<i>Pacific Madrone</i>
	<i>Pinus ponderosa</i> var. <i>benthamiana</i>	<i>Willamette Valley ponderosa pine</i>
SHRUBS	Amelanchier alnifolia	Western Serviceberry
	Berberis aquifolium	Tall Oregon Grape
	Holodiscus discolor	Oceanspray
	Philadelphia lewisii	Mockorange

	Latin Name	Common Name
SHRUBS (continued)	<i>Ribes sanguineum</i>	Red Flowering Currant
	<i>Ribes viscidissimum</i>	Sticky Currant
	<i>Rosa gymnocarpa</i>	Baldhip Rose
	<i>Rosa nutkana</i>	Nootka Rose
	<i>Rubus leucodermis</i>	Blackcap Raspberry
	<i>Symphoricarpos albus</i>	Common Snowberry
	<i>Symphoricarpos mollis</i>	Creeping Snowberry
	<i>Viburnum ellipticum</i>	Oval-leaved Viburnum
	<i>Ceanothus sanguineus</i>	Oregon Tea-tree

HERBACEOUS,
GRASSES, ETC.

<i>Achillea millefolium</i>	Yarrow
<i>Acnatherum lemmonii</i>	Lemmon's Needlegrass
<i>Acnatherum occidentale</i> ssp. <i>californica</i>	California's Needlegrass
<i>Aquilegia formosa</i>	Red Columbine
<i>Bromus carinatus</i>	California Brome
<i>Bromus vulgaris</i>	Columbia Brome
<i>Calochortus tolmiei</i>	Tolmie's Mariposa
<i>Carex unilateralis</i>	One-sided Sedge
<i>Cirsium hallii</i>	Hall's Thistle
<i>Clarkia amoena</i>	Farewell to Spring
<i>Clarkia rhomboidea</i>	Common Clarkia
<i>Collinsia rattannii</i>	Rattan Collinsia
<i>Coreopsis tinctoria</i> var. <i>atkinsonia</i>	Columbia Tickseed
<i>Deschampsia danthinoides</i>	Ticklegrass
<i>Dodecatheon hendersonii</i>	Broad-leaved Shooting Star
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Blue Wildrye
<i>Festuca californica</i>	California Fescue
<i>Festuca occidentalis</i>	Western Fescue
<i>Festuca roemerii</i>	Roemer's Fescue
<i>Fragaria virginiana</i> var. <i>platypetala</i>	Broadpetal Strawberry
<i>Fritillaria affinis</i>	Checker Lily
<i>Koeleria macrantha</i>	Junegrass

	Latin Name	Common Name	
HERBACEOUS, GRASSES, ETC. (continued)	Lathyrus nevadensis	Nevada Peavine	
	Lithophragma parviflorum	Small-Flowered Prairiestar	
	Luzula campestris	Field Woodrush	
	Madia gracilis	Slender Tarweed	
	Navarretia tagetina	Northern Navarretia	
	Poa secunda	Pine Bluegrass	
	Potentilla gracilis var. gracilis	Slender Cinquefoil	
	Sanicula bipinnatifida	Purple Sanicle	
	Silene antirrhina	Sleepy Catchfly	
	Trifolium bifidum	Pinole Clover	
	Trifolium eriocephalum	Wooly Head Clover	
	Trifolium microcephalum	Small-Head Clover	
	Trifolium microdon	Thimble Clover	
	Trifolium oliganthum	Few-Flowered Clover	
	Trifolium willdenovii	Sand Clover	
	Trifolium variegatum	White-Tip Clover	
	Viola praemorsa var. praemorsa	Canary Violet	
		<i>Acmispon americanus var. americanus</i>	Spanish Clover
		<i>Acmispon parviflorus</i>	Small-flowered Deervetch
		<i>Agoseris grandiflora</i>	Large-flowered Agoseris
	<i>Allium acuminatum</i>	Hooker's Onion	
	<i>Allium amplexans</i>	Slim-leaved Onion	
	<i>Allium cernuum</i>	Nodding Onion	
	<i>Anaphalis margaritacea</i>	Pearly-everlasting	
	<i>Brodiaea coronaria</i>	Harvest Brodiaea	
	<i>Camassia leichtlinii</i>	Giant Camas	
	<i>Camassia quamash</i>	Common Camas	
	<i>Campanula scouleri</i>	Scouler's Bellflower	
	<i>Castilleja tenuis</i>	Hairy Owl-clover	
	<i>Chamerion angustifolium var. canescens</i>	Fireweed	
	<i>Collinsia grandiflora</i>	Large-flowered Blue-eyed Mary	
	<i>Collinsia parviflora</i>	Small-flowered Blue-eyed Mary	
	<i>Collomia grandiflora</i>	Large-flowered Collomia	
	<i>Cryptantha intermedia</i>	Common Forget-me-not	

HERBACEOUS,
GRASSES, ETC.
(continued)

Latin Name	Common Name
<i>Delphinium menziesii</i> var. <i>pyramidale</i>	Menzie's Larkspur
<i>Delphinium nuttallii</i>	Nuttall's Larkspur
<i>Draba verna</i>	Spring Whitlow-grass
<i>Elymus trachycaulus</i>	Bluebunch Wheatgrass
<i>Epilobium brachycarpum</i> var. <i>pan.</i>	Tall Annual Willow Herb
<i>Eriophyllum lanatum</i>	Wooly Sunflower
<i>Erysimum capitatum</i> ssp. <i>capitatum</i>	Prairie Rocket
<i>Eschscholzia californica</i>	California poppy
<i>Gilia capitata</i>	Bluefield Gilia
<i>Hieracium albiflorum</i>	White-flowered Hawkweed
<i>Iris tenax</i>	Oregon Iris
<i>Ligusticum apiifolium</i>	Parsley-leaved Lovage
<i>Leptosiphon bicolor</i>	Bicolored Linanthus
<i>Lomatium utriculatum</i>	Spring Gold
<i>Lupinus bicolor</i>	Two-color Lupine
<i>Lupinus laxiflorus</i>	Spurred Lupine
<i>Lupinus polycarpus</i>	Bigleaf lupine
<i>Lupinus rivularis</i>	Stream Lupine
<i>Marah oreganus</i>	Manroot
<i>Melica subulata</i>	Alaska Oniongrass
<i>Micranthes rufidula</i>	Western Saxifrage
<i>Montia dichotoma</i>	Dwarf Montia
<i>Montia linearis</i>	Narrow-leaved Montia
<i>Navarretia squarrosa</i>	Skunkweed
<i>Nemophila menziesii</i>	Baby Blue-eyes
<i>Oenothera biennis</i>	Evening Primrose
<i>Penstemon richardsonii</i>	Cut-leaved Penstemon
<i>Phlox gracilis</i>	Microsteris
<i>Plectritis congesta</i>	Rosy Plectritis
<i>Potentilla glandulosa</i>	Sticky Cinquefoil
<i>Poteridium occidentale</i>	Annual Burnet
<i>Prunella vulgaris</i> var. <i>lanceolata</i>	Native Heal-all
<i>Ranunculus occidentalis</i>	Western Buttercup

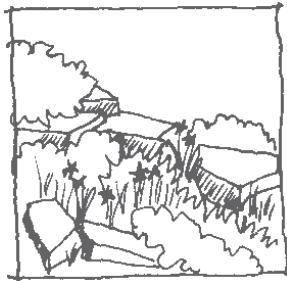
	Latin Name	Common Name
HERBACEOUS, GRASSES, ETC. (continued)	<i>Rubus ursinus</i>	Pacific Blackberry
	<i>Sedum oreganum</i>	Oregon Stonecrop
	<i>Sedum spathulifolium</i>	Spatula-leaf Stonecrop
	<i>Selaginella wallaceii</i>	Compact Selaginella
	<i>Sidalcea campestris</i>	Meadow Sidalcea
	<i>Sisyrinchium idahoense</i> var. <i>idahoense</i>	Blue-eyed Grass
	<i>Solidago lepida</i> var. <i>salebrosa</i>	Western goldenrod
	<i>Tonella tenella</i>	Small-flowered Tenella
	<i>Triteleia hyacinthina</i>	Hyacinth Brodiaea
	<i>Verbena hastata</i>	Wild Hyssop
	<i>Vicia americana</i>	American Vetch
	<i>Vicia gigantea</i>	Giant Vetch
	<i>Viola adunca</i>	Early Blue Violet
	<i>Allium acuminatum</i>	Hooker's Onion
	<i>Cystopteris fragilis</i>	Brittle Bladder Fern
	<i>Dichelostemma congestum</i>	Northern Saitas
	<i>Erigeron decumbens</i> var. <i>decumbens</i>	Willamette Daisy
	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane
	<i>Eriophyllum lanatum</i>	Woolly Sunflower
	<i>Erysimum capitatum</i> ssp. <i>capitatum</i>	Prairie Rocket
<i>Fritillaria affinis</i>	Checker Lily	
<i>Madia sativa</i>	Chile Tarweed	
<i>Micranthes integrifolia</i>	Swamp Saxifrage	
<i>Pentagramma triangularis</i>	Gold-back Fern	
<i>Poa howellii</i>	Howell's Bluegrass	
<i>Sanicula crassicaulis</i>	Pacific Sanicle	
<i>Sericocarpus rigidus</i>	White-topped Aster	
<i>Sidalcea nelsoniana</i>	Nelson's Checkermallow	
<i>Triodanis perfoliata</i>	Venus' looking-glass	

2. NATIVE PLANT COMMUNITIES

2.7 PRAIRIE

2.8a ROCKY OUTCROPS, DRY

Where basalt lies at the surface only a few plants can take hold in the rocky conditions. These places are characterized by rocky outcrops, cliffs, or small boulder fields.



Volcanic eruptions have left remnant basalt outcroppings on Rocky Butte and Mt. Tabor. In exposed, south-facing outcrops such as the southwest side of Elk Rock Island, the conditions can be hot and dry, and only plants adapted to droughty conditions can thrive. Because of the lack of soil cover, there are no trees and almost no shrubs. The plants that exist take hold on rocks, in cracks and crevices, or along the edges where soil is thin. These plants can tolerate nutrient-poor conditions. The ground tends to be hot in the summer and is generally dry much of the year.

KEY

Most common species appear in bold type

Italic type indicates species that rarely occur in this community within Portland

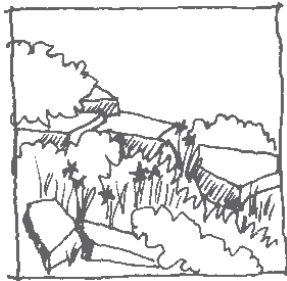
	Latin Name	Common Name
SHRUBS	<i>Spiraea betulifolia</i> var. <i>lucida</i>	Shiny-leaf Spiraea
	<i>Arctostaphylos columbiana</i>	Hairy Manzanita
	<i>Arctostaphylos uva-ursi</i>	Kinnikinnick
HERBACEOUS, GRASSES, ETC.	<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Blue Wildrye
	<i>Poa secunda</i>	Pine Bluegrass
	<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish Clover
	<i>Allium cernuum</i>	Nodding Onion
	<i>Aquilegia formosa</i>	Red Columbine
	<i>Campanula rotundifolia</i>	Round-leaf Bluebell
	<i>Deschampsia danthinoides</i>	Ticklegrass

HERBACEOUS,
GRASSES, ETC.
(continued)

Latin Name	Common Name
<i>Elymus trachycaulus</i>	Bluebunch Wheatgrass
<i>Gilia capitata</i>	Bluefield Gilia
<i>Lomatium utriculatum</i>	Spring Gold
<i>Micranthes rufidula</i>	Western Saxifrage
<i>Montia dichotoma</i>	Dwarf Montia
<i>Montia linearis</i>	Narrow-leaved Montia
<i>Penstemon richardsonii</i>	Cut-leaved Penstemon
<i>Phlox gracilis</i>	Microsteris
<i>Rubus ursinus</i>	Pacific Blackberry
<i>Sedum oreganum</i>	Oregon Stonecrop
<i>Sedum spathulifolium</i>	Spatula-leaf Stonecrop
<i>Selaginella wallaceii</i>	Compact Selaginella
<i>Tonella tenella</i>	Small-flowered Tenella
<i>Allium acuminatum</i>	Hooker's Onion
<i>Cystopteris fragilis</i>	Brittle Bladder Fern
<i>Dichelostemma congestum</i>	Northern Saitas
<i>Erysimum capitatum</i> ssp. <i>capitatum</i>	Prairie Rocket
<i>Fritillaria affinis</i>	Checker Lily
<i>Pentagramma triangularis</i>	Gold-back Fern

2.8b ROCKY OUTCROPS, WET

Similar to Rocky Outcrops, Dry (see 8A), these places are characterized by rocky outcrops, cliffs, or small boulder fields, but the ground is moist or wet much of the year.



The plants that can exist here take advantage of moisture seeps or high groundwater accessible through cracks in the basalt. In protected, forested areas where the slope is north or east-facing, the ground remains cool year-round.

Because of the lack of soil cover, there are no trees and almost no shrubs. The plants that exist here take hold on rocks, in cracks and crevices, or along the edges where soil is thin. These plants can tolerate nutrient-poor conditions.

KEY

Most common species appear in bold type

Italic type indicates species that rarely occur in this community within Portland

	Latin Name	Common Name
SHRUBS	<i>Spiraea betulifolia</i> var. <i>lucida</i>	Shiny-leaf Spiraea
HERBACEOUS, GRASSES, ETC.	<i>Adiantum aleuticum</i>	Northern Maidenhair Fern
	<i>Dryopteris arguta</i>	Wood Fern
	<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish Clover
	<i>Aquilegia formosa</i>	Red Columbine
	<i>Cardamine angulata</i>	Angled Bittercress
	<i>Cascadia nuttallii</i>	Nuttall's Saxifrage
	<i>Claytonia perfoliata</i>	Miner's lettuce
	<i>Collinsia parviflora</i>	Small-flowered Blue-eyed Mary
<i>Collomia heterophylla</i>	Varied-leaf Collomia	

HERBACEOUS,
GRASSES, ETC.
(continued)

Latin Name	Common Name
<i>Comandra umbellata</i> var. <i>californica</i>	Bastard Toadflax
<i>Delphinium leucophaeum</i>	Pale Larkspur
<i>Delphinium menziesii</i> var. <i>pyramidale</i>	Menzies' Larkspur
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Blue Wildrye
<i>Eriogonum nudum</i>	Barestem Buckwheat
<i>Festuca roemerii</i>	Roemer's Fescue
<i>Fritillaria affinis</i>	Checker Lily
<i>Gilia capitata</i>	Bluefield Gilia
<i>Heuchera glabra</i>	Smooth Alumroot
<i>Heuchera micrantha</i>	Smallflowered Alumroot
<i>Melica bulbosa</i>	Oniongrass
<i>Micranthes integrifolia</i>	Swamp Saxifrage
<i>Micranthes rufidula</i>	Western Saxifage
<i>Mimulus alsinoides</i>	Chickweed Monkeyflower
<i>Mimulus guttatus</i>	Common Monkeyflower
<i>Montia linearis</i>	Narrow-leaved Montia
<i>Montia parvifolia</i>	Streambank Springbeauty
<i>Penstemon serrulatus</i>	Cascade Penstemon
<i>Rubus ursinus</i>	Pacific Blackberry
<i>Saxifraga mertensiana</i>	Merten's Saxifrage
<i>Sedum oregonum</i>	Oregon Stonecrop
<i>Sedum spathulifolium</i>	Spatula-leaf Stonecrop
<i>Selaginella douglasii</i>	Douglas' Selaginella
<i>Bolandra oregana</i>	<i>Bolandra</i>
<i>Cystopteris fragilis</i>	<i>Brittle Bladder Fern</i>
<i>Montia dichotoma</i>	<i>Dwarf Montia</i>
<i>Nothochelone nemorosa</i>	<i>Turtle Head</i>
<i>Orobanche uniflora</i>	<i>Naked Broomrape</i>
<i>Sullivantia oregana</i>	<i>Sullivantia</i>
<i>Zeltnera muehlenbergii</i>	<i>Muhlenberg's Centaury</i>

3. Native Plants in Detail

*This section provides illustrated descriptions of woody plants and tables summarizing the features of herbaceous plants historically found in the City of Portland. The list includes several plants known to occur within the Urban Growth Boundary or not more than ten miles from Portland. The plants are expected to occur within the City based on the presence of suitable habitat, the judgment of local botanical experts, the range of maps of the Oregon Flora Project, the publication *Urbanizing Flora of Portland, Oregon 1806–2008*, or the range descriptions found in *Hitchcock and Cronquist's Flora of the Pacific Northwest (1973)*.*

The plants are divided into the following groups:

Trees (with illustrations)

- Evergreens
- Deciduous
- Silhouettes (illustration)
- Priority Native Tree Sizes

Shrubs (with illustrations)

- Including tall arborescent shrubs, i.e. those equal to or greater than 15 ft. tall

Herbaceous

- Forbs
- Grasses
- Sedges, Rushes
- Ferns
- Other

The following additional special lists are also included:

- Groundcovers and Vines
- Native Plants Used as Food by Wildlife

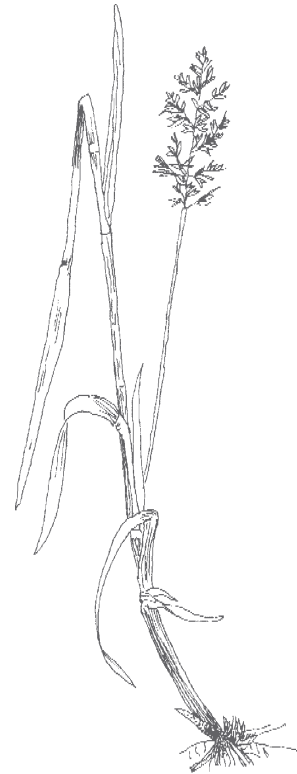
Habitat Types

Habitat types are indicated for both the illustrated plant descriptions and in the tables. The habitat types are wetland, riparian, forest, forested slopes, thicket, grass and rocky. “Wetland” includes all forms of wetlands found in Portland. “Riparian” includes the riparian areas along the Willamette and Columbia Rivers, and other streams in Portland. “Forest” refers to upland forested areas with little or no slope. “Forested slopes” refers to steeply sloping upland forests such as the west hills and various buttes found in Portland. “Thicket” refers to edges of forests and meadows and includes hedgerows and clumps of vegetation that may be found in meadows. “Grass” refers to open areas or meadows. It may also include clearings in forested areas. “Rocky” refers to rocky upland areas, and may include outcrops and cliffs.

The information on habitat types is intended to provide general guidance for appropriate planting locations; certain plants, however, have highly specialized habitats which may make them appropriate for use only in specific areas of the city. For example, the Columbia River Willow (*Salix exigua* var. *columbiana*) normally occurs only along the mainstems of the Willamette and Columbia Rivers and is not appropriate for use in all “wetland” or “riparian” habitats throughout the city. For this reason, it may be helpful to consult with City staff, local botanists, or references such as those listed in the “Resources” section when preparing a planting plan.

Sources of Native Plants

Native plants can be acquired through many nurseries in the Portland area. Occasionally, particularly for large orders or less common plants, growers will need time to propagate and raise plants before they are ready for installation. For this reason, growers may need advance notice of plant orders and project timelines should allow adequate time to fill such orders. For additional information about native plants, see the “Resources” section.



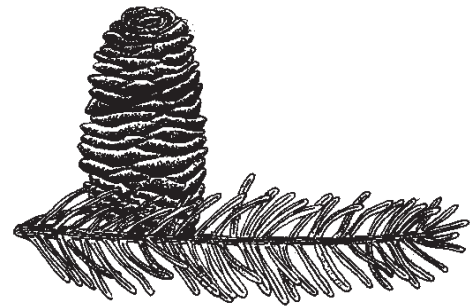


3.1 EVERGREEN TREES

Grand Fir *Abies grandis*

The Grand Fir is the only native fir that is common in the lower elevations (below 2500') of Western Oregon. Its needles are arranged in flat sprays on opposite sides of the twig, and when crushed have a tangerine-like fragrance. Grand Fir is able to reproduce in dense shade and young seedlings may be found growing in the understory of Douglas fir forests.

Mature height: 150 ft.	Mature spread: 40 ft.
10 yr. height: 30 ft.	10 yr. spread: 20 ft.
Growth rate: Medium	
Conditions: Full sun to full shade, moist to seasonally wet soil	
Relocate success: Medium	
Availability: High (bare root, container)	
Habitat type(s): Wetland, Riparian, Forest, Forest slope	



Pacific Madrone *Arbutus menziesii*

The only broadleaf evergreen among the native trees of the Pacific Northwest, the Pacific Madrone is commonly found in forest openings or edges. It has attractive, peeling bark and clusters of creamy white, fragrant, bell-shaped flowers in the spring. The red-orange berries appear in the fall and persist into the early winter. The berries were a food source for the Northwest Indians, and are attractive to many species of birds.

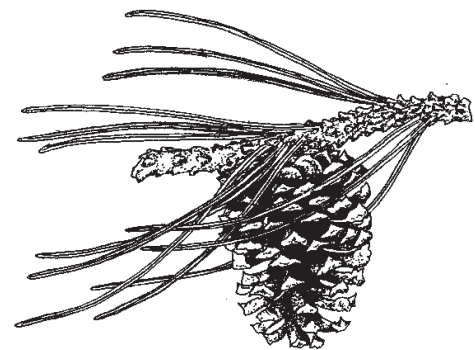
Mature height: 50 ft.	Mature spread: 50 ft.
10 yr. height: 6 ft.	10 yr. spread: 6 ft.
Growth rate: Very slow	
Conditions: Full sun, dry soil	
Relocate success: Low	
Availability: High (seed, container)	
Habitat type(s): Forest	



Willamette Valley Ponderosa Pine *Pinus ponderosa* var. *benthamiana*

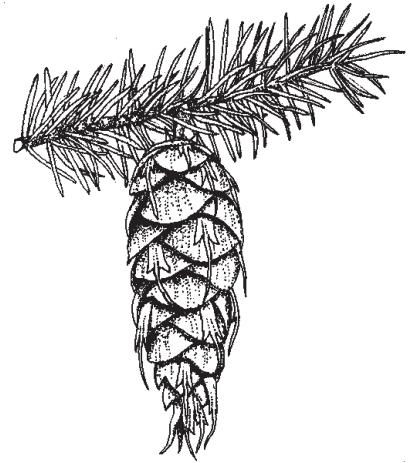
The name of this tree refers to the large size they attain at maturity. Ponderosa pines do best in sunny, dry locations and they are one of the most common evergreens in Eastern Oregon. While the bark on young trees is dark gray, with age it becomes orange and scaled like pieces in a jigsaw puzzle. The 6"-9" needles are arranged in bundles of three.

Mature height: 200 ft.	Mature spread: 30 ft.
10 yr. height: 50 ft.	10 yr. spread: 20 ft.
Growth rate: Fast	
Conditions: Full sun, dry soil	
Relocate success: Medium	
Availability: High (seed, container)	
Habitat type(s): Forest slope	

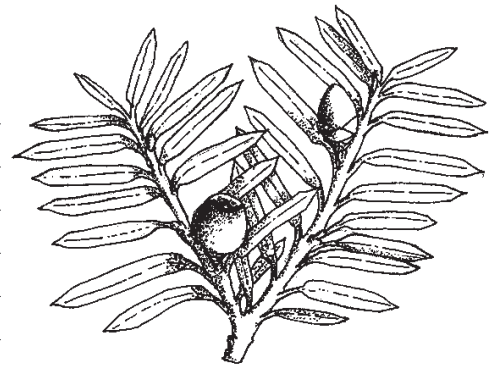


Douglas Fir *Pseudotsuga menziesii*

The Douglas Fir is the most common evergreen in the Pacific Northwest, where it had been widely harvested for timber and Christmas trees. A fast growing tree that requires some sunlight to reproduce, the Douglas fir can form dense stands in disturbed areas in only 50 years. The 3”–4” cone hangs down from the branches and has a very distinctive 3–pronged scale under each bract.

Mature height: 200 ft.**Mature spread:** 60 ft.**10 yr. height:** 40 ft.**10 yr. spread:** 20 ft.**Growth rate:** Very fast**Conditions:** Full to part sun, dry, moist or seasonally wet soil**Relocate success:** High**Availability:** High (seed, bare root, container)**Habitat type(s):** Forest, Forest slope**Pacific Yew** *Taxus brevifolia*

The Pacific Yew can be found as a small tree or a large shrub, usually in the shady understory of the canopy formed by taller trees. It tends to have an irregular shape with spreading, pendulous branches. Its 3/4” needles are flat with pointed tips and are dark green above and pale green below. The sparse fruit, which is attractive to birds, is a 1/4 fleshy red cup with a single dark seed inside.

Mature height: 40 ft.**Mature spread:** 30 ft.**10 yr. height:** 10 ft.**10 yr. spread:** 10 ft.**Growth rate:** Medium**Conditions:** Full sun to full shade, moist to seasonally wet soil**Relocate success:** Medium**Availability:** Medium (seed, container)**Habitat type(s):** Riparian, Forest, Forest slope**Western Red Cedar** *Thuja plicata*

Found mainly in the moist, lower elevations of the Pacific Northwest, Western Red Cedar can live to be 1000 years old. As the tree ages, its trunk becomes wide and fluted at the base, and tapers at the tip. Its stringy, reddish bark was used by the Northwest Indians for basketry and clothing. The branchlets are made up of flat sprays of overlapping scales, with tiny 1/2” cones that look like small rosebuds.

Mature height: 100 ft.**Mature spread:** 30 ft.**10 yr. height:** 30 ft.**10 yr. spread:** 20 ft.**Growth rate:** Medium**Conditions:** Full to part sun, moist to seasonally wet soil**Relocate success:** High**Availability:** High (seed, bare root, container)**Habitat type(s):** Wetland, Riparian, Forest, Forest slope

Western Hemlock *Tsuga heterophylla*

The Western Hemlock is commonly found in the lower elevations below 3000' west of the Cascades. Young trees have attractive feathery foliage and the tip of the central leader often droops. The needles are short and vary in size from 1/4" to 3/4", with a white band on the underside. The light brown, papery cones are only about 1" long and may be produced in great quantities.

Mature height: 150 ft.	Mature spread: 40 ft.
10 yr. height: 40 ft.	10 yr. spread: 20 ft.
Growth rate: Fast	
Conditions: Full sun to full shade, moist to seasonally wet soil	
Relocate success: Medium	
Availability: High (seed, bare root, container)	
Habitat type(s): Riparian, Forest, Forest slope	



3.2 DECIDUOUS TREES

Bigleaf Maple *Acer macrophyllum*

With huge 8–12" leaves, the Bigleaf Maple is not easily confused with any other maple. In the spring 4–6" long clusters of many, small yellow flowers hang from the ends of the twigs. By mid–summer, these clusters are replaced with chains of large, fuzzy, double–winged samaras. When grown in the open, the Bigleaf Maple will form a broad, spreading canopy and a short stout trunk.

Mature height: 90 ft.

Mature spread: 75 ft.

10 yr. height: 35 ft.

10 yr. spread: 25 ft.

Growth rate: Fast

Conditions: Full to part sun, moist to seasonally wet soil

Relocate success: Medium

Availability: High (seed, bare root, container)

Habitat type(s): Forest, Forest slope



Red Alder *Alnus rubra*

In areas where fire or logging has destroyed Douglas fir forests, Red Alder often colonizes in vigorous stands. Frequently flooded landscapes are also a favorite habitat for Red Alder. Since Red Alder cannot grow in deep shade, conifers usually replace the alders in time. Red alders have a smooth, gray bark that is often covered by large patches of a white lichen.

Mature height: 100 ft.

Mature spread: 40 ft.

10 yr. height: 40 ft.

10 yr. spread: 20 ft.

Growth rate: Very fast

Conditions: Full to part sun, dry, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Riparian, Forest, Forest slope



Western Flowering Dogwood *Cornus nuttallii*

Often found in the shade of conifers or in forest clearings, the Western Flowering Dogwood provides a beautiful display of large white blooms in mid–spring. What might be confused for petals are actually the creamy white bracts which surround the many tiny greenish true flowers in the center. Fall color for this tree ranges from orange to purple.

Mature height: 40 ft.

Mature spread: 20 ft.

10 yr. height: 20 ft.

10 yr. spread: 10 ft.

Growth rate: Medium

Conditions: Part sun to full shade, moist to seasonally wet soil

Relocate success: Low

Availability: High (seed, container)

Habitat type(s): Forest, Forest slope



Suksdorf's Hawthorn *Crataegus gaylussacia*

Northwest natives had medicinal and utilitarian uses for many parts of the Suksdorf's hawthorn tree. The small, seedy fruits are appealing to birds, and the tree often grows in a multi-stemmed form that makes an ideal thicket for nests. The upland and wetland varieties are nearly identical and distinguished mainly by subtle differences in the clusters of small white flowers that appear in the spring.

Mature height: 35/45 ft.	Mature spread: 25 ft.
---------------------------------	------------------------------

10 yr. height: 25 ft.	10 yr. spread: 15/25 ft.
------------------------------	---------------------------------

Growth rate: Medium

Conditions: Part sun to full shade, moist to seasonally wet soil OR Full sun to full shade, dry to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container) OR Low (bare root, container)

Habitat type(s): Wetland, Riparian OR Riparian, Forest, Forest slope, Thicket

**Cascara, Chitum** *Frangula purshiana*

Since Cascara, chitum prefers a shady, moist condition, it is often found growing as an understory tree with Vine Maple and Red Alder. The 1/4" black berries, while not especially tasty for humans, are attractive to raccoons and a variety of birds. The bark was used medicinally by Northwest natives and continues to be harvested for its laxative properties.

Mature height: 30 ft.	Mature spread: 25 ft.
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10 yr. height: 15 ft.	10 yr. spread: 10 ft.
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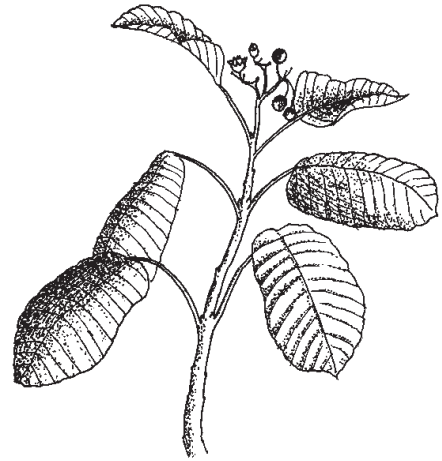
Growth rate: Slow

Conditions: Part sun to full shade, moist to seasonally wet soil

Relocate success: Medium

Availability: High (seed, bare root, container)

Habitat type(s): Riparian, Forest, Forest slope

**Oregon Ash** *Fraxinus latifolia*

The Oregon Ash is often found growing in dense stands on soils that are very wet for part of the year. The seeds occur in clusters of single samaras on female trees, and are produced in especially large quantities at 3–5 year intervals. It is common for Oregon Ash leaves to display a brown, blotchy spotting by mid-summer. This condition does not seriously damage the tree.

Mature height: 75 ft.	Mature spread: 25 ft.
------------------------------	------------------------------

10 yr. height: 30 ft.	10 yr. spread: 15 ft.
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Growth rate: Medium

Conditions: Full to part sun, moist to seasonally wet soil

Relocate success: Medium

Availability: High (seed, bare root, container)

Habitat type(s): Wetland, Riparian



Black Cottonwood *Populus trichocarpa*

Many of the rivers in the Northwest are lined with stands of Black Cottonwood. This is the tallest native broadleaf trees, having a very thick, straight trunk with branches appearing only on the upper portion. The triangular leaves are glossy green on top and much paler underneath. In the early spring, the sticky, amber-colored buds have a sweet, spicy scent. In the late summer, cotton-like tufts of seed are spread by the wind.

Mature height: 175 ft. **Mature spread:** 40 ft.

10 yr. height: 50 ft. **10 yr. spread:** 20 ft.

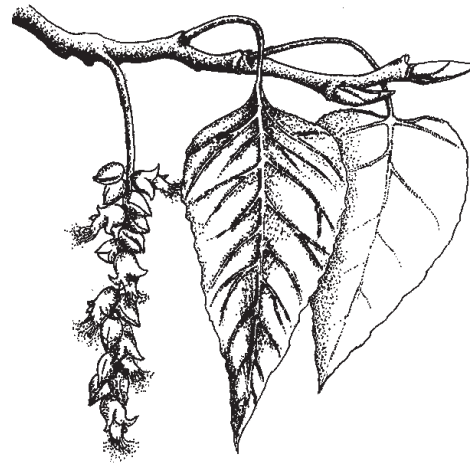
Growth rate: Very fast

Conditions: Full to part sun, dry, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Wetland, Riparian



Bitter Cherry *Prunus emarginata*

The fragrant white flowers of the Bitter Cherry appear in the spring and are often visited by bees. The pollinated flowers develop into small (1/2") red fruits with a single, hard seed inside. The fruit is not palatable for humans, but is favorite of birds, particularly the Cedar Waxwing. The grey or reddish bark has many horizontal pores, and was used as a basket material by the Northwest natives.

Mature height: 30 ft. **Mature spread:** 20 ft.

10 yr. height: 20 ft. **10 yr. spread:** 15 ft.

Growth rate: Medium

Conditions: Full to part sun, moist to seasonally wet soil

Relocate success: Medium

Availability: Medium (seed, container)

Habitat type(s): Riparian, Forest slope, Thicket



Oregon White Oak *Quercus garryana*

The broad, stout form of the Oregon White Oak is a common profile in the open grasslands and dry hillsides of the Northwest. It is a very long lived tree (500 years), and produces large acorns that provide food for many small animals, deer and woodpeckers. Old trees may have hollow branches or trunks that provide nesting sites for birds, squirrels and other small animals.

Mature height: 65 ft. **Mature spread:** 45 ft.

10 yr. height: 10 ft. **10 yr. spread:** 8 ft.

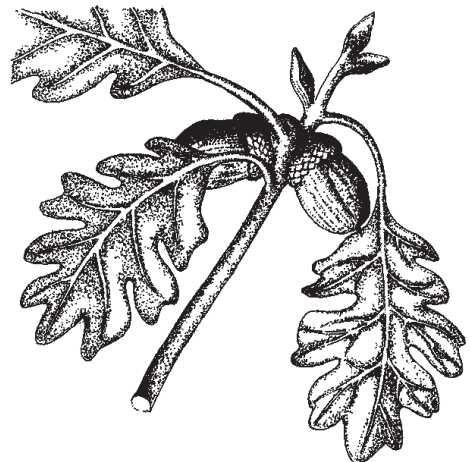
Growth rate: Very slow

Conditions: Full sun, dry soil

Relocate success: Low

Availability: High (seed, container)

Habitat type(s): Forest, Forest slope



Pacific Willow *Salix lasiandra* var. *lasiandra*

One of the tallest native willows, Pacific Willow is found growing along rivers and stream where its roots can easily reach subsurface water. The leaves are dark and glossy above, and appear white underneath. The pale yellow female catkins are 3–4" long and appear in the spring when the tree begins to leaf out.

Mature height: 40 ft.**Mature spread:** 30 ft.**10 yr. height:** 30 ft.**10 yr. spread:** 20 ft.**Growth rate:** Fast**Conditions:** Full to part sun, moist, seasonally to perennially wet soil**Relocate success:** High**Availability:** High (seed, bare root, container)**Habitat type(s):** Wetland, Riparian**Rigid Willow** *Salix prolixa*

The Rigid Willow is found both as a broad, spreading shrub with thick branches or as a small tree that has a short trunk and heavy branches that form wide canopy. The yellowish green young branches are strong and pliable and make a valuable material for basket weaving. The leaves eventually become dark and glossy.

Mature height: 30 ft.**Mature spread:** 20 ft.**10 yr. height:** 15 ft.**10 yr. spread:** 10 ft.**Growth rate:** Fast**Conditions:** Full to part sun, Moist, seasonally wet to perennially wet soil**Relocate success:** High**Availability:** Low (bare root, container)**Habitat type(s):** Wetland, Riparian**Scouler Willow** *Salix scouleriana*

The Scouler Willow is native to many moist woodland and meadow areas of North America. Its young leaves are covered with many fine hairs which make them feel soft like felt. The leaves eventually become smooth and shiny, with only a few rust-colored hairs on the underside. Scouler Willow is able to resprout from fire damaged stumps and often reseeds itself in areas that have been recently burned.

Mature height: 40 ft.**Mature spread:** 40 ft.**10 yr. height:** 30 ft.**10 yr. spread:** 30 ft.**Growth rate:** Fast**Conditions:** Full to part sun, moist to seasonally wet soil**Relocate success:** High**Availability:** Medium (bare root, container)**Habitat type(s):** Wetland, Riparian, Forest

3.3 NATIVE TREE LIST

Scientific Name	Common Name	Fire	Indicator Status	Habitat Type						
						Forest	F. Slope		Grass	Rocky
<i>Abies grandis</i>	Grand Fir	Y	FACU-	●	●	●	●			
<i>Acer macrophyllum</i>	Bigleaf Maple	N	FACU			●	●			
<i>Alnus rubra</i>	Red Alder	N	FAC		●	●	●			
<i>Arbutus menziesii</i>	Madrone	N				●				
<i>Cornus nuttallii</i>	Western Flowering Dogwood	N				●	●			
<i>Crataegus gaylussacia</i>	Suksdorf's hawthorn	N	FAC	●	●	●	●	●		
<i>Frangula purshiana</i>	Cascara, chitum	N	FAC-		●	●	●			
<i>Fraxinus latifolia</i>	Oregon Ash	N	FACW	●	●					
<i>Pinus ponderosa</i> var. <i>benthamiana</i>	Willamette Valley ponderosa pine	Y	FACU-			●	●			
<i>Populus balsamifera</i> ssp. <i>trichocarpa</i>	Black Cottonwood	N	FAC	●	●					
<i>Populus tremuloides</i>	Quaking Aspen	N		●	●					
<i>Prunus emarginata</i>	Bitter Cherry	N	FACU		●		●	●		
<i>Pseudotsuga menziesii</i>	Douglas Fir	Y	FACU			●	●			
<i>Pyrus</i> (see <i>Malus</i>)		N								
<i>Quercus garryana</i>	Oregon White Oak	N				●	●		●	
<i>Salix lucida</i> ssp. <i>lasiandra</i>	Pacific Willow	N	FACW+	●	●					
<i>Salix prolixa</i>	Rigid Willow	N	OBL	●	●					
<i>Salix scouleriana</i>	Scouler Willow	N	FAC	●	●	●				
<i>Taxus brevifolia</i>	Pacific Yew	Y	NI		●	●	●			
<i>Thuja plicata</i>	Western Red Cedar	Y	FAC	●	●	●	●			
<i>Tsuga heterophylla</i>	Western Hemlock	Y	FACU-		●	●	●			

KEY

* Fire Accelerant Y: plants with higher than average flammable combustion potential due to flammability chemicals present within the leaves, needles, and stems; Fire accelerant N (neutral): plants with average flammable combustion potential (There are no chemicals present within the stems, leaves, and needles that make it less flammable or more flammable than average).

+ Riccardi, et al. In Press. Quantifying physical characteristics of wildland fuels in the Fuel Characteristic Classification System. Canadian Journal of Forest Research.

INDICATOR STATUS

- Obligate Wetland (OBL)** almost always occur in wetlands
- Facultative wetland (FACW)** occur in wetlands 67%–99% of the time
- Facultative (FAC)** equally likely to occur in wetlands or non-wetlands
- Facultative Upland (FACU)** occur wetlands only 1%–33% of the time
- Obligate Upland (UPL)** almost never, under natural conditions, occur in wetlands in the Northwest
- No indicator (NI)** no status

● HABITAT TYPE

- WETLAND** all forms of wetlands
- RIPARIAN** stream and river shorelines and bottomlands
- FOREST** flat or mildly rolling forests
- FOREST SLOPE** steeply sloping upland forests such as in the West Hills or East Buttes
- THICKET** forest edges, hedgerows, clumps of vegetation in meadows
- GRASS** open areas, meadows
- ROCKY** rocky upland areas and cliffs

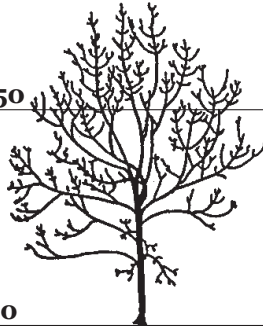
A **positive (+) sign** – the plant occurs more frequently in wetlands, at the higher end of the wetland status category range
 A **negative (-) sign** – the plant occurs less frequently in wetlands, at the lower end of the wetland status category range

3.4 TREE SILHOUETTES

100

50

0



Fraxinus latifolia
Oregon Ash – 75'



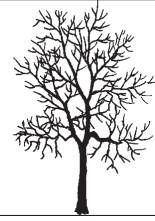
Quercus garryana
Oregon White Oak – 65'



Populus tremuloides
Quaking Aspen – 60'



Arbutus menziesii
Madrone – 50'



Prunus emarginata
Bitter Cherry – 50'



Taxus brevifolia
Pacific Yew –

200

150

100

50

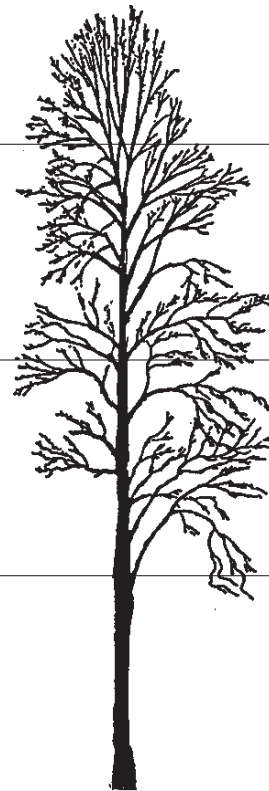
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Pseudotsuga menziesii
Douglas Fir – 200'+



Pinus ponderosa var. *benthamiana*
Willamette Valley ponderosa pine – 200'



Populus trichocarpa
Black Cottonwood – 175'



Tsuga heterophylla
Western Hemlock – 150'

100

50

0



Cornus nuttallii
Western
Flowering
Dogwood—40'



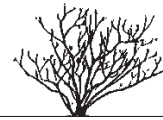
Crataegus gaylussacia
Suksdorf's
hawthorn—
35'



Frangula purshiana
Cascara,
chitum—30'



Malus fusca
Western
Crabapple—30'
(Arborescent Shrub)



Acer circinatum
Vine Maple—25'
(Arborescent Shrub)



Prunus virginiana
Common
Chokecherry—20'
(Arborescent Shrub)

Not pictured:

Salix lasiandra var.
lasiandra
Pacific Willow

Salix prolixa
Rigid Willow

Salix scouleriana
Scouler's Willow

200

150

100

50

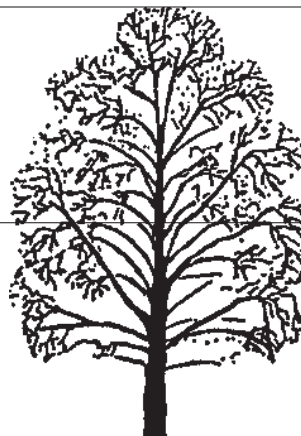
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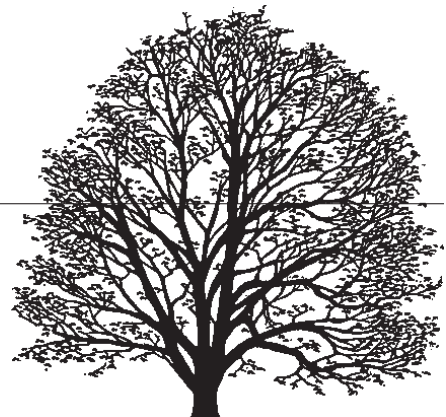
Abies grandis
Grand Fir—150'



Thuja plicata
Western Red
Cedar—100'



Alnus rubra
Red Alder—100'



Acer macrophyllum
Bigleaf Maple—90'

3.5 PRIORITY NATIVE TREE SIZES

Portland's native trees grow at varying rates and reach different sizes at maturity. For example, some native trees, such as the Pacific yew or Oregon White Oak, might be considerably smaller but older than larger trees such as a Douglas fir. These differences should be taken in to consideration when developing priorities for the care, management, preservation and protection of native trees. When trees reach sizes noted as significant below, they should be prioritized for retention where practical. Smaller native trees may also be prioritized for preservation and protection, particularly when they are part of a grove or are otherwise healthy and appropriately situated. The significance of these trees should not substitute for evaluating specific site conditions, approval criteria, or other code requirements that may affect priorities.

Scientific Name	Common Name	Priority Size (Diameter)
<i>Abies grandis</i>	Grand Fir	10 inches
<i>Acer macrophyllum</i>	Bigleaf Maple	18 inches
<i>Alnus rubra</i>	Red Alder	18 inches
<i>Arbutus menziesii</i>	Madrone	4 inches
<i>Cornus nuttallii</i>	Western Flowering Dogwood	6 inches
<i>Crataegus douglasii</i>	Douglas' Hawthorn	8 inches
<i>Crataegus gaylussacia</i>	Suksdorf's hawthorn	8 inches
<i>Frangula purshiana</i>	Cascara, chitum	6 inches
<i>Fraxinus latifolia</i>	Oregon Ash	10 inches
<i>Pinus ponderosa</i> var. <i>benthamiana</i>	Willamette Valley ponderosa pine	8 inches
<i>Populus trichocarpa</i>	Black Cottonwood	18 inches
<i>Prunus emarginata</i>	Bitter Cherry	10 inches
<i>Pseudotsuga menziesii</i>	Douglas Fir	18 inches
<i>Quercus garryana</i>	Oregon White Oak	4 inches
<i>Salix scouleriana</i>	Scouler Willow	6 inches
<i>Taxus brevifolia</i>	Pacific Yew	2 inches
<i>Thuja plicata</i>	Western Red Cedar	10 inches
<i>Tsuga heterophylla</i>	Western Hemlock	10 inches

3.6 ARBORESCENT SHRUBS

Vine Maple *Acer circinatum*

The form of the Vine Maple varies widely according to the amount of sunlight it receives. In the shady understory of conifers it takes on an open, loose shape as it spreads its branches like a 'vine' seeking sunlight. In the open, it is a small multi-stemmed tree. The leaves of the Vine Maple are one of the bright spots of fall color in the native landscape, ranging from yellow to brilliant red.

Mature height: 25 ft.	Mature spread: 20 ft.
10 yr. height: 15 ft.	10 yr. spread: 10 ft.
Growth rate: Medium	
Conditions: Full sun to full shade, moist to seasonally wet soil	
Relocate success: Medium	
Availability: High (seed, bare root, container)	
Habitat type(s): Forest, Forest slope	



Western Crabapple *Malus fusca*

The Western Crabapple has interesting features from spring to fall. In the spring, small pinkish white fragrant blossoms hang in clusters. By mid-summer, 3/4" long crabapples appear. The fruits, which are quite sour but appealing to birds and animals, turn yellow in the fall. The leaves also provide fall color, with shades of orange and bright red.

Mature height: 30 ft.	Mature spread: 35 ft.
10 yr. height: 15 ft.	10 yr. spread: 15 ft.
Growth rate: Medium	
Conditions: Full to part sun, moist to seasonally wet soil	
Relocate success: Medium	
Availability: Medium (seed, container)	
Habitat type(s): Wetland, Riparian, Forest	



Common Chokecherry *Prunus virginiana*

The Common Chokecherry is found in many parts of North America in various forms. In the spring it produces 3-5" long clusters of showy white flowers. The edible fruits are dark purple or black, and are very sour. They may be used for jam or wine. Bear, birds and small animals also eat the fruits, and deer and elk graze on the young foliage.

Mature height: 20 ft.	Mature spread: 15 ft.
10 yr. height: 15 ft.	10 yr. spread: 12 ft.
Growth rate: Medium	
Conditions: Full to part sun, dry, moist to seasonally wet soil	
Relocate success: Medium	
Availability: High (seed, bare root, container)	
Habitat type(s): Riparian, Forest, Thicket	



Columbia River Willow *Salix exigua* var. *columbiana*

The Columbia River Willow is found only on the banks of the Columbia River and on lower reaches of the Willamette River. The young branches have many fine hairs which give them a silky appearance. The mature foliage is light green. The yellow female catkins which appear in early summer are 3–4" long.

Mature height: 20 ft.	Mature spread: 20 ft.
10 yr. height: 15 ft.	10 yr. spread: 15 ft.
Growth rate: Fast	
Conditions: Full to part sun, moist, seasonally wet to perennially wet soil	
Relocate success: High	
Availability: Low (bare root, container)	
Habitat type(s): Wetland, Riparian	



Soft-Leaved Willow *Salix exigua* var. *sessilifolia*

The Soft-leaved Willow is found next to water, and spreads rapidly by putting up new shoots from its extensive root system. This suckering habit allows it to form thickets. Soft-leaved Willow has hairy twigs and leaves, and is found in some of the same areas as the Columbia River Willow. In fact, the two willows sometimes hybridize.

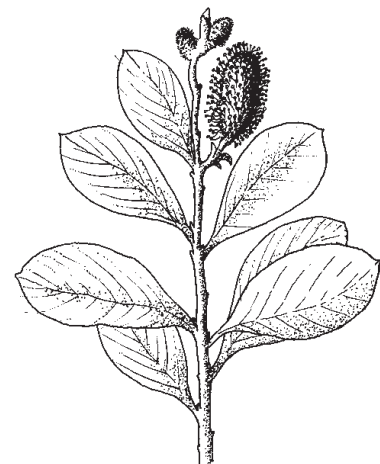
Mature height: 25 ft.	Mature spread: 25 ft.
10 yr. height: 25 ft.	10 yr. spread: 25 ft.
Growth rate: Fast	
Conditions: Full to part sun, moist, seasonally wet to perennially wet soil	
Relocate success: High	
Availability: Low (seed, bare root, container)	
Habitat type(s): Wetland, Riparian	



Hooker's willow *Salix hookeriana*

Hooker's willow is found both as a densely-branched shrub, and as a short-trunked tree with a few thick limbs from which arise many branches. The leaves are broad at the tip and narrow at the base, and are either silvery or glossy green above, with a silvery white underside. Hooker's willow commonly occurs in seaside conditions and is tolerant of wind and salt spray.

Mature height: 20 ft.	Mature spread: 20 ft.
10 yr. height: 15 ft.	10 yr. spread: 15 ft.
Growth rate: Fast	
Conditions: Full to part sun, moist, seasonally wet to perennially wet soil	
Relocate success: High	
Availability: Medium (bare root, container)	
Habitat type(s): Wetland, Riparian	



Sitka Willow *Salix sitchensis*

Sitka Willow is also called 'silky willow' because the undersides of its leaves are covered with long, whitish silk hairs. The tops of the leaves are bright green. Sitka Willow is one of the more common Northwest willows. It is considered to be a 'pioneer' species because it adapts readily to disturbed situations and can tolerate difficult conditions.

Mature height: 25 ft.

Mature spread: 25 ft.

10 yr. height: 25 ft.

10 yr. spread: 25 ft.

Growth rate: Fast

Conditions: Full to part sun, moist to seasonally wet soil

Relocate success: High

Availability: Medium (bare root, container)

Habitat type(s): Wetland, Riparian



3.7 NATIVE ARBORESCENT SHRUB LIST

Scientific Name	Common Name	Fire	Indicator Status	Habitat Type						
						Forest	F. Slope		Grass	Rocky
<i>Acer circinatum</i> ^a	Vine Maple	N	FAC-			●	●		●	
<i>Malus fusca</i> ^a	Western Crabapple	N	FACW		●	●		●		
<i>Prunus virginiana</i> ^a	Common Chokecherry	N	FACU		●	●		●		
<i>Salix. exigua</i> var. <i>columbiana</i> ^a	Columbia River Willow	N	OBL	●	●					
<i>Salix exigua</i> var. <i>sessilifolia</i> ^a	Soft-leaved Willow	N	FACW	●	●					
<i>Salix hookeriana</i> ^a	Hooker's willow	N	FACW	●	●					
<i>Salix sitchensis</i> ^a	Sitka Willow	N	FACW	●	●					

KEY

Plants with an ^a are arborescent (tree-like) shrubs. These shrubs may not be used to meet Title 33 or Title 11 standards, criteria, or conditions of approval which require trees.

* Fire Accelerant Y: plants with higher than average flammable combustion potential due to flammability chemicals present within the leaves, needles, and stems; Fire accelerant N (neutral): plants with average flammable combustion potential (There are no chemicals present within the stems, leaves, and needles that make it less flammable or more flammable than average).

+ Riccardi, et al. In Press. Quantifying physical characteristics of wildland fuels in the Fuel Characteristic Classification System. Canadian Journal of Forest Research.

INDICATOR STATUS

- Obligate Wetland (OBL)** almost always occur in wetlands
- Facultative wetland (FACW)** occur in wetlands 67%–99% of the time
- Facultative (FAC)** equally likely to occur in wetlands or non-wetlands
- Facultative Upland (FACU)** occur wetlands only 1%–33% of the time
- Obligate Upland (UPL)** almost never, under natural conditions, occur in wetlands in the Northwest
- No indicator (NI)** no status

● HABITAT TYPE

- WETLAND** all forms of wetlands
- RIPARIAN** stream and river shorelines and bottomlands
- FOREST** flat or mildly rolling forests
- FOREST SLOPE** steeply sloping upland forests such as in the West Hills or East Buttes
- THICKET** forest edges, hedgerows, clumps of vegetation in meadows
- GRASS** open areas, meadows
- ROCKY** rocky upland areas and cliffs

A **positive (+) sign** — the plant occurs more frequently in wetlands, at the higher end of the wetland status category range
 A **negative (-) sign** — the plant occurs less frequently in wetlands, at the lower end of the wetland status category range

3.8 SHRUBS

Western Serviceberry *Amelanchier alnifolia*

The Western Serviceberry is covered with compact clusters of 1" white flowers from April to June. The flowers are soon replaced with 1/4" reddish fruits, that turn nearly black when they are ripe in August. The edible fruits are sweet and very appealing to many birds. The leaves of the Western Serviceberry (also called 'Saskatoon') turn yellow in the fall.

Mature height: 4–12 ft.

Growth rate: Medium

Conditions: Full sun to part sun, dry, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Forest, Forest slope, Thicket



Hairy Manzanita *Arctostaphylos columbiana*

This evergreen shrub is not common in Portland. It usually has an erect form but may sometimes be found with a sprawling habit. The dark reddish bark on large, old branches becomes papery and flakes off, to reveal smooth, lighter colored bark underneath. The name manzanita means 'little apple' in Spanish, referring to the shape of the red or brown 1/4" fruits of this plant. The clusters of many tiny pink urn-shaped flowers appear from May to July,

Mature height: 6–8 ft.

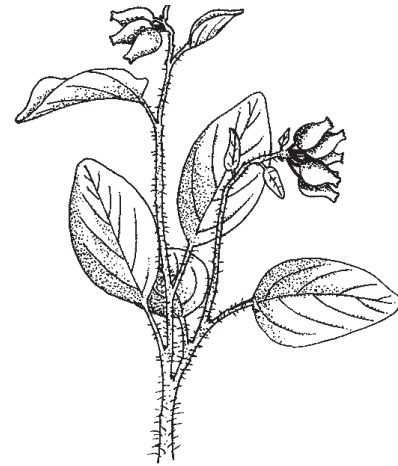
Growth rate: Slow

Conditions: Full sun, dry to moist soil

Relocate success: Medium

Availability: Medium (seed, container)

Habitat type(s): Grass, Rocky



Kinnikinnick *Arctostaphylos uva-ursi*

Kinnikinnick (also known as 'Common Bearberry'), is an evergreen trailing plant that forms a dense ground cover. It has the same type of urn-shaped flowers found on Hairy Manzanita and Pacific Madrone. On Kinnikinnick, the tiny flowers are white to pink, and appear from April to June. They mature in late fall into small red or orange berries that persist into winter.

Mature height: 5–8 inches

Growth rate: Fast

Conditions: Full sun, dry to moist soil

Relocate success: Medium

Availability: High (seed, container)

Habitat type(s): Grass, Rocky



Tall Oregon Grape *Berberis aquifolium*

The stiff, evergreen leaves of the Tall Oregon Grape look somewhat like holly leaves, with sharp prickly scalloped edges. The form of this plant can be either compact and dense in full sun, or more open in the shade. Bright, fragrant yellow clusters of small flowers appear from March to June. The edible, but tart, dusty blue berries hang look like clusters of miniature grapes.

Mature height: 5–6 ft.

Growth rate: Medium

Conditions: Full sun to part sun, dry to moist soil

Relocate success: Medium

Availability: High (seed, container)

Habitat type(s): Forest, Forest slope



Cascade Oregon Grape *Berberis nervosa*

The leaves of the Cascade Oregon Grape, while similar to those of Tall Oregon Grape, usually have 9–19 leaflets. The Tall Oregon Grape has only 5–9 leaflets. The upright clusters of fragrant yellow flowers appear from March to June, emerging from the center of the plant. The leaves are generally arranged in a circular fashion around a central stem, and may take on a reddish color in the winter.

Mature height: 2 ft.

Growth rate: Medium

Conditions: Full sun to part sun, dry to moist soil

Relocate success: Medium

Availability: High (seed, container)

Habitat type(s): Forest, Forest slope



Oregon Tea-tree *Ceanothus sanguineus*

The Oregon Tea-tree is not common in Portland. It is an upright shrub with reddish bark and reddish flower stems. These features account for the other common name of this plant 'Redstem Ceanothus'. A deciduous shrub, Oregon Tea-tree has fragrant clusters of many tiny white flowers that appear at the tips of its branches in June. This plant is well-adapted to disturbed conditions, and is able to improve soil by fixing nitrogen through its roots.

Mature height: 2–6 ft.

Growth rate: Medium

Conditions: Full sun to part sun, dry soil

Relocate success: Low

Availability: Medium (seed, container)

Habitat type(s): Forest, Forest slope, Thicket, Grass



Mountain Balm *Ceanothus velutinus* var. *laevigatus*

Mountain Balm is not common in Portland. It is an evergreen ceanothus, with green bark and a spreading form. Its leaves are very sticky and shiny on top, and soft underneath. The fragrant plumes of tiny white flowers appear from June to August, and are arranged along the sides of the branches. Mountain Balm is also called 'Snowbrush', and is able to colonize in burned areas because its seeds are fire-resistant and can remain dormant for many years.

Mature height: 2–6 ft.

Growth rate: Medium

Conditions: Full sun, dry to moist soil

Relocate success: Low

Availability: Low (seed)

Habitat type(s): Forest,Thicket, Grass



Redosier Dogwood *Cornus sericea*

An extensive system of spreading roots helps Redosier dogwood form large, dense thickets along moist stream banks. This deciduous shrub is easy to recognize in the winter by the bright red bark on its twigs. It has 1–3" flat, circular clusters of small white flowers from May to July. The inedible, bitter berries are appealing to birds, and range in color from dark blue to almost white with a bluish tint.

Mature height: 6–18 ft.

Growth rate: Very fast

Conditions: Full sun to part sun, moist, seasonally wet to perennially soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Wetland, Riparian,Thicket



California hazelnut *Corlyus cornuta* ssp. *californica*

The California hazelnut, or 'Beaked Hazelnut', as it is sometimes called, has an edible seed that is a favorite food of squirrels. The nuts are found in clusters of 2–3 at the tips of branches, and are enclosed in fuzzy, pointed beak-like husks. In the spring, before the leaves come out, the male flowers, called catkins, appear in 1–2" pale yellow chains. The leaves turn pale yellow in the fall.

Mature height: 3–12 ft.

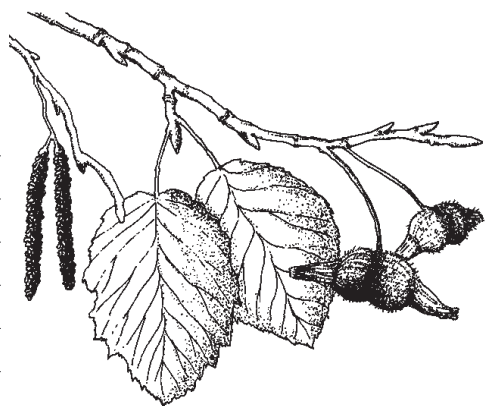
Growth rate: Fast

Conditions: Full sun to full shade, moist soil

Relocate success: High

Availability: High (seed, container)

Habitat type(s): Forest, Forest slope,Thicket



Western Wahoo *Euonymus occidentalis*

Western Wahoo has large oblong leaves that occur in pairs, and have very fine serration along the edge. In May and June, small flowers appear in group of 3–4. The flowers are greenish, mottled with red or purple. Another common name for this plant is 'Burning Bush', referring to the red and yellow coloration of its foliage in the fall. (Note: 'Burning Bush' is also sometimes applied to *Euonymus alatus*, a non-native ornamental shrub.)

Mature height: 8–15 ft.

Growth rate: Medium

Conditions: Part sun to full shade, moist soil

Relocate success: Low

Availability: Low (container)

Habitat type(s): Riparian, Forest

**Salal** *Gaultheria shallon*

Salal is an evergreen shrub that may form dense patches in drier coniferous forests. The flowers are urn-shaped and range from white to pinkish. Salal blooms from May to July and the reddish flower stalks bend so that the loose 6-inch clusters of flowers are oriented in one direction. The leaves are egg-shaped and alternate, thick and leathery but shiny. The dark purple to black berries are edible but often bland. The berries attract birds.

Mature height: 1–5 ft.

Growth rate: Medium

Conditions: Part sun to full shade, dry to moist soil

Relocate success: Medium

Availability: High (seed, container)

Habitat type(s): Forest, Forest slope

**Oceanspray** *Holodiscus discolor*

A large, vase-shaped shrub with arching branches, Oceanspray produces large foamy white clusters of tiny flowers from June to August. In the fall and winter, the long clusters can often be found still hanging down from the branches. The wood of Oceanspray is very hard, and becomes even harder when heated over a fire. It has been used for many purposes including fish hooks, nails and knitting needles.

Mature height: 8–12 ft.

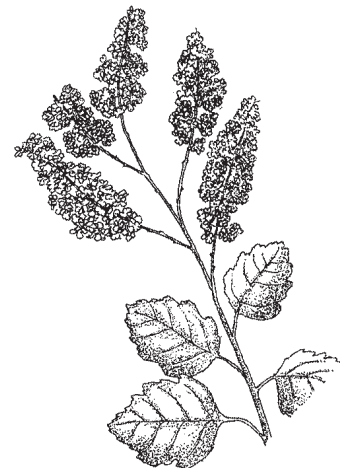
Growth rate: Fast

Conditions: Full sun to full shade, dry, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Forest, Forest slope, Thicket



Hairy Honeysuckle *Lonicera hispidula*

Hairy Honeysuckle is usually a trailing or sometimes climbing vine, that has a 1" long trumpet shaped flowers from June to August. The flowers range from pink to purple, and usually occur atop a pair of leaves that have fused to look almost like a single rounded leaf. The branches are covered with many fine hairs. While the orangish-red berries are eaten by birds, they are not edible for humans and may be somewhat poisonous.

Mature height: 12 ft.

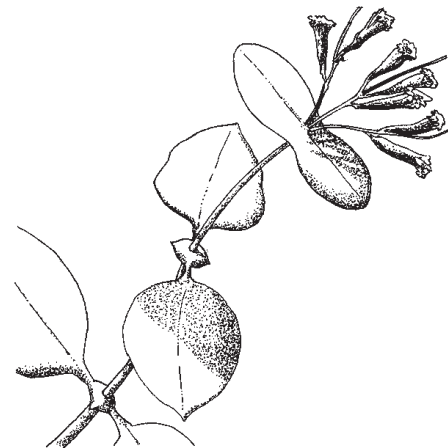
Growth rate: Fast

Conditions: Full to part sun, dry soil

Relocate success: Medium

Availability: Medium (container)

Habitat type(s): Forest, Thicket



Black Twinberry *Lonicera involucrata*

The common name of the Black Twinberry refers to the pairs of shiny black berries that can be found hanging near the base of the leaves. The pairs of yellow, tubular flowers are about 3/4" long and appear from April to August. The bracts which surround the flowers and later the berries, are red to purple, and form a shape like a shallow cup.

Mature height: 8–12 ft.

Growth rate: Fast

Conditions: Full to part sun, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Wetland, Riparian, Grass



Indian Plum *Oemleria cerasiformis*

One of the first native shrubs to flower in the early spring, Indian Plum produces 2–3" hanging chains of delicate greenish white flowers. The flowers appear just as the bright green new leaves are appearing. The small oval fruit, a favorite with birds, is initially yellow-gold, and turns a dull bluish-black as it ripens in late summer. In the open, Indian Plum may form a large, dense shrub while in the shade it may be more open and sprawling.

Mature height: 8–15 ft.

Growth rate: Fast

Conditions: Full sun to full shade, dry to moist soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Riparian, Forest, Forest slope, Thicket



Mockorange *Philadelphus lewisii*

The common name of the Mockorange refers to the beautiful white, sweetly fragrant blossoms which appear in abundance in late spring and early summer. The 1" flowers are in large clusters at the ends of the twigs, and are eventually replaced by clusters of 1/4" woody seed capsules. Mockorange is widely used as an ornamental garden shrub.

Mature height: 6–12 ft.

Growth rate: Fast

Conditions: Full sun to full shade, dry to moist soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Forest, Forest slope, Thicket

**Pacific Ninebark** *Physocarpus capitatus*

Pacific Ninebark is easily recognized by its habit of shedding its reddish bark in peeling vertical strips on the older wood and twigs. The common name refers to a popular notion that there are nine layers of thin bark on the stems. Pacific ninebark has small white flowers in 2–3" rounded clusters from May to June. As the flowers mature, they form clusters of reddish seed capsules that dry out and turn brown by late summer.

Mature height: 6–12 ft.

Growth rate: Fast

Conditions: Part sun, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Riparian, Forest, Thicket

**Blue Currant** *Ribes bracteosum*

The Blue Currant is not common in Portland. It produces long (7–12") upright clusters of white or greenish-white flowers in the spring. As these flowers develop into berries over the summer, the clusters bend down. The berries are bluish black and have a dusty white coating. Their flavor is variable, sometimes sweet and other times inedible. Yellow glands on the leaves and twigs of the Blue Currant produce a strong scent that is reflected in its other common name 'Stink Currant'.

Mature height: 8–10 ft.

Growth rate: Medium

Conditions: Part sun to full shade, moist to seasonally wet soil

Relocate success: Medium

Availability: Low (container)

Habitat type(s): Riparian, Forest



Straggly Gooseberry *Ribes divaricatum*

The Straggly Gooseberry is not common in Portland. It is also called Wild Gooseberry. It has smooth, 1/2" purple berries that are edible, and which usually occur in small cluster of 2 to 4. The flowers may be green or purple and are about 1/5" across. Straggly Gooseberry has no thorns except for a few at the point where the leaf attaches to the twig.

Mature height: 3–9 ft.

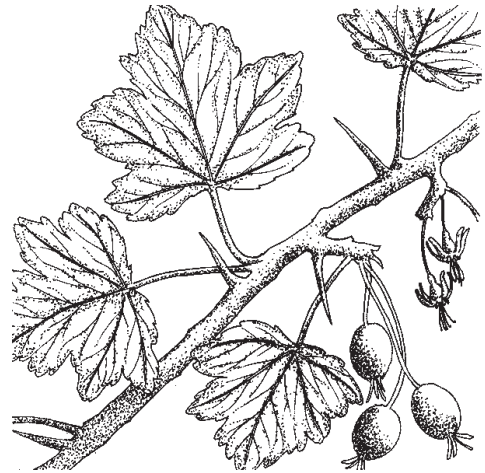
Growth rate: Medium

Conditions: Full to part sun, moist soil

Relocate success: Medium

Availability: Low (seed, container)

Habitat type(s): Forest, Forest slope



Pioneer Gooseberry *Ribes lobbii*

Pioneer Gooseberry is not common in Portland. It is also known as 'Gummy Gooseberry' because it has hairy, sticky berries and sticky stems and leaves. There are usually 3 long spines at the point where the leaves attach to the stems, as well as spines along the stems. The large oval fruits, green in the early summer and maturing to a reddish brown, are ornamental but not edible by humans. From April to June, Pioneer Gooseberry has 1" red and white fishia-like flowers.

Mature height: 4 ft.

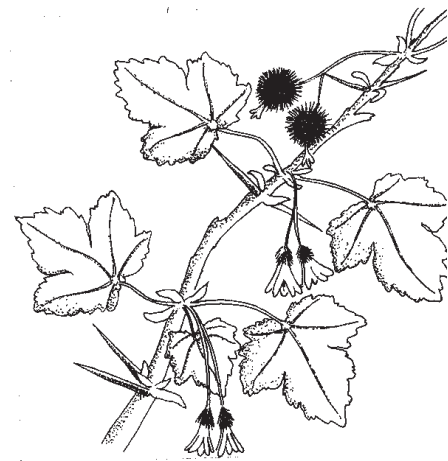
Growth rate: Medium

Conditions: Full to part sun, dry to moist soil

Relocate success: Medium

Availability: Low (container)

Habitat type(s): Forest, Thicket, Grass



Red Currant *Ribes sanguineum*

The flowers of the Red Currant may range in color from pale pink to deep red. They begin to appear in March and are a source of early food for hummingbirds. The individual flowers of Red Currant are small (1/3"), but they occur in many 2–4" clusters of 10–20 flowers, to produce a very beautiful display. The round blue-black berries are almost always completely eaten by birds before the end of summer.

Mature height: 3–9 ft.

Growth rate: Medium

Conditions: Full to part sun, dry to moist soil

Relocate success: Medium

Availability: High (seed, bare root, container)

Habitat type(s): Riparian, Forest, Forest slope, Thicket, Grass



Sticky Currant *Ribes viscosissimum*

Like the Pioneer Gooseberry, the Sticky Gooseberry has sticky stems, leaves and berries. The two plants can be told apart, however, by the lack of spines on the Sticky Gooseberry. The $\frac{3}{4}$ " flowers are greenish white or may have a pink tinge. They appear in June and July in rounded clusters of 6–12 flowers. The black berries are sparse and are not palatable to humans, but are probably appealing to birds.

Mature height: 8–10 ft.

Growth rate: Medium

Conditions: Full sun to full shade, dry to moist soil

Relocate success: Medium

Availability: Low (seed, container)

Habitat type(s): Riparian, Forest

**Baldhip Rose** *Rosa gymnocarpa*

The fragrant, pale pink or rose flowers of the Baldhip Rose are $\frac{1}{2}$ – $\frac{3}{4}$ " across and appear in May and June. They are usually single, and occur at the tips of the branches. The fruit of the Baldhip Rose is a small, pear-shaped orange or scarlet 'hip' which has lost the leaf-like sepals that are normally found attached to mature rosehips. Baldhip Rose may have many soft spines or no spines, especially on new growth.

Mature height: 3–5 ft.

Growth rate: Medium

Conditions: Part sun to full shade, dry, moist to seasonally wet soil

Relocate success: Medium

Availability: High (seed, bare root, container)

Habitat type(s): Forest, Forest slope

**Nootka Rose** *Rosa nootkana* var. *nutkana*

The Nootka Rose has large (2") showy light pink to deep rose flowers that start to appear in May. They almost always occur singly on the tips of branches. The large curved thorns on the Nootka Rose often appear in pairs at the base of the leaves. By mid-summer, the fruits have matured, forming large scarlet or purplish hips that stay on the plants throughout winter providing food for animals.

Mature height: 4–10 ft.

Growth rate: Medium

Conditions: Full to part sun, dry, moist to seasonally wet soil

Relocate success: Medium

Availability: High (seed, bare root, container)

Habitat type(s): Forest slope



Swamp Rose *Rosa pisocarpa*

The Swamp Rose is also called the 'Clustered Rose' because its flowers usually occur in groups of 3–20. The pink flowers are about 1–1½" across. Like the Nootka Rose, the Swamp Rose often has pairs of thorns where the leaves attach to the stems. Its fruits are clusters of small purplish pear-shaped hips.

Mature height: 4–10 ft.

Growth rate: Medium

Conditions: Full to part sun, moist to seasonally wet soil

Relocate success: Medium

Availability: High (bare root, container)

Habitat type(s): Riparian, Forest slope



Thimbleberry *Rubus parviflorus*

The leaves of the Thimbleberry are large (up to 5" across) and are covered with very fine hairs which make them feel velvety to the touch. There are no thorns. As the leaves emerge in the spring, Thimbleberry produces stems with multiple large (1–2") white flowers that have crinkly petals like tissue paper. The red berries look like raspberries, and their flavor is quite variable, from very sweet to bland, depending on the particular growing conditions.

Mature height: 3–6 ft.

Growth rate: Medium

Conditions: Full sun to full shade, dry, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Riparian, Forest, Forest slope



Pacific Blackberry *Rubus ursinus*

The Pacific blackberry is a low growing, but widely spreading plant that can trail extensively. It has tough, curved spines and a three-part leaf. Pacific blackberry is the only native blackberry in the Portland area. The flowers are either male or female and occur on separate plants. Both are required to produce fruit. The shiny black fruit is about 1/2" long and ripens in August. It is delicious and a favorite of birds, bears and deer.

Mature height: 1–1½ ft. and up to 18 ft. long

Growth rate: Fast

Conditions: Full sun to full shade, dry, moist to seasonally wet soil

Relocate success: High

Availability: Low (seed, container)

Habitat type(s): Riparian, Forest, Forest slope



Salmonberry *Rubus spectabilis*

Salmonberry produces a yellow or reddish fruit, that is very delicate and is easily crushed. Like its relative the Thimbleberry, the fruit of the Salmonberry can range from very tasty to poor, depending on the local conditions and the individual plant. Salmonberry flowers are 1–2” across and vary from pink to magenta. They appear singly or in small groups from March to April, either just before or along with the new leaves, and ripen into fruit by July.

Mature height: 4–10 ft.

Growth rate: Fast

Conditions: Part sun to full shade, moist soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Riparian

**Blue Elderberry** *Sambucus nigra* ssp. *caerulea*

Blue Elderberry is an important source of food for a number of creatures. Deer eat the young shoots and leaves, and the fruits are consumed by squirrels, chipmunks and many species of birds. The large flattened clusters of small white flowers appears on the Blue Elderberry from May to July. They are soon replaced by clusters of blue berries with a whitish bloom that ripen in September.

Mature height: 10–20 ft.

Growth rate: Fast

Conditions: Full to part sun, dry, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Riparian, Forest

**Red Elderberry** *Sambucus racemosa* var. *arborescens*

The Red Elderberry, like the Blue Elderberry, is important to many wildlife species. Its clusters of fragrant white flowers provide nectar for butterflies and bees, and the many small red berries are eaten by birds. The Red Elderberry can be distinguished from the Blue Elderberry by the color of its fruit, and by the more rounded clusters of flowers. Both have hollow stems and can grow to the size of a small tree,

Mature height: 10–20 ft.

Growth rate: Fast

Conditions: Full sun to full shade, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Riparian, Forest, Forest slope



Shiny-leaf Spiraea *Spiraea betulifolia* var. *lucida*

The tiny, white or pink flowers of Shiny-leaf Spiraea appear in July and August in flat clusters that form a dense crown on top of the plant. This plant has a considerable range of habitat, being found all the way from sea level to nearly 10,000 ft. elevation. It seems to be at home in the dry shade at the edge of conifer forests or in open, sunny wet places as well.

Mature height: 1–3 ft.

Growth rate: Medium

Conditions: Full to part sun, dry, moist to seasonally wet soil

Relocate success: Medium

Availability: Medium (seed, container)

Habitat type(s): Riparian, Thicket, Rocky



Douglas' Spirea *Spiraea douglasii*

Douglas' spirea, or Hardhack, forms very dense stands in marshy areas or along stream banks throughout much of the Pacific Northwest. It flowers from July to August, with upright plumes of many tiny bright pink flowers. These plumes dry and often remain on the plants through the winter. The leaves can be quite variable in size, and often have a pale underside.

Mature height: 3–6 ft.

Growth rate: Fast

Conditions: Full to part sun, dry, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Wetland, Riparian, Thicket



Common Snowberry *Symphoricarpos albus*

Common Snowberry can be found growing in a wide variety of conditions. Its leaves have a bluish green color, but may look very different from plant to plant, depending on the local conditions. Often they are roughly oval, but in deep shade they may be irregular and lobed. The small white or pink bell-shaped flowers appear in April to June in small groups at the tips of the branches. The round white berries, which are poisonous to humans, are a source of winter food for birds.

Mature height: 1–3 ft.

Growth rate: Fast

Conditions: Full sun to full shade, dry, moist to seasonally wet soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Forest, Forest slope, Thicket



Creeping Snowberry *Symphoricarpos mollis*

The Creeping Snowberry spreads by trailing across the ground and sending out new roots from along its stem. It has small pink or white flowers and round white berries that are very similar to the more upright shrub, Common Snowberry. The Creeping Snowberry has solid, hairy twigs while those of the Common Snowberry are smooth and hollow.

Mature height: 1–2 ft.

Growth rate: Fast

Conditions: Full sun to full shade, dry soil

Relocate success: High

Availability: High (seed, container)

Habitat type(s): Forest, Thicket



Poison Oak *Toxicodendron diversiloba*

Because it can be so variable, Poison Oak is sometimes difficult to identify. It has a three-part leaf that is shiny with a reddish tint when it first emerges in early spring. It becomes completely green by early summer, when the clusters of attractive, tiny white flowers appear. Poison Oak is an aggressive plant, and can appear as a compact, dense shrub in open sunny locations, or as a climbing vine reaching up into the trees in a shady area.

Mature height: 1–6 ft.

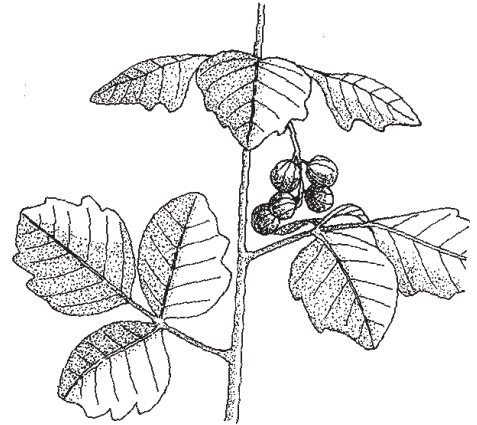
Growth rate: Fast

Conditions: Full to part sun, dry to moist soil

Relocate success: High

Availability: Low (container)

Habitat type(s): Forest, Forest slope, Grass



Evergreen Huckleberry *Vaccinium ovatum*

This evergreen shrub has shiny, leathery pointed leaves that are about 3/4" long and arranged quite closely in a rather horizontal manner along the twigs. The pink bell shaped flowers are small (1/4") and appear in clusters of 3–10 from April through July. The shiny, dark blue berries are very sweet, and are said to taste best after a frost. In the shade, Evergreen Huckleberry will tend to have a more open form than when grown in the open.

Mature height: 3–8 ft.

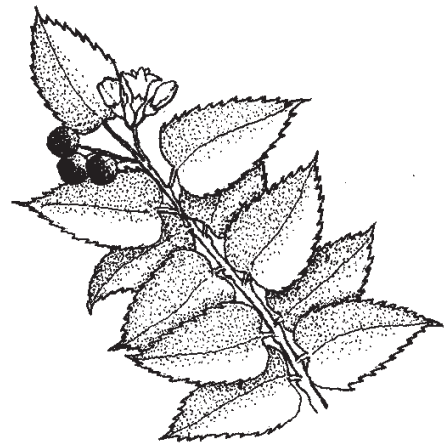
Growth rate: Medium

Conditions: Full sun to full shade, dry to moist soil

Relocate success: Low

Availability: High (seed, bare root, container)

Habitat type(s): Forest



Red Huckleberry *Vaccinium parvifolium*

The Red Huckleberry is a deciduous shrub with bright green leaves that is most commonly found in the Oregon Coast Ranges. It has 1/2" round berries that are bright reddish orange, and relatively tart when compared to the Evergreen Huckleberry. The berries, which look like salmon eggs, were once used as fishing bait. It has pale yellowish to pinkish bell shaped flowers that appear in April to June at the bases of the leaves.

Mature height: 3–8 ft.

Growth rate: Medium

Conditions: Part sun to full shade, dry to moist soil

Relocate success: High

Availability: High (seed, bare root, container)

Habitat type(s): Forest, Forest slope



Oval-leaved Viburnum *Viburnum ellipticum*

The small white flowers of the Oval-leaved Viburnum appear in April and May, in 1–2" clusters. Its leaves are oval but have a toothed or serrate upper edge. The small rounded fruit is bright red or orange, and has a slightly tart, acidic flavor. They are quite attractive in the fall along with the bronzy coloration of the leaves.

Mature height: 3–8 ft.

Growth rate: Medium

Conditions: Part sun to full shade, dry to moist soil

Relocate success: Medium

Availability: Low (seed)

Habitat type(s): Forest, Thicket



3.9 NATIVE SHRUB LIST

Scientific Name	Common Name	Fire	Indicator Status	Habitat Type						
						Forest	F. Slope		Grass	Rocky
<i>Amelanchier alnifolia</i>	Western Serviceberry	N	FACU			●	●	●		
<i>Arctostaphylos columbiana</i>	Hairy Manzanita	Y							●	●
<i>Arctostaphylos uva-ursi</i>	Kinnikinnick	Y	FACU-						●	●
<i>Berberis aquifolium</i>	Tall Oregongrape	Y				●	●			
<i>Berberis nervosa</i>	Cascade Oregon grape	Y				●	●			
<i>Ceanothus cuneatus</i>	Buckbrush	Y				●	●	●		
<i>Ceanothus sanguineus</i>	Oregon Tea-tree	Y	UPL			●	●	●	●	
<i>Ceanothus velutinus</i> var. <i>laevigatus</i>	Mountain Balm	Y				●		●	●	
<i>Corlyus cornuta</i> ssp. <i>californica</i>	California hazelnut	N	FACU			●	●	●		
<i>Cornus sericea</i>	Redosier dogwood	N	FACW	●	●			●		
<i>Euonymus occidentalis</i>	Western Wahoo	N			●	●				
<i>Gaultheria shallon</i>	Salal	Y	FACU			●	●			
<i>Holodiscus discolor</i>	Oceanspray	N				●	●	●		
<i>Lonicera hispidula</i>	Hairy Honeysuckle	N				●		●		
<i>Lonicera involucrata</i>	Black Twinberry	N	FAC+	●	●				●	
<i>Mahonia</i> (see <i>Berberis</i>)										
<i>Oemleria cerasiformis</i>	Indian Plum	N	FACU		●	●	●	●		
<i>Philadelphus lewisii</i>	Mockorange	N				●	●	●		
<i>Physocarpus capitatus</i>	Pacific Ninebark	N	FACW-		●	●		●		
<i>Rhus</i> (see <i>Toxicodendron</i>)										

KEY

* Fire Accelerant Y: plants with higher than average flammable combustion potential due to flammability chemicals present within the leaves, needles, and stems; Fire accelerant N (neutral): plants with average flammable combustion potential (There are no chemicals present within the stems, leaves, and needles that make it less flammable or more flammable than average).

+ Riccardi, et al. In Press. Quantifying physical characteristics of wildland fuels in the Fuel Characteristic Classification System. Canadian Journal of Forest Research.

INDICATOR STATUS

- Obligate Wetland (OBL)** almost always occur in wetlands
- Facultative wetland (FACW)** occur in wetlands 67%–99% of the time
- Facultative (FAC)** equally likely to occur in wetlands or non-wetlands
- Facultative Upland (FACU)** occur wetlands only 1%–33% of the time
- Obligate Upland (UPL)** almost never, under natural conditions, occur in wetlands in the Northwest
- No indicator (NI)** no status

HABITAT TYPE

- WETLAND** all forms of wetlands
- RIPARIAN** stream and river shorelines and bottomlands
- FOREST** flat or mildly rolling forests
- FOREST SLOPE** steeply sloping upland forests such as in the West Hills or East Buttes
- THICKET** forest edges, hedgerows, clumps of vegetation in meadows
- GRASS** open areas, meadows
- ROCKY** rocky upland areas and cliffs

A positive (+) sign – the plant occurs more frequently in wetlands, at the higher end of the wetland status category range
A negative (–) sign – the plant occurs less frequently in wetlands, at the lower end of the wetland status category range

Scientific Name	Common Name	Fire	Indicator Status	Habitat Type						
						Forest	F. Slope		Grass	Rocky
<i>Ribes bracteosum</i>	Blue Currant	N	FAC		•	•				
<i>Ribes divaricatum</i>	Straggly Gooseberry	N	FAC			•	•			
<i>Ribes lobbii</i>	Pioneer Gooseberry	N				•		•	•	
<i>Ribes sanguineum</i>	Red Currant	N			•	•	•	•	•	
<i>Ribes viscosissimum</i>	Sticky Currant	N	FAC		•	•				
<i>Rosa gymnocarpa</i>	Baldhip Rose	N	FACU			•	•			
<i>Rosa nutkana</i>	Nootka Rose	N	FAC				•			
<i>Rosa pisocarpa</i>	Swamp Rose	N	FAC		•		•			
<i>Rubus leucodermis</i>	Blackcap Raspberry	N				•	•	•		
<i>Rubus parviflorus</i>	Thimbleberry	N	FAC-		•	•	•			
<i>Rubus spectabilis</i>	Salmonberry	N	FAC+		•					
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue Elderberry	N	FACU		•	•				
<i>Sambucus racemosa</i> var. <i>arborescens</i>	Red Elderberry	N	FACU		•	•	•			
<i>Spiraea betulifolia</i> var. <i>lucinda</i>	Shiny-leaf Spiraea	N	FAC		•			•		•
<i>Spiraea douglasii</i>	Douglas' spirea	N	FACW	•	•			•		
<i>Symphoricarpos albus</i>	Common Snowberry	N	FACU			•	•	•		
<i>Symphoricarpos mollis</i>	Creeping Snowberry	N				•		•		
<i>Toxicodendron diversilobum</i>	Poison Oak					•	•		•	
<i>Vaccinium ovatum</i>	Evergreen Huckleberry	Y				•				
<i>Vaccinium parvifolium</i>	Red Huckleberry	N				•	•			
<i>Viburnum ellipticum</i>	Oval-leaved Viburnum	N				•		•		

3.10 HERBACEOUS FORBS (Table continues across on page 3.10-2 ———>)

Latin name	Common name	Mature height	FLOWERS															
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Achillea millefolium</i>	Yarrow	8"-20"	●	White	Flat white flower head 2"-4" across					■	■	■	■	■	■			
<i>Achlys triphylla</i>	Vanillaleaf	8"-16"	●	White	A spike of tiny white flowers atop a single large flat leaf						■							
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish Clover																	
<i>Acmispon parviflorus</i>	Small-flowered Deervetch																	
<i>Actaea rubra</i>	Baneberry	1'-3'	●	White	Dense rounded to spiky clusters of many tiny white flowers					■	■	■						
<i>Adenocaulon bicolor</i>	Pathfinder	1'-3'		White	Tiny white flowers, sparse on thin stems													
<i>Agoseris grandiflora</i>	Large-flowered Agoseris																	
<i>Alisma gramineum</i>	Narrow-leaved Water Plantain																	
<i>Allium acuminatum</i>	Hooker's Onion	6"-12"	●	Pink	Brilliant rose, showy, in upright round clusters of up to 25 flowers						■	■	■					
<i>Allium amplexans</i>	Slim-leaved Onion																	
<i>Allium cernuum</i>	Nodding Onion	6"-18"	●	White Pink	Pink to white in nodding umbrella shaped clusters						■	■	■	■				
<i>Amsinckia intermedia</i>	Fireweed Fiddleneck																	
<i>Anaphalis margaritacea</i>	Pearly-everlasting	1'-2'	●	White Yellow	Flat, white flower head 2"-4" across, remain after dry							■	■					

KEY

● **SHOWY**

Flowers are visible at some point during the year

LIFE CYCLE

A Annual

B Biennial

EP Evergreen perennial

P Perennial

X **T/E** State or federally listed as Threatened or Endangered

● **LIGHT**

FULL SUN tolerates unshaded full exposure

PARTIAL SUN tolerates some sun and shade

FULL SHADE tolerates fully shaded conditions

● **MOISTURE**

DRY tolerates dry conditions

MOIST tolerates moist conditions

SEAS WET tolerates seasonally wet conditions

PERNL WET tolerates perennially wet conditions

SUB tolerates submerged conditions

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
P	●			●											●		FACU
P		●	●		●							●	●				
													●			●	
															●		
P		●	●		●							●	●				
P		●	●		●							●	●				
													●		●		
	●	●				●	●	●			●						
P	●			●											●	●	
															●		
P	●			●												●	
															●		
P	●			●											●		

● **HABITAT TYPE**

- WETLAND** all forms of wetlands
- RIPARIAN** stream and river shorelines and bottomlands
- FOREST** flat or mildly rolling forests
- FOREST SLOPE** steeply sloping upland forests such as in the West Hills or East Buttes
- THICKET** forest edges, hedgerows, clumps of vegetation in meadows
- GRASS** open areas, meadows
- ROCKY** rocky upland areas and cliffs

● **WETLAND INDICATOR STATUS**

- Obligate Wetland (OBL)** almost always occur in wetlands
- Facultative wetland (FACW)** occur in wetlands 67%–99% of the time
- Facultative (FAC)** equally likely to occur in wetlands or non-wetlands
- Facultative Upland (FACU)** occur wetlands only 1%–33% of the time
- Obligate Upland (UPL)** almost never, under natural conditions, occur in wetlands in the Northwest
- No indicator (NI)** no status

A **positive (+) sign** – the plant occurs more frequently in wetlands, at the higher end of the wetland status category range
 A **negative (-) sign** – the plant occurs less frequently in wetlands, at the lower end of the wetland status category range

3.10 HERBACEOUS FORBS (Table continues across on page 3.10-4 ———>)

Latin name	Common name	Mature height	FLOWERS															
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Anemone deltoidea</i>	Western White Anemone	4"-12"	●	White	1.5"-2" showy white bracts, solitary on long stalks				■	■	■	■						
<i>Anemone lyallii</i>	Small Wind-flower																	
<i>Anemone oregana</i> var. <i>oregana</i>	Oregon Anemone	4"-12"	●	Blue Purple Pink				■	■	■	■							
<i>Angelica arguta</i>	Sharptooth Angelica																	
<i>Aquilegia formosa</i>	Red Coumbine	1'-3'	●	Red				■	■	■	■							
<i>Arnica amplexicaulis</i>	Clasping Arnica								■	■	■							
<i>Artemisia douglasiana</i>	Douglas's Sagewort																	
<i>Artemisia lindleyana</i>	Columbia River mugwort																	
<i>Aruncus sylvester</i>	Goatsbeard	3'-7'	●	White					■	■	■							
<i>Asarum caudatum</i>	Wild Ginger	<1'		Purple Brown				■	■	■								
<i>Aster oregonensis</i>	Oregon White-topped Aster																	
<i>Bergia texana</i>	Texas Bergia																	
<i>Bidens cernua</i>	Nodding Beggar's-tick	6"-48"	●	Yellow	6-8 yellow petals with brown to golden centers							■	■	■				
<i>Bidens frondosa</i>	Leafy Beggar's tick																	
<i>Bidens vulgata</i>	Western Beggar's-tick																	
<i>Bolandra oregana</i>	Bolandra																	

KEY

● **SHOWY**

Flowers are visible at some point during the year

LIFE CYCLE

A Annual

B Biennial

EP Evergreen perennial

P Perennial

X **T/E** State or federally listed as Threatened or Endangered

● **LIGHT**

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SUB tolerates submerged conditions

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
P		•	•		•							•	•				
												•	•				
P		•	•		•				X			•	•				FACU
											•	•			•		FACW
P	•	•			•							•	•		•	•	FAC
											•	•	•				FACW
											•	•					FACW
											•	•					OBL
P		•	•		•	•						•	•	•	•		FACU
P			•		•	•						•	•	•	•		FACU
												•					
									X		•	•					OBL
A	•				•	•	•				•						FACW+
											•						FACW+
											•						FACW+
									X		•	•				•	FACW

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-6 ———>)

Latin name	Common name	Mature height	FLOWERS															
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Boykinia occidentalis</i>	Slender Boykinia	6"-24"	●	White	1/3" white 5 petals in loose groups on upright stems				■	■	■	■	■	■				
<i>Brodiaea coronaria</i>	Harvest Brodiaea	8"-14"	●	Purple	Loose clusters of progressively opening 1" vase shaped flowers purple with a darker stripe on petals and with center								■	■	■			
<i>Brodiaea howellii</i>	Howell's Brodiaea																	
<i>Brodiaea hyacintha</i>	Hyacinth Brodiaea	12"-28"																
<i>Calochortus tolmiei</i>	Tolmie's Mariposa																	
<i>Calypso bulbosa</i>	Fairy Slipper																	
<i>Camassia leichtlinii</i>	Giant Camas	12"-30"	●	Blue Purple	Violet to blue flowers 2"-3" diameter with yellow center, 5 to many on upright stalk with only 1-3 open at a time				■	■	■							
<i>Camassia quamash</i>	Common Camas	8"-30"	●	Blue Purple	Violet to blue flowers 2"-3" diameter with yellow center, 5 to many on upright stalk with only 1-3 open at a time				■	■	■							
<i>Campanula rotundifolia</i>	Round-leaf Bluebell	6"-32"	●	Blue Purple	Nodding bell shaped 1"-2" single or 2-15 in loose clusters atop thin wiry stema					■	■	■						

KEY

● **SHOWY**

Flowers are visible at some point during the year

LIFE CYCLE

- A Annual
- B Biennial
- EP Evergreen perennial
- P Perennial

X T/E State or federally listed as Threatened or Endangered

● **LIGHT**

- FULL SUN tolerates unshaded full exposure
- PARTIAL SUN tolerates some sun and shade
- FULL SHADE tolerates fully shaded conditions

● **MOISTURE**

- DRY tolerates dry conditions
- MOIST tolerates moist conditions
- SEAS WET tolerates seasonally wet conditions
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- SUB tolerates submerged conditions

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
P		●	●		●	●	●			●	●	●					FAC
P	●			●												●	
													●	●			
P	●			●	●										●		FACU
	●	●		●	●								●	●	●		
												●	●				FAC+
P	●	●				●				●					●		FACW-
P	●	●				●				●					●		FACW
P	●			●												●	FACU+

● **HABITAT TYPE**

- WETLAND** all forms of wetlands
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● **WETLAND INDICATOR STATUS**

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-8 ———>)

Latin name	Common name	Mature height	FLOWERS																			
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D					
<i>Campanula scouleri</i>	Scouler's Bellflower	4"-16"	●	White	Very pale lavender flowers appear almost white: 1/2" bell shaped with petals curved back and long style sticking out from center							■	■	■								
<i>Canadanthus modestus</i>	Few-flowered Aster	12"-40"	●	Purple	Violet or purple flowers with yellow centers										■	■						
<i>Cardamine angulata</i>	Angled Bittercress																					
<i>Cardamine nuttallii</i> var. <i>nuttallii</i>	Slender Toothwort																					
<i>Cardamine occidentalis</i>	Western Bittercress																					
<i>Cardamine oligosperma</i>	Little Western Bittercress																					
<i>Cardamine penduliflora</i>	Willamette Valley Bittercress																					
<i>Cardamine pennsylvanica</i>	Pennsylvania Bittercress																					
<i>Cascadia nuttallii</i>	Nuttall's Saxifrage																					
<i>Castilleja levisecta</i>	Golden Indian-paintbrush																					
<i>Castilleja tenuis</i>	Hairy Owl-Clover																					
<i>Cerastium arvense</i>	Field Chickweed	2"-20"	●	White	5 notched petals per flower																	
<i>Chamerion angustifolium</i> var. <i>canescens</i>	Fireweed	3'-8'	●	Pink Purple	Rose purple flowers 1"-2" long on tall spikes							■	■	■	■							
<i>Chrysosplenium glechomaefolium</i>	Pacific Water-carpets																					

KEY

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Flowers are visible at some point during the year

LIFE CYCLE

- A Annual
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SEAS WET tolerates seasonally wet conditions
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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status		
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky			
P	•	•	•	•									•	•	•	•			
P	•	•				•	•												FAC+
											•	•	•					•	FACW
													•	•					
											•							•	FACW+
											•	•	•					•	FAC
											•	•							OBL
											•		•						FACW
											•		•					•	OBL
										X								•	
																		•	FACU-
P	•			•														•	FACU
P	•			•	•						•	•	•		•			•	FACU+
												•	•						OBL

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-10 ———>)

Latin name	Common name	Mature height	FLOWERS														
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D
<i>Cimicifuga elata</i>	Tall Bugbane																
<i>Circae alpina</i>	Enchanter's Nightshade																
<i>Cirsium hallii</i>	Hall's Thistle																
<i>Clarkia amoena</i>	Farewell to Spring	24"															
<i>Clarkia rhomboidea</i>	Common Clarkia																
<i>Claytonia perfoliata</i>	Miner's lettuce	2"-12"	●	White	Tiny white flowers in loose clusters above flat disk like leaves			■	■	■							
<i>Claytonia sibirica</i>	Candy Flower	4"-16"	●	White Pink	5-Petalled, on stalks, many cluster of 1-3					■	■	■	■				
<i>Clematis ligusticifolia</i>	Western Clematis	50'	●	White	Numerous clusters of small creamy white flowers					■	■	■	■				
<i>Collinsia grandiflora</i>	Large-flowered Blue-eyed Mary																
<i>Collinsia parviflora</i>	Small-flowered Blue-eyed Mary	2"-16"	●	White Blue	1/2" 2-lipped flowers upper lip white 2-lobed, lower lip blue 3-lobed				■	■	■						
<i>Collinsia rattanii</i>	Rattan Collinsia								■	■	■						
<i>Collomia grandiflora</i>	Large-flowered Collomia																
<i>Collomia heterophylla</i>	Varied-leaved Collomia																
<i>Comandra umbellata</i> var. <i>californica</i>	Bastard Toadflax																
<i>Conyza canadensis</i> var. <i>glabrata</i>	Horseweed																
<i>Coptis laciniata</i>	Cutleaf Goldthread																

KEY

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	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
									X			•		•	•		
										•		•	•				FAC+
		•		•											•		
		•		•									•	•			
		•		•									•	•			
A	•	•	•		•	•						•	•	•	•	•	FAC
A		•	•		•							•	•	•	•		FACW
P	•	•	•	•	•							•	•	•			FAC-
															•	•	
A	•			•	•	•									•	•	
	•	•		•	•										•	•	
															•		
												•		•	•	•	UPL
															•		FACU
												•					FAC

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-12 →)

Latin name	Common name	Mature height	FLOWERS															
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Coreopsis tinctoria</i> var. <i>atkinsoniana</i>	Columbia Tickseed	40"																
<i>Cornus unalaschensis</i>	Bunchberry	4"-8"	●	White Green	1" diameter, 4 white petal-like bracts surrounding greenish center					■	■	■						
<i>Corydalis scouleri</i>	Western Corydalis	2'-4'	●	Pink	Numerous 1" tubular flowers in long spike-like clusters atop stem					■	■							
<i>Cryptantha intermedia</i>	Common Forget-me-not																	
<i>Cynoglossum grande</i>	Pacific Hound's-tongue	1'-3'	●	Blue Purple	1/2" blue to violet flower with white center				■	■								
<i>Delphinium menziesii</i> var. <i>pyramidale</i>	Menzies' Larkspur	8"-20"	●	Purple	Intense deep-blue to purple tubular flowers with long spur, some may have white upper petals, 1"-2" long, in loose terminal clusters					■	■							
<i>Delphinium nuttallii</i>	Nuttall's Larkspur	1'-3'	●	Blue Purple	Deep purplish-blue with light blue lower petals tubular flowers with a long spur						■	■						
<i>Dicentra formosa</i> ssp. <i>formosa</i>	Bleedingheart	8"-18"	●	Pink	Drooping pinkish-purple heart shaped flowers 3/4" in clusters of 5-15 atop stems					■	■	■						

KEY

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	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
	•	•		•	•	•	•			•	•						
P		•	•		•							•					FAC
P		•	•		•							•	•				FAC+
															•		
P		•	•		•							•	•	•			
P	•	•		•	•	•									•	•	
P	•	•		•	•				X						•		
P		•	•		•							•	•	•			FACU

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-14 ———>)

Latin name	Common name	Mature height	FLOWERS															
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Dichelostemma congesta</i>	Northern Saitas	1"-3"	●	Pink Purple	Clusters of pinkish to purplish flowers on 1/2" stalks													
<i>Disporum hookeri</i>	Hooker Fairy-bell	1'-3'	●	White	Creamy white nodding bell-shaped 3/4" usually in groups of 1-3				■	■	■							
<i>Disporum smithii</i>	Large-flowered Fairy-bell	1'-3'	●	White	Creamy white nodding bell-shaped 1"					■	■							
<i>Dodecatheon hendersonii</i>	Broad-Leaved Shooting Star	8"-15"						■	■	■	■							
<i>Dodecatheon pulchellum</i>	Few-flowered Shooting Star	3"-20"	●	Pink	1.5" pink to magenta flowers with yellow centers, petals stream back like a comet's trail, 1-2 on tall wiry stems above leaves			■	■	■	■							
<i>Downingia elegans</i>	Common Downingia							■	■	■	■							
<i>Draba verna</i>	Spring Whitlow-grass																	
<i>Epilobium brachycarpum</i> var. <i>paniculatum</i>	Tall Annual Willow Herb																	
<i>Epilobium ciliatum</i> ssp. <i>glandulosum</i>	Common Willow-weed																	
<i>Epilobium ciliatum</i> ssp. <i>watsonii</i>	Watson's Willow-weed																	
<i>Equisetum arvense</i>	Common Horsetail	1'-2'																
<i>Equisetum hyemale</i>	Common Scouring-rush	2'-4'																

KEY

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
P	●			●											●	●	
P		●	●		●							●	●				
P		●	●		●							●	●				
	●	●		●											●	●	
P		●	●		●						●						FACW
	●	●			●	●	●				●						
															●	●	
												●			●		UPL
											●	●	●		●		FACW
											●	●	●		●		FACW-
P	●	●			●	●	●				●	●					FAC
P	●	●			●	●	●				●	●					FACW

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-16 ———>)

Latin name	Common name	Mature height	FLOWERS														
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D
<i>Equisetum telemateia</i>	Giant Horsetail																
<i>Erigeron decumbens</i> var. <i>decumbens</i>	Willamette Daisy																
<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	8"-28"	●	White Pink Purple	Petals are actually ray flowers with yellow disk flowers in center												
<i>Eriogonum nudum</i>	Barestem Buckwheat																
<i>Eriophyllum lanatum</i>	Wooly Sunflower	6"-12"	●	Yellow	1" sunflower like flowers with 9-11 petals, single on long stalks above wooly gray leaves					■	■	■	■				
<i>Erysium capitatum</i> ssp. <i>capitatum</i>	Prairie Rocket	1'-3'	●	Yellow	4 Petals yellow to orange 1" across clustered around stem, fragrant					■	■	■	■				
<i>Erythronium oregonum</i>	Giant Fawn-lily	6"-12"	●	White	Single 2" flowers with petals bent back, nodding, single to a stem					■	■						
<i>Eschscholzia californica</i>	California poppy	8"-18"	●	Orange	2" saucer shaped flowers with 4 petals, solitary atop long stems					■	■	■	■	■			
<i>Fragaria vesca</i> var. <i>bracteata</i>	Wood Strawberry	3"-8"	●	White	3/4" five petals with yellow centers					■	■						

KEY

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
											•	•				•		FACW
									X							•		
P	•	•			•	•										•		FACU
																	•	
P	•			•													•	
B	•			•												•	•	
P	•	•		•	•							•	•					
P	•			•	•											•		
P	•	•		•	•							•	•			•		

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-18 ———>)

Latin name	Common name	Mature height	FLOWERS														
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D
<i>Fragaria virginiana</i> var. <i>platyptala</i>	Broadpetal Strawberry	2"-5"	●	White	3/4" flowers with 5 white petals and yellow centers				■	■							
<i>Fritillaria affinis</i>	Checker Lily	1'-2'	●	Purple	Dark purple mottled with greenish yellow, bell-shaped nodding to 1.5", in terminal clusters of 2-5 flowers				■	■	■						
<i>Galium aparine</i>	Cleavers																
<i>Galium trifidum</i>	Small Bedstraw																
<i>Galium triflorum</i>	Sweetscented Bedstraw																
<i>Gentiana sceptrum</i>	Staff Gentian	8"-20"	●	Blue	1"-1.5" tubular flowers which open to reveal dark green specks inside						■	■	■	■			
<i>Geranium bicknellii</i>	Bicknell's Geranium																
<i>Geum macrophyllum</i>	Oregon Avens	1'-3'	●	Yellow	3/4" flowers with five yellow petals either single or in small clusters at branch tips					■	■	■					
<i>Gilia capitata</i>	Bluefield Gilia	1'-3'	●	Blue	Many 1/4" flowers in dense balls at tips of stems						■	■					
<i>Gnaphalium palustre</i>	Marsh Cudweed																

KEY

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
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P	•	•		•	•										•			FACU
P	•	•		•	•												•	•
															•	•	•	FACU
															•			FACW+
															•	•		FACU
P	•					•	•	•							•	•		OBL
															•			
P	•			•	•										•	•		FACW-
A	•			•	•												•	•
															•			FAC+

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A positive (+) sign – the plant occurs more frequently in wetlands, at the higher end of the wetland status category range
A negative (-) sign – the plant occurs less frequently in wetlands, at the lower end of the wetland status category range

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
EP		●	●	●	●							●						FACU-
											●	●						OBL
	●	●		●	●	●	●				●	●						
P	●	●	●		●	●					●	●	●		●			FAC+
															●			FAC
												●	●				●	
P	●	●			●							●	●				●	
P	●			●								●			●			
P	●	●	●		●							●	●					
											●	●					●	OBL
											●						●	FAC-

● **HABITAT TYPE**

- WETLAND** all forms of wetlands
- RIPARIAN** stream and river shorelines and bottomlands
- FOREST** flat or mildly rolling forests
- FOREST SLOPE** steeply sloping upland forests such as in the West Hills or East Buttes
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- GRASS** open areas, meadows
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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-22 →)

Latin name	Common name	Mature height	FLOWERS																
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D		
<i>Iris tenax</i>	Oregon Iris	10"-20"	●	White Yellow Blue Purple	Usually blue or purple, color range includes yellow to white				■	■	■								
<i>Lathyrus nevadensis</i>	Nevada Peavine								■	■	■								
<i>Lathyrus polyphyllus</i>	Leafy-pea																		
<i>Leptosiphon bicolor</i>	Bicolored Linanthus																		
<i>Ligusticum apifolium</i>	Parsley-leaved Lovage	18"-60"	●	White	Compound umbel					■	■								
<i>Ligusticum grayii</i>	Gray's Lovage	24"	●	White Purple	Compound umbel							■	■	■					
<i>Lilium columbianum</i>	Columbia Lily	2'-4'	●	Orange	Deep orange with red or purple spots; tepals curved backwards; 2-20 flowers on long pedicels							■	■						
<i>Limosella aquatica</i>	Mudwort																		
<i>Linaria canadensis</i> var. <i>texana</i>	Wild Toadflax																		
<i>Lindernia dubia</i>	Yellowseed false pimpernel																		
<i>Linnaea borealis</i>	Twinflower	4"-7"	●	Pink	Trumpet-like, in pairs on y-shaped, upright stalk, fragrant								■	■					
<i>Listera caurina</i>	Western Twayblade																		
<i>Listera cordata</i>	Heart-leaved Listera																		
<i>Lithophragma parviflorum</i>	Small-flowered Prairiestar																		

KEY

● **SHOWY**

Flowers are visible at some point during the year

LIFE CYCLE

A Annual

B Biennial

EP Evergreen perennial

P Perennial

X T/E State or federally listed as Threatened or Endangered

● **LIGHT**

FULL SUN tolerates unshaded full exposure

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SEAS WET tolerates seasonally wet conditions

PERNL WET tolerates perennially wet conditions

SUB tolerates submerged conditions

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
P	●	●		●	●								●		●		●	
	●	●		●	●													
													●		●			
																	●	
P	●	●		●	●	●								●	●	●	●	
P	●	●		●	●	●									●		●	
P	●	●			●									●	●	●	●	FAC
													●	●				OBL
													●				●	
													●	●				OBL
EP		●	●	●	●									●	●			FACU-
														●	●			FACU
														●	●			FACU
	●	●		●												●	●	

● **HABITAT TYPE**

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10–24 ———>)

Latin name	Common name	Mature height	FLOWERS																	
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D			
<i>Lomatium utriculatum</i>	Spring Gold	12"	●	Yellow	Up to 15 compact heads of small bright yellow flowers make up compound umbel				■	■	■	■	■	■						
<i>Lonicera ciliosa</i>	Orange Honeysuckle	15'–20'	●	Orange	Bright orange trumpet-shaped flowers cluster just above a pair of fused leaves						■	■	■							
<i>Lupinus bicolor</i>	Two-color Lupine	4"–18"	●	White Blue	Flowers blue and white, pea-like, small, in short cluster						■	■	■							
<i>Lupinus latifolius</i>	Broadleaf Lupine	24"	●	Blue Purple	Pea-like, whorls form loose racemes						■	■	■							
<i>Lupinus laxiflorus</i>	Spurred Lupine	18"–30"	●	Blue Purple	Pea-like, racemes 3"–8" long						■	■	■							
<i>Lupinus lepidus</i>	Prairie Lupine	8"–16"	●	White Blue Purple	Pea-like flowers usually blue, sometimes white; banner petals bend backwards and usually different color (darker or lighter) from the wings and keels							■	■	■						
<i>Lupinus polycarpus</i>	Bigleaf lupine																			
<i>Lupinus polyphyllus</i>	Large-leaved Lupine	2'–5'	●	Blue Purple	Pea-like in dense upright clusters up to 16" long						■	■								
<i>Lupinus rivularis</i>	Stream Lupine																			
<i>Lycopus americanus</i>	Cut-leaved Bugleweed																			

KEY

● **SHOWY**

Flowers are visible at some point during the year

LIFE CYCLE

- A Annual
- B Biennial
- EP Evergreen perennial
- P Perennial

X T/E State or federally listed as Threatened or Endangered

● **LIGHT**

- FULL SUN tolerates unshaded full exposure
- PARTIAL SUN tolerates some sun and shade
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● **MOISTURE**

- DRY tolerates dry conditions
- MOIST tolerates moist conditions
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- SUB tolerates submerged conditions

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
P	●			●												●		
P		●	●		●													
A	●			●												●		
P	●	●			●											●		
P	●	●		●												●		
P	●			●												●		
P	●			●												●		
P	●	●			●	●										●	FAC+	
																		FACU
											●	●						OBL

● **HABITAT TYPE**

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-26 →)

Latin name	Common name	Mature height	FLOWERS														
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D
<i>Lycopus uniflorus</i>	Northern Bugleweed																
<i>Lysichiton americanus</i>	Skunk Cabbage	1'-5'	●	Yellow	Small greenish-yellow flowers on fleshy spike are hooded by large showy yellow bract		■	■	■								
<i>Lysimachia ciliata</i>	Fringed Loosestrife																
<i>Lysimachia thysiflora</i>	Tufted Loosestrife																
<i>Madia glomerata</i>	Cluster Tarweed	2"-10"		Yellow	Yellow ray and disk flowers in small clusters							■	■				
<i>Madia gracilis</i>	Slender Tarweed											■	■				
<i>Madia sativa</i>	Chile Tarweed																
<i>Maianthemum dilatatum</i>	False Lily-of-the-valley	4"-16"	●	White	Small, 4-part flowers in terminal cylindrical cluster					■	■	■					
<i>Maianthemum racemosum</i>	Western False Solomon's Seal	1'-3'	●	White	Panicle of small cream-white flowers					■	■						
<i>Maianthemum stellata</i>	Starry False Solomon's Seal	8"-24"	●	White	Star-like, few, in short terminal cluster					■	■						
<i>Marah oreganus</i>	Manroot																
<i>Matricaria discoidea</i>	Pineapple Weed																
<i>Mentha arvensis</i> var. <i>glabrata</i>	Field Mint	8"-36"	●	White Pink Purple	Tight clusters of small, 1/4" cup-shaped flowers, pinkish-lavender, sometimes whitish							■	■				

KEY

● **SHOWY**

Flowers are visible at some point during the year

LIFE CYCLE

- A Annual
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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
											•	•						OBL
P	•	•	•		•	•	•				•	•						OBL
											•					•		FACW+
											•							OBL
A	•			•												•		FACU+
	•	•		•												•	•	
																•		
P		•	•		•	•							•	•				FAC
P		•	•		•						•		•	•				FAC-
P		•	•		•								•	•	•	•		FAC-
														•	•			
																•		FACU
P	•	•			•	•							•					FACW-

● **HABITAT TYPE**

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-28 ———>)

Latin name	Common name	Mature height	FLOWERS														
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D
<i>Menyanthes trifoliata</i>	Buckbean																
<i>Mertensia platyphylla</i>	Western Bluebells																
<i>Micranthes integrifolia</i>	Swamp Saxifrage	6"-18"	●	White	White, in tight clusters on stalks which are pubescent below				■	■	■	■					
<i>Micranthes rufidula</i>	Western Saxifage																
<i>Mimulus alsinoides</i>	Chickweed Monkeyflower																
<i>Mimulus guttatus</i>	Common Monkeyflower	3"-30"	●	Yellow	Yellow, sometimes with dots of brown or purple; 2-lipped tubular; large 1"-1.5", resemble snap-dragons				■	■	■	■	■	■	■		
<i>Mimulus moschatus</i>	Musk monkeyflower	3"-10"		Yellow	Yellow, funnel-like, with dark lines or spots, 3/4" long						■	■	■	■			
<i>Mitella caulescens</i>	Leafy Mitrewort	8"-16"	●	Green	Small, 1/8" snow-flake-like petals form cup-like flower; separately arranged on 10" floral stem; flowers from top to bottom				■	■							
<i>Mitella pentandra</i>	Five-stamened Mitrewort	8"-16"	●	Green	Small, saucer-shaped, blossoming upward, petals dissected into thread-like segments						■	■					

KEY

● **SHOWY**

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
											•					•		OBL
												•	•					
P	•	•			•						•					•	•	NI
																•	•	FAC
											•	•					•	OBL
A	•	•			•	•					•	•				•	•	OBL
P		•	•		•	•					•	•						FACW+
P		•	•		•	•							•	•		•		
P		•	•		•	•							•	•	•	•		FAC

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10–30 ———>)

Latin name	Common name	Mature height	FLOWERS														
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D
<i>Moehringia macrophylla</i>	Bigleaf Sandwort																
<i>Monotropa uniflora</i>	Indian-pipe																
<i>Montia dichotoma</i>	Dwarf Montia																
<i>Montia diffusa</i>	Branching Montia																
<i>Montia fontana</i>	Water Chickweed																
<i>Montia linearis</i>	Narrow-leaved Montia																
<i>Montia parvifolia</i>	Streambank Springbeauty	4"–12"	●	White Pink	Small, 5-petaled white or pink with pink veins. Mall open cluster 3–8 on top of stem						■	■	■				
<i>Myosotis laxa</i>	Small-flowered Forget-me-not	2"–12"	●	Blue	Small, petals fused into short tube spreading into 5 lobes; several to many flowers in loose racemes							■	■	■	■		
<i>Navarretia intertexta</i>	Needle-Leaf Navarretia											■	■	■	■		
<i>Navarretia squarrosa</i>	Skunkweed																
<i>Navarretia tagetina</i>	Northern Navarretia											■	■	■	■		
<i>Nemophila menziesii</i>	Baby Blue-eyes	6"–10"	●	White Blue	White 5-petaled flowers with blue veins						■	■	■				
<i>Nemophila parviflora</i>	Small-flowered Nemophila																

KEY

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10–32 ———>)

Latin name	Common name	Mature height	FLOWERS															
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Nemophila pedunculata</i>	Spreading Nemophila																	
<i>Nothochelone nemorosa</i>	Turtle Head	16"–30"	●	Pink Blue Purple	1"–1.25" long tubular, pinkish-purple to bluish purple, glandular hairy on outside							■	■					
<i>Oenante sarmentosa</i>	Pacific Water-parsley	1'–3'	●	White	Tiny white flowers in umbels, 5–20 compact clusters							■	■					
<i>Oenothera biennis</i>	Evening Primrose	2'–4'	●	Yellow	Flowers open in evening-fragrant-showy, golden yellow, purplish pink buds								■	■	■			
<i>Oplopanax horridus</i>	Devil's Club	3'–10'	●	White Green	Small whitish flowers in pyramidal terminal cluster, or spiky raceme							■	■	■				
<i>Orobanche uniflora</i>	Naked Broomrape																	
<i>Osmorhiza berteroi</i>	Mountain Sweet-Cicely	1'–3'		White Green	Small, inconspicuous greenish-white, in few-flowered compound umbels							■	■	■	■			
<i>Oxalis oregana</i>	Oregon Oxalis	2"–8"	●	White Pink	White or pinkish with pink or red veins, 1/2"–3/4", 5-petalled							■	■					
<i>Oxalis suksdorfii</i>	Western Yellow Oxalis	2"–6"	●	Yellow	Similar to oxalis oregana but yellow													

KEY

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
	•	•			•	•	•			•	•						
P		•	•	•	•							•					•
P	•	•					•	•	•	•	•						OBL
B	•			•	•										•		FACU
P		•	•		•	•						•	•	•	•		FAC+
																•	FACU
P		•	•	•	•							•	•				
P		•	•		•							•	•				
P		•	•		•							•					

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10–34 ———>)

Latin name	Common name	Mature height	FLOWERS															
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Oxalis trilliifolia</i>	Trillium-leaved Wood-sorrel																	
<i>Penstemon ovatus</i>	Broad-leaved Penstemon	18"–30"	●	Blue Purple	Deep blue-purple, tubular flowers with hairy inflorescence						■	■						
<i>Penstemon richardsonii</i>	Cut-leaved Penstemon	1'–2'	●	Purple	Bright lavender, tubular							■	■					
<i>Penstemon serrulatus</i>	Cascade Penstemon	10"–24"	●	Blue Purple	Dark blue to purple flowers, tubular, 1" long, in large terminal cluster							■	■	■				
<i>Petasites frigidus</i> var. <i>palmatus</i>	Sweet Coltsfoot	4"–18"	●	White Pink Purple	Several to many white or pinkish-purple, cup-shaped heads stand erect on upright stem			■	■	■	■							
<i>Phacelia nemoralis</i>	Shade Phacelia																	
<i>Phlox gracilis</i>	Microsteris	3"–10"	●	Pink	Small, inconspicuous; 5 lobes spread from 1/2" tube; in pairs or single on end of stem				■	■	■	■						
<i>Piperia elegans</i>	Elegant Rein-orchid	1'–2'	●	White Green	Characteristic orchid type flower with spur and column, fragrant						■	■						
<i>Piperia unalascensis</i>	Alaska Rein-orchid																	
<i>Plagiobothrys figuratus</i>	Fragrant Plagiobothrys																	

KEY

● **SHOWY**

Flowers are visible at some point during the year

LIFE CYCLE

A Annual

B Biennial

EP Evergreen perennial

P Perennial

X T/E State or federally listed as Threatened or Endangered

● **LIGHT**

FULL SUN tolerates unshaded full exposure

PARTIAL SUN tolerates some sun and shade

FULL SHADE tolerates fully shaded conditions

● **MOISTURE**

DRY tolerates dry conditions

MOIST tolerates moist conditions

SEAS WET tolerates seasonally wet conditions

PERNL WET tolerates perennially wet conditions

SUB tolerates submerged conditions

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
												●	●	●		●		FAC+
P	●	●		●	●							●						
P	●	●		●													●	
P	●	●			●						●					●	●	FACU
P	●	●	●		●	●					●	●	●		●			FACW-
												●	●					
A	●	●		●	●											●	●	FACU
P		●	●	●	●							●		●	●			FACW
												●	●					FAC
																●		FACW

● **HABITAT TYPE**

- WETLAND** all forms of wetlands
- RIPARIAN** stream and river shorelines and bottomlands
- FOREST** flat or mildly rolling forests
- FOREST SLOPE** steeply sloping upland forests such as in the West Hills or East Buttes
- THICKET** forest edges, hedgerows, clumps of vegetation in meadows
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● **WETLAND INDICATOR STATUS**

- Obligate Wetland (OBL)** almost always occur in wetlands
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- Facultative (FAC)** equally likely to occur in wetlands or non-wetlands
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A positive (+) sign – the plant occurs more frequently in wetlands, at the higher end of the wetland status category range
A negative (-) sign – the plant occurs less frequently in wetlands, at the lower end of the wetland status category range

3.10 HERBACEOUS FORBS (Table continues across on page 3.10–36 →)

Latin name	Common name	Mature height	FLOWERS															
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Platanthera dilatata</i> var. <i>leucostachys</i>	White Bog-orchid																	
<i>Platanthera stricta</i>	Slender Bog-orchid																	
<i>Plectritis congesta</i>	Rosy Plectritis	4"–18"	●	Pink	Round balls of bright pink flowers on simple or few-branched upright stem				■	■								
<i>Polygonum aviculare</i>	Doorweed																	
<i>Polygonum douglasii</i>	Douglas' Knotweed																	
<i>Polygonum hydropiperoides</i>	Common Waterpepper																	
<i>Polygonum nuttallii</i>	Nuttall's Knotweed																	
<i>Polygonum polygaloides</i> ssp. <i>kelloggii</i>	Kellogg's Knotweed																	
<i>Polygonum spargulariiforme</i>	Fall Knotweed																	
<i>Potentilla glandulosa</i>	Sticky cinquefoil	1'–2'	●	Yellow	Pale to deep yellow petals, flowers easily overlooked					■	■	■	■					
<i>Potentilla gracilis</i> var. <i>gracilis</i>	Slender Cinquefoil									■	■	■	■					
<i>Poteridium occidentale</i>	Annual Burnet	8"–30"		Green														
<i>Prosartes hookeri</i>	Hooker's Fairybells																	
<i>Prosartes smithii</i>	Smith's Fairybells																	
<i>Prunella vulgaris</i> var. <i>lanceolata</i>	Native Heal-all	4"–16"	●	Purple	Spike-like cluster of small flowers, spike squarish in section					■	■	■						

KEY

● **SHOWY**

Flowers are visible at some point during the year

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X T/E State or federally listed as Threatened or Endangered

● **LIGHT**

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● **MOISTURE**

- DRY tolerates dry conditions
- MOIST tolerates moist conditions
- SEAS WET tolerates seasonally wet conditions
- PERNL WET tolerates perennially wet conditions
- SUB tolerates submerged conditions

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status		
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky			
																		FACW+	
																		FACW+	
	A	•	•			•	•										•	•	FACU
																		•	FACW-
																		•	FACU
																		•	OBL
																		•	FAC
																		•	FAC
	P	•	•		•	•												•	FAC-
		•	•		•	•												•	
	A	•	•		•	•	•											•	
			•	•	•	•													
		•	•	•		•													
	P	•	•			•												•	FACU+

● **HABITAT TYPE**

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10–38 ———>)

Latin name	Common name	Mature height	FLOWERS																			
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D					
<i>Pyrola asarifolia</i>	Wintergreen	6"–16"	●	Pink	Pink to rosy-red cup-shaped flowers tilt downward							■	■	■								
<i>Pyrola picta</i>	White-Vein Pyrola											■	■	■								
<i>Ranunculus alismaefolius</i>	Water-plaintain Buttercup																					
<i>Ranunculus cymbalaria</i>	Shore Buttercup																					
<i>Ranunculus flammula</i>	Creeping Buttercup																					
<i>Ranunculus macounii</i>	Macoun's Buttercup																					
<i>Ranunculus occidentalis</i>	Western Buttercup	4"–18"	●	Yellow	Yellow, usually 5 petals, several flowers at end of long stalk							■	■									
<i>Ranunculus orthorhyncus</i>	Straightbeak Buttercup																					
<i>Ranunculus pensylvanicus</i>	Pennsylvania Buttercup																					
<i>Ranunculus scleratus</i>	Celery-leaved Buttercup																					
<i>Ranunculus uncinatus</i>	Little Buttercup																					
<i>Rorippa columbiae</i>	Columbia Cress																					
<i>Rubus ursinus</i>	Pacific Blackberry	6"–12"	●	White Pink	Flowers 1.5"–2" across, male and female flowers on separate plants							■	■	■								
<i>Rumex occidentalis</i>	Western Dock	3'–6'		Green	Many very small flowers on an upright stalk up to 6' tall																	
<i>Rumex salicifolius</i> var. <i>salicifolius</i>	Willow-leaved Dock																					

KEY

● **SHOWY**
Flowers are visible at some point during the year

LIFE CYCLE
A Annual
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EP Evergreen perennial
P Perennial

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SEAS WET tolerates seasonally wet conditions
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SUB tolerates submerged conditions

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
EP		●	●		●	●											FACU	
	●	●		●								●	●	●				
											●	●					FACW	
											●	●					OBL	
											●	●					FACW	
											●					●	OBL	
P	●	●			●						●		●	●			FAC	
											●	●				●	FACW-	
											●	●					FACW	
											●	●					OBL	
												●				●	FAC	
									X		●	●				●	OBL	
P	●	●		●	●							●	●	●	●	●	●	FACU
P	●				●	●					●					●	FACW+	
	●	●			●	●					●							

● **HABITAT TYPE**

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10–40 ———>)

Latin name	Common name	Mature height	FLOWERS														
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D
<i>Rupertia physodes</i>	California Tea																
<i>Sagina decumbens</i> ssp. <i>occidentalis</i>	Western Pearlwort																
<i>Sagittaria latifolia</i>	Wapato	1'–3'	●	White	White, in several whorls of 3" long, narrow terminal cluster							■	■	■			
<i>Sanicula bipinnatifida</i>	Purple Sanicle																
<i>Sanicula crassicaulis</i>	Pacific Sanicle	1'–3'		Yellow	Small yellow, sometimes purple-tinged; in small compact, rounded clusters on long stalks suspended by leafy bracts						■	■					
<i>Satureja douglasii</i>	Yerba Buena	6"–10"		White	White, 5-lobed tube							■	■				
<i>Saxifraga oregana</i>	Oregon Saxifrage																
<i>Scoliopus hallii</i>	Oregon Fetid Adder's-tongue																
<i>Scrophularia californica</i>	California Figwort	2'–5'		Purple	Brownish to maroon flowers in loose panicles, small 1/2", 2-lipped, easily overlooked												
<i>Sedum oreganum</i>	Oregon Stonecrop	3"–6"	●	Yellow	Bright yellow, pointed, 5-petalled flowers, bunched on flowering stem							■	■				

KEY

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
															●		
															●		FACU+
P	●	●				●	●	●		●							OBL
	●	●		●											●	●	
P	●	●		●	●							●	●				
P		●			●							●					
	●	●			●	●				●						●	
												●					
P	●	●			●	●				●							FACW-
EP	●	●		●	●											●	

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-42 —>)

Latin name	Common name	Mature height	FLOWERS																
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D		
<i>Sedum spathulifolium</i>	Spatula-leaf Stonecrop	3"-8"	●	Yellow	Pale yellow, pointed, 5-petalled flowers, distinguished from s. Oreganum by completely separate individual flower petals						■	■							
<i>Senecio bolanderi</i> var. <i>harfordii</i>	Bolander's Groundsel																		
<i>Sericocarpus rigidus</i>	White-topped Aster												■	■					
<i>Sidalcea campestris</i>	Meadow Sidalcea	2'-6'	●	White Pink	White to pale-pink 5-petalled flowers on tall, hairy stems						■	■	■						
<i>Sidalcea nelsoniana</i>	Nelson's Checkermallow																		
<i>Silene antirrhina</i>	Sleepy Catchfly																		
<i>Sisyrinchium idahoense</i> var. <i>idahoense</i>	Blue-eyed Grass	8"-20"	●	Blue Purple	Dark purple with yellow anthers						■	■	■						
<i>Solidago lepida</i> var. <i>salebrosa</i>	Canada Goldenrod	1'-5'	●	Yellow	Small yellow ray flowers in dense pyramidal clusters									■	■				
<i>Spiranthes romanzoffiana</i>	Ladies-tresses																		
<i>Stachys cooleyae</i>	Cooley's hedgenettle																		
<i>Stachys pilosa</i> var. <i>pilosa</i>	Swamp Hedgenettle																		
<i>Stachys rigida</i>	Great Betony																		
<i>Stellaria crispa</i>	Crisped Starwort																		

KEY

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
EP	●	●		●	●											●	
												●	●				
P	●					●			X	●						●	
P	●	●		●	●				X						●		NI
									X						●		FAC
	●			●											●		
P	●	●			●	●				●					●		FACW-
P	●			●											●		FACU
										●					●		FACW
										●	●						FACW
										●					●		FACW+
										●	●				●		FACW
										●					●		FAC+

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-44 ———>)

Latin name	Common name	Mature height	FLOWERS															
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Streptopus amplexifolius</i>	Clasping-leaved Twisted-stalk	18"-36"		White	Greenish-white, bell-shaped													
<i>Sullivantia oregana</i>	Sullivantia																	
<i>Symphotrichum subspicatum</i>	Douglas' Aster	8"-40"	●	Blue Purple	Blue to purple 1" flowers with yellow centers								■	■				
<i>Synthryis reniformis</i>	Snow Queen	2"-6"		Blue Purple	Blue-violet, bell-shaped													
<i>Tellima grandiflora</i>	Fringecup	1'-2'	●	White Green	Greenish-white to reddish; small frilly petals, 5-10 lobes; arranged in linear raceme				■	■	■							
<i>Teucrium canadense</i> var. <i>occidentale</i>	Wood Sage																	
<i>Thalictrum occidentale</i>	Western Meadowrue	18"-36"	●	Yellow Purple	Male and female flowers on separate plants; male-masses of hanging yellow stamen, female-greenish-white or purplish, inconspicuous burr-like heads of naked ovaries				■	■	■	■						
<i>Tiarella trifoliata</i>	Foamflower	8"-16"	●	White	Tiny, delicate, white or pinkish nodding flowers on slender branching stems						■	■	■	■				
<i>Tiarella trifoliata</i> var. <i>unifoliata</i>	Trefoil Tiarella										■	■	■	■				

KEY

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
P		•	•		•							•	•	•				FAC-
									X			•					•	
P	•				•						•	•	•		•	•		FACW
P		•			•								•	•				
P		•	•	•	•								•	•				
											•	•						FAC+
P		•	•		•							•	•			•		FACU
P		•	•		•							•	•	•				FAC-
			•	•	•							•	•	•	•			

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10-46 ———>)

Latin name	Common name	Mature height	FLOWERS																	
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D			
<i>Tolmiea menziesii</i>	Piggyback Plant	12"–30"	●	Purple	Brownish-purple 4-petalled tube-like flowers on one-sided raceme					■	■	■	■	■						
<i>Tonella tenella</i>	Small-flowered Tonella																			
<i>Trichostema lanceolatum</i>	Mt. Blue-Curls																			
<i>Trientalis latifolia</i>	Western Starflower	4"–8"	●	White Pink	White to pink to rose, star-like; 5–9 petals						■	■								
<i>Trifolium bifidum</i>	Pinole Clover										■	■								
<i>Trifolium eriocephalum</i>	Wooly Head Clover										■	■								
<i>Trifolium microcephalum</i>	Small-Head Clover										■	■								
<i>Trifolium microdon</i>	Thimble Clover										■	■								
<i>Trifolium oliganthum</i>	Few-Flowered Clover										■	■								
<i>Trifolium variegatum</i>	White-tip Clover										■	■								
<i>Trifolium willdenovii</i>	Sand Clover										■	■								
<i>Trillium albidum</i> var. <i>parviflorum</i>	Small-flowered trillium	1'–2'	●	White Yellow Purple Green	Greenish-white, yellow or purple flowers, 3-petalled, sessile				■	■	■	■								
<i>Trillium ovatum</i>	Western Trillium	6"–16"	●	White	White; 3 large petals up to 2" with 6 yellow anthers				■	■	■	■								
<i>Triodanis perfoliata</i>	Venus' looking-glass																			

KEY

● **SHOWY**

Flowers are visible at some point during the year

LIFE CYCLE

- A Annual
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- EP Evergreen perennial
- P Perennial

X T/E State or federally listed as Threatened or Endangered

● **LIGHT**

- FULL SUN tolerates unshaded full exposure
- PARTIAL SUN tolerates some sun and shade
- FULL SHADE tolerates fully shaded conditions

● **MOISTURE**

- DRY tolerates dry conditions
- MOIST tolerates moist conditions
- SEAS WET tolerates seasonally wet conditions
- PERNL WET tolerates perennially wet conditions
- SUB tolerates submerged conditions

Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
P		•	•		•							•	•	•				FAC
															•	•		
	•				•										•	•		
P		•	•	•	•							•	•					FAC-
	•			•											•	•		
	•			•											•			
	•			•											•			
	•			•											•			
	•			•											•			
	•			•											•			
P		•	•		•							•	•					
P		•	•		•							•	•	•				FACU
																•		UPL

● **HABITAT TYPE**

- WETLAND** all forms of wetlands
- RIPARIAN** stream and river shorelines and bottomlands
- FOREST** flat or mildly rolling forests
- FOREST SLOPE** steeply sloping upland forests such as in the West Hills or East Buttes
- THICKET** forest edges, hedgerows, clumps of vegetation in meadows
- GRASS** open areas, meadows
- ROCKY** rocky upland areas and cliffs

● **WETLAND INDICATOR STATUS**

- Obligate Wetland (OBL)** almost always occur in wetlands
- Facultative wetland (FACW)** occur in wetlands 67%–99% of the time
- Facultative (FAC)** equally likely to occur in wetlands or non-wetlands
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A negative (-) sign – the plant occurs less frequently in wetlands, at the lower end of the wetland status category range

3.10 HERBACEOUS FORBS (Table continues across on page 3.10-48 →)

Latin name	Common name	Mature height	FLOWERS																
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D		
<i>Urtica dioica</i> ssp. <i>gracilis</i>	Stinging Nettle	2'-8'		Green	Tiny greenish in numerous, dense drooping clusters in the leaf axils						■	■							
<i>Vancouveria hexandra</i>	White Inside-out Flower	8"-18"	●	White	Small, white; sepals and petals bend backward and flare, open panicles on long, slender stalks						■	■	■						
<i>Veratrum californicum</i>	False Hellebore	4'-8'	●	White Green	Star-shaped, pale green, numerous on lateral spreading branches and upright terminal clusters							■	■	■					
<i>Verbena hastata</i>	Wild Hyssop	1'-3'	●	Pink Purple	Many small flowers held above leaves on a spike									■					
<i>Veronica americana</i>	American Brooklime	6"-24"	●	Blue Purple	Small blue to violet, saucer-shaped; in long, loose clusters along stem						■	■	■	■					
<i>Vicia americana</i>	American Vetch	6"-30"		Purple	Pea-like flowers in pairs on short stalks						■	■	■						
<i>Vicia gigantea</i>	Giant Vetch	1'-4'	●	Blue Purple	Blue to reddish-purple pea-like flowers in dense, one-sided clusters of 20-50 flowers						■	■	■						

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status	
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky		
P		●	●		●						●	●	●	●				FAC+
P		●	●	●	●							●	●	●			●	
P	●	●			●	●	●				●	●					●	FACW+
P	●	●			●				X		●						●	FAC+
P	●	●					●				●	●					●	OBL
P	●	●		●	●								●				●	FAC
P		●		●	●								●					

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3.10 HERBACEOUS FORBS (Table continues across on page 3.10–50 ———>)

Latin name	Common name	Mature height	FLOWERS																		
			Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D				
<i>Viola adunca</i>	Early Blue Violet	3"–6"	●	Blue Purple	Small flowers; showy white beards and dark purple guide lines usually mark the lower 3 petals; lowest petal projects backward into a short, curved spur						■	■	■								
<i>Viola glabella</i>	Stream Violet	4"–9"	●	Yellow	Small flowers, 3 lower petals with purple lines; flowers grow from upper leaf axils					■	■	■	■								
<i>Viola hallii</i>	Hall's Violet	4"–6"	●	White Yellow Purple	Upper petals purple or blue, lower petals yellow or cream						■	■	■								
<i>Viola howellii</i>	Howell's Violet																				
<i>Viola palustris</i>	Marsh Violet																				
<i>Viola praemorsa</i> var. <i>praemorsa</i>	Canary Violet																				
<i>Viola sempervirens</i>	Evergreen Violet	2"–5"	●	Yellow	Pale yellow, lower 3 petals with purple lines					■	■	■									
<i>Whipplea modesta</i>	Yerba de Selva																				
<i>Zeltnera muehlenbergii</i>	Muhlenberg's Centaury																				

KEY

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Wet land	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
P	●	●	●	●	●											●	FAC
P		●	●		●						●	●	●	●			FACW+
P	●	●			●							●	●		●		FAC
												●			●		
											●				●		OBL
	●			●											●		
EP		●	●		●	●						●	●				
												●					
											●				●	●	FACW

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3.11 HERBACEOUS GRASSES (Table continues across on page 3.11 - 2 →)

Latin name	Common name	Mature height	Life cycle	LIGHT		
				Full sun	Part sun	Full shade
<i>Acnatherum lemmonii</i>	Lemmon's Needlegrass			●		
<i>Acnatherum occidentale</i> ssp. <i>californica</i>	California Needlegrass			●		
<i>Agrostis exarata</i>	Spike Bentgrass			●	●	
<i>Agrostis scabra</i>	Rough Hairgrass			●	●	
<i>Alopecurus geniculatus</i>	Water Foxtail	6"-24"		●		
<i>Beckmannia syzigachne</i>	Slough Grass	3'	A	●		
<i>Bromus carinatus</i>	California Brome	2'-3'	P	●		
<i>Bromus sitchensis</i>	Alaska Brome					
<i>Bromus vulgaris</i>	Columbia Brome	2'-4'	P	●	●	●
<i>Cinna latifolia</i>	Woodreed					
<i>Danthonia californica</i>	California Oat-grass	1"-12"	P	●		
<i>Deschampsia cespitosa</i>	Tufted Hairgrass	18"-48"	P	●		
<i>Deschampsia danthioides</i>	Ticklegrass	6"-18"	A	●		
<i>Deschampsia elongata</i>	Slender Hairgrass			●	●	
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Blue Wildrye	2'-4'	P	●		●
<i>Elymus trachycaulus</i>	Bluebunch Wheatgrass	18"-36"	P	●	●	
<i>Festuca californica</i>	California Fescue	24-36"		●	●	
<i>Festuca occidentalis</i>	Western Fescue	10"-40"	P	●		●
<i>Festuca roemerii</i>	Roemer's Fescue	10"-40"	P	●		
<i>Festuca subulata</i>	Bearded fescue	20"-40"	P	●	●	●
<i>Festuca subuliflora</i>	Coast Range fescue	20"-40"		●	●	●
<i>Glyceria elata</i>	Fowl Mannagrass	3'-4'	P	●	●	●

KEY

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	MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Dry	Moist	Seas wet	Pernl wet	Sub		Wetland	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
•												•	•	
•												•	•	
		•	•	•			•	•						
		•	•	•			•	•						
		•	•	•			•							OBL
		•	•	•			•							OBL
•	•							•	•			•		
								•	•			•		
•	•											•		UPL
							•	•	•			•		FACW
•	•							•				•	•	FACU
		•	•	•			•							FACW
			•									•	•	FACW
•	•	•	•	•			•	•						FACW
•	•								•	•	•	•	•	FACU
•												•	•	FAC
•									•	•		•		
•	•								•	•				
•	•										•	•	•	
•	•								•	•				FACU+
		•							•	•		•		
		•	•	•			•	•						FACW+

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3.11 HERBACEOUS GRASSES (Table continues across on page 3.11 - 4 →)

Latin name	Common name	Mature height	Life cycle	LIGHT		
				Full sun	Part sun	Full shade
<i>Glyceria occidentalis</i>	NW Mannagrass	2'-3'	P	●	●	
<i>Hordeum brachyantherum</i>	Meadow Barley	1'-3'	P	●		
<i>Koeleria macrantha</i>	Junegrass			●		
<i>Leersia oryzoides</i>	Rice Cutgrass			●	●	
<i>Luzula campestris</i>	Field Woodrush	4"-24"	P	●	●	
<i>Luzula parviflora</i>	Small-flowered Woodrush					
<i>Melica bulbosa</i>	Oniongrass	12"-30"	P	●		
<i>Melica geyeri</i>	Geyer's Oniongrass	12"-40"	P	●	●	
<i>Melica subulata</i>	Alaska Oniongrass	12"-40"	P	●	●	
<i>Olsynium douglasii</i>	Grass-Widows			●	●	
<i>Panicum capillare</i>	Old-witch Grass					
<i>Paspalum distichum</i>	Knotgrass					
<i>Poa grayana</i>	Gray's Bluegrass					
<i>Poa howellii</i>	Howell's Bluegrass					
<i>Poa secunda</i>	Pine Bluegrass	18"-36"	P	●	●	
<i>Trisetum canescens</i>	Tall Trisetum		P		●	●
<i>Trisetum cernuum</i>	Nodding Trisetum					

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	MOISTURE					T/E	HABITAT TYPE						Wetland indicator status	
	Dry	Moist	Seas wet	Pernl wet	Sub		Wetland	Riparian	Forest	Forest slope	Thicket	Grass land		Rocky
		•	•	•	•		•							OBL
		•	•				•	•				•		NI
												•		
			•	•	•		•							
	•	•							•		•	•		NI
									•	•	•			FAC-
	•												•	FACU
	•								•	•				
	•	•							•		•			
	•	•												
							•	•						FACU+
														FACW
								•				•		FACU
												•		
	•									•		•	•	NI
	•	•	•	•				•	•					
							•	•	•					FACU

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3.12 HERBACEOUS SEDGES AND RUSHES (Table continues across on page 3.12-2 →)

Latin name	Common name	Mature height	Life cycle	LIGHT		
				Full sun	Part sun	Full shade
<i>Carex amplifolia</i>	Bigleaf Sedge	24"-42"	P	●	●	
<i>Carex aperta</i>	Columbia Sedge	20"-38"	P	●	●	
<i>Carex aquatilis</i> var. <i>dives</i>	Sitka Sedge	10"-46"	P	●	●	
<i>Carex arcta</i>	Clustered Sedge	8"-18"	P	●	●	
<i>Carex athrostachya</i>	Slenderbeaked Sedge	24"	P	●		
<i>Carex canescens</i>	Gray Sedge	18'	P	●	●	
<i>Carex cusickii</i>	Cusick's Sedge	30"	P	●		
<i>Carex densa</i>	Dense Sedge	20"	P	●		
<i>Carex hedersonii</i>	Henderson's Wood Sedge	12"-40"	P	●	●	
<i>Carex leptopoda</i>	Slender-foot sedge	8"-48"	P	●	●	
<i>Carex obnupta</i>	Slough Sedge	2'-5'	P	●	●	
<i>Carex retrorsa</i>	Knot-sheath Sedge	1'-5'	P	●		
<i>Carex stipata</i>	Sawbeak Sedge	10"-30"	P	●	●	
<i>Carex tumulicola</i>	Foothill Sedge			●		
<i>Carex unilateralis</i>	One-sided Sedge	1"-2"	P	●		
<i>Carex utriculata</i>	Beaked Sedge	1'-3'	P	●	●	
<i>Carex vesicaria</i>	Inflated Sedge	12"-38"	P	●	●	
<i>Carex vulpinoidea</i>	Fox Sedge	1"-3"	P	●		
<i>Cyperus erythrorhizos</i>	Red-Rooted Flatsedge			●		
<i>Cyperus squarrosus</i>	Awned Flatsedge			●		
<i>Cyperus strigosus</i>	Straw-Colored Flatsedge			●		
<i>Eleocharis acicularis</i>	Needle Spikerush			●		

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		●	●				●	●	●						FACW+
		●	●	●			●	●							FACW
			●	●			●								OBL
		●	●				●	●				●			OBL
		●	●				●					●			FACW
		●	●				●	●	●			●			FACW+
			●	●			●	●							OBL
			●				●								OBL
		●	●				●	●	●	●					FAC
		●					●	●	●	●					FACU
			●	●	●		●	●				●			OBL
				●	●		●								OBL
				●	●		●								OBL
	●												●		
			●	●			●						●		FACW
				●	●		●								OBL
			●	●	●		●								OBL
			●	●			●								
		●	●	●			●								
		●	●	●			●								
		●	●	●			●								
			●	●	●		●	●							

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3.12 HERBACEOUS SEDGES AND RUSHES (Table continues across on page 3.12-4 ———>)

Latin name	Common name	Mature height	Life cycle	LIGHT		
				Full sun	Part sun	Full shade
<i>Eleocharis obtusa</i>	Ovate Spikerush			●		
<i>Eleocharis palustris</i>	Creeping Spikerush	1”-2”	EP	●		
<i>Juncus acuminatus</i>	Tapertip Rush			●		
<i>Juncus articulatus</i>	Jointed Rush			●		
<i>Juncus balticus</i>	Baltic Rush	4”-40”	EP	●		
<i>Juncus bufonius</i>	Toad Rush	6”-1’	A	●		
<i>Juncus effusus</i> var. <i>pacificus</i>	Soft Rush	1’-3’	EP	●		
<i>Juncus ensifolius</i>	Dagger-leaf Rush	6”-20”	EP	●		
<i>Juncus laccatus</i>	Slender Soft Rush	1’-3’	EP	●		
<i>Juncus oxymeris</i>	Pointed Rush	6”-24”	EP	●		
<i>Juncus patens</i>	Spreading Rush			●	●	
<i>Juncus tenuis</i>	Slender Rush	6”-20”	EP	●		
<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	Hardstem Bulrush	3’-9’	EP	●	●	
<i>Schoenoplectus pungens</i>	American Bulrush	6”-40”	EP	●	●	
<i>Scirpus cyperinus</i>	Wooly Sedge			●		
<i>Scirpus microcarpus</i>	Small-fruited Bulrush	2’-4’	EP	●	●	
<i>Scirpus tabernaemonti</i>	Softstem Bulrush	3’-9’	EP	●	●	
<i>Trichostema lanceolatum</i>	Mt. Blue-Curls			●		

KEY

● **SHOWY**

Flowers are visible at some point during the year

LIFE CYCLE

- A Annual
- B Biennial
- EP Evergreen perennial
- P Perennial

X T/E State or federally listed as Threatened or Endangered

● **LIGHT**

- FULL SUN tolerates unshaded full exposure
- PARTIAL SUN tolerates some sun and shade
- FULL SHADE tolerates fully shaded conditions

● **MOISTURE**

- DRY tolerates dry conditions
- MOIST tolerates moist conditions
- SEAS WET tolerates seasonally wet conditions
- PERNL WET tolerates perennially wet conditions
- SUB tolerates submerged conditions

	MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Dry	Moist	Seas wet	Pernl wet	Sub		Wetland	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
			•	•	•		•	•						OBL
			•	•	•		•	•						OBL
		•	•	•			•							
		•	•	•			•							
			•	•	•		•							FACW+
			•				•				•			FACW
		•	•	•	•		•							FACW
			•	•	•		•	•						FACW
		•	•	•	•		•							FACW
			•	•	•		•	•						FACW+
		•	•	•				•						
		•	•	•			•							FACW-
				•	•		•	•						OBL
				•	•		•							OBL
		•	•	•	•		•	•						
				•	•		•	•	•			•		OBL
				•	•		•	•						OBL
		•									•	•		

● **HABITAT TYPE**

- WETLAND** all forms of wetlands
- RIPARIAN** stream and river shorelines and bottomlands
- FOREST** flat or mildly rolling forests
- FOREST SLOPE** steeply sloping upland forests such as in the West Hills or East Buttes
- THICKET** forest edges, hedgerows, clumps of vegetation in meadows
- GRASS** open areas, meadows
- ROCKY** rocky upland areas and cliffs

● **WETLAND INDICATOR STATUS**

- Obligate Wetland (OBL)** almost always occur in wetlands
- Facultative wetland (FACW)** occur in wetlands 67%–99% of the time
- Facultative (FAC)** equally likely to occur in wetlands or non-wetlands
- Facultative Upland (FACU)** occur wetlands only 1%–33% of the time
- Obligate Upland (UPL)** almost never, under natural conditions, occur in wetlands in the Northwest
- No indicator (NI)** no status

A **positive (+) sign** – the plant occurs more frequently in wetlands, at the higher end of the wetland status category range
 A **negative (-) sign** – the plant occurs less frequently in wetlands, at the lower end of the wetland status category range

3.13 HERBACEOUS FERNS (Table continues across on page 3.13-2 ———>)

Latin name	Common name	Mature height	Life cycle	LIGHT		
				Full sun	Part sun	Full shade
<i>Adiantum aleuticum</i>	Northern Maidenhair Fern	1'-2'	P		●	●
<i>Athyrium filix-femina</i>	Lady Fern	2'-4'	P	●	●	●
<i>Blechnum spicant</i>	Deer Fern	1'-3'	EP		●	●
<i>Botrychium multifidum</i>	Leathery Grape-fern	6"-15"	EP			
<i>Cystopteris fragilis</i>	Brittle Bladder Fern	4"-12"	P	●	●	
<i>Dryopteris arguta</i>	Wood Fern	18"-2'	EP	●	●	
<i>Dryopteris expansa</i>	Spreading Wood Fern	2'-3'	P		●	●
<i>Gymnocarpium disjunctum</i>	Oak Fern	6"-16"	P		●	●
<i>Pentagramma triangularis</i>	Gold-back Fern	3"-12"	EP	●	●	
<i>Polypodium glycyrrhiza</i>	Licorice Fern	8"-20"	EP		●	●
<i>Polystichum munitum</i>	Sword Fern	2'-5'	EP		●	●
<i>Pteridium aquilinum</i>	Bracken Fern	1'-9'	P	●	●	●

KEY

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	MOISTURE					T/E	HABITAT TYPE							Wetland indicator status
	Dry	Moist	Seas wet	Pernl wet	Sub		Wetland	Riparian	Forest	Forest slope	Thicket	Grass land	Rocky	
		•						•	•	•			•	FAC
		•	•	•				•	•	•				FAC
		•	•				•	•	•					FAC+
		•					•	•	•	•	•			FAC
	•	•							•	•	•		•	FACU
	•	•							•				•	
		•	•					•	•	•				
		•							•					FAC
	•												•	
		•	•					•	•	•	•		•	
	•	•							•	•	•			FACU
	•	•							•		•	•		FACU

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3.14 OTHER HERBACEOUS (Table continues across on page 3.14-2 →)

Latin name	Common name	Mature height	Form	FLOWERS															
				Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Azolla filiculoides</i>	Duckweed	f	a																
<i>Brasenia schreberi</i>	Water-shield	f	a	●	Purple	Single 1" purple flowers rising on thin stalks above leaf							■	■	■				
<i>Callitriche hetrophylla</i>	Different-leaf Water-starwort	f/s	a																
<i>Cephalanthera austiniiae</i>	Phantom Orchid	10"	m			Cannot be cultivated													
<i>Ceratophyllum demersum</i>	Coontail	s	a																
<i>Corallorhiza maculata</i>	Pacific Coral-root	12"	m																
<i>Corallorhiza mertensiana</i>	Coral-root	12"	m																
<i>Corallorhiza striata</i>	Striped Coral-root	12"	m																
<i>Elatine triandra</i>	Three-stamen Waterwort	2"	e																
<i>Howellia aquatilis</i>	Howellia	f/s	a																
<i>Lemna minor</i>	Water Lentil (duckweed)	f	a																
<i>Ludwigia palustris</i>	False Loosestrife	6"	e																
<i>Nuphar polysepala</i>	Yellow Water-lily	f	a	●	Yellow	Brilliant yellow or reddish tinged, cup-shaped blossoms, 3-4" wide, floating						■	■	■	■				
<i>Persicaria amphibia</i>	Water Smartweed	6"-12"	a	●	Pink	Bright pink, small but showy; oblong terminal spikes							■	■	■				

KEY

MATURE HEIGHT

Height above water if emergent

- f floating
- s submerged

FORM

- a aquatic
- c clubmoss
- e emergent
- m mycorrhizal

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE					Wetland indicator status		
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub		Forest	Forest slope	Thicket	Grass land	Rocky			
											•						OBL
P	•										•						OBL
											•		•				OBL
												•	•				
P	•										•						OBL
												•	•				UPL
												•	•				
												•	•				FACU
											•	•					OBL
									X		•						OBL
A	•	•									•						OBL
											•	•					OBL
P	•	•									•						OBL
P	•	•									•						OBL

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3.14 OTHER HERBACEOUS (Table continues across on page 3.14 - 4 ———>)

Latin name	Common name	Mature height	Form	FLOWERS															
				Showy	Color	Notes	J	F	M	A	M	J	J	A	S	O	N	D	
<i>Polygonum punctatum</i>	Dotted Smartweed	10"–40"	a																
<i>Potamogeton natans</i>	Broad-leaved Pondweed	f/s	a																
<i>Ranunculus aquatilis</i> var. <i>aquatilis</i>	White Water-buttercup	f/s	a																
<i>Selaginella douglasii</i>	Douglas' Selaginella	1"	c																
<i>Sparganium emersum</i>	Simplestem Bur-reed	8"–40"	a/e		Green	Tiny, greenish in obvious globular heads, 2–4 along stalk													
<i>Spirodela polyrhiza</i>	Great Duckweed	f	a																
<i>Typha latifolia</i>	Common Cattail	4"–10"	e	●	Brown	Brown; tiny in terminal cylindrical spike up to 12" long							■	■	■	■			

KEY

MATURE HEIGHT

Height above water if emergent

- f floating
- s submerged

FORM

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- c clubmoss
- e emergent
- m mycorrhizal

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Life cycle	LIGHT			MOISTURE					T/E	HABITAT TYPE						Wetland indicator status
	Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub				Forest	Forest slope	Thicket	Grass land	
A	•	•				•	•		X	•						OBL
										•						OBL
										•						OBL
											•	•			•	
P	•	•					•	•		•						OBL
										•						OBL
P	•	•				•	•	•		•						OBL

● **HABITAT TYPE**

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3.15 USING NATIVE GROUND COVERS AND VINES

Ground covers play an important ecological role in the landscape because they help prevent erosion and maintain soil moisture and temperature.



In general, plants that have a tendency to spread widely while remaining relatively low are good candidates for use as ground covers. Some vining plants are also suitable for ground covers since, in the absence of something to climb on, they will stay low to the ground. There are many native plants which are well-suited for use as ground covers. In many situations where lawn would traditionally be planted, you can instead plant a mixture of low growing native species to reduce maintenance, create more visual interest, and improve biodiversity and habitat value. Select plants which are naturally adapted to the environmental conditions of your site. If you have a shady area, select plants which are native to moist, shady forest conditions.

Look at plants that are already growing on your site or on sites that have similar conditions to see if there are particular species that are covering large areas. The objective of a ground cover is to form a blanket on top of the soil. For some species, this is accomplished by spreading via roots or runners from individual plants. For other species, this happens when they produce large quantities of seed that rapidly colonize an area. If site conditions are not favorable, the plants will not spread or reproduce sufficiently to act as ground covers. The following list provides the names of a variety of native plants that could be used as ground covers. Think about combining a number of different plants in the same area. You may discover, over time, that one or two of the plants are more successful and have become the dominant ground cover.

3.16 GROUND COVERS

Latin name	Common name	Mature height	LIGHT			MOISTURE				
			Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub
Forbs										
<i>Achlys triphylla</i>	Vanillaleaf	8"-16"		●	●		●			
<i>Cornus unalaschkensis</i>	Bunchberry	4"-8"		●	●		●			
<i>Fragaria vesca</i> var. <i>bracteata</i>	Wood Strawberry	3"-8"	●	●		●	●			
<i>Fragaria virginiana</i> var. <i>platypetala</i>	Broadpetal Strawberry	2"-5"	●	●		●	●			
<i>Linnaea borealis</i>	Twinflower	4"-7"		●	●	●	●			
<i>Maianthemum dilatatum</i>	False Lily-of-the-valley	4"-16"		●	●		●	●		
<i>Oxalis oregana</i>	Oregon Oxalis	2"-8"		●	●		●			
<i>Petasites frigidus</i> var. <i>palmatus</i>	Sweet Coltsfoot	4"-18"	●	●	●		●	●		
<i>Potentilla glandulosa</i>	Sticky cinquefoil	12"-24"	●	●		●	●			
<i>Sedum oreganum</i>	Oregon Stonecrop	3"-6"	●	●		●	●			
<i>Tellima grandiflora</i>	Fringecup	12"-24"		●	●	●	●			
<i>Tolmiea menziesii</i>	Piggyback Plant	12"-30"		●	●		●			
<i>Vancouveria hexandra</i>	Inside-out flower	8"-18"		●	●	●	●			
<i>Viola adunca</i>	Early Blue Violet	3"-6"	●	●	●	●	●			
<i>Viola glabella</i>	Stream Violet	4"-9"		●	●		●			
<i>Viola hallii</i>	Hall's Violet	4"-6"	●	●			●			
<i>Viola sempervirens</i>	Evergreen Violet	2"-5"		●	●		●	●		

KEY

● LIGHT

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PARTIAL SUN tolerates some sun and shade
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● MOISTURE

DRY tolerates dry conditions
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PERNL WET tolerates perennially wet conditions
SUB tolerates submerged conditions

Latin name	Common name	Mature height	LIGHT			MOISTURE				
			Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub
Grasses										
<i>Alopecurus geniculatus</i>	Water Foxtail	6"-24"	●				●	●	●	
<i>Beckmannia syzigachne</i>	Slough Grass	36"	●				●	●	●	
<i>Bromus carinatus</i>	California Brome	24"-36"	●			●	●			
<i>Bromus vulgaris</i>	Columbia Brome	24"-48"	●	●	●	●	●			
<i>Deschampsia cespitosa</i>	Tufted hairgrass	18"-48"	●				●	●	●	
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Blue Wildrye	24"-48"	●		●	●	●			
<i>Festuca occidentalis</i>	Western Fescue	10"-40"	●		●	●	●			
<i>Festuca roemerii</i>	Roemer's Fescue	10"-40"	●			●				
<i>Festuca subulata</i>	Bearded fescue	20"-40"	●	●	●	●	●			
<i>Festuca subuliflora</i>	Coast Range fescue	20"-40"	●	●	●		●			
<i>Glyceria elata</i>	Fowl Mannagrass	36"-48"	●	●	●		●	●	●	
<i>Glyceria occidentalis</i>	NW Mannagrass	24"-36"	●	●			●	●	●	●
<i>Luzula campestris</i>	Field Woodrush	4"-24"	●	●		●	●			
<i>Melica bulbosa</i>	Oniongrass	12"-30"	●			●				
<i>Melica geyeri</i>	Geyer's Oniongrass	12"-40"	●	●		●				
<i>Melica subulata</i>	Alaska Oniongrass	12"-40"	●	●	●	●	●			
<i>Poa secunda</i>	Pine Bluegrass	18"-36"	●	●		●				

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Latin name	Common name	Mature height	LIGHT			MOISTURE				
			Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub
Rushes and Sedges										
<i>Carex amplifolia</i>	Bigleaf Sedge	24"-42"	●	●			●	●		
<i>Carex aperta</i>	Columbia Sedge	20"-38"	●	●			●	●	●	
<i>Carex aquatilis</i> var. <i>dives</i>	Sitka Sedge	10"-46"	●	●				●	●	
<i>Carex arcta</i>	Clustered Sedge	8"-30"	●	●				●	●	
<i>Carex athrostachya</i>	Slenderbeaked Sedge	4"-24"	●				●	●		
<i>Carex hedersonii</i>	Henderson's Wood Sedge	12"-40"	●	●				●	●	●
<i>Carex leptopoda</i>	Slender-foot sedge	8"-48"	●	●		●	●			
<i>Carex lynbyei</i> var. <i>robusta</i>	Lyngby's Sedge	8"-40"	●	●					●	●
<i>Carex obnupta</i>	Slough Sedge	24"-60"	●	●					●	●
<i>Carex praticola</i>	Meadow Sedge	12"-28"	●	●			●	●	●	
<i>Carex rostrata</i> var. <i>utriculata</i>	Beaked Sedge	12"-60"	●	●					●	●
<i>Carex stipata</i>	Sawbeak Sedge	10"-40"	●	●					●	●
<i>Carex vesicaria</i>	Inflated Sedge	12"-38"	●	●					●	●
<i>Eleocharis acicularis</i>	Needle Spike-rush	4"-8"	●					●	●	●
<i>Eleocharis palustris</i>	Creeping Spike-rush	24"-36"	●					●	●	●
<i>Juncus balticus</i>	Baltic Rush	4"-40"	●				●	●	●	●
<i>Juncus effusus</i> var. <i>pacificus</i>	Soft Rush	10"-50"	●				●	●	●	●
<i>Juncus ensifolius</i>	Dagger-leaf Rush	6"-24"	●					●	●	●
<i>Juncus tenuis</i>	Slender Rush	6"-28"	●				●	●	●	
<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	Hardstem Bulrush	36"-72"	●	●					●	●
<i>Schoenoplectus pungens</i>	American Bulrush	6"-40"	●	●					●	●
<i>Scirpus microcarpus</i>	Small-fruited Bulrush	24"-48"	●	●					●	●
<i>Scirpus tabernaemont</i>	Softstem Bulrush	36"-108"	●	●					●	●

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Latin name	Common name	Mature height	LIGHT			MOISTURE				
			Full sun	Part sun	Full shade	Dry	Moist	Seas. wet	Pernl. wet	Sub
Shrubs										
<i>Arctostaphylos uva-ursi</i>	Kinnikinnick	5"-8"	●			●	●			
<i>Berberis nervosa</i>	Cascade Oregon grape	2'	●	●		●	●			
<i>Gaultheria shallon</i>	Salal	12"-60"		●	●	●	●			
Vines										
<i>Lonicera ciliosa</i>	Orange Honeysuckle	18'	●			●	●		●	
<i>Lonicera hispidula</i>	Hairy Honeysuckle	15'	●	●	●		●	●		
<i>Marah oreganus</i>	Manroot	12'	●	●			●	●		
<i>Ribes laxiflorum</i>	Western Black Currant	3'-21'	●	●	●	●	●		●	●
<i>Rubus ursinus</i>	Pacific Blackberry	15'-18'		●	●		●	●	●	
<i>Toxicodendron diversilobum</i>	Poison Oak	3'-10'	●	●	●		●	●	●	

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3.17 NATIVE PLANTS USED AS FOOD BY WILDLIFE

INFORMATION FROM THE OREGON DEPARTMENT OF FISH AND WILDLIFE

Please refer to the wildlife key that follows the tables. Numbers in columns indicate the number of wildlife species or species groups that use each plant.

This is not an exhaustive list.

Latin Name	Common Name	Water Birds	Upland Birds	Song Birds	Medium and Large Mammals	Small Mammals	Hoofed Mammals
Trees							
<i>Abies grandis</i>	Grand Fir		1	1	3	2	1
<i>Acer circinatum</i>	Vine Maple	2	9	6	1	2	
<i>Acer macrophyllum</i>	Bigleaf Maple	2	9	6	1	1	
<i>Alnus rubra</i>	Red Alder	2	6	1	2		
<i>Arbutus menziesii</i>	Pacific Madrone	2	1	1			
<i>Cornus nutallii</i>	Pacific Dogwood	1	4	15	6	2	2
<i>Crataegus gaylussacia</i>	Suksdorf's hawthorn (upland)	1	3	5	7	1	
<i>Frangula purshiana</i>	Cascara, chitum	1	6	2	2	1	
<i>Fraxinus latifolia</i>	Oregon Ash	1	6	1			
<i>Malus fusca</i>	Western Crabapple	3	17	9	3	1	
<i>Populus balsamifera</i>	Black Cottonwood	2	2	1	5	1	
<i>Prunus emarginata</i>	Bitter Cherry	3	21	11	2		
<i>Prunus virginiana</i>	Common Chokecherry	3	21	11	2	2	
<i>Pseudotsuga menziesii</i>	Douglas Fir		1	3	3	3	2
<i>Quercus garryana</i>	Oregon White Oak	1	5	18	6	2	2
<i>Salix</i> spp.	Willow species		1	1	3	1	2
<i>Thuja plicata</i>	Western Red Cedar	1	6	5	3	1	
<i>Tsuga heterophylla</i>	Western Hemlock	1	4	3	1	1	

WILDLIFE SPECIES KEY

<i>Waterfowl (seeds, young plants)</i>	Ducks (many species), Geese (several species)
<i>Upland Birds (buds, fruit, needles, seeds)</i>	Grouse (2 species), Pheasant, Dove, Quail, Pigeon
<i>Songbirds (buds, fruit, needles, seeds)</i>	Blackbird (2 species), Bunting, Chat, Chickadee (2 species), Cowbird, Crossbill, Crow, Finch (2 species), Flicker, Grosbeak (2 species), Jay (3 species), Junco, Kinglet (2 species), Lark, Nutcracker, Nuthatch, Phoebe, Robin, Siskin, Sparrow (many species), Tanager, Thrush (2 species), Towhee, Waxwing, Woodpecker (several species), Wren (several species)
<i>Medium and Large Mammals (bark, foliage, seeds, fruit)</i>	Bear, Beaver, Coyote, Opossum, Rabbit (2-3 species), Raccoon, Skunk (2 species), Squirrel (3 species)
<i>Small Mammals (bark, fruit, seeds)</i>	Chipmunk, Mice (many species)
<i>Hoofed Mammals (foliage, twigs)</i>	Deer, Elk

Latin Name	Common Name	Water Birds	Upland Birds	Song Birds	Medium and Large Mammals	Small Mammals	Hoofed Mammals
Shrubs							
<i>Amelanchier alnifolia</i>	Western Serviceberry	2	15	4	3	2	
<i>Arctostaphylos columbiana</i>	Hairy Manzanita	1	2	1	2	1	
<i>Arctostaphylos uva-ursi</i>	Kinnikinnick	2	1				
<i>Berberis aquifolium</i>	Tall Oregon grape	1	4	1	1	1	
<i>Berberis nervosa</i>	Cascade Oregon grape	1	4	1	1	1	
<i>Corlyus cornuta</i> ssp. <i>californica</i>	California hazelnut	1	2	4	2	1	
<i>Cornus sericea</i>	Redosier dogwood	1	4	15	6	2	2
<i>Gaultheria shallon</i>	Salal	2	4	2			
<i>Holodiscus discolor</i>	Oceanspray	+	+	+	+	+	+
<i>Lonicera involucrata</i>	Black twinberry	+	+	+	+	+	+
<i>Oemleria cerasiformis</i>	Indian plum	+	+	+	+	+	+
<i>Physocarpus capitatus</i>	Pacific ninebark	+	+	+	+	+	+
<i>Prunus virginiana</i>	Common chokecherry	3	21	11	2		
<i>Ribes lobbii</i>	Gooseberry	1		4	5	4	1
<i>Rosa nutkana</i>	Wild rose	3	6	5	1	2	
<i>Rubus spectabilis</i>	Salmonberry	4	22	7	1	2	
<i>Sambucus mexicana</i>	Blue Elderberry	3	24	3	2	2	
<i>Sambucus racemosa</i> var. <i>arborescens</i>	Red Elderberry	3	24	2	2	2	
<i>Spiraea douglasii</i>	Douglas' spirea	+	+	+	+	+	+
<i>Symphoricarpos albus</i>	Common Snowberry	3	9	3	2	2	
<i>Symphoricarpos mollis</i>	Creeping Snowberry	3	9	3	2	2	
<i>Toxicodendron diversilobum</i>	Poison Oak	3	21	2			
<i>Vaccinium alaskaense</i>	Alaska Blueberry	2	15	6	2	1	
<i>Vaccinium parvifolium</i>	Red Huckleberry	2	15	6	2	1	

WILDLIFE SPECIES KEY

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<i>Medium and Large Mammals (bark, foliage, seeds, fruit)</i>	Bear, Beaver, Coyote, Opossum, Rabbit (2–3 species), Raccoon, Skunk (2 species), Squirrel (3 species)
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<i>Hoofed Mammals (foliage, twigs)</i>	Deer, Elk

Latin Name	Common Name	Water Birds	Upland Birds	Song Birds	Medium and Large Mammals	Small Mammals	Hoofed Mammals
Ground Cover							
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish Clover	3					
<i>Actaea rubra</i>	Baneberry	1	1				
<i>Aquilegia formosa</i>	Red Columbine	1	5	1	1		
<i>Bidens cernua</i>	Nodding beggarstick	1	2	1			
<i>Bromus carinatus</i>	California Brome	1	3	7		1	1
<i>Carex aquatilis</i> var. <i>dives</i>	Sitka Sedge	14	2	5	3	1	1
<i>Carex canescens</i>	Gray Sedge	14	2	5	3	1	1
<i>Carex cusickii</i>	Cusick's Sedge	14	2	5	3	1	1
<i>Carex interior</i>	Inland Sedge	14	2	5	3	1	1
<i>Carex obnupta</i>	Slough Sedge	14	2	5	3	1	1
<i>Carex rostrata</i>	Beaked Sedge	14	2	5	3	1	1
<i>Chamerion angustifolium</i> var. <i>canescens</i>	Fireweed	1	1				
<i>Claytonia perfoliata</i>	Miner's Lettuce	2	10				
<i>Eriogonum nudum</i>	Barestem Buckwheat	2	3	9	1		
<i>Festuca occidentalis</i>	Western Fescue	4	1				
<i>Festuca subulata</i>	Bearded fescue	4	1				
<i>Festuca subuliflora</i>	Coast Range Fescue	4	1				
<i>Fragaria vesca</i>	Wood Strawberry	3	6	4	2	1	
<i>Geranium bicknellii</i>	Bicknell's Geranium	2	1	1	1		
<i>Juncus balticus</i>	Baltic Rush	+	+	+	+	+	+
<i>Juncus ensifolius</i>	Dagger-leaf Rush	+	+	+	+	+	+
<i>Lupinus bicolor</i>	Two-color Lupine	1	1	1	1	1	
<i>Lupinus lepidus</i>	Prairie Lupine	1	1	1	1	1	
<i>Lupinus polycarpus</i>	Bigleaf lupine	1	1	1	1	1	
<i>Lupinus rivularis</i>	Stream Lupine	1	1	1	1	1	
<i>Lysichiton americanum</i>	Skunk Cabbage	1	2				
<i>Oxalis trilliifolia</i>	Wood-sorrel	3	5	1	1		

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<i>Small Mammals (bark, fruit, seeds)</i>	Chipmunk, Mice (many species)
<i>Hoofed Mammals (foliage, twigs)</i>	Deer, Elk

Latin Name	Common Name	Water Birds	Upland Birds	Song Birds	Medium and Large Mammals	Small Mammals	Hoofed Mammals
Ground Cover (continued)							
<i>Poa grayana</i>	Gray's Bluegrass	1	3	7	1		
<i>Poa howellii</i>	Howell's Bluegrass	1	3	7	1		
<i>Polygonum amphibium</i>	Water Smartweed	19	1	12	2	1	
<i>Polygonum aviculare</i>	Doorweed	3	3	13	1	2	1
<i>Polygonum douglasii</i>	Douglas' Knotweed	3	3	13	1	2	1
<i>Polygonum nuttallii</i>	Nuttall's Knotweed	3	3	13	1	2	1
<i>Polygonum punctatum</i>	Dotted Smartweed	19	1	12	2	1	
<i>Potentilla glandulosa</i>	Sticky Cinquefoil	1	2	1	1		
<i>Ranunculus alismaefolius</i>	Water-plantain Buttercup	1	3	1	3	1	
<i>Ranunculus cymbalaria</i>	Shore Buttercup	1	3	1	3	1	
<i>Ranunculus flammula</i>	Creeping Buttercup	1	3	1	3	1	
<i>Ranunculus orthorhyncus</i>	Straightbeak Buttercup	1	3	1	3	1	
<i>Ranunculus pennsylvanicus</i>	Pennsylvania Buttercup	1	3	1	3	1	
<i>Rumex occidentalis</i>	Western Dock	1	3	8	1	1	1
<i>Sagittaria latifolia</i>	Wapato	15					
<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	Hardstem Bulrush	20	1	3			
<i>Scirpus heterochaetus</i>	Pale Great Bulrush	20	1	3	1		
<i>Scirpus microcarpus</i>	Small-fruited Bulrush	20	1	3	1		
<i>Scirpus olneyi</i>	Olney's Bulrush	20	1	3			
<i>Simplestem Bur-reed</i>	Sparganium emersum	11		1			
<i>Typha angustifolia</i>	Lesser Cattail	3	1				
<i>Typha latifolia</i>	Common Cattail	3	1				
<i>Viola</i> spp.	Violets	3	1	1	1		

WILDLIFE SPECIES KEY

<i>Waterfowl (seeds, young plants)</i>	Ducks (many species), Geese (several species)
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<i>Hoofed Mammals (foliage, twigs)</i>	Deer, Elk

4. Nuisance Plants in Detail

The plants on the Nuisance Plants List are invasive; they threaten the health and vitality of native habitats, humans, and cause economic harm to public and to private landowners. Planting of these plants should be avoided and removal encouraged.

The plants are divided into the following groups:

- Rank A Plants
- Rank B Plants
- Rank C Plants
- Rank D Plants
- Rank W Plants

The following special list is also included:

- Required Eradication List

The plants on the Nuisance Plants List are species that threaten the health and vitality of native plant and animal communities, humans, and the economy. Most of the non-native plants on this list exist or have been found in Portland or in the four-county metropolitan region. The introduction to the *Portland Plant List* provides a description of code requirements related to the Nuisance Plants List. Please consult the City of Portland Zoning Code, other City codes, and City staff for more detailed analysis of applicable requirements relating to the prohibition on planting, and the required removal of plants on the Nuisance Plants List.

The provisions related to plants on the Nuisance Plants List apply to the named species on the Nuisances Plants List, and includes any sub-species, varieties, or cultivars of these species, unless otherwise noted. The Nuisance Plants List identifies each plant as tree, shrub, herbaceous, or aquatic. Herbaceous plants are non-woody plant species such as groundcovers, ferns, forbs, sedges, rushes, grasses and other plants.

Impacts

Invasive plant species have an impact on human and wildlife health and safety, water quality, biodiversity, fish and wildlife habitat, tree cover, fire risk, and the economy, as summarized in the paragraphs below. The City of Portland is committed to reducing these impacts to the highest degree possible within the limits of public resources and jurisdictional authority. The City also works to facilitate cooperation toward this end among citizens, developers, and land stewards.

To successfully prevent and minimize the spread of invasive species, it is important to understand where they come from and how they have become problematic. All of the plants on the Nuisance Plants List are non-native species; some were intentionally introduced, while others arrived incidentally. It is easy to transport plants. For example, non-native or ornamental plants can be purchased and installed in gardens. Vehicles can track plant seeds on tires. Humans can track seeds on their shoes, and livestock and pets can transport seed on their fur or feet. Many plant seeds or plant parts (e.g. knotweed rhizomes or shoots) are dispersed by wind and water. Animals may eat seeds and deposit them. Knowing how plants reproduce and spread is very helpful in preventing the vector distribution and controlling populations once established.

While many non-native plants introduced into this region have reproduced rapidly, not all non-native plants become invasive. When plants are no longer in their native environment, they enter new relationships within the ecological communities they occupy. Sometimes, they cause very little disruption to the systems they enter, while at other times they cause great disturbance. These detrimental impacts may take years to become noticeable, or they may quickly become evident. Additionally, many native invertebrates have co-evolved over many millennia, and many invertebrates need specific or a very few species for their food. If native plants are lost, these invertebrates may disappear from an infested area. This is why it is important from an ecological perspective to track and classify the aggressiveness of invasive plants.

Human and Wildlife Health and Safety

Humans and animals can be seriously impacted by invasive plants when they come into contact with the plants or eat the plants. For example, Paterson's curse (*Echium plantagineum*) contains pyrolizidine alkaloids; these alkaloids are poisonous to grazing animals. Humans handling the plant may incur mild to severe skin irritation and hay fever. Giant hogweed (*Heracleum mantegazzianum*) exudes a sap that sensitizes the skin to ultraviolet radiation. With exposure to the sun, severe burns can result in blisters and scars. If giant hogweed is burned and smoke is inhaled, it can cause burns in the respiratory tract.

Water Quality

Typically in the Pacific Northwest, native plant roots extend deep into the soil. Many species have extensive roots that bind the soils and reduce erosion. A diversity of plants provides a diversity of root structures and depths, and therefore, better erosion control. Monocultures homogenize root systems and provide poor erosion control. When erosion occurs, sediment is released into streams and increases stream turbidity, which in turn, impairs water quality.

For example, English ivy (*Hedera helix*) is an invasive, non-native groundcover plant that is prevalent in the City of Portland. English ivy provides little root structure to bind and hold the soil. While the expansive spread of English ivy provides an appearance of a plant holding soil strongly, the opposite is true. The roots are easily disturbed and eroded. In addition, English ivy often climbs into trees and envelops them, reducing tree strength and health and longevity, which in turn can affect soil stability and stream shading.

Some plants, such as Japanese knotweed (*Polygonum cuspidatum*) and Himalayan or Armenian blackberry (*Rubus discolor* or *Rubus armeniacus* (*R. bifrons*)), form monocultures that prevent trees from establishing. This reduces tree cover and shade in streamside environments. Without this tree cover, the water temperature in the stream increases. Higher water temperatures are associated with lower dissolved oxygen which adversely affects aquatic macroinvertebrates and native fish populations.

Biodiversity

Invasive plants are the second largest threat to biodiversity (behind habitat loss) and they are one of the primary factors that lead to a species listing under the Endangered Species Act (*City of Portland Invasive Plants Strategy Report 2008*).

Invasive plants spread quickly, and can displace or prevent the growth of native plants. Invasive plants can, as noted already, form monocultures. This can exacerbate the decline of native plant communities, and impair the overall complexity and resilience of the ecosystem. According to the International Convention on Biological Diversity, "Invasive alien species are one of the greatest threats to biodiversity."¹

Fish and Wildlife Habitat

Invasive plants can outcompete and displace native plants that provide food and cover for native wildlife. With a loss of habitat, a change in land use, and encroachment of invasive species, the native animals no longer have the appropriate food and habitat available to them. Non-native animals may come into these areas and displace native animals. Aquatic plants such as hydrilla (*Hydrilla verticillata*) and Eurasian watermilfoil (*Myriophyllum spicatum*) form dense mats of vegetation that clog waterways and create stagnant water that provides breeding grounds for mosquitoes. Invasive aquatic plants can clog irrigation ditches and intake pipes, and negatively impact recreation activities such as swimming, boating, fishing and water skiing.

Invasive Plants of Portland



Butterfly bush
Buddleia davidii



Garlic mustard
Alliaria petiolata



Gorse
Ulex europaeus



Purple loosestrife
Lythrum salicaria

Invasive Plants of Portland



Common hawkweed
Hieracium vulgatum



Giant hogweed
Heracleum mantegazzianum



Yellow flag iris
Iris pseudacorus

Tree Cover

As noted above, invasive plants can reduce tree health and longevity. For example, English ivy (*Hedera helix*) can grow so extensively that it can weigh down trees, causing them to fall down (especially during ice storms) or making them more susceptible to blow down. Invasive plants can also reduce the growth of trees. Garlic mustard (*Alliaria petiolata*) reduces the presence of soil fungi that form mycorrhizal associations with plants. Soil mycorrhizae allow plant roots to access more soil moisture and lack of soil mycorrhizae has been documented to inhibit the growth of tree seedlings, which may prevent future forest regeneration. Less tree cover develops because seedlings don't get established. Seedlings and saplings also have a difficult time establishing when dense cover is created by invasive plants because the invasive plants can prevent sunlight from reaching the ground.

Fire

Invasive plants can create fuel sources for wildfires. Plants such as Traveler's joy (*Clematis vitalba*) can spread quickly and form layers or thickets of vegetation. The monocultures can also increase the frequency of wildfires. For example, cheatgrass (*Bromus tectorum*) is an invasive plant that becomes dry and is more likely to catch fire. Gorse (*Ulex europaeus*) contains high levels of natural oils that make the plant highly flammable. The City of Bandon fire on September 26, 1936 is attributed to gorse. According to news reports, when the winds shifted, fire spread from the forest to the town and "the town's abundant gorse exploded into an inferno."² Even dead plants can be problematic. English ivy (*Hedera helix*), for example, can become a conduit for fire to reach the tree canopy, and threaten nearby structures. Invasive plants contributed to the wildfire that occurred in 2001 on the Willamette Bluffs in Portland. A spark from a passing train ignited the slope covered with Himalayan or Armenian blackberry (*Rubus discolor* or *Rubus armeniacus* (*R. bifrons*)) and Scotch broom (*Cytisus scoparius*); as a result of the fire, 43 acres burned.

Economy

Jurisdictions at the local, state, and federal level, as well as non-profit community organizations, are increasing their efforts to control invasive plants and animals. The Oregon Invasive Species Council estimates the cost of invasive plants and animals to the U.S. economy is \$120 million a year in lost crop and livestock efforts, property value damage, and reduced export potential. The Oregon Department of Agriculture estimates that 21 invasive species reduce personal income by \$83 million per year.

Increasing prevention and early detection efforts limits the introduction and spread of invasive plants and the costly removal efforts related to them. The U.S. Congress Office of Technology Assessment states that one dollar spent on weed control efforts prevents \$17 in costs for future control efforts. When early detection and removal efforts are not implemented, the plants spread quickly and widely. The costs of invasive plant removal become tremendous; eradication may not be possible at that point, and the habitat impacts become large scale. In early detection efforts, to borrow and modify a cliché, "an ounce of prevention is worth more than a pound of cure."

The statistics in these two paragraphs are from the Oregon Department of Agriculture, Economic Analysis of Containment Programs, Damages, and Production Losses from Noxious Weeds in Oregon, 2000.

² Oregon History Project; <http://bit.ly/aQTU3>

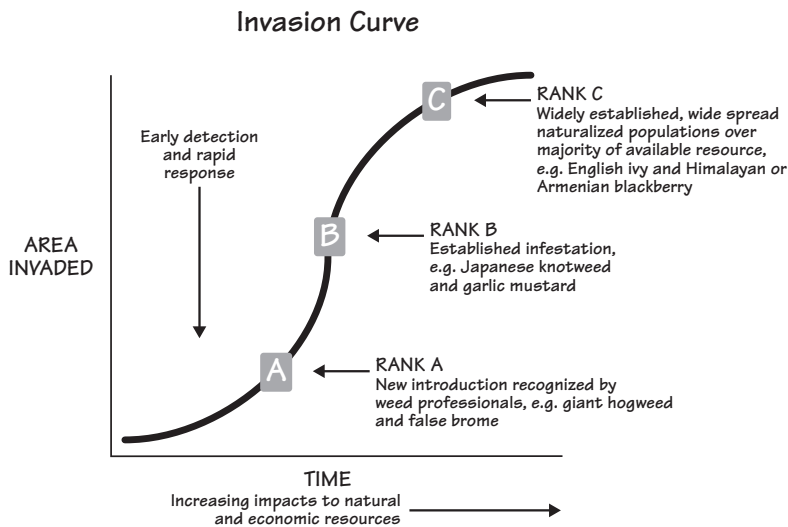
Ranks

Each plant on the Nuisance Plants List is assigned a rank. The ranks are defined below and describe the relative invasiveness of the plant species, and the current distribution in the region.

Preventing the introduction of invasive species is the best way to avoid an infestation. Limiting the planting of invasive species and educating people about the impacts of invasive species are two effective means to keep invasive plants from spreading to and from public and private lands. One use of the Nuisance Plants List is to educate people such as property owners and other individuals, land managers, commercial plant growers and sellers, and landscapers about which species are invasive. The benefits of preventing plant introductions applies to new invasive plants or existing invasive plants which may be transported to new areas. It is important to know that the Nuisance Plants List is not a “final” list; the list will change as new information about plants is identified. When other species become invasive in the future, the list will change to reflect that.

Early detection and rapid response invasive species management programs aim to control new plant invasions before they become large infestations. The premise is that once an infestation covers a large area, it is more difficult and to eradicate, and the native plant community has to be re-established. Controlling small populations of invasive plants before they become more widespread is a very cost effective way to prevent the spread of invasive plants.

The graph called an Invasion Curve is included here to illustrate how the area of infestation expands over time. When a plant is just arriving in an area, it is at the low point of the Invasion Curve; this is the best time to identify plants as invasive and to remove them. As the plant spreads over time, the distribution increases substantially and rapidly, becoming widely distributed and established. At this later point in the curve, landowners and other individuals are often more aware of the plant and can recognize it more readily, but it is so well established that a great deal of time and expense is involved in removing it.



The City of Portland emphasizes prevention of introduction and prevention of movement of invasive plants. When new invasive plants are found, then the City emphasizes the early detection and eradication of invasive plants that are not yet widespread. Ranks provide a tool to prioritize management actions related to plants. In brief, plants that are locally abundant and well distributed are identified with rank C and D, while those plants that are not as abundant are identified with rank A and B. Rank A plants are a top priority for control and removal, while rank D plants currently pose less threat to ecological functions than the others. Some of the Watch (rank W) plant species have not yet been observed in the region but are invasive in similar habitats elsewhere, and are of concern should they become established here. In addition, some of the plants are harmful to humans or wildlife, and the economy.

How to Use Ranks with Invasive Plant Management Priorities

Invasive plant management strategies vary; two important factors are the size of land to manage and the resources available. Decisions may be made site by site. Ranking plants provides a method to prioritize management of invasive plants with available resources. There are generally two approaches to consider; maintaining existing conditions and enhancing existing conditions.

Maintaining Existing Conditions

Given limited resources and/or large management areas, invasive plant management efforts may need to be limited to maintaining existing conditions to prevent further habitat degradation. Maintenance of existing conditions can be accomplished in two ways; removing small patches of invasive species and preventing new invasive species from arriving.

■ Removing Small Patches of Invasive Species

If the site contains a native plant community and there are small patches of invasive plants, then the small patches of invasive plants should be removed to prevent further degradation of site conditions. When the native plant community is present, then removal of small patches of invasive species can be conducted without re-planting native species because the native species will likely re-colonize within the small patch of invasive species removed.

■ Preventing New Invasive Species from Arriving

If the site is monitored to prevent new invasive species from arriving, consult the Nuisance Plants List to determine which species are currently limited in distribution (rank A and rank B). It is important to prevent the establishment of rank A and rank B species because they are very difficult to remove once they become established.

If the site lacks rank C species, then site monitoring should also prevent the establishment of these species. However, many urban sites may already be dominated by rank C species. Removal of large patches of rank C species should not be conducted unless it can be followed up with a site re-vegetation plan that includes multiple years of monitoring and maintenance. Follow up re-vegetation efforts, including monitoring and maintenance, are needed because without it, the invasive species will likely re-colonize the area.

Enhance Existing Conditions

If there are sufficient resources to remove invasive plants and re-establish the native plant community, then site management efforts can be aimed at removing larger patches of invasive species. Typically, these will be rank C species on the Nuisance Plants List. Converting sites from degraded conditions (i.e. predominantly covered with invasive species) to a higher quality habitat condition (i.e. one dominated by native plants) will likely take 3–5 years (or more) of monitoring and follow up maintenance to completely remove invasive plants and establish a native plant community. Sites with large amounts of invasive species will probably never be entirely free from invasive species; however, if the native trees and shrubs can be established over a 3–5 year period such that they are taller than nearby invasive species, then the site can be deemed “free to grow” and a native canopy will likely develop with limited future maintenance.

Definitions

Eradication — Eradication is the removal of the entire nuisance plant — including the above ground portion of the plant, and the roots, shoots and seeds of the plant. The eradication provisions apply to those plants on the Nuisance Plants List, Required Eradication List.

Invasive — Species that spread at such a rate that they cause harm to human health, the environment, and /or the economy. In natural areas, invasive plants are those species that displace native plants and become the dominant species in that vegetation layer. Invasive plants can halt successional processes by limiting the establishment and the growth patterns of native species.

Nuisance Plant Removal — Removal may entail actions such as the removal of: roots, the above ground portion of the plant, and/or the seeds of the plants such that existing non-nuisance and/or newly installed plants are able to grow and survive. The non-nuisance plants are maintained free of nuisance plants. The City's nuisance plants are identified on the Nuisance Plants List.

Ranks

A — These species are known to be invasive. These species are known to occur but are not widely distributed in the region. Distribution is limited to a few sites. They spread rapidly and they are difficult to control once they become widespread.

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C — These species are known to be invasive. These species are widely distributed and abundant throughout the region. Their distribution is already very extensive throughout the natural areas and they are difficult to control once they become widespread. These plants are considered ubiquitous.

D — These species are known to be less aggressive than A, B, and C species. These species are known to occur in the region. These plants persist in the ecosystems with native species and therefore, have less impact on the system than the A, B, and C species.

W — Watch species. Species occurrence and distribution should be monitored for presence and/or to determine the level of invasiveness in the region.

ODA Rank — In the required eradication list, the Oregon Department of Agriculture (ODA) ranks for noxious weeds are also included when available, ODA ranks these species as A, limited infestation; B, abundant infestation in some areas of the State; or T, a priority weed targeted by ODA for a statewide management plan. These ranks are included as reference only.

Region

The region includes the four counties of Multnomah, Clackamas, Washington in Oregon, and Clark County in Washington. The cities within those counties are also included. Clark, Multnomah, Clackamas, and Washington Counties are part of the Four County Cooperative Weed Management Area.

4.1 NUISANCE PLANTS LIST

Scientific Name	Common Name	Rank	Plant Type
Rank A Plants			
<i>Acroptilon repens</i>	Russian knapweed	A*	Herbaceous
<i>Brachypodium sylvaticum</i>	False brome	A*	Herbaceous
<i>Carduus pycnocephalus</i> and <i>Carduus tenuiflorus</i>	Italian thistle and slender flowered thistle	A*	Herbaceous
<i>Carex pendula</i>	Drooping Sedge	A	Herbaceous
<i>Cortaderia jubata</i>	Jubata grass	A*	Herbaceous
<i>Echium plantagineum</i>	Paterson's curse	A*	Herbaceous
<i>Heracleum mantegazzianum</i>	Giant hogweed	A*	Herbaceous
<i>Hieracium aurantiacum</i>	Orange hawkweed	A*	Herbaceous
<i>Hieracium pratense</i>	Meadow hawkweed	A*	Herbaceous
<i>Impatiens glandulifera</i>	Policemen's helmet	A*	Herbaceous
<i>Lamiastrum galeobdolon</i>	Yellow archangel	A	Herbaceous
<i>Ludwigia hexapetala</i>	Water primrose	A	Aquatic
<i>Onopordum acanthium</i>	Scotch thistle	A*	Herbaceous
<i>Phalaris aquatica</i>	Harding grass	A	Herbaceous
<i>Phragmites australis</i> var. <i>australis</i>	Common reed	A*	Herbaceous
<i>Phytolacca americana</i>	Pokeweed	A	Shrub
<i>Pueraria lobata</i>	Kudzu	A*	Herbaceous
<i>Silybum marianum</i>	Blessed milk thistle	A*	Herbaceous
<i>Tamarix ramosissima</i>	Salt cedar	A*	Shrub
<i>Ulex europaeus</i>	Gorse	A*	Shrub
<i>Utricularia inflata</i>	Swollen bladderwort	A	Aquatic
<i>Verbena bonariensis</i>	Tall verbena	A	Herbaceous

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Note: Resources for documentation/determination of the ranks includes input from the Oregon Flora Project, the Emerald Chapter of the Native Plant Society of Oregon list, The Nature Conservancy Global Compendium of Weeds, the NatureServe Invasiveness ranking, the noxious weed lists for Oregon, Washington, California, and Idaho, and documented natural area invasions. Metro, the 4 County CWMA, and the Oregon Department of Agriculture, Noxious Weed Control Program also provided comments on the list.

* These plants are also identified on the Required Eradication List

Scientific Name	Common Name	Rank	Plant Type
Rank B Plants			
<i>Abutilon theophrasti</i>	Velvetleaf	B	Herbaceous
<i>Acer platanoides</i>	Norway maple	B	Tree
<i>Ailanthus altissima</i>	Tree-of-heaven	B	Tree
<i>Alliaria petiolata</i>	Garlic mustard	B	Herbaceous
<i>Allium triquetrum</i>	Three-corner leek	B	Herbaceous
<i>Amorpha fruticosa</i>	Indigo bush	B	Shrub
<i>Arum italicum</i>	Italian arum, cuckoo pint	B	Herbaceous
<i>Buddleja (Buddleia) davidii</i>	Butterfly bush	B	Shrub
<i>Centaurea diffusa</i>	Diffuse knapweed	B	Herbaceous
<i>Centaurea stoebe</i> ssp. <i>micranthus</i>	Spotted knapweed	B	Herbaceous
<i>Chelidonium majus</i>	Celandine	B	Herbaceous
<i>Chondrilla juncea</i>	Rush skeletonweed	B	Herbaceous
<i>Daphne laureola</i>	Spurge laurel	B	Shrub
<i>Egeria densa</i>	South American waterweed	B	Aquatic
<i>Euphorbia oblongata</i>	Oblong or eggleaf spurge	B	Herbaceous
<i>Fallopia ×bohemica</i>	Bohemian knotweed	B	Herbaceous
<i>Galega officinalis</i>	Goat's Rue	B	Shrub
<i>Hieracium laevigatum</i>	Smooth hawkweed	B	Herbaceous
<i>Hieracium pilosella</i>	Mouse-ear hawkweed	B	Herbaceous
<i>Hieracium vulgatum</i>	Common hawkweed	B	Herbaceous
<i>Iris pseudacorus</i>	Yellow flag	B	Herbaceous
<i>Juncus effusus</i> var. <i>effusus</i>	European soft rush	B	Herbaceous
<i>Linaria dalmatica</i> ssp. <i>dalmatica</i>	Dalmation toadflax	B	Herbaceous
<i>Ludwigia peploides</i> ssp. <i>montevidensis</i>	Floating water primrose	B	Herbaceous
<i>Lunaria annua</i>	Money plant	B	Herbaceous
<i>Lythrum portula</i>	Spatula leaf purslane	B	Herbaceous
<i>Lythrum salicaria</i>	Purple loosestrife	B	Herbaceous
<i>Myriophyllum aquaticum</i>	Parrots feather	B	Aquatic
<i>Pentaglottis sempervirens</i>	Evergreen bugloss	B	Herbaceous
<i>Polygonum convolvulus</i>	Climbing bindweed	B	Herbaceous
<i>Polygonum cuspidatum</i>	Japanese knotweed	B	Herbaceous
<i>Polygonum polystachyum</i>	Himalayan knotweed	B	Herbaceous

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Scientific Name	Common Name	Rank	Plant Type
<i>Polygonum sachalinense</i>	Giant knotweed	B	Herbaceous
<i>Populus alba</i>	White poplar	B	Tree
<i>Ranunculus ficaria</i>	Lesser celandine	B	Herbaceous
<i>Solanum nigrum</i>	Garden nightshade	B	Herbaceous
<i>Viburnum opulus</i> var. <i>opulus</i>	Guelder rose	B	Shrub

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Rank C Plants			
<i>Acer psuedoplatanus</i>	Sycamore maple	C	Tree
<i>Aesculus hippocastanum</i>	Horse chestnut	C	Tree
<i>Arctium minus</i>	Common burdock	C	Herbaceous
<i>Arrhenatherum elatius</i>	Tall oatgrass	C	Herbaceous
<i>Betula pendula</i>	Cutleaf birch	C	Tree
<i>Bromus tectorum</i>	Cheatgrass	C	Herbaceous
<i>Callitriche stagnalis</i>	Pond water starwort	C	Aquatic
<i>Calystegia sepium</i> ssp. <i>angulata</i>	Lady's-nightcap	C	Herbaceous
<i>Centaurea ×moncktonii</i>	Meadow knapweed	C	Herbaceous
<i>Cirsium arvense</i>	Canada thistle	C	Herbaceous
<i>Cirsium vulgare</i>	Common thistle	C	Herbaceous
<i>Clematis vitalba</i>	Traveler's joy	C	Herbaceous
<i>Conium maculatum</i>	Poison-hemlock	C	Herbaceous
<i>Convolvulus arvensis</i>	Field morning-glory	C	Herbaceous
<i>Crataegus monogyna</i>	English hawthorn	C	Tree
<i>Cytisus scoparius</i>	Scotch broom	C	Herbaceous
<i>Daucus carota</i>	Queen Anne's lace	C	Herbaceous
<i>Dipsacus fullonum</i>	Common teasel	C	Herbaceous
<i>Epipactis helleborine</i>	Broad-leaved helleborine	C	Herbaceous
<i>Foeniculum vulgare</i>	Fennel	C	Herbaceous
<i>Geranium lucidum</i>	Shining geranium	C	Herbaceous
<i>Geranium robertianum</i>	Robert geranium	C	Herbaceous
<i>Geum urbanum</i>	European avens	C	Herbaceous
<i>Hedera helix</i>	English ivy	C	Herbaceous
<i>Hedera hibernica</i>	Irish ivy	C	Herbaceous
<i>Hypericum perforatum</i>	St. John's wort	C	Herbaceous
<i>Hypochaeris radicata</i>	Spotted cat's ear	C	Herbaceous
<i>Ilex aquifolium</i>	English holly	C	Tree/shrub
<i>Impatiens capensis</i>	Spotted touch-me-not	C	Herbaceous
<i>Lactuca serriola</i>	Prickly lettuce	C	Herbaceous

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Scientific Name	Common Name	Rank	Plant Type
<i>Lapsana communis</i>	Nipplewort	C	Herbaceous
<i>Leucanthemum vulgare</i>	Oxeye daisy	C	Herbaceous
<i>Ligustrum vulgare</i>	Privet	C	Shrub
<i>Lotus corniculatus</i>	Bird's foot trefoil	C	Herbaceous
<i>Melilotus alba</i>	Sweetclover	C	Herbaceous
<i>Melissa officinalis</i>	Lemon balm	C	Herbaceous
<i>Mentha pulegium</i>	Pennyroyal	C	Herbaceous
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	C	Aquatic
<i>Nymphaea odorata</i>	Fragrant water lily	C	Aquatic
<i>Parentucellia viscosa</i>	Yellow glandweed	C	Herbaceous
<i>Phalaris arundinacea</i>	Reed canarygrass	C	Herbaceous
<i>Potamogeton crispus</i>	Curly-leaf pondweed	C	Aquatic
<i>Potentilla recta</i>	Sulphur cinquefoil	C	Herbaceous
<i>Prunus avium</i>	Sweet cherry	C	Tree
<i>Prunus laurocerasus</i>	English laurel	C	Tree
<i>Prunus lusitanica</i>	Portuguese laurel	C	Shrub
<i>Ranunculus repens</i>	Double-flowered creeping buttercup	C	Herbaceous
<i>Robinia pseudoacacia</i>	Black locust	C	Tree
<i>Rosa eglanteria</i>	Sweetbriar rose	C	Herbaceous
<i>Rosa multiflora</i>	Multiflora rose	C	Herbaceous
<i>Rubus bifrons</i>	Himalayan blackberry	C	Shrub
<i>Rubus laciniatus</i>	Evergreen blackberry	C	Herbaceous
<i>Senecio jacobaea</i>	Ragwort	C	Herbaceous
<i>Silene coronaria</i>	Rose campion	C	Herbaceous
<i>Sisymbrium officinale</i>	Hedge mustard	C	Herbaceous
<i>Solanum dulcamara</i>	Bittersweet nightshade	C	Herbaceous
<i>Sonchus arvensis</i> , <i>S. asper</i> , and <i>S. oleraceus</i>	Sowthistles	C	Herbaceous
<i>Taeniatherum caput-medusa</i>	Medusahead	C	Herbaceous
<i>Tanacetum vulgare</i>	Common tansy	C	Herbaceous
<i>Trifolium arvense</i>	Hare's foot clover	C	Herbaceous
<i>Trifolium pratense</i>	Red clover	C	Herbaceous
<i>Trifolium repens</i>	White clover	C	Herbaceous
<i>Trifolium subterraneum</i>	Subterranean clover	C	Herbaceous

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Scientific Name	Common Name	Rank	Plant Type
Rank C Plants (continued)			
<i>Verbascum blattaria</i>	Moth mullein	C	Herbaceous
<i>Verbascum thapsus</i>	Common mullein	C	Herbaceous
<i>Vicia cracca</i>	Tufted vetch	C	Herbaceous
<i>Vicia villosa</i>	Hairy vetch	C	Herbaceous
<i>Vinca major</i>	Periwinkle (large leaf)	C	Herbaceous
<i>Vinca minor</i>	Periwinkle (small leaf)	C	Herbaceous

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Scientific Name	Common Name	Rank	Plant Type
Rank D Plants			
<i>Aegopodium podagraria</i>	Goutweed	D	Herbaceous
<i>Agrostis alba</i>	Redtop bentgrass	D	Herbaceous
<i>Agrostis capillaris</i>	Colonial bentgrass	D	Herbaceous
<i>Agrostis stolonifera</i>	Creeping bentgrass	D	Herbaceous
<i>Alopecurus pratensis</i>	Meadow foxtail	D	Herbaceous
<i>Anthoxanthum odoratum</i>	Sweet vernalgrass	D	Herbaceous
<i>Bromus diandrus</i>	Ripgut brome	D	Herbaceous
<i>Chicorium intybus</i>	Chicory	D	Herbaceous
<i>Elymus repens</i>	Quackgrass	D	Herbaceous
<i>Euphorbia lathyris</i>	Mole plant	D	Herbaceous
<i>Holcus lanatus</i>	Velvet grass	D	Herbaceous
<i>Houttuynia cordata</i>	Chameleon plant	D	Herbaceous
<i>Linaria vulgaris</i>	Yellow toadflax	D	Herbaceous
<i>Lolium multiflorum</i>	Annual ryegrass	D	Herbaceous
<i>Lolium perenne</i>	Perennial ryegrass	D	Herbaceous
<i>Lotus uliginosus</i>	Greater bird's foot trefoil	D	Herbaceous
<i>Mycelis muralis</i>	Wall lettuce	D	Herbaceous
<i>Phleum pratense</i>	Timothy	D	Herbaceous
<i>Poa annua</i>	Annual bluegrass	D	Herbaceous
<i>Ranunculus acris</i>	Tall buttercup	D	Herbaceous
<i>Rorippa nasturtium-aquaticum</i>	European watercress	D	Aquatic
<i>Schedonorus arundinaceus</i>	Tall fescue	D	Herbaceous
<i>Secale cereale</i>	Cultivated rye	D	Herbaceous
<i>Silene latifolia</i>	White campion	D	Herbaceous
<i>Sorbus aucuparia</i>	European mountain ash	D	Tree
<i>Ulmus pumila</i>	Siberian elm	D	Tree
<i>Utricularia vulgaris</i>	Common bladderwort	D	Aquatic
<i>Vicia sativa</i>	Common vetch	D	Herbaceous

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Scientific Name	Common Name	Rank	Plant Type
Rank W Plants			
<i>Ampelopsis brevipedunculata</i>	Porcelainberry	W	Herbaceous
<i>Arundinaria gigantea</i>	Canebreak bamboo	W	Shrub
<i>Aucuba japonica</i>	Spotted laurel	W	Shrub
<i>Butomus umbellatus</i>	Flowering rush	W	Herbaceous
<i>Cardaria draba</i>	White top or hoary cress	W	Herbaceous
<i>Carduus acanthoides</i>	Plumeless thistle	W	Herbaceous
<i>Carduus nutans</i>	Musk thistle	W	Herbaceous
<i>Centaurea calcitrapa</i>	Purple starthistle	W	Herbaceous
<i>Centaurea iberica</i>	Iberian starthistle	W	Herbaceous
<i>Centaurea jacea</i>	Brown knapweed	W	Herbaceous
<i>Centaurea solstitialis</i>	Yellow starthistle	W	Herbaceous
<i>Cortaderia selloana</i>	Pampas grass	W	Herbaceous
<i>Crocosmia crocosmiiflora</i>	Montbretia	W	Herbaceous
<i>Cytisus monspessulanus</i>	French broom	W	Herbaceous
<i>Cytisus striatus</i>	Portugese broom	W	Herbaceous
<i>Euphorbia esula</i>	Leafy spurge	W	Herbaceous
<i>Galium odoratum</i>	Sweet woodruff	W	Herbaceous
<i>Hydrilla verticillata</i>	Hydrilla	W	Aquatic
<i>Laburnum watereri</i>	Golden chain tree	W	Tree
<i>Lamium maculatum</i>	White nancy	W	Herbaceous
<i>Lathyrus latifolius</i>	Perennial peavine	W	Herbaceous
<i>Lysimachia nummularia</i>	Creeping jenny	W	Herbaceous
<i>Melilotus officinalis</i>	Yellow sweetclover	W	Herbaceous
<i>Nymphoides peltata</i>	Yellow floatingheart	W	Aquatic
<i>Parthenocissus quinquefolia</i>	Virginia creeper	W	Herbaceous
<i>Paulownia tomentosa</i>	Princess tree	W	Tree
<i>Petasites japonicus</i>	Sweet coltsfoot	W	Herbaceous
<i>Phyllostachys atrovaginata</i>	Incense bamboo	W	Herbaceous
<i>Phyllostachys heteroclada</i>	Water bamboo	W	Herbaceous
<i>Phyllostachys nidularia</i>	Big-node bamboo	W	Herbaceous
<i>Sasa palmata</i>	Broadleaf bamboo	W	Herbaceous

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Rank W Plants (continued)			
<i>Sasa veitchii</i>	Kuma bamboo	W	Herbaceous
<i>Solanum sarrachoides</i>	Hairy nightshade	W	Herbaceous
<i>Sorghum halepense</i>	Johnson grass	W	Herbaceous
<i>Trifolium hybridum</i>	Alsike clover	W	Herbaceous

CITY RANKS (CLASSIFICATIONS) ARE DEFINED AS FOLLOWS:

A — These species are known to be invasive. These species are known to occur but are not widely distributed in the region. Distribution is limited to a few sites. They spread rapidly and they are difficult to control once they become widespread.

B — These species are known to be invasive. These species are known to occur in the region. They are more abundant and widely distributed than A; however, the distribution is still limited to patches or specific habitats. Distribution is not as widespread as C plants. These species can spread rapidly and are difficult to control once they become widespread.

C — These species are known to be invasive. These species are widely distributed and abundant throughout the region. Their distribution is already very extensive throughout the natural areas and they are difficult to control once they become widespread. These plants are considered ubiquitous.

D — These species are known to be less aggressive than A, B, and C species. These species are known to occur in the region. These plants persist in the ecosystems with native species and therefore, have less impact on the system than the A, B, and C species.

W — Watch species. Species occurrence and distribution should be monitored for presence and/or to determine the level of invasiveness in the region.

4.2 REQUIRED ERADICATION LIST

Scientific Name	Common Name	Rank	ODA Rank
<i>Acroptilon repens</i>	Russian knapweed	A	B
<i>Brachypodium sylvaticum</i>	False brome	A	B and T
<i>Carduus pycnocephalus</i> and <i>Carduus tenuiflorus</i>	Italian thistle and slender flowered thistle	A	B
<i>Cortaderia jubata</i>	Jubata grass	A	B
<i>Echium plantagineum</i>	Paterson's curse	A	A
<i>Heracleum mantegazzianum</i>	Giant hogweed	A	A
<i>Hieracium aurantiacum</i>	Orange hawkweed	A	A
<i>Hieracium pratense</i>	Meadow hawkweed	A	A
<i>Impatiens glandulifera</i>	Policemen's helmet	A	B
<i>Onopordum acanthium</i>	Scotch thistle	A	B
<i>Phragmites australis</i> var. <i>australis</i>	Common reed	A	A
<i>Pueraria lobata</i>	Kudzu	A	A
<i>Silybum marianum</i>	Blessed milk thistle	A	B
<i>Tamarix ramosissima</i>	Salt cedar	A	B and T
<i>Ulex europaeus</i>	Gorse	A	B

Ranks = City of Portland ranks are identified. If the plant is not on the Oregon Department of Agriculture (ODA) noxious weed list then the "ODA Rank" column will be blank. If the plant is on the ODA noxious weed list, the ODA rank is identified.

CITY RANKS (CLASSIFICATIONS) ARE DEFINED AS FOLLOWS:

A — These species are known to be invasive. These species are known to occur but are not widely distributed in the region. Distribution is limited to a few sites. They spread rapidly and they are difficult to control once they become widespread.

B — These species are known to be invasive. These species are known to occur in the region. They are more abundant and widely distributed than A; however, the distribution is still limited to patches or specific habitats. Distribution is not as widespread as C plants. These species can spread rapidly and are difficult to control once they become widespread.

C — These species are known to be invasive. These species are widely distributed and abundant throughout the region. Their distribution is already very extensive throughout the natural areas and they are difficult to control once they become widespread. These plants are considered ubiquitous.

D — These species are known to be less aggressive than A, B, and C species. These species are known to occur in the region. These plants persist in the ecosystems with native species and therefore, have less impact on the system than the A, B, and C species.

W — Watch species. Species occurrence and distribution should be monitored for presence and/or to determine the level of invasiveness in the region.

Note: Resources for documentation/determination of the ranks includes input from the Oregon Flora Project, the Emerald Chapter of the Native Plant Society of Oregon list, The Nature Conservancy Global Compendium of Weeds, the NatureServe Invasiveness ranking, the noxious weed lists for Oregon, Washington, California, and Idaho, and documented natural area invasions. Metro, the 4 County CWMA, and the Oregon Department of Agriculture, Noxious Weed Control Program also provided comments on the list.

See the administrative rules for the Nuisance Plants Required Removal Program for additional information on the required removal of plants on the Required Eradication List.

5. Area-Specific Plant Lists

This section includes plant lists adopted for particular areas of the city. These lists are intended to achieve a certain design objective or habitat community, or to prevent incompatible landscaping based on adjacent uses or infrastructure requirements.

The following area-specific plant lists are found in this section:

- Airport Plant List

The City of Portland has adopted plant lists that are specific to certain geographic areas. There may be several reasons for these particular plant lists, including public health and safety (such as avoiding conflicts with aircraft operations at Portland International Airport), enhance ecological conditions, or to meet particular design or other purposes. The lists may establish allowed, required, or prohibited plant species depending on the specific objectives for the area.

Historically, these lists have been incorporated into the land use code, either by reference or directly in the zoning code. Consequently, revisions to these lists require a legislative amendment process.

This section of the *Portland Plant List* will eventually incorporate these lists in order to allow updates more readily through an administrative rule-making process.

How To Use These Lists

Each area-specific list is accompanied by a map or description of the location of where the list applies. For additional map detail, contact the Bureau of Planning and Sustainability. These lists are to be used in conjunction with required landscape plans, or mitigation projects where landscaping or plant restoration is required. They also serve as a helpful reference for making planting decisions when not associated with development or required mitigation.

Each list is organized according to meet the particular objectives of the plan area and therefore may not entirely correspond with other area-specific lists or lists in the preceding chapters of this document.

5.1 AIRPORT PLANT LIST

Applies to:

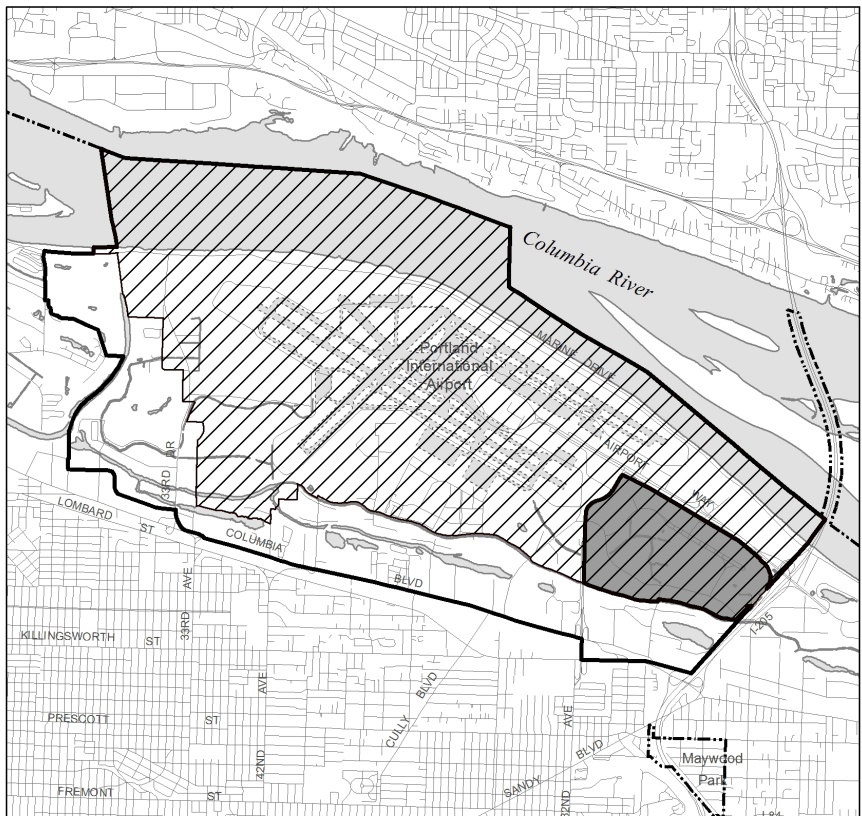
- Portland International Airport Plan District (Airport Subdistrict only)
- Portland International Center/Cascade Station Plan District

Introduction

Plant selection and spacing is an especially important component of the Airport Plan District. Collisions between birds and aircraft (“bird strikes”) are a significant hazard to both aircraft and birds in and around Portland International Airport (PDX) due to existing natural features and habitats, such as the Columbia Slough. In an effort to reduce this hazard, the approved Airport Plant List provides a selection of plant materials and standards for plant spacing which may be used in the plan district. These plants were selected because they generally do not attract wildlife; they do not provide attractive roosting habitat for species posing a threat to aviation safety, and are generally non-seeding or non-fruiting.

Where these standards apply

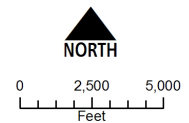
These standards apply to new development and significant redevelopment within the PDX Plan District - Airport Subdistrict and the Cascade Station/Portland International Center Airport Plan District. These standards do NOT apply in environmental overlay zones or to natural resource restoration/enhancement projects.



Areas where Airport Landscaping Standards Apply

Legend

- Areas where Landscaping Standards apply
- Portland International Airport Plan District
- Cascade Station / Portland International Center Plan District
- Airport Runway Structures
- Water Features



October 5, 2009

X:\Tech_Svc\GIS\code\code565\landscape_standards.mxd

Background

The City of Portland and the Port of Portland developed a set of landscaping design standards for use at PDX within the specific Plan District subdistricts that address plant species and planting standards for spacing and arrangement of trees and shrubs. The list of trees, shrubs, and groundcover vegetation is comprised of species screened by PDX Wildlife staff for general wildlife attractant features such as fruit, berries, height, density, branching structure, and crown shape. The list was also screened against the City's Nuisance Plant List to ensure no use of these problem species. The Airport Futures planning process adds a PDX specific list to the *Portland Plant List*, called the Airport Plant List. The current list is based directly on the Port's 2009 Wildlife Hazard Management Plan (WHMP).

Changes to the Airport Plant List

The Airport Plant List is subject to revision based on future updates to the Port's WHMP and approval by the Bureau of Planning & Sustainability through administrative rule-making.

Alternative Plant Selection

Approval of plants not on the Airport Plant List may be considered on a case by case basis, provided such plants are not listed in the Nuisance Plants section of this document. An applicant must submit a request to the Port of Portland in a process that takes 10 business days. A form and instructions for submittal are available on the Port's website www.portofportland.com. When the Port finds that the plant is consistent with the Wildlife Hazard Management Plan, the Port will issue a letter to the applicant. The applicant will need to include this letter in the permit application to the City.

AIRPORT PLANT LIST

	Scientific name	Common name	Type	Max. Height at Maturity	Max. Spread at Maturity
Trees					
<i>Plant at minimum 25' on center</i>	<i>Acer freemanii</i> 'Armstrong'	Armstrong Red Maple	Deciduous	50'–70'	15'
	<i>Calocedrus decurrens</i>	Incense Cedar	Evergreen	75'	15'
	<i>Cedrus deodara</i> 'Aurea'	Aurea Deodar Cedar	Evergreen	10'–25'	6'–10'
	<i>Chamaecyparis obtusa</i> 'Gracilis'	Slender Hinoki Falsecypress	Evergreen	20'	6'
	<i>Cryptomeria japonica</i> 'Elegans'	Japanese Plume Cedar	Evergreen	30'	10'
	<i>Cryptomeria japonica</i> 'Sekkan Sugi'	Golden Japanese Cedar	Evergreen	25'	10'
	<i>Cupressocyparis leylandii</i> 'Golconda'	Gold Leyland Cypress	Evergreen	20'	6'
	<i>Prunus sargentii</i> 'Columnaris'	Columnar Sargent Cherry	Deciduous	35'	15'
	<i>Zelkova serrata</i> 'Musashino'	Musashino Zelkova	Deciduous	45'	15'
<i>Plant at minimum 40' on center</i>	<i>Acer buergeranum</i>	Trident Maple	Deciduous	25'–35'	20'–30'
	<i>Acer circinatum</i>	Vine Maple	Deciduous	10'–20'	20'
	<i>Acer ginnala</i>	Amur Maple	Deciduous	10'–20'	20'
	<i>Acer griseum</i>	Paperbark Maple	Deciduous	20'–30'	25'
	<i>Acer palmatum</i>	Japanese Maple	Deciduous	15'–25'	10'–25'
	<i>Acer rubrum</i>	Red Maple	Deciduous	60'–75'	30'–50'
	<i>Carpinus betulus</i>	European Hornbeam	Deciduous	40'–60'	30'–40'
	<i>Fagus sylvatica</i> 'Tricolor'	Tricolor European Beech	Deciduous	20'–30'	10'–20'
	<i>Fraxinus americana</i> 'Autumn Purple'	Autumn Purple Ash	Deciduous	45'–60'	35'–50'
	<i>Fraxinus pennsylvanica</i>	Green Ash (seedless varieties only)	Deciduous	50'	40'
	<i>Ginkgo biloba</i>	Ginkgo (males only)	Deciduous	50'+	30'
	<i>Gleditsia tricanthos</i> var. <i>inermis</i>	Thornless Honeylocust	Deciduous	30'–70'	30'–40'
	<i>Liquidambar styraciflua</i> 'Rotundiloba'	Rotundiloba Sweetgum	Deciduous	60'–70'	20'–30'
	<i>Magnolia x soulangiana</i>	Saucer Magnolia	Deciduous	15'–20'	15'–25'
	<i>Malus x</i> 'Spring Snow'	Spring Snow Crabapple	Deciduous	25'–30'	15'–20'
	<i>Metasequoia glyptostroboides</i>	Dawn Redwood (height restricted)	Deciduous	70'–100'	15'–25'
	<i>Oxydendrum arboreum</i>	Sourwood	Deciduous	25'–60'	10'–25'
	<i>Parrotia persica</i>	Persian Parrotia	Deciduous	40'	25'
	<i>Pinus ponderosa</i> var. <i>benthamiana</i>	Willamette Valley ponderosa pine	Evergreen	60'–100'	25'–30'
	<i>Platanus xacerifolia</i>	London Planetree (height restricted)	Deciduous	70'–100'	60'–75'
	<i>Prunus serrulata</i> 'Shirotae'	Mt Fuji Cherry	Deciduous	12'–15'	20'
	<i>Pyrus calleryana</i> 'Cleveland Select'	Cleveland Select Flowering Pear	Deciduous	30'–35'	15'–20'
	<i>Quercus coccinea</i>	Scarlet Oak	Deciduous	75'	45'
	<i>Tillia americana</i>	American Linden	Deciduous	60'–80'	30'–50'
	<i>Tillia chordata</i>	Littleleaf Linden	Deciduous	60'–70'	25'–40'

Scientific name	Common name	Type	Max. Height at Maturity	Max. Spread at Maturity
Shrubs				
<i>Abelia x grandiflora</i> 'Prostrata'	Prostrate Glossy Abelia	Evergreen	1.5–2'	4–5'
<i>Acer freemanii</i> 'Armstrong'	Armstrong Red Maple	Deciduous	50'–70'	15'
<i>Berberis thunbergii</i> 'Kobold'	Kobold Japanese Barberry	Deciduous	2–2.5'	2–2.5'
<i>Berberis thunbergii</i> var. <i>atropurpurea</i> 'Crimson Pygmy'	Crimson Pygmy Japanese Barberry	Deciduous	2'	3'
<i>Buxus sempervirens</i> 'Suffruticosa'	English Boxwood	Evergreen	4–5'	2–4'
<i>Ceanothus thyrsiflorus</i>	Blue Blossom	Evergreen	4–12'	Variable
<i>Chamaecyparis obtusa</i> 'Nana Lutea'	Nana Lutea Hinoki Falsecypress	Evergreen	6'	4'
<i>Cistus</i> spp.	Rockrose species	Evergreen	Variable	Variable
<i>Clematis armandii</i>	Evergreen Clematis	Evergreen	20'	Variable
<i>Corylopsis glabrescens</i>	Fragrant Winterhazel	Deciduous	8–15'	8–15'
<i>Cotinus coggygia</i>	Common Smoketree	Deciduous	10–15'	10–15'
<i>Daphne</i> spp.	Daphne	Evergreen	3–4'	2–3'
<i>Enkianthus campanulatus</i>	Redvien Enkianthus	Deciduous	6–8'	4–6'
<i>Erica</i> spp.	Heath	Evergreen	1–2'	1–2'
<i>Euonymus alatus</i> 'Compactus'	Compact Winged Burning Bush	Deciduous	8–10'	9–11'
<i>Euonymus fortunei</i>	Wintercreeper Euonymus	Evergreen	1–3'	2–4'
<i>Forsythia</i> spp.	Forsythia	Deciduous	8–10'	10–12'
<i>Hamamelis x intermedia</i> 'Diane'	Diane Witchhazel	Deciduous	8–12'	10–15'
<i>Hydrangea macrophylla</i>	Bigleaf Hydrangea var.	Deciduous	4–6'	4–6'
<i>Kerria japonica</i>	Japanese Kerria	Deciduous	4–8'	6–9'
<i>Leucothoe fontanesiana</i>	Drooping leucothoe	Evergreen	3–6'	3–6'
<i>Nandina domestica</i> 'Gulf Stream'	Gulf Stream False Bamboo	Evergreen	2.5–3.5'	3'
<i>Potentilla fruticosa</i>	Bush Cinquefoil	Deciduous	2–4'	2–4'
<i>Rhododendron griffithianum</i> 'Jean Marie'	Honorable Jean Marie Rhododendron	Evergreen	5–6'	5–6'
<i>Rhododendron macrophyllum</i>	Western Rhododendron	Evergreen	6–12'	
<i>Rhododendron</i> var. 'P.J.M.'	P.J.M. Rhododendron	Evergreen	3–6'	6'
<i>Rhus typhina</i> 'Laciniata'	Laceleaf Staghorn Sumac	Deciduous	10–20'	10–20'
<i>Rosa gymnocarpa</i>	Little Wood Rose	Deciduous	6'	2–4'
<i>Rosa nutkana</i>	Nootka Rose	Deciduous	3–6'	6'
<i>Salix purpurea</i> 'Nana'	Dwarf Alaskan Blue Willow	Deciduous	5'	3–5'
<i>Spiraea douglasii</i>	Douglas Spiraea	Deciduous	3–7'	3–7'
<i>Taxus baccata</i> 'Repandens'	Spreading English Yew	Evergreen	2–4'	12–15'
<i>Taxus baccata</i> 'Standishii'	Standishii Yew	Evergreen	7'	3'

Scientific name	Common name	Type	Max. Height at Maturity	Max. Spread at Maturity
Groundcovers				
<i>Arctostaphylos uva-ursi</i> (cultivars)	Kinnikinnick	Evergreen	.5-1.5'	3-6'
<i>Genista pilosa</i>	Silkyleaf Broom	Deciduous	1-1.5'	2-3'
<i>Hemerocallis hybrid</i>	Day Lily	Deciduous	1-3'	
<i>Iberis sempervirens</i>	Evergreen Candytuft	Evergreen	1-2'	3-4'
<i>Liriope muscari</i>	Lily Turf	Evergreen	1-2'	.5-1'
<i>Mahonia nervosa</i>	Dwarf Oregon Grape	Evergreen	2'	
<i>Mahonia repens</i>	Creeping Mahonia	Evergreen	2'	3'
<i>Pachysandra terminalis</i>	Japanese Spurge	Evergreen	1'	2'
<i>Paxistima canbyi</i>	Canby Paxistima	Evergreen	1-1.5'	
<i>Sedum</i> spp.	Sedum	Deciduous		

Grasses and Sedges

<i>Bromus vulgaris</i>	Columbia Brome			
<i>Calamagrostis x acutifolia</i> 'Overdam'	Overdam Feather Reed Grass		2.5-3'	1.5-2'
<i>Carex morrowii</i> 'Evergold'	Evergold Japanese Sedge			
<i>Carex tumulicola</i>	Splitawn Sedge			
<i>Danthonia californica</i>	California Oatgrass		2'	

6. Resources

Web Sites

Backyard Habitat Certification Program by Audubon Society of Portland and Columbia Land Trust
www.backyardhabitat.org

Center for Invasive Plant Management
www.weedcenter.org

City of Portland, Bureau of Environmental Services (BES), Invasive Plant Management
www.portlandonline.com/bes/index.cfm?c=45696

City of Portland, Parks and Recreation, Invasive Plant and Integrated Pest Management
www.portlandonline.com/parks/38296

East Multnomah Soil and Water Conservation District

- In Your Yard – www.emswcd.org/in-your-yard/
- On Your Land – www.emswcd.org/on-your-land/weeds/

4-County Cooperative Weed Management Area
www.4countycwma.org

Native Plant Nurseries
www.plantnative.org/nd_or.htm

Oregon Department of Agriculture, Plant Division, Noxious Weed Control
www.oregon.gov/ODA/PLANT/WEEDS/lists.shtml

Oregon Invasive Species Council
www.oregon.gov/OISC/index.shtml

Oregon Invasives Hot Line

Call 1-866-Invader or go to www.oregoninvasiveshotline.org to report a suspected invasive species.

The reports for the Portland area are sent directly to BES EDRR staff.

PLANTS database
www.plants.usda.gov

The Flora of North America
www.efloras.org/flora_page.aspx?flora_id=1

The Nature Conservancy, Protecting Native Plants and Animals
<http://www.nature.org/ourinitiatives/habitats/forests/howwework/protecting-native-plants-and-animals-taking-on-the-invaders.xml>

The Oregon Flora Project
www.oregonflora.org

Web Sites continued

U.S. Forest Service, Invasive Species Program

<http://www.fs.fed.us/invasivespecies/>

Washington Flora

www.washington.edu/burkemuseum/collections/herbarium/index.php

Western Invasives Network, Invasive Plant Resources

<http://www.westerninvasives.org/invasive-plant-resources/>

West Multnomah Soil and Water Conservation District

- Invasive Species – www.wmswcd.org/types/invasive-species/
- The Meadowscaping Handbook – https://wmswcd.org/wp-content/uploads/2016/04/Meadowscaping_Publication_Complete_LR.2.pdf?f3148f

Guide for Using Willamette Valley Native Plants Along Your Stream (OR Watershed Enhancement Board)

www.wmswcd.org/wp-content/uploads/2015/06/Guide-for-Using-Willamette-Valley-Native-Plants-Along-Your-Stream.pdf?f3148f

Books

Flora of the Pacific Northwest: An Illustrated Manual (1973)

Authors: C. Leo Hitchcock and Arthur Cronquist

Landscaping for Wildlife in the Pacific Northwest (2003)

Author: Russell Link

Northwest Weeds: The Ugly and Beautiful Villains of Fields, Gardens, and Roadsides (1990)

Author: Ronald J. Taylor

Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia, and Alaska (2004)

Authors: Jim Pojar and Andy MacKinnon

Wildflowers of the Pacific Northwest (2006)

Authors: Mark Turner and Phyllis Gustafson

www.pnwflowers.com

Urbanizing Flora of Portland, Oregon, 1806–2008 (2009)

Authors: J. A. Christy, A. Kimpo, Var. Marttala, P. K. Gaddis, and N. L. Christy

Appendix A

History

In February 1986, the Greenway Plant List was developed in consultation with local ecologists, biologists, and naturalists. Later that year, this list was adapted for the Columbia River Corridor area. Use of native plants from the Greenway Plant List first became a requirement within the Willamette River Greenway Overlay Zones, though provisions were included to allow non-native plants. When the Environmental Overlay Zones were first adopted in 1989 for the Columbia River Corridor, planting only native plants became a requirement within the Environmental Overlay Zones. The native plants on the Greenway Plant List were primarily focused on the geographic areas within the Willamette River Greenway Zones and the Environmental Overlay Zones. Thereafter, a Technical Advisory Committee (TAC) was established to review and expand the list beyond these geographic areas so the list included plants found throughout the City of Portland.

As part of that review, the TAC identified the need to create categories for native, nuisance, and prohibited plants. The TAC expanded and renamed the list, now called the “*Portland Plant List*,” to include native and nuisance plants found throughout the City. The *Portland Plant List* was adopted by the Portland City Council on November 13, 1991. At the time of adoption, the *Portland Plant List* contained native plants and nuisance plants (nuisance plants were listed as dominating plants and harmful plants); however, no prohibited plants were listed at that time.

The *Portland Plant List* was amended on May 26, 1993 and September 21, 1994. These amendments refined and expanded the *Portland Plant List*, and added prohibited plants. The September 1994 list included five prohibited plants. In July, 1995, the list was updated to include name changes from the reference changes that occurred with the then-updated version of Appendix III of *The Jepson Manual*.

In 1997, the *Portland Plant List* was modified to update the Native Plant Lists and reformat the entire document. The changes were part of the City’s efforts to comply with State Land Use Planning Goals 5 Natural Resources and 15 Willamette Greenway, and were included as part of the development of a City of Portland Environmental Handbook. The reformatting created four sections: species lists for native plant communities occurring within the Portland area; species lists of plants historically native to the Portland area with illustrations and information; a list of nuisance plants; and a list of prohibited plants. The changes were adopted by City Council on March 19, 1997.

In 1998, a minor update was made to the *Portland Plant List* when several species were added to the Native Plant Lists and one species was added to the Nuisance Plant List.

In 2004, more extensive changes were made to the *Portland Plant List*. The Regional Interagency Weed Group (IWG), working in conjunction with the Bureau of Planning, proposed to add 113 plants to the Nuisance Plant List. The IWG was composed of representatives the Portland Bureau of Parks and Recreation (Urban Forestry Division, Horticultural Services, and the Natural Resources Program), the Tualatin Hills Parks and Recreation District, The Nature Conservancy, and the Bureau of Environmental Services Watershed Revegetation Program. At the same time, the Bureau of Environmental Services Watershed Revegetation Program proposed an addition of 61 plants to the Native Plant Lists. Because of the nature and extent of the changes, the Planning Bureau requested more comprehensive vetting of the changes and invited comments

from the Oregon Association of Nurseries, the Port of Portland, the Multnomah County Drainage District, the Columbia Slough Watershed Council, and the Oregon Department of Agriculture. The IWG also requested input from six independent experts. Following the review, the lists were modified and submitted by the Bureau of Planning to four plant experts for final review; after several changes, the plants were added to the *Portland Plant List* in March 2004.

The installation of nuisance and prohibited plants has been prohibited in the Greenway Overlay Zone since the plant list was established. Planting of plants on the Nuisance Plant List and the Prohibited Plant List has been prohibited in Environmental Overlay Zones since 1989, when that zone was first established. In June 2005, the Pleasant Valley Natural Resources Overlay Zone was added to the Portland Zoning Code. Planting plants on the Nuisance Plant List and the Prohibited Plant List is prohibited in the Pleasant Valley Natural Resources Overlay Zone. In July 2005, provisions in the City's Zoning Code were changed to prohibit the use of plants on the Nuisance Plant List and the Prohibited Plant List in City-required landscaping. Prior to July 2005, in City-required landscaping, only prohibited plants were prohibited. After July 2005, nuisance plants were also prohibited in City-required landscaping.

In 2009, the Bureau of Planning merged with the Office of Sustainable Development, becoming the Bureau of Planning and Sustainability. In 2009, the Nuisance Plant List and the Prohibited Plant List were consolidated into one list called the Nuisance Plants List. Also, the *Portland Plant List* was updated and refined to provide more information about these plants. Ranks were assigned to each plant on the Nuisance Plants List. Text was added to describe the plants and the ranks. Other portions of the *Portland Plant List* text were revised to reflect changes in terminology, and to improve the usefulness of the *Portland Plant List*. Formatting changes were also made. In addition, the *Portland Plant List* was changed from an ordinance to an administrative rule. Re-establishing the *Portland Plant List* as an administrative rule is consistent with technical documents such as the *Erosion Control Manual* and the *Stormwater Management Manual*. Administrative rules provide a streamline process for reviewing and making changes to technical documents such as the *Portland Plant List*.

In 2011 the Portland Plant List was revised. Revisions included adding several species to the Native Plants List and an area-specific plant list for the Portland International Airport as a result of the adopted Airport Futures Project. A plant index for both Native and Nuisance Species plants was incorporated into the document, as well as information about native tree growth rates in accordance with the adopted Citywide Tree Project.

In 2016, the Portland Plant List was updated to remove of 16 species from the Native Plants List, add eight species to the Nuisance Plants List. Three species already on the Nuisance Plants List were updated. Revisions also included corrections to plant taxonomy, updates to this section (Portland Plant List Appendix A, History), and miscellaneous corrections (e.g., removal of duplicative language, addressing unintended omissions). Before the next update, there is an interest in exploring further the potential tree canopy impacts of adding trees to the Nuisance Plants List.

Index

Native Plants

Latin name	Common name	Plant type	Page
<i>Abies grandis</i>	Grand Fir	Tree	2.1-2, 2.2-1, 3.1-1, 3.3-1, 3.4-2, 3.5-1, 3.17-1
<i>Acer circinatum</i>	Vine Maple	Arb. Shrub	2.1-3, 2.2-2, 3.4-2, 3.6-1, 3.7-1, 3.17-1, 5.1-3
<i>Acer macrophyllum</i>	Bigleaf Maple	Tree	2.1-2, 2.2-1, 2.3-1, 2.4-2, 3.2-1, 3.3-1, 3.4-2, 3.5-1, 3.17-1
<i>Achillea millefolium</i>	Yarrow	Forb	2.7-2, 3.10-1
<i>Achlys triphylla</i>	Vanillaleaf	Forb	2.1-4, 2.2-3, 3.10-1, 3.16-1
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish Clover	Forb	2.7-3, 2.8a-1, 2.8b-1, 3.10-1, 3.17-3
<i>Acmispon parviflorus</i>	Small-flowered Deervetch	Forb	2.7-3, 3.10-1
<i>Acnatherum lemmonii</i>	Lemmon's Needlegrass	Grass	2.7-2, 3.11-1
<i>Acnatherum occidentale</i> ssp. <i>californica</i>	California Needlegrass	Grass	2.7-2, 3.11-1
<i>Actaea rubra</i>	Baneberry	Forb	2.1-5, 2.2-3, 3.10-1, 3.17-3
<i>Adenocaulon bicolor</i>	Pathfinder	Forb	2.1-5, 3.10-1
<i>Adiantum aleuticum</i>	Northern Maidenhair Fern	Fern	2.1-4, 2.4-3, 2.8b-1, 3.13-1
<i>Agoseris grandiflora</i>	Large-flowered Agoseris	Forb	2.1-5, 2.3-3, 2.7-3, 3.10-1
<i>Agrostis exarata</i>	Spike Bentgrass	Grass	2.5-2, 3.11-1
<i>Agrostis scabra</i>	Rough Hairgrass	Grass	2.5-2, 3.11-1
<i>Alisma gramineum</i>	Narrow-leaved Water Plantain	Forb	2.5-2, 3.10-1
<i>Allium acuminatum</i>	Hooker's Onion	Forb	2.7-3, 2.7-5, 2.8a-2, 3.10-1
<i>Allium amplexans</i>	Slim-leafed Onion	Forb	2.6-2, 2.7-3, 3.10-1
<i>Allium cernuum</i>	Nodding Onion	Forb	2.6-2, 2.7-3, 2.8a-1, 3.10-1
<i>Alnus rubra</i>	Red Alder	Tree	2.1-2, 2.2-1, 2.3-1, 2.4-1, 2.5-1, 3.2-1, 3.3-1, 3.4-2, 3.5-1, 3.17-1
<i>Alopecurus geniculatus</i>	Water Foxtail	Grass	2.2-3, 2.4-3, 2.6-2, 3.11-1, 3.16-2
<i>Amelanchier alnifolia</i>	Western Serviceberry	Shrub	2.1-3, 2.2-2, 2.3-2, 2.4-2, 2.7-1, 3.8-1, 3.9-1, 3.17-2
<i>Amsinckia intermedia</i>	Fireweed Fiddleneck	Forb	3.10-1
<i>Anaphalis margaritacea</i>	Pearly-everlasting	Forb	2.7-3, 3.10-1
<i>Anemone deltoidea</i>	Western White Anemone	Forb	2.1-5, 3.10-3
<i>Anemone lyallii</i>	Small Wind-flower	Forb	2.1-7, 3.10-3
<i>Anemone oregana</i> var. <i>oregana</i>	Oregon Anemone	Forb	2.1-7, 3.10-3
<i>Angelica arguta</i>	Sharptooth Angelica	Forb	2.4-3, 2.6-3, 3.10-3
<i>Arbutus menziesii</i>	Madrone	Tree	2.1-2, 2.3-1, 2.7-1, 3.1-1, 3.3-1, 3.5-1, 3.17-1
<i>Arctostaphylos columbiana</i>	Hairy Manzanita	Shrub	2.8a-1, 3.8-1, 3.9-1, 3.17-2
<i>Arctostaphylos uva-ursi</i>	Kinnikinnick	Shrub	2.8a-1, 3.8-1, 3.9-1, 3.16-4, 3.17-2, 5.1-5
<i>Arnica amplexicaulis</i>	Clasping Arnica	Forb	2.4-3, 2.6-2, 3.10-3
<i>Artemisia douglasiana</i>	Douglas's Sagewort	Forb	3.10-3
<i>Artemisia lindleyana</i>	Columbia River mugwort	Forb	3.10-3
<i>Aster oregonensis</i>	Oregon White-topped Aster	Forb	3.10-3

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<i>Athyrium filix-femina</i>	Lady Fern	Fern	2.1 – 4, 2.2 – 3, 2.4 – 3, 3.13 – 1
<i>Azolla filiculoides</i>	Duckweed	Other	3.14 – 1
<i>Beckmannia syzigachne</i>	Slough Grass	Grass	3.11 – 1, 3.16 – 2
<i>Berberis aquifolium</i>	Tall Oregongrape	Shrub	2.1 – 3, 2.3 – 2, 2.7 – 1, 3.8 – 2, 3.9 – 1, 3.17 – 2
<i>Berberis nervosa</i>	Cascade Oregon grape	Shrub	2.1 – 3, 2.2 – 2, 2.3 – 2, 3.8 – 2, 3.9 – 1, 3.16 – 4, 3.17 – 2
<i>Bergia texana</i>	Texas Bergia	Forb	3.10 – 3
<i>Bidens cernua</i>	Nodding Beggar's-tick	Forb	2.5 – 3, 2.6 – 2, 3.10 – 3, 3.17 – 3
<i>Bidens frondosa</i>	Leafy Beggar's tick	Forb	2.5 – 3, 2.6 – 2, 3.10 – 3
<i>Bidens vulgata</i>	Western Beggar's-tick	Forb	3.10 – 3
<i>Blechnum spicant</i>	Deer Fern	Fern	2.1 – 5, 2.2 – 3, 2.4 – 3, 3.13 – 1
<i>Bolandra oregana</i>	Bolandra	Forb	2.8b – 2, 3.10 – 3
<i>Botrychium multifidum</i>	Leathery Grape-fern	Fern	3.13 – 1
<i>Boykinia occidentalis</i>	Slender Boykinia	Forb	2.1 – 7, 2.2 – 4, 2.4 – 4, 2.6 – 3, 3.10 – 5
<i>Brasenia schreberi</i>	Water-shield	Other	3.14 – 1
<i>Brodiaea coronaria</i>	Harvest Brodiaea	Forb	2.7 – 3, 3.10 – 5
<i>Brodiaea howellii</i>	Howell's Brodiaea	Forb	3.10 – 5
<i>Brodiaea hyacintha</i>	Hyacinth Brodiaea	Forb	3.10 – 5
<i>Bromus carinatus</i>	California Brome	Grass	2.1 – 5, 2.3 – 2, 2.3 – 3, 2.4 – 3, 2.7 – 2, 3.11 – 1, 3.16 – 2, 3.17 – 3
<i>Bromus sitchensis</i>	Alaska Brome	Grass	2.4 – 3, 3.11 – 1
<i>Bromus vulgaris</i>	Columbia Brome	Grass	2.3 – 4, 2.7 – 2, 3.11 – 1, 3.16 – 2, 5.1 – 5
<i>Callitriche heterophylla</i>	Different-leaf Water-starwort	Other	3.14 – 1
<i>Calochortus tolmiei</i>	Tolmie's Mariposa	Forb	2.7 – 2, 3.10 – 5
<i>Calypso bulbosa</i>	Fairy Slipper	Forb	2.1 – 7, 3.10 – 5
<i>Camassia leichtlinii</i>	Giant Camas	Forb	2.5 – 3, 2.6 – 3, 2.7 – 3, 3.10 – 5
<i>Camassia quamash</i>	Common Camas	Forb	2.5 – 3, 2.6 – 2, 2.7 – 3, 3.10 – 5
<i>Campanula rotundifolia</i>	Round-leaf Bluebell	Forb	2.8a – 1, 3.10 – 5
<i>Campanula scouleri</i>	Scouler's Bellflower	Forb	2.1 – 5, 2.3 – 3, 2.7 – 3, 3.10 – 7
<i>Canadanthus modestus</i>	Few-flowered Aster	Forb	2.1 – 5, 2.2 – 4, 3.10 – 7
<i>Cardamine angulata</i>	Angled Bittercress	Forb	2.1 – 5, 2.8b – 1, 3.10 – 7
<i>Cardamine nuttallii</i> var. <i>nuttallii</i>	Slender Toothwort	Forb	3.10 – 7
<i>Cardamine occidentalis</i>	Western Bittercress	Forb	3.10 – 7
<i>Cardamine oligosperma</i>	Little Western Bittercress	Forb	2.4 – 3, 3.10 – 7
<i>Cardamine penduliflora</i>	Willamette Valley Bittercress	Forb	3.10 – 7
<i>Cardamine pensylvanica</i>	Pennsylvania Bittercress	Forb	3.10 – 7
<i>Carex amplifolia</i>	Bigleaf Sedge	Sedge/Rush	2.1 – 5, 2.2 – 4, 3.12 – 1, 3.16 – 3
<i>Carex aperta</i>	Columbia Sedge	Sedge/Rush	2.5 – 3, 2.6 – 3, 3.12 – 1, 3.16 – 3
<i>Carex aquatilis</i> var. <i>dives</i>	Sitka Sedge	Sedge/Rush	3.12 – 1, 3.16 – 3, 3.17 – 3
<i>Carex arcta</i>	Clustered Sedge	Sedge/Rush	3.12 – 1, 3.16 – 3
<i>Carex athrostachya</i>	Slenderbeaked Sedge	Sedge/Rush	2.6 – 3, 3.12 – 1, 3.16 – 3
<i>Carex canescens</i>	Gray Sedge	Sedge/Rush	3.12 – 1, 3.17 – 3
<i>Carex cusickii</i>	Cusick's Sedge	Sedge/Rush	3.12 – 1, 3.17 – 3
<i>Carex densa</i>	Dense Sedge	Sedge/Rush	2.6 – 2, 3.12 – 1
<i>Carex hedersonii</i>	Henderson's Wood Sedge	Sedge/Rush	3.12 – 1, 3.16 – 3
<i>Carex leptopoda</i>	Slender-foot sedge	Sedge/Rush	2.1 – 4, 2.2 – 3, 2.3 – 3, 2.4 – 3, 2.5 – 2, 3.12 – 1, 3.16 – 3
<i>Carex obnupta</i>	Slough Sedge	Sedge/Rush	2.2 – 3, 2.5 – 2, 2.6 – 2, 3.12 – 1, 3.16 – 3, 3.17 – 3
<i>Carex retrorsa</i>	Knot-sheath Sedge	Sedge/Rush	3.12 – 1
<i>Carex stipata</i>	Sawbeak Sedge	Sedge/Rush	2.6 – 3, 3.12 – 1, 3.16 – 3

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<i>Carex tumulicola</i>	Foothill Sedge	Sedge/Rush	2.3 – 3, 3.12 – 1, 5.1 – 5
<i>Carex unilateralis</i>	One-sided Sedge	Sedge/Rush	2.4 – 4, 2.6 – 3, 2.7 – 2, 3.12 – 1
<i>Carex utriculata</i>	Beaked Sedge	Sedge/Rush	2.6 – 3, 3.12 – 1
<i>Carex vesicaria</i>	Inflated Sedge	Sedge/Rush	3.12 – 1, 3.16 – 3
<i>Carex vulpinoidea</i>	Fox Sedge	Sedge/Rush	3.12 – 1
<i>Cascadia nuttallii</i>	Nuttall's Saxifrage	Forb	2.8b – 1, 3.10 – 7
<i>Castilleja levisecta</i>	Golden Indian-paintbrush	Forb	3.10 – 7
<i>Castilleja tenuis</i>	Hairy Owl-Clover	Forb	2.7 – 3, 3.10 – 7
<i>Ceanothus cuneatus</i>	Buckbrush	Shrub	2.3 – 2, 3.9 – 1
<i>Ceanothus sanguineus</i>	Oregon Tea-tree	Shrub	2.1 – 4, 2.7 – 2, 3.8 – 2, 3.9 – 1
<i>Ceanothus velutinus</i> var. <i>laevigatus</i>	Mountain Balm	Shrub	2.1 – 4, 3.8 – 3, 3.9 – 1
<i>Cephalanthera austiniae</i>	Phantom Orchid	Other	3.14 – 1
<i>Cerastium arvense</i>	Field Chickweed	Forb	3.10 – 7
<i>Ceratophyllum demersum</i>	Coontail	Other	3.14 – 1
<i>Chamerion angustifolium</i> var. <i>canescens</i>	Fireweed	Forb	2.1 – 5, 2.3 – 3, 2.4 – 3, 2.7 – 3, 3.10 – 7, 3.17 – 3
<i>Chrysosplenium glechomaefolium</i>	Pacific Water-carpent	Forb	2.4 – 4, 3.10 – 7
<i>Cimicifuga elata</i>	Tall Bugbane	Forb	3.10 – 9
<i>Cinna latifolia</i>	Woodreed	Grass	2.1 – 5, 2.4 – 4, 2.5 – 4, 3.11 – 1
<i>Circae alpina</i>	Enchanter's Nightshade	Forb	3.10 – 9
<i>Cirsium hallii</i>	Hall's Thistle	Forb	2.7 – 2, 3.10 – 9
<i>Clarkia amoena</i>	Farewell to Spring	Forb	2.3 – 3, 2.7 – 2, 3.10 – 9
<i>Clarkia rhomboidea</i>	Common Clarkia	Forb	2.7 – 2, 3.10 – 9
<i>Claytonia perfoliata</i>	Miner's lettuce	Forb	2.1 – 4, 2.2 – 3, 2.4 – 3, 2.8b – 1, 3.10 – 9, 3.17 – 3
<i>Claytonia sibirica</i>	Candy Flower	Forb	2.1 – 4, 2.2 – 3, 2.4 – 3, 3.10 – 9
<i>Clematis ligusticifolia</i>	Western Clematis	Forb	2.3 – 3, 3.10 – 9
<i>Collinsia grandiflora</i>	Large-flowered Blue-eyed Mary	Forb	2.3 – 3, 2.7 – 3, 3.10 – 9
<i>Collinsia parviflora</i>	Small-flowered Blue-eyed Mary	Forb	2.3 – 3, 2.7 – 3, 2.8b – 1, 3.10 – 9
<i>Collinsia rattannii</i>	Rattan Collinsia	Forb	2.7 – 2, 3.10 – 9
<i>Collomia grandiflora</i>	Large-flowered Collomia	Forb	2.7 – 3, 3.10 – 9
<i>Collomia heterophylla</i>	Varied-leaved Collomia	Forb	2.8b – 1, 3.10 – 9
<i>Comandra umbellata</i> var. <i>californica</i>	Bastard Toadflax	Forb	2.8b – 2, 3.10 – 9
<i>Conyza canadensis</i> var. <i>glabrata</i>	Horseweed	Forb	3.10 – 9
<i>Coptis laciniata</i>	Cutleaf Goldthread	Forb	2.1 – 5, 3.10 – 9
<i>Corallorhiza maculata</i>	Pacific Coral-root	Other	3.14 – 1
<i>Corallorhiza mertensiana</i>	Coral-root	Other	3.14 – 1
<i>Corallorhiza striata</i>	Striped Coral-root	Other	3.14 – 1
<i>Coreopsis tinctoria</i> var. <i>atkinsoniana</i>	Columbia Tickseed	Forb	2.7 – 2, 3.10 – 11
<i>Corlyus cornuta</i> ssp. <i>californica</i>	California hazelnut	Shrub	2.1 – 3, 3.8 – 3, 3.9 – 1, 3.17 – 2
<i>Cornus nuttallii</i>	Western Flowering Dogwood	Tree	2.1 – 2, 2.2 – 1, 3.2 – 1, 3.3 – 1, 3.5 – 1
<i>Cornus unalaschkensis</i>	Bunchberry	Forb	2.1 – 5, 3.10 – 11, 3.16 – 1
<i>Cornus sericea</i>	Redosier dogwood	Shrub	2.1 – 3, 2.2 – 2, 2.4 – 2, 2.5 – 2, 2.6 – 1, 3.8 – 3, 3.9 – 1, 3.17 – 2
<i>Corydalis scouleri</i>	Western Corydalis	Forb	2.1 – 5, 2.4 – 3, 3.10 – 11

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<i>Crataegus gaylussacia</i>	Suksdorf's hawthorn	Tree	2.1 – 2, 2.2 – 1, 2.3 – 1, 2.4 – 1, 2.4 – 2, 2.5 – 1, 3.2 – 2, 3.3 – 1, 3.4 – 2, 3.5 – 1, 3.17 – 1
<i>Cryptantha intermedia</i>	Common Forget-me-not	Forb	2.7 – 3, 3.10 – 11
<i>Cynoglossum grande</i>	Pacific Hound's-tongue	Forb	2.1 – 7, 3.10 – 11
<i>Cyperus erythrorhizos</i>	Red-Rooted Flatsedge	Sedge/Rush	2.4 – 3, 3.12 – 1
<i>Cyperus squarrosus</i>	Awned Flatsedge	Sedge/Rush	2.4 – 3, 3.12 – 1
<i>Cyperus strigosus</i>	Straw-Colored Flatsedge	Sedge/Rush	2.4 – 3, 3.12 – 1
<i>Cystopteris fragilis</i>	Brittle Bladder Fern	Fern	2.1 – 7, 2.3 – 4, 2.5 – 3, 2.7 – 5, 2.8b – 2, 3.13 – 1
<i>Danthonia californica</i>	California Oat-grass	Grass	3.11 – 1, 5.1 – 5
<i>Delphinium menziesii</i> var. <i>pyramidale</i>	Menzies' Larkspur	Forb	2.7 – 4, 2.8b – 2, 3.10 – 11
<i>Delphinium nuttallii</i>	Nuttall's Larkspur	Forb	2.3 – 3, 2.7 – 4, 3.10 – 11
<i>Deschampsia cespitosa</i>	Tufted hairgrass	Grass	2.5 – 2, 2.6 – 2, 3.11 – 1, 3.16 – 2
<i>Deschampsia danthinoides</i>	Ticklegrass	Grass	2.7 – 2, 2.8a – 1, 3.11 – 1
<i>Deschampsia elongata</i>	Slender Hairgrass	Grass	2.5 – 2, 3.11 – 1
<i>Dicentra formosa</i> ssp. <i>formosa</i>	Bleedingheart	Forb	2.1 – 4, 2.2 – 3, 2.4 – 4, 3.10 – 11
<i>Dichelostemma congesta</i>	Northern Saitas	Forb	3.10 – 13
<i>Disporum hookeri</i>	Hooker Fairy-bell	Forb	2.1 – 5, 3.10 – 13
<i>Disporum smithii</i>	Large-flowered Fairy-bell	Forb	2.1 – 5, 3.10 – 13
<i>Dodecatheon hendersonii</i>	Broad-Leaved Shooting Star	Forb	2.7 – 2, 3.10 – 13
<i>Dodecatheon pulchellum</i>	Few-flowered Shooting Star	Forb	2.2 – 4, 3.10 – 13
<i>Downingia elegans</i>	Common Downingia	Forb	2.5 – 2, 3.10 – 13
<i>Draba verna</i>	Spring Whitlow-grass	Forb	2.7 – 4, 3.10 – 13
<i>Dryopteris arguta</i>	Wood Fern	Fern	2.1 – 5, 2.2 – 4, 2.8b – 1, 3.13 – 1
<i>Dryopteris expansa</i>	Spreading Wood Fern	Fern	2.1 – 5, 3.13 – 1
<i>Elatine triandra</i>	Three-stamen Waterwort	Other	3.14 – 1
<i>Eleocharis acicularis</i>	Needle Spikerush	Sedge/Rush	2.6 – 2, 3.12 – 1, 3.16 – 3
<i>Eleocharis obtusa</i>	Ovate Spikerush	Sedge/Rush	2.5 – 2, 3.12 – 3
<i>Eleocharis palustris</i>	Creeping Spikerush	Sedge/Rush	2.5 – 2, 2.6 – 2, 3.12 – 3, 3.16 – 3
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Blue Wildrye	Grass	2.1 – 4, 2.2 – 3, 2.3 – 3, 2.4 – 3, 2.5 – 3, 2.7 – 2, 2.8a – 1, 2.8b – 2, 3.11 – 1, 3.16 – 2
<i>Elymus trachycaulus</i>	Bluebunch Wheatgrass	Grass	2.3 – 3, 2.7 – 4, 2.8a – 2, 3.11 – 1
<i>Epilobium brachycarpum</i> var. <i>paniculatum</i>	Tall Annual Willow Herb	Forb	3.10 – 13, 2.7 – 4
<i>Epilobium ciliatum</i> ssp. <i>glandulosum</i>	Common Willow-weed	Forb	2.4 – 4, 2.5 – 3, 3.10 – 13
<i>Epilobium ciliatum</i> ssp. <i>watsonii</i>	Watson's Willow-weed	Forb	2.4 – 4, 3.10 – 13
<i>Equisetum arvense</i>	Common Horsetail	Forb	2.2 – 3, 2.4 – 3, 2.5 – 2, 3.10 – 13
<i>Equisetum hyemale</i>	Common Scouring-rush	Forb	2.2 – 3, 2.5 – 2, 3.10 – 13
<i>Equisetum telemateia</i>	Giant Horsetail	Forb	3.10 – 15
<i>Erigeron decumbens</i> var. <i>decumbens</i>	Willamette Daisy	Forb	2.7 – 5, 3.10 – 15
<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	Forb	2.7 – 5, 3.10 – 15
<i>Eriogonum nudum</i>	Barestem Buckwheat	Forb	2.8b – 2, 3.10 – 15, 3.17 – 3
<i>Eriophyllum lanatum</i>	Woolly Sunflower	Forb	2.6 – 2, 2.7 – 4, 2.7 – 5, 3.10 – 15
<i>Erysium capitatum</i> ssp. <i>capitatum</i>	Prairie Rocket	Forb	3.10 – 15
<i>Erythronium oregonum</i>	Giant Fawn-lily	Forb	2.1 – 7, 2.3 – 4, 3.10 – 15
<i>Eschscholzia californica</i>	California poppy	Forb	2.7 – 4, 3.10 – 15

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<i>Euonymus occidentalis</i>	Western Wahoo	Shrub	2.1 – 3, 2.2 – 2, 3.8 – 4, 3.9 – 1
<i>Festuca californica</i>	California Fescue	Grass	2.7 – 2, 3.11 – 1
<i>Festuca occidentalis</i>	Western Fescue	Grass	2.1 – 6, 2.3 – 3, 2.4 – 4, 2.7 – 2, 3.11 – 1, 3.16 – 2, 3.17 – 3
<i>Festuca roemerii</i>	Roemer's Fescue	Grass	2.7 – 2, 2.8b – 2, 3.11 – 1, 3.16 – 2
<i>Festuca subulata</i>	Bearded fescue	Grass	2.1 – 6, 2.4 – 4, 3.11 – 1, 3.16 – 2, 3.17 – 3
<i>Festuca subuliflora</i>	Coast Range fescue	Grass	2.4 – 4, 3.11 – 1, 3.16 – 2, 3.17 – 3
<i>Fragaria vesca</i> var. <i>bracteata</i>	Wood Strawberry	Forb	2.1 – 6, 2.4 – 4, 3.10 – 15, 3.16 – 1, 3.17 – 3
<i>Fragaria virginiana</i> var. <i>platyptala</i>	Broadpetal Strawberry	Forb	2.3 – 3, 2.7 – 2, 3.10 – 17
<i>Frangula purshiana</i>	Cascara, chitum	Tree	2.1 – 2, 2.2 – 1, 2.3 – 1, 2.4 – 2, 3.2 – 3, 3.3 – 1, 3.4 – 2, 3.5 – 1, 3.17 – 1
<i>Fraxinus latifolia</i>	Oregon Ash	Tree	2.1 – 2, 2.2 – 1, 2.4 – 1, 2.5 – 1, 3.2 – 2, 3.3 – 1, 3.4 – 1, 3.5 – 1, 3.17 – 1
<i>Fritillaria affinis</i>	Checker Lily	Forb	2.7 – 2, 2.7 – 5, 2.8a – 2, 2.8b – 2, 3.10 – 17
<i>Galium aparine</i>	Cleavers	Forb	2.1 – 4, 2.5 – 3, 3.10 – 17
<i>Galium trifidum</i>	Small Bedstraw	Forb	2.2 – 3, 2.4 – 3, 2.5 – 2, 3.10 – 17
<i>Galium triflorum</i>	Sweetscented Bedstraw	Forb	2.1 – 6, 3.10 – 17
<i>Gaultheria shallon</i>	Salal	Shrub	2.1 – 3, 2.2 – 2, 3.8 – 4, 3.9 – 1, 3.16 – 4, 3.17 – 2
<i>Gentiana sceptrum</i>	Staff Gentian	Forb	2.5 – 3, 2.6 – 3, 3.10 – 17
<i>Geranium bicknellii</i>	Bicknell's Geranium	Forb	3.10 – 17, 3.17 – 3
<i>Geum macrophyllum</i>	Oregon Avens	Forb	2.1 – 6, 2.2 – 4, 2.4 – 4, 2.5 – 3, 3.10 – 17
<i>Gilia capitata</i>	Bluefield Gilia	Forb	2.7 – 4, 2.8a – 2, 2.8b – 2, 3.10 – 17
<i>Glyceria elata</i>	Fowl Mannagrass	Grass	2.5 – 4, 2.6 – 2, 3.11 – 1, 3.16 – 2
<i>Glyceria occidentalis</i>	NW Mannagrass	Grass	2.5 – 3, 2.6 – 2, 3.11 – 3, 3.16 – 2
<i>Gnaphalium palustre</i>	Marsh Cudweed	Forb	3.10 – 17
<i>Goodyera oblongifolia</i>	Giant Rattlesnake-plantain	Forb	2.1 – 7, 3.10 – 19
<i>Gratiola ebracteata</i>	Bractless Hedge-hyssop	Forb	3.10 – 19
<i>Grindelia integrifolia</i>	Willamette Valley Gumweed	Forb	2.5 – 2, 3.10 – 19
<i>Gymnocarpium disjunctum</i>	Oak Fern	Fern	2.1 – 7, 3.13 – 1
<i>Heracleum maximum</i>	Cow parsnip	Forb	2.1 – 6, 2.2 – 4, 2.4 – 3, 3.10 – 19
<i>Heterocodon rariflorum</i>	Heterocodon	Forb	3.10 – 19
<i>Heuchera glabra</i>	Smooth Alumroot	Forb	2.4 – 4, 2.8b – 2, 3.10 – 19
<i>Heuchera micrantha</i>	Smallflowered Alumroot	Forb	2.1 – 6, 2.4 – 4, 2.8b – 2, 3.10 – 19
<i>Hieracium albiflorum</i>	White-flowered Hawkweed	Forb	2.1 – 6, 2.3 – 3, 2.7 – 4, 3.10 – 19
<i>Holodiscus discolor</i>	Oceanspray	Shrub	2.1 – 3, 2.3 – 2, 2.7 – 1, 3.8 – 4, 3.9 – 1, 3.17 – 2
<i>Hordeum brachyantherum</i>	Meadow Barley	Grass	2.6 – 2, 3.11 – 3
<i>Howellia aquatilis</i>	Howellia	Other	3.14 – 1
<i>Hydrophyllum tenuipes</i>	Pacific Waterleaf	Forb	2.1 – 4, 2.2 – 3, 3.10 – 19
<i>Hypericum anagalloides</i>	Bog Saint John's Wort	Forb	3.10 – 19
<i>Hypericum scouleri</i>	Western Saint John's Wort	Forb	3.10 – 19
<i>Impatiens capensis</i>	Spotted touch-me-not	Forb	4.1 – 4
<i>Iris tenax</i>	Oregon Iris	Forb	2.1 – 6, 2.7 – 4, 3.10 – 21
<i>Juncus acuminatus</i>	Tapertip Rush	Sedge/Rush	2.5 – 3, 3.12 – 3
<i>Juncus articulatus</i>	Jointed Rush	Sedge/Rush	2.5 – 3, 3.12 – 3
<i>Juncus balticus</i>	Baltic Rush	Sedge/Rush	2.6 – 2, 3.12 – 3, 3.16 – 3, 3.17 – 3
<i>Juncus bufonius</i>	Toad Rush	Sedge/Rush	3.12 – 3

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<i>Juncus effusus</i> var. <i>pacificus</i>	Soft Rush	Sedge/Rush	2.5-3, 2.6-2, 3.12-3, 3.16-3, 4.1-2
<i>Juncus ensifolius</i>	Dagger-leaf Rush	Sedge/Rush	2.4-3, 2.5-3, 2.6-2, 3.12-3, 3.16-3, 3.17-3
<i>Juncus laccatus</i>	Slender Soft Rush	Sedge/Rush	2.5-3, 2.6-2, 3.12-3
<i>Juncus oxymeris</i>	Pointed Rush	Sedge/Rush	3.12-3
<i>Juncus patens</i>	Spreading Rush	Sedge/Rush	2.5-3, 3.12-3
<i>Juncus tenuis</i>	Slender Rush	Sedge/Rush	2.6-2, 3.12-3, 3.16-3
<i>Koeleria macrantha</i>	Junegrass	Grass	2.7-2, 3.11-3
<i>Lathyrus nevadensis</i>	Nevada Peavine	Forb	2.7-3, 3.10-21
<i>Lathyrus polyphyllus</i>	Leafy-pea	Forb	2.5-4, 3.10-21
<i>Leersia oryzoides</i>	Rice Cutgrass	Grass	3.11-3
<i>Lemna minor</i>	Water Lentil (duckweed)	Other	3.14-1
<i>Leptosiphon bicolor</i>	Bicolored Linanthus	Forb	2.7-4, 3.10-21
<i>Ligusticum apiifolium</i>	Parsley-leaved Lovage	Forb	2.1-6, 2.3-3, 2.5-3, 2.7-4, 3.10-21
<i>Ligusticum grayii</i>	Gray's Lovage	Forb	2.1-6, 2.3-3, 3.10-21
<i>Lilium columbianum</i>	Columbia Lily	Forb	2.1-6, 3.10-21
<i>Limosella aquatica</i>	Mudwort	Forb	3.10-21
<i>Linaria canadensis</i> var. <i>texana</i>	Wild Toadflax	Forb	3.10-21
<i>Lindernia dubia</i>	Yellowseed false pimpernel	Forb	2.5-4, 3.10-21
<i>Linnaea borealis</i>	Twinflower	Forb	2.1-4, 3.10-21, 3.16-1
<i>Listera caurina</i>	Western Twayblade	Forb	3.10-21
<i>Listera cordata</i>	Heart-leaved Listera	Forb	3.10-21
<i>Lithophragma parviflorum</i>	Small-flowered Prairiestar	Forb	2.7-3, 3.10-21
<i>Lomatium utriculatum</i>	Spring Gold	Forb	2.7-4, 2.8a-2, 3.10-23
<i>Lonicera ciliosa</i>	Orange Honeysuckle	Forb	2.1-7, 3.10-23, 3.16-4
<i>Lonicera hispidula</i>	Hairy Honeysuckle	Shrub	2.1-3, 2.3-2, 3.8-5, 3.9-1, 3.16-4
<i>Lonicera involucrata</i>	Black Twinberry	Shrub	2.1-3, 2.2-2, 2.5-2, 3.8-5, 3.9-1, 3.17-2
<i>Ludwigia palustris</i>	False Loosestrife	Other	3.14-1
<i>Lupinus bicolor</i>	Two-color Lupine	Forb	2.7-4, 3.10-23, 3.17-3
<i>Lupinus latifolius</i>	Broadleaf Lupine	Forb	2.1-6, 3.10-23
<i>Lupinus laxiflorus</i>	Spurred Lupine	Forb	2.3-4, 2.7-4, 3.10-23
<i>Lupinus lepidus</i>	Prairie Lupine	Forb	3.10-23, 3.17-3
<i>Lupinus polycarpus</i>	Bigleaf lupine	Forb	2.7-4, 3.10-23, 3.17-3
<i>Lupinus polyphyllus</i>	Large-leaved Lupine	Forb	3.10-23
<i>Lupinus rivularis</i>	Stream Lupine	Forb	2.4-4, 2.7-4, 3.10-23, 3.17-3
<i>Luzula campestris</i>	Field Woodrush	Grass	2.1-6, 2.5-3, 2.7-3, 3.11-3, 3.16-2
<i>Luzula parviflora</i>	Small-flowered Woodrush	Grass	2.1-6, 2.5-4, 3.11-3
<i>Lycopus americanus</i>	Cut-leaved Bugleweed	Forb	3.10-23
<i>Lycopus uniflorus</i>	Northern Bugleweed	Forb	3.10-25
<i>Lysimachia ciliata</i>	Fringed Loosestrife	Forb	3.10-25
<i>Lysimachia thyrsoiflora</i>	Tufted Loosestrife	Forb	3.10-25
<i>Lysichiton americanus</i>	Skunk Cabbage	Forb	2.1-6, 2.2-4, 2.5-4, 2.6-3, 3.10-25
<i>Madia glomerata</i>	Cluster Tarweed	Forb	3.10-25
<i>Madia gracilis</i>	Slender Tarweed	Forb	2.7-3, 3.10-25
<i>Madia sativa</i>	Chile Tarweed	Forb	2.7-5, 3.10-25
<i>Mahonia (see Berberis)</i>		Shrub	3.9-1, 5.1-5
<i>Maianthemum dilatatum</i>	False Lily-of-the-valley	Forb	2.1-6, 2.2-4, 3.10-25, 3.16-1

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<i>Maianthemum racemosum</i>	Western False Solomon's Seal	Forb	2.1-4, 2.2-3, 3.10-25
<i>Maianthemum stellatum</i>	Starry False Solomon's Seal	Forb	2.1-4, 2.2-3, 3.10-25
<i>Malus fusca</i>	Western Crabapple	Arb. Shrub	2.1-3, 2.4-2, 2.5-1, 3.4-2, 3.6-1, 3.7-1, 3.17-1
<i>Marah oreganus</i>	Manroot	Forb	2.5-3, 2.7-4, 3.10-25, 3.16-4
<i>Matricaria discoidea</i>	Pineapple Weed	Forb	3.10-25
<i>Melica bulbosa</i>	Oniongrass	Grass	2.8b-2, 3.16-2
<i>Melica geyeri</i>	Geyer's Oniongrass	Grass	3.11-3, 3.16-2
<i>Melica subulata</i>	Alaska Oniongrass	Grass	2.3-3, 2.5-4, 2.7-4, 3.11-3, 3.16-2
<i>Mentha arvensis</i> var. <i>glabrata</i>	Field Mint	Forb	3.10-25
<i>Menyanthes trifoliata</i>	Buckbean	Forb	3.10-27
<i>Mertensia platyphylla</i>	Western Bluebells	Forb	2.1-6, 2.4-4, 3.10-27
<i>Micranthes integrifolia</i>	Swamp Saxifrage	Forb	2.7-5, 2.8b-2, 3.10-27
<i>Micranthes rufidula</i>	Western Saxifrage	Forb	2.7-4, 2.8a-2, 2.8b-2, 3.10-27
<i>Mimulus alsinoides</i>	Chickweed Monkeyflower	Forb	2.8b-2, 3.10-27
<i>Mimulus guttatus</i>	Common Monkeyflower	Forb	2.5-3, 2.6-3, 2.8b-2, 3.10-27
<i>Mimulus moschatus</i>	Musk monkeyflower	Forb	3.10-27
<i>Mitella caulescens</i>	Leafy Mitrewort	Forb	2.1-6, 2.2-4, 3.10-27
<i>Mitella pentandra</i>	Five-stamened Mitrewort	Forb	2.1-6, 2.2-4, 2.4-4, 3.10-27
<i>Moehringia macrophylla</i>	Bigleaf Sandwort	Forb	3.10-29
<i>Monotropa uniflora</i>	Indian-pipe	Forb	2.1-6, 3.10-29
<i>Montia dichotoma</i>	Dwarf Montia	Forb	2.7-4, 2.8a-2, 2.8b-2, 3.10-29
<i>Montia diffusa</i>	Branching Montia	Forb	3.10-29
<i>Montia fontana</i>	Water Chickweed	Forb	3.10-29
<i>Montia linearis</i>	Narrow-leaved Montia	Forb	2.6-3, 2.7-4, 2.8a-2, 2.8b-2, 3.10-29
<i>Montia parvifolia</i>	Streambank Springbeauty	Forb	2.1-6, 2.8b-2, 3.10-29
<i>Myosotis laxa</i>	Small-flowered Forget-me-not	Forb	2.2-4, 2.6-3, 3.10-29
<i>Navarretia intertexta</i>	Needle-Leaf Navarretia	Forb	2.5-3, 3.10-29
<i>Navarretia squarrosa</i>	Skunkweed	Forb	2.7-4, 3.10-29
<i>Navarretia tagetina</i>	Northern Navarretia	Forb	2.7-3, 3.10-29
<i>Nemophila menziesii</i>	Baby Blue-eyes	Forb	2.1-6, 2.7-4, 3.10-29
<i>Nemophila parviflora</i>	Small-flowered Nemophila	Forb	3.10-29
<i>Nemophila pedunculata</i>	Spreading Nemophila	Forb	2.5-3, 3.10-31
<i>Nothochelone nemorosa</i>	Turtle Head	Forb	2.1-7, 2.2-4, 2.8b-2, 3.10-31
<i>Nuphar polysepala</i>	Yellow Water-lily	Other	2.6-3, 3.14-1
<i>Oemleria cerasiformis</i>	Indian Plum	Shrub	2.1-3, 2.2-2, 2.3-2, 2.4-2, 3.9-1, 3.17-2
<i>Oenanthe sarmentosa</i>	Pacific water parsley	Forb	2.2-4, 2.5-3, 2.6-2, 3.10-31
<i>Oenothera biennis</i>	Evening Primrose	Forb	2.7-4, 3.10-31
<i>Olsynium douglasii</i>	Grass-Widows	Grass	2.3-3, 3.11-3
<i>Oplopanax horridus</i>	Devil's Club	Forb	2.1-6, 2.2-4, 2.4-4, 2.5-4, 3.10-31
<i>Orobanche uniflora</i>	Naked Broomrape	Forb	2.8b-2, 3.10-31
<i>Osmorhiza berteroi</i>	Mountain Sweet-Cicely	Forb	2.1-6, 2.3-3, 3.10-31
<i>Oxalis oregana</i>	Oregon Oxalis	Forb	2.1-4, 3.10-31, 3.16-1
<i>Oxalis suksdorfii</i>	Western Yellow Oxalis	Forb	3.10-31
<i>Oxalis trilliifolia</i>	Trillium-leaved Woodsorrel	Forb	2.4-4, 3.10-33, 3.17-3
<i>Panicum capillare</i>	Old-witch Grass	Grass	3.11-3
<i>Paspalum distichum</i>	Knotgrass	Grass	3.11-3

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<i>Penstemon ovatus</i>	Broad-leaved Penstemon	Forb	3.10–33
<i>Penstemon richardsonii</i>	Cut-leaved Penstemon	Forb	2.7–4, 2.8a–2, 3.10–33
<i>Penstemon serrulatus</i>	Cascade Penstemon	Forb	2.8b–2, 3.10–33
<i>Pentagramma triangularis</i>	Gold-back Fern	Fern	2.3–4, 2.7–5, 2.8a–2, 3.13–1
<i>Persicaria amphibia</i>	Water Smartweed	Other	2.6–3, 3.14–1
<i>Petasites frigidus</i> var. <i>palmatus</i>	Sweet Coltsfoot	Forb	2.1–4, 2.2–3, 2.4–4, 2.5–4, 3.10–33, 3.16–1
<i>Phacelia nemoralis</i>	Shade Phacelia	Forb	3.10–33
<i>Philadelphus lewisii</i>	Mockorange	Shrub	2.1–3, 2.3–2, 3.8–6, 3.9–1
<i>Phlox gracilis</i>	Microsteris	Forb	2.7–4, 2.8a–2, 3.10–33
<i>Physocarpus capitatus</i>	Pacific Ninebark	Shrub	2.1–3, 2.2–2, 2.4–2, 2.5–2, 3.8–6, 3.9–1, 3.17–2
<i>Pinus ponderosa</i> var. <i>benthamiana</i>	Willamette Valley ponderosa pine	Tree	2.1–2, 2.3–1, 2.7–1, 3.1–1, 3.3–1, 3.4–1, 3.5–1, 5.1–3
<i>Piperia elegans</i>	Elegant Rein-orchid	Forb	2.5–4, 3.10–33
<i>Piperia unalascensis</i>	Alaska Rein-orchid	Forb	3.10–33
<i>Plagiobothrys figuratus</i>	Fragrant Plagiobothrys	Forb	2.6–3, 3.10–33
<i>Platanthera dilatata</i> var. <i>leucostachys</i>	White Bog-orchid	Forb	3.10–35
<i>Platanthera stricta</i>	Slender Bog-orchid	Forb	3.10–35
<i>Plectritis congesta</i>	Rosy Plectritis	Forb	2.7–4, 3.10–35
<i>Poa grayana</i>	Gray's Bluegrass	Grass	3.11–3, 3.17–4
<i>Poa howellii</i>	Howell's Bluegrass	Grass	2.7–5, 3.11–3, 3.17–4
<i>Poa secunda</i>	Pine Bluegrass	Grass	2.7–3, 2.8a–1, 3.11–3, 3.16–2
<i>Polygonum aviculare</i>	Doorweed	Forb	3.10–35, 3.17–4
<i>Polygonum douglasii</i>	Douglas' Knotweed	Forb	3.10–35, 3.17–4
<i>Polygonum hydropiperoides</i>	Common Waterpepper	Forb	3.10–35
<i>Polygonum nuttallii</i>	Nuttall's Knotweed	Forb	3.10–35, 3.17–4
<i>Polygonum polygaloides</i> ssp. <i>kelloggii</i>	Kellogg's Knotweed	Forb	3.10–35
<i>Polygonum punctatum</i>	Dotted Smartweed	Other	3.14–3, 3.17–4
<i>Polygonum spergulariiforme</i>	Fall Knotweed	Forb	3.10–35
<i>Polypodium glycyrrhiza</i>	Licorice Fern	Fern	2.1–4, 2.2–3, 2.5–4, 3.13–1
<i>Polystichum munitum</i>	Sword Fern	Fern	2.1–4, 2.2–3, 2.3–3, 2.4–3, 3.13–1
<i>Populus balsamifera</i> ssp. <i>trichocarpa</i>	Black Cottonwood	Tree	3.3–1
<i>Populus tremuloides</i>	Quaking Aspen	Tree	2.2–1, 2.4–1, 2.5–1, 3.3–1, 3.4–1
<i>Potamogeton natans</i>	Broad-leaved Pondweed	Other	2.2–1, 2.4–1, 3.14–3, 3.17–1
<i>Potentilla glandulosa</i>	Sticky cinquefoil	Forb	2.1–6, 2.3–4, 2.7–4, 3.10–35, 3.16–1, 3.17–4
<i>Potentilla gracilis</i> var. <i>gracilis</i>	Slender Cinquefoil	Forb	2.5–3, 2.7–3, 3.10–35
<i>Poteridium occidentale</i>	Annual Burnet	Forb	2.7–4, 3.10–35
<i>Prosartes hookeri</i>	Hooker's Fairybells	Forb	2.1–4, 2.2–3, 3.10–35
<i>Prosartes smithii</i>	Smith's Fairybells	Forb	2.1–4, 2.2–3, 3.10–35
<i>Prunella vulgaris</i> var. <i>lanceolata</i>	Native Heal-all	Forb	2.1–6, 2.2–4, 2.7–4, 3.10–35
<i>Prunus emarginata</i>	Bitter Cherry	Tree	2.1–2, 2.3–1, 3.2–3, 3.3–1, 3.4–1, 3.5–1, 3.17–1
<i>Prunus virginiana</i>	Common Chokecherry	Arb. Shrub	2.1–3, 2.2–2, 2.3–2, 2.4–2, 3.4–2, 3.6–1, 3.7–1, 3.17–1, 3.17–2
<i>Pseudotsuga menziesii</i>	Douglas Fir	Tree	2.1–2, 2.2–1, 2.3–1, 3.1–2, 3.3–1, 3.4–1, 3.5–1, 3.17–1
<i>Pteridium aquilinum</i>	Bracken Fern	Fern	3.13–1

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<i>Pyrola asarifolia</i>	Wintergreen	Forb	2.1-6, 2.2-4, 2.4-4, 3.10-37
<i>Pyrola picta</i>	White-Vein Pyrola	Forb	2.3-3, 3.10-37
<i>Pyrus (see Malus)</i>		Tree	3.3-1
<i>Quercus garryana</i>	Oregon White Oak	Tree	2.1-2, 2.3-1, 2.4-2, 2.7-1, 3.2-3, 3.3-1, 3.4-1, 3.5-1, 3.17-1
<i>Ranunculus alismaefolius</i>	Water-plaintain Buttercup	Forb	3.10-37, 3.17-4
<i>Ranunculus aquatilis</i> var. <i>aquatilis</i>	White Water-buttercup	Other	2.6-3, 3.14-3
<i>Ranunculus cymbalaria</i>	Shore Buttercup	Forb	2.5-4, 2.6-3, 3.10-37, 3.17-4
<i>Ranunculus flammula</i>	Double-flowered creeping Buttercup	Forb	2.4-4, 3.10-37, 3.17-4
<i>Ranunculus macounii</i>	Macoun's Buttercup	Forb	3.10-37
<i>Ranunculus occidentalis</i>	Western Buttercup	Forb	2.4-3, 2.5-4, 2.7-4, 3.10-37
<i>Ranunculus orthorhyncus</i>	Straightbeak Buttercup	Forb	2.4-4, 2.6-3, 3.10-37, 3.17-4
<i>Ranunculus pensylvanicus</i>	Pennsylvania Buttercup	Forb	3.10-37
<i>Ranunculus scleratus</i>	Celery-leaved Buttercup	Forb	3.10-37
<i>Ranunculus uncinatus</i>	Little Buttercup	Forb	2.4-3, 3.10-37
<i>Rhus (see Toxicodendron)</i>		Shrub	3.9-1
<i>Ribes bracteosum</i>	Blue Currant	Shrub	2.1-4, 2.2-2, 3.8-6, 3.9-2
<i>Ribes divaricatum</i>	Straggly Gooseberry	Shrub	2.1-4, 2.5-2, 3.8-7, 3.9-2
<i>Ribes lobbii</i>	Pioneer Gooseberry	Shrub	2.1-4, 2.4-2, 2.5-2, 3.8-7, 3.9-2, 3.17-2
<i>Ribes sanguineum</i>	Red Currant	Shrub	2.1-3, 2.3-2, 2.4-2, 2.7-2, 3.8-7, 3.9-2
<i>Ribes viscosissimum</i>	Sticky Currant	Shrub	2.1-3, 2.3-2, 3.8-8, 3.9-2
<i>Rorippa columbiae</i>	Columbia Cress	Forb	3.10-37
<i>Rosa gymnocarpa</i>	Baldhip Rose	Shrub	2.1-3, 2.3-2, 2.4-2, 2.5-2, 2.7-2, 3.8-8, 3.9-2, 5.1-4
<i>Rosa nutkana</i>	Nootka Rose	Shrub	2.1-3, 2.2-2, 2.3-2, 2.4-2, 2.5-2, 2.7-2, 3.9-2, 3.17-2, 5.1-4
<i>Rosa pisocarpa</i>	Swamp Rose	Shrub	2.1-3, 2.2-2, 2.5-2, 3.8-9, 3.9-2
<i>Rubus leucodermis</i>	Blackcap Raspberry	Shrub	2.2-2, 2.7-2, 3.9-2
<i>Rubus parviflorus</i>	Thimbleberry	Shrub	2.1-3, 2.2-2, 2.3-2, 2.5-2, 3.8-9, 3.9-2
<i>Rubus spectabilis</i>	Salmonberry	Shrub	2.1-3, 2.2-2, 3.8-10, 3.9-2, 3.17-2
<i>Rubus ursinus</i>	Pacific Blackberry	Forb	2.1-3, 2.2-4, 2.3-4, 2.4-4, 2.5-4, 2.7-5, 2.8a-2, 2.8b-2, 3.8-9, 3.10-37, 3.16-4
<i>Rumex occidentalis</i>	Western Dock	Forb	3.10-37, 3.17-4
<i>Rumex salicifolius</i> var. <i>salicifolius</i>	Willow-leaved Dock	Forb	2.5-3, 3.10-37
<i>Rupertia physodes</i>	California Tea	Forb	3.10-39
<i>Sagina decumbens</i> ssp. <i>occidentalis</i>	Western Pearlwort	Forb	3.10-39
<i>Sagittaria latifolia</i>	Wapato	Forb	3.10-39, 3.17-4
<i>Salix exigua</i> var. <i>columbiana</i>	Columbia River Willow	Arb. Shrub	2.2-2, 2.4-2, 2.5-2, 3.6-2, 3.7-1
<i>Salix exigua</i> var. <i>sessilifolia</i>	Soft-leaved Willow	Arb. Shrub	2.2-2, 2.4-2, 2.5-2, 3.6-2, 3.7-1
<i>Salix hookeriana</i>	Hooker's willow	Arb. Shrub	2.2-2, 2.4-2, 2.5-2, 2.6-1, 3.6-2, 3.7-1
<i>Salix lucida</i> ssp. <i>lasiandra</i>	Pacific Willow	Tree	2.2-1, 3.3-1
<i>Salix prolixa</i>	Rigid Willow	Tree	2.4-2, 2.5-1, 2.6-1, 3.2-4, 3.3-1, 3.4-2
<i>Salix scouleriana</i>	Scouler Willow	Tree	2.1-2, 2.2-2, 2.4-1, 2.5-1, 3.2-4, 3.3-1, 3.4-2, 3.5-1
<i>Salix sitchensis</i>	Sitka Willow	Arb. Shrub	2.1-3, 2.2-2, 2.4-2, 2.5-2, 3.6-3, 3.7-1
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue Elderberry	Shrub	2.1-3, 2.2-2, 2.3-2, 2.4-2, 3.8-10, 3.9-2

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<i>Sanicula bipinnatifida</i>	Purple Sanicle	Forb	2.3-3, 2.7-3, 3.10-39
<i>Sanicula crassicaulis</i>	Pacific Sanicle	Forb	2.1-7, 2.2-4, 2.3-4, 2.7-5, 3.10-39
<i>Satureja douglasii</i>	Yerba Buena	Forb	2.1-6, 3.10-39
<i>Saxifraga oregana</i>	Oregon Saxifrage	Forb	2.5-3, 3.10-39
<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	Hardstem Bulrush	Sedge/Rush	2.6-2, 3.16-3, 3.17-4
<i>Schoenoplectus pungens</i>	American Bulrush	Sedge/Rush	2.6-2, 3.12-3, 3.16-3
<i>Scirpus cyperinus</i>	Wooly Sedge	Sedge/Rush	2.4-3, 3.12-3
<i>Scirpus microcarpus</i>	Small-fruited Bulrush	Sedge/Rush	2.1-6, 2.2-4, 2.5-4, 2.6-3, 3.12-3, 3.16-3, 3.17-4
<i>Scirpus tabernaemonti</i>	Softstem Bulrush	Sedge/Rush	3.12-3
<i>Scoliopus hallii</i>	Oregon Fetid Adder's-tongue	Forb	3.10-39
<i>Scrophularia californica</i>	California Figwort	Forb	3.10-39
<i>Sedum oreganum</i>	Oregon Stonecrop	Forb	2.7-5, 2.8a-2, 2.8b-2, 3.10-39, 3.16-1
<i>Sedum spathulifolium</i>	Spatula-leaf Stonecrop	Forb	2.7-5, 2.8a-2, 2.8b-2, 3.10-41
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<i>Senecio bolanderi</i> var. <i>harfordii</i>	Bolander's Groundsel	Forb	3.10-41
<i>Sericocarpus rigidus</i>	White-topped Aster	Forb	2.7-5, 3.10-41
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<i>Sidalcea nelsoniana</i>	Nelson's Checkermallow	Forb	2.7-5, 3.10-41
<i>Silene antirrhina</i>	Sleepy Catchfly	Forb	2.7-3, 3.10-41
<i>Sisyrinchium idahoense</i> var. <i>idahoense</i>	Blue-eyed Grass	Forb	2.6-2, 2.7-5, 3.10-41
<i>Solidago lepida</i> var. <i>salebrosa</i>	Canada Goldenrod	Forb	2.7-5, 3.10-41
<i>Sparganium emersum</i>	Simplestem Bur-reed	Other	2.6-2, 3.14-3, 3.17-4
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<i>Spiraea douglasii</i>	Douglas' spirea	Shrub	2.2-2, 2.4-2, 2.5-2, 3.8-11, 3.9-2, 3.17-2, 5.1-4
<i>Spiranthes romanzoffiana</i>	Ladies-tresses	Forb	3.10-41
<i>Spirodela polyrhiza</i>	Great Duckweed	Other	3.14-3
<i>Stachys cooleyae</i>	Cooley's hedgenettle	Forb	3.10-41
<i>Stachys pilosa</i> var. <i>pilosa</i>	Swamp Hedge-nettle	Forb	3.10-41
<i>Stachys rigida</i>	Great Betony	Forb	3.10-41
<i>Stellaria crispa</i>	Crisped Starwort	Forb	3.10-41
<i>Streptopus amplexifolius</i>	Clasping-leaved Twisted-stalk	Forb	2.1-4, 2.4-4, 3.10-43
<i>Sullivantia oregana</i>	Sullivantia	Forb	2.8b-2, 3.10-43
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<i>Symphoricarpos mollis</i>	Creeping Snowberry	Shrub	2.1-3, 2.3-2, 2.7-2, 3.8-12, 3.9-2, 3.17-2
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<i>Teucrium canadense</i> var. <i>occidentale</i>	Wood Sage	Forb	3.10-43
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<i>Trientalis latifolia</i>	Western Starflower	Forb	2.1-7, 2.2-4, 3.10-45
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<i>Polygonum polystachyum</i> (<i>Persicaria wallachii</i>)	Himalayan knotweed	B	4.1–2
<i>Polygonum sachalinense</i> (<i>Fallopia sachalinensis</i>)	Giant knotweed	B	4.1–3
<i>Populus alba</i>	White poplar	B	4.1–3
<i>Potamogeton crispus</i>	Curly-leaf pondweed	C	4.1–5
<i>Potentilla recta</i>	Sulphur cinquefoil	C	4.1–5
<i>Prunus avium</i>	Sweet cherry	C	4.1–5
<i>Prunus laurocerasus</i>	English laurel	C	4.1–5
<i>Prunus lusitanica</i>	Portuguese laurel	C	4.1–5
<i>Pueraria lobata</i>	Kudzu	A*	4.1–1, 4.2–2
<i>Ranunculus acris</i>	Meadow or tall buttercup	D	4.1–7
<i>Ranunculus ficaria</i>	Lesser celandine	B	4.1–3
<i>Ranunculus repens</i>	Double-flowered creeping buttercup	C	4.1–5
<i>Robinia pseudoacacia</i>	Black locust	C	4.1–5
<i>Rorippa nasturtium-aquaticum</i> (<i>Nasturium officinale</i>)	European watercress	D	4.1–7
<i>Rosa eglanteria</i>	Sweetbriar rose	C	4.1–5
<i>Rosa multiflora</i>	Multiflora rose	C	4.1–5
<i>Rubus bifrons</i>	Himalayan blackberry	C	4.1–5
<i>Rubus laciniatus</i>	Evergreen blackberry	C	4.1–5
<i>Sasa palmata</i>	Broadleaf bamboo	W	4.1–8
<i>Sasa veitchii</i>	Kuma bamboo	W	4.1–8
<i>Schedonorus arundinaceus</i>	Tall fescue	D	4.1–7
<i>Secale cereale</i>	Cultivated rye	D	4.1–7
<i>Senecio jacobaea</i>	Ragwort	C	4.1–5
<i>Silene coronaria</i>	Rose campion	C	4.1–5
<i>Silene latifolia</i> (<i>Lychnis alba</i>)	White campion	D	4.1–7
<i>Silybum marianum</i>	Blessed milk thistle	A*	4.1–1, 4.2–2
<i>Sisymbrium officinale</i>	Hedge mustard	C	4.1–5
<i>Solanum dulcamara</i>	Bittersweet nightshade	C	4.1–5
<i>Solanum nigrum</i>	Garden nightshade	B	4.1–3
<i>Solanum sarrachoides</i>	Hairy nightshade	W	4.1–9
<i>Sonchus arvensis</i> , <i>S. asper</i> , and <i>S. oleraceus</i>	Sowthistles	C	4.1–5
<i>Sorbus aucuparia</i>	European mountain ash	D	4.1–7
<i>Sorghum halepense</i>	Johnson grass	W	4.1–9
<i>Taeniatherum caput-medusa</i>	Medusahead	C	4.1–5
<i>Tamarix ramosissima</i>	Salt cedar	A*	4.1–1, 4.2–2
<i>Tanacetum vulgare</i>	Common tansy	C	4.1–5
<i>Trifolium arvense</i>	Hare's foot clover	C	4.1–5
<i>Trifolium hybridum</i>	Alsike clover	W	4.1–9
<i>Trifolium pratense</i>	Red clover	C	4.1–5
<i>Trifolium repens</i>	White clover	C	4.1–5
<i>Trifolium subterraneum</i>	Subterranean clover	C	4.1–5
<i>Ulex europaeus</i>	Gorse	A*	4–2, 4–3, 4.1–1, 4.2–2
<i>Ulmus pumila</i>	Siberian elm	D	4.1–7

* Also on the Required Eradication List

Latin name	Common name	Rank	Page
<i>Utricularia inflata</i>	Swollen bladderwort	A	4.1-1
<i>Utricularia vulgaris</i>	Common bladderwort	D	4.1-7
<i>Verbascum blattaria</i>	Moth mullein	C	4.1-6
<i>Verbascum thapsus</i>	Common mullein	C	4.1-6
<i>Verbena bonariensis</i>	Tall verbena	A	4.1-1
<i>Viburnum opulus</i> var. <i>opulus</i>	Guelder rose	B	4.1-3
<i>Vicia cracca</i>	Tufted vetch	C	4.1-6
<i>Vicia sativa</i>	Common vetch	D	4.1-7
<i>Vicia villosa</i>	Hairy vetch	C	4.1-6
<i>Vinca major</i>	Periwinkle (large leaf)	C	4.1-6
<i>Vinca minor</i>	Periwinkle (small leaf)	C	4.1-6

*Also on the Required Eradication List

May 11, 2007

CITY OF SHERWOOD
Report and Decision of the Hearings Officer

File No: SP 06-12/VAR 06-03

(Sharkie's Coffee Stand)

I. BACKGROUND

Applicant/Owner: Tim and Carla Hubbard
22877 SW Martin Court
Sherwood, OR 97140

Applicant's Representative: SFA Design Group, LLC
9020 SW Washington Square Road, Suite 350
Portland, OR 97223
Contact: Alex Stout

Property Description: The subject property is addressed at 21003 SW Pacific Highway. The property can be specifically identified as Tax Lot 15000 on Washington County Tax Assessor Map 2S1-30AD. The site is located between SW Pacific Highway and SW Borchers Drive at the location where SW Borchers turns from an east-west street to a north-south street.

Existing Development and Site Characteristics: The total area of the site is 0.16 acres, or 7,092 square feet. The site is currently undeveloped and was previously ODOT right-of-way.

Zoning Classification and Comprehensive Plan Designation: The subject property is zoned RC – Retail Commercial.

Adjacent Zoning and Land Use: All of the properties surrounding this site are zoned retail commercial (RC). Northeast and adjacent to the site is the Shell Gas Station. Southwest and adjacent to the site is the Sherwood Feed and Produce building that currently houses an auto detail shop. Northwest and across SW Borchers Drive is the Sherwood Ice Arena and a Mexican restaurant that is under construction but will open this year. Southeast and across SW Pacific Highway is the Sherwood Plaza retail development, which includes several restaurants, stores and the Sherwood Post Office.

Land Use Review: The Fast Track Site Plan application involves an administrative Type II review for projects with less than 15,000 square feet of floor area and parking. The hearing authority is the Planning Director or his/her designee and the appeal authority is the Planning

Commission. However, a variance requesting greater than 25% deviation from a standard involves a Type III review with the Hearings Officer as the hearing authority and the Planning Commission as the appeal authority. Because this project has to be heard by the Hearings Officer for the variance, the site plan will be decided by the Hearings Officer as well.

Public Notice and Hearing: The hearing was originally scheduled for March 19, 2007, but was postponed to April 9, 2007, at which time the hearing was held. Notice of the administrative review was mailed to property owners within 100 feet of the site and posted for public review in accordance with Sections 3.202 and 3.203 of the Sherwood Zoning and Community Development Code on February 26, 2007. Notice of the hearing was published in the Tigid Times on March 8 and March 15, 2007.

Review Criteria: The applicable sections of the Sherwood Zoning and Community Development Code include: Section 2.109 – Retail Commercial Zoning, Section 2.301- Clear Vision Areas, Section 4.400- Variances, Chapter 5 – Site Plan Review, 5.200 Landscaping, 5.300 Off-Street Parking, 5.400 On-Site Circulation, 5.500 On-Site Storage, Chapter 6 - Public Improvements, and 8.304 Parks and Open Space.

Exhibits: The following Exhibits have been accepted into the record:

- A. Site plan and narrative submitted by applicant dated 2/07
- B. Public comments submitted by Leed Development Group on March 7, 2007
- C. ODOT comments dated May 3, 2006
- D. PGE comments dated January 8, 2007
- E. Sherwood Engineering Department comments dated March 1, 2007
- F. Submitted site plan with staff edits drawn in for demonstration purposes only
- G. Applicant's Preliminary Site Plan received March 27, 2007
- H. Applicant's building drawing dated April 9, 2007
- I. Applicant's revised sheet A-2 dated April 9, 2007
- J. Staff Memo dated April 9, 2007
- K. George Johnson letter dated April 20, 2007
- L. SFA Design Group letter dated April 25, 2007
- M. (not accepted)
- N. Staff memo dated April 25, 2007

II. APPLICATION SUMMARY AND BACKGROUND INFORMATION

SFA Design Group, LLC, as representative for Tim and Carla Hubbard, is requesting site plan approval of a 401.5 square foot drive-thru coffee stand and associated landscaping, parking and vehicular circulation. In addition, the applicant's representative is requesting a variance to the visual corridor standard of 25-feet along Highway 99W to be reduced to seven and one-half (7½) feet on the subject parcel (in addition to 14½ feet of right-of-way behind the sidewalk that the

applicant would like to use as visual corridor. This property was previously part of the ODOT right-of-way along 99W. The property was sold by ODOT in approximately 2004 and a new tax lot was created. The City has applied the Retail Commercial (RC) zoning to this property because Section 1.102.03.C of the Code states that "in the event that a dedicated street, road, highway, or alley is vacated by ordinance, the zoning regulations applicable to abutting property shall apply up to the centerline of such rights-of-way," and the abutting properties are both zoned RC.

The applicant has submitted a site plan dated 8/06, a narrative dated October 2006, and additional drawings and site plan (See Exhibits A, G, H, and I).

III. PUBLIC COMMENTS

The hearing was held on April 9, 2007. At the request of one of the parties the record was held open until April 23, 2007, for additional evidence. The record was then held open until April 30, for final argument by the Applicant. Staff submitted its final comments on April 25, 2007.

Leed Development Group submitted a letter prior to the hearing (Exhibit B) recommending approval. At the hearing the applicant was represented by Matt Sprague of SFA design Group LLC.

Testimony was presented by Glenn Ferris on behalf of the owners of the property to the south. Mr. Ferris objected saying that he did not receive the mailed notice, and raised issues and concerns about traffic, deliveries, the ability of the applicant to change access to their property to the south or their access to Highway 99. The Hearings Officer finds that the written notice was properly mailed to the owner of record (not Mr. Ferris) as required by the City Code. Mr. Ferris made an effective presentation at the hearing and was given additional time after the hearing to submit additional materials. As set out below, the Hearings Officer finds that the issues raised by Mr. Ferris can be properly addressed.

Testimony was also offered by George Johnson whose family owns the Shell gas station property to the north. Mr. Johnson objects to the proposal, citing problems with traffic, access to his property, and Sharkie's customers using the Shell station property to get from Hwy. 99 to Sharkie's, or to get from Sharkie's to Hwy. 99. After the hearing Mr. Johnson submitted a written statement dated April 20, 2007 (Exhibit K). As set out below, the Hearings Officer finds that the issues raised by Mr. Johnson can be properly addressed.

Mr. Ferris and Mr. Johnson also raised questions about the legal easement or access rights between the owners of their properties and the Hubbard property, and between their properties and Highway 99. The City's decision in this case is not intended to change the legal relationship of the neighboring property owners, whatever it might be. If the applicant is not able to implement this approval because of other legal constraints, that is a matter for the applicant to resolve.

Submitted to the Hearings Officer as Exhibit M was an E-mail message from ODOT to City staff dated April 24, 2007, the day after the record was closed to new evidence. Since new evidence was not allowed after April 23rd, Exhibit M is not included in the record.

IV. AGENCY/DEPARTMENTAL COMMENTS

The City requested comments from affected agencies and departments on December 15, 2006. All original documents are contained in the planning file and are a part of the official record on this case. The following information briefly summarizes those comments:

- A. Clean Water Services issued a Service Provider Letter for this development on April 17, 2006 (CWS File Number 06-001125) that was included in the applicant's submittal.
- B. ODOT submitted comments regarding the Highway 99W frontage. These comments are addressed below under the Chapter 6- Public Improvements section and are included as Exhibit C to this report. (Note: Because the ODOT E-mail of April 24, 2007, was submitted after the record was closed to new evidence, that message is not included in the record.)
- C. PGE submitted comments stating that the switch pole they have located on the site must remain. These comments are included as Exhibit D.

Staff Response: The submitted plans and a site visit showed the switch pole located near the 99W side of this property. Because the building is proposed for the other side of the property, staff does not see this project as detrimental to PGE's requirement to keep the pole.

- D. Pride Disposal submitted comments stating that the location and/or design of the trash enclosure does not appear adequate and Pride Disposal is working directly with the applicant to revise the enclosure. The requirements for a solid waste enclosure are discussed and conditioned as necessary below under Section V.
- E. Sherwood Engineering Department submitted comments that are discussed below in detail in Chapter 6- Public Improvements. In addition to the site-specific comments, general comments provided included the following information:

Retaining walls within public easements or the public right-of-way shall require engineering approval. Retaining walls with a height of 4 feet or higher located on private property will require a permit from the building department.

City policy requires that prior to grading, a permit is obtained from the Building Department for all grading on the private portion of the site.

The Engineering Department requires a grading permit for all areas graded as part of the public improvements. The Engineering permit for grading of the public improvements is reviewed, approved and released as part of the public improvement plans.

Public easements are required over all public utilities outside the public right-of-way. Easements dedicated to the City of Sherwood are exclusive easements unless otherwise authorized by the City Engineer.

An eight-foot wide public utility easement is required adjacent to the right-of-way of all street frontage.

The Engineering Department comments are included as Exhibit E.

The following agencies were provided notice but did not submit formal comments: Tualatin Valley Fire & Rescue, Tualatin Valley Water District, Northwest Natural Gas, Raindrops2Refuge, Tri-Met, Bonneville Power Administration, Sherwood Broadband and ODOT Rail.

V. SITE PLAN REVIEW (SECTION 5.102.04)

No site plan approval shall be granted unless each of the following is found:

- A. The proposed development meets applicable zoning district standards and all provisions of Chapters 5, 6, 8 and 9.**

Findings: The relevant criteria in Chapters 2 (Zoning Districts), 5, 6 and 8 are discussed below. Chapter 9 does not pertain to the proposal since no historic resources have been identified on the site and this site is not located within Sherwood's Old Town.

Chapter 2 - Land Use and Development

2.109 Retail Commercial (RC) Zoning District **2.109.02 Permitted Uses**

Section 2.109.02(A), permits "general retail trade" outright.

Finding: This use is permitted outright and therefore this standard is met.

Dimensional Standards (2.109.05)

Section 2.109.05 has the following dimensional standards in the RC zone:

Lot area	5,000 sq ft
Lot width at front property line	40 feet
Lot width at building line	40 feet
Front yard setback	None, except when abutting a residential zone, the front yard shall be that required in the residential zone.
Side yard setback	None, except ten (10) feet where adjoining a residential zone or public park.
Rear yard setback	None, except ten (10) feet where adjoining a residential zone or public park.
Height	Except as otherwise provided, the maximum height shall be fifty (50) feet, except that structures within one-hundred (100) feet of a residential zone shall be limited to the height requirements of that residential zone.

This lot is 7,092 square feet in size and approximately 87 feet wide at its narrowest point, exceeding the minimum lot size and lot widths. This site does not directly abut or adjoin a residential zone or public park, therefore no setbacks are specifically required. The building setback is, however dictated by the visual corridor standards discussed further in this report. The proposed building is 15 feet in height and is therefore in compliance with the height maximum of this zone.

Finding: The dimensional standards have been met.

2.301 Clear Vision Areas

A clear vision area shall be maintained on the corners of all property at the intersection of two (2) streets, intersection of a street with a railroad, or intersection of a street with an alley or private driveway.

There are two driveways joining this site to SW Borchers. The clear vision areas on both sides of each of these driveways are maintained and no plantings, sight-obscuring fence, wall, structure or temporary or permanent obstructions are shown in these areas.

Finding: The clear vision area standards have been met for this site.

Chapter 5 - Community Design

5.200 Landscaping

All proposed developments for which a site plan is required pursuant to Section 5.102 shall submit a landscaping plan which meets the standards of Section 5.200. Required landscaped areas shall include an appropriate combination of evergreen or deciduous trees and shrubs, evergreen ground cover, and perennial plantings.

Finding: A landscaping plan has been submitted as part of this land use application. The planting plan shows a mixture of planting materials, including trees and ground cover. Specific landscaping requirements are discussed below.

5.203.01 Perimeter Screening and Buffering

A minimum six (6) foot high sight-obscuring wooden fence, decorative masonry wall, or evergreen screen shall be required along property lines separating single and two-family uses from multi-family uses, and along property lines separating residential zones from commercial or industrial uses. In addition, plants and other landscaping features may be required by the Commission in locations and sizes necessary to protect the privacy of residences and buffer any adverse effects of adjoining uses.

This site is not adjacent to any property lines separating this commercial property from a residential zone and therefore a sight-obscuring fence is not required.

Finding: This standard does not apply.

5.203.02 Parking and Loading Areas

A. Total Landscaped Area

All areas not covered by buildings, required parking, and/or circulation drives shall be landscaped with plants native to the Pacific Northwest in accordance with Section 5.200.

All areas of the proposed project not covered by buildings, required parking, and/or circulation drives are proposed to be landscaped with a mixture of trees and groundcover. The proposed species are not all native to the Pacific Northwest but upon researching the US Forest Services Species Fact Sheets, all of the species are hardy in this environment. This will be discussed in more detail further in this report.

Finding: This standard has been met and landscaping standards will be discussed in more detail below.

B. Adjacent to Public Rights-of-Way

A landscaped strip at least ten (10) feet in width shall be provided between rights-of-way and any abutting off-street parking, loading, or vehicle use areas. Landscaping shall include any combination of evergreen hedges, dense vegetation, earth berm,

grade, change in grade, wall or fence, forming a permanent year-round screen, except in clear vision areas as per Section 2.303.

The parking and vehicular use areas on this site are proposed to be separated from SW Borchers Drive by a ten-foot landscaped strip and from the right-of-way on the east side of the property (which is not an identified street) by a ten-foot landscaped strip. However, the parallel parking spaces adjacent to the Highway 99W right-of-way are only separated from the right-of-way by a seven and one-half foot landscaped strip.

The applicant's narrative states that the amount of existing landscaping within the right-of-way behind the proposed sidewalk along Highway 99W satisfies this standard. However, the standard is specific in that the landscape strip must be between the right-of-way and the parking therefore, there must be a full ten-foot landscaped strip on the subject property separating the parking from the Highway 99W right-of-way. The applicant has submitted an application for a variance to the visual corridor width standards and is relying, in part, on the fact that there will be extensive landscaped area between the edge of pavement and the right of way. However, the applicant did not apply for a variance to this standard and staff finds it is possible to shift the parking two and one-half feet northwest into the area shown on the plans as "one way lane #2", a nine-foot driveway. Because the minimum one-way driveway width is fifteen feet (per Section 5.403.01) and the minimum parking aisle width contemplated by the Code is twelve and one-half feet (Chapter 5-Appendix G), staff finds that this second driveway is not permissible anyway and that the shifting of the parking is possible if this driveway and associated call box island were removed.

Finding: This standard has not been met but could be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department that shows only one driveway through the site (the removal of one way lane #2 and the associated call box island) and that shows a minimum ten-foot wide landscaped strip on the property separating the parking area from the Highway 99W right-of-way.

C. Perimeter Landscaping

A ten (10) foot wide landscaped strip shall be provided between off-street parking, loading, or vehicular use areas on separate abutting properties or developments. A minimum six (6) foot high sight-obscuring fence or plantings shall also be provided, except where equivalent screening is provided by intervening buildings or structures.

This site is adjacent to one property on the southwest property boundary. There is a twenty-four foot joint access easement proposed to benefit this adjacent property and

no landscaping is proposed or practical within this easement. However, there is a nineteen-foot long section of curb separating the driveway on the subject parcel from the adjacent property where no landscaping is proposed. While a typical rectangular ten-foot wide landscaped island would not be practical in this location because of vehicle circulation between the two sites, staff finds that a wedge-shaped landscaped island both to separate the drive aisle from the adjacent property and to guide traffic entering the site would be appropriate. Staff has sketched a revision to this site plan showing this landscaped island, as well as several other changes discussed throughout this report, and included this as Exhibit F.

Finding: This standard has not been met but could be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department that shows a landscaped island adjacent to the property to the southwest and east of the proposed joint access easement generally consistent with that shown in Exhibit F of this report.

D. Interior Landscaping

A minimum of fifty percent (50%) of required parking area landscaping shall be placed in the interior of the parking area. Landscaped areas shall be distributed so as to divide large expanses of pavement, improve site appearance, improve safety, and delineate pedestrian walkways and traffic lanes. Individual landscaped areas shall be no less than sixty-four (64) square feet in area and shall be provided after every fifteen (15) parking stalls in a row.

The parking area and driveway adjacent to the parking area within this development are approximately 1,400 square feet. While there is no minimum parking area landscaping requirement at the time this application was submitted, a 10% standard has been used in the past and has been re-incorporated to the existing code (effective 1-4-07). This would mean a required 140 square feet of parking area landscaping and a minimum 70 square feet of interior landscaping. The ten-foot wide landscaped strip separating the parking area from the Highway 99W right-of-way (conditioned above) would exceed 800 square feet, meeting the minimum parking lot landscaping requirement. There is, however, no interior parking area landscaping proposed. However, there is space between the furthest west parking space and the next space that could be landscaped as shown on Exhibit F. In addition, the wedge-shaped landscaped island conditioned above would count toward interior landscaping.

Finding: This standard has not been met but could be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department that shows interior parking area landscaping between the

furthest west parking space and the next parking space generally consistent with that shown in Exhibit F.

E. Landscaping at Points of Access

When a private access-way intersects a public right-of-way or when a property abuts the intersection of two (2) or more public rights-of-way, landscaping shall be planted and maintained so that minimum sight distances shall be preserved pursuant to Section 2.301.

There are two driveways connecting this site to SW Borchers. The submitted landscaping plan shows sod and sidewalk within the visual corridor, neither of which would impair sight distance.

Finding: This standard has been met.

5.203.03 Visual Corridors

New developments shall be required to establish landscaped visual corridors along Highway 99W and other arterial and collector streets, consistent with the Natural Resources and Recreation Plan Map, Appendix C of the of the Community Development Plan, Part II, and the provisions of Section 8.304.

The Transportation System Plan (TSP) lists SW Borchers Drive as a collector and therefore a ten-foot wide landscaped visual corridor is required. The submitted plans show a ten-foot wide landscaped visual corridor for the entire length of this project adjacent to SW Borchers Drive with a variety of planting materials.

The TSP requires a 25-foot landscaped visual corridor along SW Pacific Highway. The applicant has requested a variance to this standard to provide 7.5 feet of the visual corridor on the subject property and 14.5 feet within the right-of-way behind the sidewalk. Staff is recommending approval of the variance as discussed below under section VI. Variance. As discussed previously in this report, the minimum landscaping width permitted on the property is 10-feet.

The submitted plans show sod within the 99W landscaped visual corridor. However, Section 8.304.04.E requires grouped plantings of native species.

Finding: This standard has not been met for the Highway 99W visual corridor. A variance has been requested and is discussed below in Section VI. "Variance". The proposed plantings in the visual corridor do not meet the standards of Section 8.304.04 and revised plans must be submitted as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department that shows a visual corridor along Highway 99W that

provides grouped plantings of native species consistent with the standards of 8.304.04.E.

5.300 Off-Street Parking and Loading

No building permit shall be issued until plans are approved providing for off-street parking and loading space as required by this Code. Any change in uses or structures that reduces the current off-street parking and loading spaces provided on site, or that increases off-street parking or loading requirements shall be unlawful and a violation of this Code, unless additional off-street parking or loading areas are provided in accordance with Section 5.302, or unless a variance from the minimum or maximum parking standards is approved in accordance with Section 4.400 Variances.

Finding: The applicant stated that all deliveries to the site would be made by the owner or user without any delivery trucks visiting the site. ThisThe site plan provided for this project provides off-street parking and loading space information. This standard is met as discussed and conditioned below.

Mr. Glenn Ferris and Mr. George Johnson both objected to the amount of on-site space available for cars waiting in line to purchase drinks thru the drive up window. Both believe that cars will be lined up on SW Borchers Drive, interfering with the flow of traffic. The expert evidence of the applicant's traffic engineer and the City Engineer is that the space proposed by the applicant will be adequate. It is difficult to know how many cars might attempt to line up at any particular time, but the Hearings Officer relies in this case on the expert testimony. If enough cars line up to cause waiting on SW Borchers Drive, that will be a City enforcement issue. A condition of approval requiring signage may be of some help, but proper enforcement when necessary is likely to be more affective.

5.301.03 Joint Use

Two (2) or more uses, structures, or parcels of land may utilize jointly the same parking and loading spaces when the peak hours of operation do not substantially overlap, provided that satisfactory evidence is presented to the City, in the form of deeds, leases, or contracts, clearly establishing the joint use.

Finding: The applicant is not proposing joint use parking and therefore this standard is not applicable.

5.301.04 Multiple Uses

When several uses occupy a single structure or parcel of land, the total requirements for off-street parking and loading shall be the sum of the requirements of the several uses computed separately, with a reduction of 10% to 25% to account for cross-patronage of adjacent businesses or services.

Finding: The applicant is not proposing a multiple use parking reduction and therefore this standard does not apply.

5.301.05 Prohibited Uses

Required parking, loading and maneuvering areas shall not be used for long-term storage or sale of vehicles or other materials, and shall not be rented, leased or assigned to any person or organization not using or occupying the building or use served.

Finding: No long-term storage or sale of vehicles or other materials is indicated on the site plan or in the narrative for this development. The prohibited uses listed above are not typical for this type of business and therefore are not anticipated. Any issues such as those described above will be considered code compliance issues and will be handled accordingly.

5.301.06 Location

Residential off-street parking spaces shall be located on the same lot as the residential use. For other uses, required off-street parking spaces may include adjacent on-street parking spaces, nearby public parking and shared parking located within 500 feet of the use.

Finding: There is no on-street parking proposed; therefore, this standard does not apply.

5.301.07 Marking

All parking, loading or maneuvering areas shall be clearly marked and painted. All interior drives and access aisles shall be clearly marked and signed to show the direction of flow and maintain vehicular and pedestrian safety.

The site plan indicates the parking and maneuvering areas as clearly marked and painted. However, none of the stalls are marked as ADA accessible. One stall must meet ADA requirements and a marked path from the parking stall to the building entrance (employee entrance) may be required. Staff has evaluated the site plan and finds that this could be done with the removal of the second drive thru lane and call box island, as conditioned previously in this report.

Finding: This standard is not met because an ADA accessible parking space is not shown on the submitted plans. This standard could be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department that shows one ADA accessible parking space and a marked accessible route to the employee entrance.

5.301.08 Drainage

Parking and loading areas shall include storm water drainage facilities approved by the City Engineer.

Mr. Ferris expressed concerns about drainage from this site onto the property to the south. The storm water drainage for the site is proposed to be treated and detained in an on-site water quality facility. This will be discussed further in this report under Chapter 6- Public Improvements.

Finding: The storm water treatment and detention for the site will be discussed in more detail and conditioned as needed below under Chapter 6- Public Improvements. The Hearings Officer finds that based on the site development, drainage will be improved over the undeveloped state of the property.

5.301.09 Repairs

Parking and loading areas shall be kept clean and in good repair. Breaks in paved surfaces shall be repaired, broken or splintered wheel stops shall be replaced and painted parking space boundaries and directional symbols shall be maintained in a readable condition.

The applicant/owner of the site assumes responsibility for repair and maintenance of paved surfaces, wheel stops, parking space painting and directional symbols. Issues with maintenance of these items will be verified before the final certificate of occupancy is issued, and will be reviewed as code compliance issues throughout the life of the project.

Finding: This standard will be met throughout the life of the project and any problems will be reviewed as code compliance issues.

5.302.03 Off-Street Parking- Miscellaneous Standards

A. Dimensions

For the purpose of Section 5.300, a "parking space" generally means a minimum stall nine (9) feet in width and twenty (20) feet in length. Up to twenty five percent (25%) of required parking spaces may have a minimum dimension of eight (8) feet in width and eighteen (18) feet in length so long as they are signed as compact car stalls.

Of the four (4) parking spaces shown on the plan, three (3) are compact with a dimension of 9x18 and one is standard with a dimension of 9x20. Because there are four (4) parking spaces required of this site (401.5 square foot building x 4.1 parking spaces/1,000 square feet = 3.97 or 4 spaces), and only 25% of the required spaces can be compact, a maximum of one (1) space may be compact. For this reason, the parking must be redesigned to include three (3) standard spaces and one (1) compact

space. Based on the submitted plans, it appears that there is enough space to do this and staff has shown one possible configuration on Exhibit F.

Finding: This standard has not been met but could be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department that shows at least three standard parking spaces and only one compact space, marked as compact.

B. Layout

Parking space configuration, stall and access aisle size shall be of sufficient width for all vehicle turning and maneuvering. Groups of more than four (4) parking spaces shall be served by a driveway so that no backing movements or other maneuvering within a street, other than an alley, will be required. All parking areas shall meet the minimum standards shown in Appendix G.

As shown, the applicant proposes a 9-foot access aisle adjacent to the parallel parking. There is no standard for aisle widths accessing parallel parking spaces in Appendix G. However, because the required aisle width generally increases depending on the angle of the parking, and this parking would be parallel with no angle, the minimum aisle width shown of 12.5 feet would likely suffice for these parking spaces. A condition was recommended previously that would remove the 9-foot access aisle adjacent to the parallel parking and result in a 17-foot wide access aisle/drive thru lane. A 17-foot wide aisle would meet this minimum aisle width requirement and has been conditioned previously in this report.

Finding: As shown, the plans do not provide adequate maneuvering space for vehicles, however this standard can be met through conditions previously identified in this report.

C. Wheel Stops

Parking spaces along the boundaries of a parking lot or adjacent to interior landscaped areas or sidewalks shall be provided with a wheel stop at least four (4) inches high, located three (3) feet back from the front of the parking stall as shown in Appendix G.

Finding: Appendix G does not give a scenario where parallel parking spaces are shown. Because all of the parking spaces proposed are parallel spaces, wheel stops would impede the safe use of these parking spaces and should not be required.

D. Service Drives

Service drives shall be clearly and permanently marked and defined through use of rails, fences, walls, or other barriers or markers, and shall have minimum vision clearance area formed by the intersection of the driveway center line, the street

right-of-way line, and a straight line joining said lines through points fifteen (15) feet from their intersection.

There are no service drives indicated on the site plan. The applicant has not shown how the trash enclosure will be serviced but staff believes this can be done via the existing driveways. The applicants stated that given the nature of this use deliveries from large trucks to this site will not occur. Solid waste facilities are discussed below in the "on-site storage" section.

Finding: No service drives are proposed with this submittal and therefore this standard does not apply.

E. Bicycle Parking Facilities

Bicycle parking shall be conveniently located with respect to both the street right-of-way and at least one building entrance. Bike parking may be located inside the main building or protected or otherwise covered near the main entrance. Bicycle parking shall be visible to cyclists from street sidewalks or building entrances, so that it provides sufficient security from theft and damage. Bicycle parking shall be least as well lit as vehicle parking for security. Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only. 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.

There is a bicycle rack shown on the submitted plans that is adjacent to the building. The rack is shown adjacent to the sidewalk on SW Borchers Drive. The bicycle parking is shown within the visual corridor; however, Section 5.202.03 allows architectural features within landscaped areas. Staff supports placement of the bicycle parking within the visual corridor but strongly recommends a unique bicycle parking structure perhaps one that matches the south pacific coffee stand theme. It is unclear from the submitted plans if the bicycle parking is covered by a canopy or awning from the building. If this is not the case, the bicycle parking must be covered in some other way so as to protect bicycles from the rain.

Finding: Staff cannot verify that the bicycle parking is covered by a canopy or awning from the building. This standard has not been fully met but can be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department that clearly shows the bicycle area as covered by an awning, canopy or a separate shelter cover.

5.303.01 Off-Street Loading - Minimum Standards

A. A driveway designed for continuous forward flow of passenger vehicles for the purpose of loading and unloading passengers shall be located on the site of any school, or other public meeting place, which is designed to accommodate more than twenty five (25) persons at one time.

B. The minimum loading area for non-residential uses shall not be less than ten (10) feet in width by twenty-five (25) feet in length and shall have an unobstructed height of fourteen (14) feet. The following additional minimum loading space is required for buildings in excess of twenty thousand (20,000) square feet of gross floor area:

- 1. 20,000 to 50,000 sq. ft. - 500 sq. ft.*
- 2. 50,000 sq. ft. or more - 750 sq. ft.*

Any area to be used for the maneuvering of delivery vehicles and the unloading or loading of materials shall be separated from designated off-street parking areas and designed to prevent the encroachment of delivery vehicles onto off-street parking areas or public streets. Off-street parking areas used to fulfill the requirements of Section 5.302 shall not be used for loading and unloading operations.

As discussed above, no loading area has been proposed. However, staff does not anticipate deliveries from large trucks to this site. The driveway throughout the site, after the call box island is removed as conditioned above, will be of adequate width and length to accommodate deliveries to the site.

Finding: This condition has been met.

5.401 On-Site Pedestrian and Bicycle Circulation

On-site facilities shall be provided that accommodate safe and convenient pedestrian access within new subdivisions, multi-family developments, planned unit developments, shopping centers and commercial districts, and connecting to adjacent residential areas and neighborhood activity centers within one half mile of the development.

The walk-up window for this coffee stand is proposed immediately adjacent to the sidewalk on SW Borchers Drive. This is the only portion of the site designed for pedestrians as the other portion of the site is designed for drive-thru coffee service. This access to the building is safe and convenient for pedestrians.

Finding: This standard has been met.

5.401.01 On-Site Circulation and Maintenance

No building permit or other City permit shall be issued until plans for ingress, egress and circulation have been approved by the City. Any change increasing

any ingress, egress or circulation requirements, shall be a violation of this Code unless additional facilities are provided in accordance with Section 5.400.

This site is served by two existing driveways. The driveways are both two-way, 24-foot wide and both have joint access easements over them to provide access for the adjacent properties. Once on the site, the vehicular circulation is one-way and, as discussed and conditioned above, meets the minimum one-way driveway width of 15-feet after one of the drive thru lanes and the call box island are removed. Staff supports the ingress, egress and circulation as conditioned previously in this report.

Finding: This condition is met as previously conditioned in this report.

5.401.02 Joint Access

Two (2) or more uses, structures, or parcels of land may utilize jointly the same ingress and egress when the combined ingress and egress of all uses, structures, or parcels of land satisfied the other requirements of this Code, provided that satisfactory legal evidence is presented to the City in the form of deeds, easements, leases, or contracts to clearly establish the joint use.

This property has two joint accesses - both accesses are existing and one has a joint access easement over it. The applicant is proposing to record a joint access easement over the access to the southwest for the benefit of the Sherwood Produce site, which staff supports. This access easement would allow vehicles from the Sherwood Produce site ingress and egress to Borchers. However, this does not grant access for the coffee stand from Highway 99W through the Sherwood Produce site. Staff has not seen legal documentation for either the existing joint access easement or the proposed easement and will require both prior to final site plan approval.

Finding: This condition has not been met because satisfactory legal evidence of the easements clearly establishing the joint use has not been provided. This condition can be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Prior to final site plan approval, submit to the Planning Department satisfactory legal evidence of both joint access easements clearly establishing the joint use.

5.401.03 Connection to Streets

A. Except for joint access as per Section 5.401.02, all ingress and egress to a use or parcel shall connect directly to a public street, excepting alleyways.

Finding: Both driveways accessing this site connect to SW Borchers Drive, a public street. This criterion has been satisfied.

B. Required private sidewalks shall extend from the ground floor entrances or the ground floor landing of stairs, ramps or elevators to the public sidewalk or curb of the public street which provides required ingress and egress.

Finding: As discussed above, the only portion of this site designed for pedestrians, the walk up window, is adjacent and connected to the sidewalk on SW Borchers Drive. This criterion has been met.

5.401.04 Maintenance of Required Improvements

Required ingress, egress and circulation improvements shall be kept clean and in good repair.

Finding: The maintenance of the required improvements will be addressed, if necessary, through the Code Compliance program within the City.

5.401.05 Access to Major Roadways

Points of ingress or egress to and from Highway 99W and arterials designated on the Transportation Plan Map, attached as Appendix C of the Community Development Plan, Part II, shall be limited as follows:

A. Single and two-family uses and manufactured homes on individual residential lots developed after the effective date of this Code shall not be granted permanent driveway ingress or egress from Highway 99W and arterial roadways. If alternative public access is not available at the time of development, provisions shall be made for temporary access which shall be discontinued upon the availability of alternative access.

B. Other private ingress or egress from Highway 99W and arterial roadways shall be minimized. Where alternatives to Highway 99W or arterials exist or are proposed, any new or altered uses developed after the effective date of this Code shall be required to use the alternative ingress and egress.

C. All site plans for new development submitted to the City for approval after the effective date of this Code shall show ingress and egress from existing or planned local or collector streets, consistent with the Transportation Plan Map and Section VI of the Community Development Plan.

Finding: The ingress and egress locations for this site are via SW Borchers Drive, a collector. There are no access points to an arterial or Highway 99W proposed and therefore this standard has been met. Detailed discussion on the access number and spacing is provided further in this report under Chapter 6- Public Improvements.

5.401.06 Service Drives

Service drives shall be provided pursuant to Section 5.303.

Finding: This standard is discussed above under Section 5.303.

5.403.01 Minimum Non-Residential Standards- Driveways

A. One improved, 24-foot wide, 2-way hard surface driveways is required when less than 50 parking spaces are required. Alternatively, two 15-foot wide, 1-way hard surface driveways may be used.

The proposed site plan shows two driveways accessing this site, both are 24-foot wide 2-way hard surfaced. However, once on the site, the driveways reduce in size to two 9-foot wide drive-thru lanes. This does not meet the minimum driveway standards of this section and is not feasible because of required landscaping, parking, etc. This has been discussed and conditioned previously in this report and the one-way driveway through the site will be no less than 15-foot wide.

Finding: This standard has not been met but can be met as previously conditioned.

5.403.02 Sidewalks and Curbs

A. Commercial: A minimum four (4) foot wide sidewalk shall be required on one (1) side of approved driveways connecting a development to public rights-of-way. Curbs shall also be required at a standard approved by the Commission. Sidewalks may be connected to public rights-of-way other than along driveways if approved by the Commission.

As discussed above, the pedestrian portion of this site is adjacent to SW Borchers Drive. The walkway connecting the pedestrian window to the public sidewalk is 6-feet in width. A sidewalk along the driveway into this site would take the pedestrian into a vehicle circulation and parking area, not to the building. Staff would support a pedestrian connection through the site from 99W to Borchers, but this is not specifically required by this section of the Code and staff cannot see a safe and convenient way to do this on this site. The intent of this standard has been met with the safe and convenient pedestrian access provided to the use on the site.

Finding: As discussed above, this standard has been met.

5.501 On-Site Storage- Recreational Vehicles and Equipment

Recreational vehicles and equipment may be stored only within designated and improved off-street parking areas. Such areas shall meet the screening and landscaping requirements of Section 5.203.

Finding: No recreational vehicle or equipment storage is being proposed or is anticipated with this site plan.

5.502 On-Site Storage- Solid Waste Storage

All uses shall provide solid waste storage receptacles which are adequately sized to accommodate all solid waste generated on site. All solid waste storage areas and receptacles shall be located out of public view. Solid waste receptacles for multi-family, commercial and industrial uses shall be screened by six (6) foot high sight-obscuring fence or masonry wall and shall be easily accessible to collection vehicles.

No details regarding the on-site solid waste and recycling storage facility have been provided. Pride Disposal has provided comments that they are in communication with the applicant regarding the facility. Pride Disposal's acknowledgement of a design and location shall be required prior to final site plan approval. In addition, the plans do not clearly indicate the facility will be screened in accordance with this standard. The applicant must submit details to the Planning Department verifying that the design and location approved by Pride will also meet the 5.502.

Finding: This standard has not been met but can be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Prior to final site plan approval, submit verification from Pride Disposal that the location and design of the solid waste and recycling facility is acceptable. In addition, submit a design for the solid waste and recycling enclosure to the Planning Department that complies with the design standards of 5.502.

5.503.01 Generally

Except as otherwise provided herein, external material storage is prohibited, except in commercial and industrial zones where storage areas are approved by the Commission as part of a site plan or as per Section 5.504.

Finding: No outdoor storage of building materials is being proposed or is anticipated with this use.

5.503.02 Standards

Except as per Section 5.504, all service, repair, storage, and merchandise display activities carried on in connection with any commercial or industrial activity, and not conducted within an enclosed building, shall be screened from the view of all

adjacent properties and adjacent streets by a six (6) foot high, sight obscuring fence. In addition, unless adjacent parcels to the side and rear of the storage area have existing solid evergreen screening or sight-obscuring fencing in place, new evergreen screening no less than three (3) feet in height shall be planted along side and rear property lines. Where other provisions of this Code require evergreen screening, fencing, or a landscaped berm along side and rear property lines, the additional screening stipulated by this Section shall not be required.

Finding: No service, repair, storage and merchandise display activities are being proposed or are anticipated with this use.

5.503.03 Hazardous Materials

Storage of hazardous, corrosive, flammable, or explosive materials, if such storage is otherwise permitted by this Code, shall comply with all local fire codes, and Federal and State regulations.

Finding: No storage of hazardous, corrosive, flammable, or explosive materials is proposed or is anticipated with this use.

5.504.02 Outdoor Sales and Merchandise Display- Standards

A. Outdoor sales and merchandise display areas shall be kept free of debris. Merchandise shall be stacked or arranged, or within a display structure. Display structures shall be secured and stable.

B. Outdoor sales and merchandise display shall not be located within required yard, building, or landscape setbacks, except where there is intervening right-of-way of a width equal to or greater than the required setback; and shall not interfere with on-site or off-site pedestrian or vehicular circulation.

C. Outdoor retail sales and merchandise display areas for vehicles, boats, manufactured homes, farm equipment, and other similar uses shall be paved with asphalt surfacing, crushed rock, or other dust-free materials.

D. Additional standards may apply to outdoor sales and merchandise display in NC zones, as per Section 2.107.05A.

Finding: No outdoor sales or merchandise display are proposed or are anticipated with this use.

5.700 Signs

Findings: No signs are proposed as part of this site plan. Signs will be reviewed in accordance with Section 5.700 when the applicant applies for permits.

However, staff would like to note that Section 5.700 allows for one (1) free-standing sign on a commercially zoned piece of property that has less than 300 feet of frontage, such as this site. This would allow one sign designating the principal goods or services available on the premises and would not allow one

sign at the drive through where the customer orders *in addition to* a sign on 99W or Borchers advertising the coffee stand. Wall signage is calculated separately from free-standing signage and is limited to 20% of the square footage of the wall the sign is attached to.

Chapter 6 – Public Improvements

6.300– Streets

6.301.01 – Required Improvements

Except as otherwise provided, all developments containing or abutting an existing or proposed street, that is either unimproved or substandard in right-of-way width or improvement, shall dedicate the necessary right-of-way prior to the issuance of building permits and/or complete acceptable improvements prior to issuance of occupancy permits.

Borchers Drive: Borchers Drive is classified as a Collector in Figure 8-1 of the City's Transportation System Plan, (TSP). Figure 8-4 of the TSP shows requirements for collector streets.

Borchers Drive currently exists as a fully improved street complete with pavement, curb, gutter, landscape strips and sidewalks with only a few exceptions. These exceptions include three properties lacking sidewalks and landscape strips. The subject site is one of these three. Additionally, street lights appear to be non-existent on the project side of the street.

The applicant's proposal for Borchers Drive includes a ten-foot right-of-way dedication, a variable width planter strip and a six-foot wide sidewalk. The six-foot wide sidewalk is as called for in Figure 8-4 of the TSP. This same figure also calls for a five-foot planter strip between the sidewalk and curb.

Given the existing public improvements on Borchers, and only the need for additional sidewalk, landscape strip, and street lights along the frontage, Staff finds the applicant's proposal of a ten-foot right-of-way dedication appropriate.

Because the applicant's proposal lacks clarity regarding the width of the landscape strip, Engineering Staff recommends a condition of this land use approval be design and construction of a five-foot wide landscape strip as measured from the back of the curb to the front side of the sidewalk. From the applicant's design it appears the proposed sidewalk and landscaping strip may just fit within the existing and proposed right-of-way. If this is not the case, an additional public sidewalk easement dedication is a recommended to cover any construction of public improvements that exceed the existing and proposed right-of-way.

Staff also recommends the applicant install street lights on either end of the project fronting Borchers Drive or alternately supply a photometric design as per the standards set forth by the Illuminating Engineer's Society showing that additional street lights are not necessary.

The TSP calls for bike lanes on both Borchers Drive and Highway 99W. It should be noted that both of these roads are currently fully improved and need only minor additional improvements to meet standards under which they were originally constructed. Requiring the applicant to design and construct bike lanes on the limited section of site frontage would be financially disproportional to the development proposed. Additionally as the existing street sections on each side of the site are fully developed, it is unlikely bike lanes required of this project would be extended in the near future. Given this information Staff recommends these comments be accepted as concurrence that the applicant need not design or construct bike lanes and that such concurrence is allowed under section 6.303.05 (D) 1 & 5 of the zoning code.

The applicant's design for driveways on Borchers Drive does not meet the access spacing standards specified in section 6.305.15 (B) 3 of the code. This code section calls for minimum spacing of 100 feet between driveways. It appears the applicant may be able to meet this standard by decreasing the width of the eastern shared access on Borchers Drive. Staff recommends this be a condition of the land use action.

Highway 99W: The site will not have access to or from Highway 99. Public improvements along Highway 99W were previously completed with some minor exceptions. These exceptions affect the western portion of the site's Highway frontage. Staff recommends, (and received agreement from ODOT in an email dated February 28, 2007), conditions of this land use decision be:

- Removal of the existing driveway drop and access fronting their portion of the property and replacement with a full height curb.
- Extension of the existing sidewalk and landscape strip up to the westernmost point of the site's highway frontage.

The applicant's proposed dedication of 10 feet of right-of-way for Borchers Drive is acceptable. The applicant will need to submit public improvement plans to the Engineering Department for review prior to building permit submittal, as conditioned below.

STAFF RECOMMENDED CONDITION: Submit public improvement plans to the Engineering Department that show:

- A 5-foot tree lawn along SW Borchers Drive (if this does not fit with the sidewalk and curb within the 10-foot right-of-way dedication, a public sidewalk easement will be required over the portion of sidewalk on public property)
- Street lights on SW Borchers Drive (or a photometric design documenting that street lights are not necessary per the Illuminating Engineer's Society guidelines).
- The driveways on SW Borchers Drive reduced in size/repositioned to allow for 100 feet between them (likely an 8-foot reduction in the width of the NE driveway)
- Removal of the existing driveway drop and access to 99W and replacement with a full height curb.
- Extension of the sidewalk and landscape strip to the westernmost point of the site's highway frontage.

6.307 – Highway 99W Capacity Allocation Program

All regulated activities shall acquire a Trip Allocation Certificate prior to approval of their base application. Lack of a Trip Allocation Certificate shall be the basis for denial of a base application.

In an email dated December 5, 2006, the City Engineer noted that the Applicant's CAP information complies with the CAP ordinance and a preliminary trip letter has been issued. Upon final approval of the land use request, the City Engineer shall issue a formal CAP trip certificate documenting necessary mitigation if any.

Finding: This standard has not been met because a final Trip Allocation Certificate has not been issued by the City Engineer. However, a preliminary CAP analysis was conducted indicating that the applicant can obtain a trip certificate. The preliminary analysis does not indicate what mitigation, if any, will be required, as this will be included in the Trip Certificate. A Trip Certificate will be required prior to issuance of building permits.

STAFF'S RECOMMENDED CONDITION: Obtain a Highway 99W Trip Allocation Certificate from the Engineering Department prior to issuance of building permits.

6.400 - Sanitary Sewers

Sanitary sewers shall be installed to serve all new developments and shall connect to existing sanitary sewer mains. Provided, however that when impractical to immediately connect to a trunk sewer system, the use of septic tanks may be approved, if sealed sewer laterals are installed for future connection and the temporary system meets all other applicable City, Clean Water Services and State sewage disposal standards.

The applicant proposes to extend a sanitary mainline from an existing manhole located about two hundred feet west of the site on Borchers Drive. This extension would provide two new manholes and end with a lateral to the building.

This approach is acceptable to the City of Sherwood's Engineering Department, providing specifications and requirements set forth in the CWS Design and Construction Standards are met. Additionally the City will require that SW Borchers Drive be repaired to like or better condition with no longitudinal saw cuts located within a traffic wheel path.

Finding: The applicant's proposal for sanitary sewer is acceptable and this standard will be met based on the submitted plans. The applicant will need to show the sanitary sewer on the public improvement plans reviewed and approved by the Engineering Department.

STAFF'S RECOMMENDED CONDITION: Submit public improvement plans to the Engineering Department that show a sanitary sewer design per CWS Design and Construction Standards.

6.500 - Water Supply

Water lines and fire hydrants conforming to City and Fire District standards shall be installed to serve all building sites in a proposed development in compliance with 6.500.

The City contracts with Tualatin Valley Water District (TVWD) for review and approval of engineering plans related to the water system. The applicant proposes to tap an existing mainline located on the eastern portion of the site and provide a service lateral to the building. The Engineering department has no objections to this design, but notes Tualatin Valley Water District will review all plans involving the water design.

Finding: The applicant's proposal for water is acceptable and this standard will be met based on the submitted plans. The applicant will need to show water on the public improvement plans reviewed and approved by the Engineering Department.

STAFF'S RECOMMENDED CONDITION: Submit public improvement plans to the Engineering Department that show a water design per TVWD standards.

6.600 - Storm Water

Storm water facilities, including appropriate source control and conveyance facilities, shall be installed in new developments and shall connect to the existing downstream drainage system consistent with the Comprehensive Plan.

The applicant proposes an on-site detention and treatment facility that discharges to an existing storm mainline located in Borchers Drive. To facilitate discharge to the existing storm line the applicant proposes a new manhole over the existing main line and a new lateral extending from the manhole to the site.

The proposed detention facility has not yet been approved by Clean Water Services, however it appears to Staff that CWS standards for treatment of storm run-off can be met. Staff recommends removal of one of the drive thru lanes, resulting in additional space for on-site storm water treatment. Some of the required landscape area may also be used for storm water treatment.

It is feasible for the applicant to demonstrate compliance with this standard, as required by Staff's recommended condition..

STAFF'S RECOMMENDED CONDITION: Submit public improvement plans to the Engineering Department that show a storm water design per CWS Design and Construction Standards.

6.700- Fire Protection

When land is developed so that any commercial or industrial structure is further than 250 feet or any residential structure is further than 500 feet from an adequate water supply for fire protection, as determined by the Fire District, the developer shall provide fire protection facilities necessary to provide adequate water supply and fire safety.

The Deputy Fire Marshall did not submit comments specifically pertaining to this project. All TVF&R standards shall apply throughout the life of the project.

Finding: This standard will be met if the applicant complies with all TVF&R requirements.

6.800 -Public and Private Utilities

6.802 Standard

A. *Installation of utilities shall be provided in public utility easements and shall be sized, constructed, located and installed consistent with this Code, Chapter 7 of the Community Development Code, and applicable utility company and City standards.*

- B. Public utility easements shall be a minimum of eight feet in width unless a reduced width is specifically exempted by the City Engineer.*
- C. Where necessary, in the judgment of the City Manager or his designee, to provide for orderly development of adjacent properties, public and franchise utilities shall be extended through the site to the edge of adjacent property(ies).*
- D. Franchise utility conduits shall be installed per the utility design and specification standards of the utility agency.*
- E. Public Telecommunication conduits and appurtenances shall be installed per the City of Sherwood telecommunication design standards.*
- F. Exceptions: Installation shall not be required if the development does not require any other street improvements. In those instances, the developer shall pay a fee in lieu that will finance installation when street or utility improvements in that location occur.*

Public easements are required over all public utilities outside the public right-of-way. Easements dedicated to the City of Sherwood are exclusive easements unless otherwise authorized by the City Engineer. An eight-foot wide public utility easement is required adjacent to the right-of-way of all street frontage. Fiber optic conduit must be installed per Sherwood Broadband standards.

Finding: This condition has not been met but could be met as conditioned below.

STAFF RECOMMENDED CONDITION: Submit public improvement plans to the Engineering Department that show a public utility easements along all right-of-way and fiber optic conduit per Sherwood Broadband standards.

6.803 – Underground facilities - Except as otherwise provided, all utility facilities, including but not limited to, electric power, telephone, natural gas, lighting, and cable television, shall be placed underground, unless specifically authorized for above ground installation, because the points of connection to existing utilities make underground installation impractical, or for other reasons deemed acceptable by the Commission.

Sheet 2 of the Applicant's original design referenced overhead power lines crossing the site. Subsequent submittals lacked this reference. Besides the power lines, it seems likely that overhead phone and/or cable televisions lines exist as well. City code requires that all existing and proposed utilities be placed underground. PGE provided comments that a pole near the 99W frontage needs to remain but did not discuss the lines. Staff assumes that unless PGE documents the lines at greater than 50,000 volts, they must be placed underground (per 6.804).

This standard has not been met but could be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit public improvement plans to the Engineering Department that show all overhead utilities placed underground.

Chapter 8 - Environmental Resources

8.304.04 Visual Corridors

Finding: This criterion is discussed above under Section 5.203.03 Visual Corridors. The applicant has requested a variance to the width of the visual corridor along Highway 99W, which is addressed below in Section VI. Variance.

8.304.06 Trees Along Public Streets or on Other Public Property

A. Trees Along Public Streets

Trees are required to be planted by the land use applicant to the following specifications along public streets abutting or within any new development.

Planting of such trees shall be a condition of development approval. The City shall be subject to the same standards for any developments involving City-owned property, or when constructing or reconstructing City streets.

1. Tree location: On private property within the front yard setback area or within public street right-of-way between front property lines and street curb lines. The land use applicant may, at their option, provide for a minimum four (4) foot deep continuous planter strip between curb and sidewalk for the purposes of street tree planting. The City may grant a corresponding reduction in right-of-way or street width, or equivalent on-street parking requirements.

2. Tree size: A minimum trunk diameter of two (2) inches DBH and minimum height of six (6) feet.

3. Tree spacing: A minimum of one (1) tree for every twenty-five (25) feet of public street frontage, or two (2) trees for every buildable lot, whichever yields the greater number of trees. Double fronting lots shall have a minimum of one (1) street tree for every twenty-five (25) feet of frontage. Corner lots shall have a minimum of three (3) street trees.

The submitted plans show one (1) katsura tree in the tree lawn along SW Borchers Drive. However, based on the 192 feet of frontage this site has on Borchers, seven (7) trees are required. Based on the two large driveways accessing this site, there may not be room to place seven (7) trees in the tree lawn and those that do not fit must be placed in the visual corridor behind the sidewalk. Katsura trees are on the city's list of recommended street trees.

The submitted plans show three (3) windmill palm trees in the tree lawn along Highway 99W. Based on the 90 feet of frontage this site has on the highway, three (3) street trees are required. However, because ODOT has jurisdiction of Highway 99W and prefers no trees in the landscaped strip separating the sidewalk from the driving surface, the street trees must be placed behind the sidewalk in the right-of-way. In addition, the windmill palm is not on the city's lists of recommended street trees and cannot count as the required street trees but can be used elsewhere on the site.

Finding: This standard has not been met but could be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department and public improvement plans to the Engineering Department that show seven (7) street trees along Borchers and three (3) street trees along Highway 99W. The trees must be from the city's recommended street tree list in Chapter 8 of the Zoning and Development Code.

8.304.07 Trees on Property Subject to Certain Land Use Applications

Finding: A staff site visit on February 26, 2007 verified that there are no existing trees on site and, therefore, this standard does not apply.

8.309.01 Odors-Generally

All otherwise permitted commercial, industrial, and institutional uses shall incorporate the best practicable design and operating measures so that odors produced by the use are not discernible at any point beyond the boundaries of the development site.

Finding: Discernible odors are not anticipated beyond the boundaries of the development site. If odor becomes a problem in the future, the City will abate such problem as per applicable City nuisance and public safety ordinances.

8.310 Heat and Glare

Except for exterior lighting, all otherwise permitted commercial, industrial, and institutional uses shall conduct any operations producing excessive heat or glare entirely within enclosed buildings. Exterior lighting shall be directed away from adjoining properties, and the use shall not cause such glare or lights to shine off site in excess of one-half (0.5) foot candle when adjoining properties are zoned for residential uses.

The applicant did not submit a photometric plan. The applicant must submit a photometric plan showing that light will not shine off-site and be a distraction to passing motorists if on-site lighting is proposed.

Finding: This standard is not met but could be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department that includes a photometric plan of any on-site lighting proposed.

- B. The proposed development can be adequately served by services conforming to the Community Development Plan, including but not limited to water, sanitary facilities, storm water, solid waste, parks and open space, public safety, electric power and communications.**

This site is located near many developed parcels. As discussed above under Chapter 6-Public Improvements, public services exist to the site for water, sanitary and storm. Pride Disposal provides solid waste collection in Sherwood and has indicated that they are working with the applicant to find a system that will work. The drive thru coffee stand is not anticipated to be a large burden on existing parks and open space and public safety. Electric power and communications services are available to service this site.

Finding: This standard has been met as discussed above.

- C. Covenants, agreements, and other specific documents are adequate, in the City's determination, to assure an acceptable method of ownership, management and maintenance of structures, landscaping and other on-site features.**

Finding: This property is owned and will be managed and maintained by the applicant. Should issues arise with the maintenance of the site, structures or landscaping, they will be addressed through the City's code compliance project.

- D. The proposed development preserves significant natural features to the maximum feasible extent, including but not limited to natural drainageways, wetlands, trees, vegetation, scenic views and topographical features, and conforms to the applicable provisions of Chapters 5 of the Community Development Code.**

Finding: There are no significant natural features on this site as verified from review of the Local Wetland Inventory, Metro Regionally Significant Fish and Wildlife Habitat maps, comments from Clean Water Services and a staff site visit on August 8, 2006.

- E. For a proposed site plan in the Neighborhood Commercial (NC), Office Commercial (OC), Office Retail (OR), Retail Commercial (RC), General Commercial (GC), Light Industrial (LI), and General Industrial (GI) zones, except in the Old Town Overlay Zone, the proposed use shall satisfy the requirements of Section 6.307 Highway 99W Capacity Allocation Program, unless excluded herein.**

Finding: As discussed and conditioned above in Section 6.307, A Highway 99W Capacity Allocation Program (CAP) Trip Allocation Certificate has not yet been issued but will be required prior to building permit issuance.

- F. For developments that are likely to generate more than 400 average daily trips (ADTs), or at the discretion of the City Engineer, the applicant shall provide adequate information, such as a traffic impact analysis or traffic counts, to demonstrate the level of impact to the surrounding street system. The developer shall be required to mitigate for impacts attributable to the project. The determination of impact or effect and the scope of the impact study shall be coordinated with the provider of the affected transportation facility.**

Finding: This development is not likely to generate more than 400 average daily trips, however the City Engineer required a traffic impact study to look at nearby intersections including Borchers/Roy Rogers and Borchers/Edy. The traffic study found that the Borchers/Roy Rogers intersection is functioning within acceptable levels and will continue to do so. The study further found that the Borchers/Edy intersection is functioning within acceptable levels within the AM Peak but is currently failing in the PM Peak. "Failing" does not mean that the intersection is unsafe, but rather that the delay in getting through the intersection is longer than desired. This coffee stand is expected to add approximately three seconds to the delay in the PM, but the mitigation necessary to address the PM Peak issues is not proportional to the development occurring and should therefore not be required. The applicant will be required to pay a Traffic Impact Fee (TIF) and a Transportation System Development Charge (SDC) with the issuance of building permits which will contribute to future improvements to this intersection.

While this development will have impacts this standard has been met.

- G. The proposed commercial, multi-family development, and mixed-use development is oriented to the pedestrian and bicycle, and to existing and planned transit facilities. Urban design standards shall include the following:**
- 1. Primary, front entrances shall be located and oriented to the street, and have significant articulation and treatment, via facades, porticos, arcades, porches, portal, forecourt, or stoop to identify the entrance for pedestrians. Additional entrance/exit points for buildings, such as a postern, are allowed from secondary streets or parking areas.**
 - 2. Buildings shall be located adjacent to and flush to the street, subject to landscape corridor and setback standards of the underlying zone.**
 - 3. The architecture of buildings shall be oriented to the pedestrian and designed for the long term and be adaptable to other uses. Aluminum, vinyl, and T-111 siding, metal roofs, and artificial stucco material shall be prohibited. Street facing elevations shall have windows, transparent fenestration, and divisions to break up the mass of any window. Roll up and sliding doors are acceptable. Awnings**

that provide a minimum 3 feet of shelter from rain shall be installed unless other architectural elements are provided for similar protection, such as an arcade.

- 4. As an alternative to the above standards G.1-3, the Old Town Design Standards (Section 9.202) may be applied to achieve this performance measure.**

Because this is a drive-thru coffee stand, the only "entrance" is the walk-up window adjacent to the sidewalk on SW Borchers Drive. There is an awning shown on the plans above this area, but because this awning runs the entire length of the building (or appears to on the submitted plans), staff does not find that this provides significant articulation. The building is located flush to the required visual corridor along SW Borchers Drive. Brick and stucco are the only materials listed on the submitted elevations, neither of which is a prohibited material. The only window on the street facing elevation is the walk-up window. Additional windows or architectural elements will be required along this wall as it is adjacent to Borchers and the side of the building most oriented toward the pedestrian. The submitted plans show this as the "south" elevation, but rather should be labeled "north" or "west" elevation because it is adjacent to Borchers. The elevation labeled "north" is clearly the side interior of the site as this is the side with a drive-up window. This standard has not been met but could be met as conditioned below.

STAFF'S RECOMMENDED CONDITION: Submit a final site plan to the Planning Department that shows:

- That the awning above the walk-up window provides significant articulation and provides at least 3 feet of shelter from the rain.
- Additional windows or architectural elements along the elevation facing SW Borchers Drive.

VI. VARIANCE

4.401.02 *Approval Criteria*

No variance request shall be granted unless each of the following is found:

- A. *Exceptional and extraordinary circumstances apply to the property which do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape, legally existing prior to the effective date of this Code, topography, or other circumstances over which the applicant has no control.*

This is an oddly shaped, approximately 60 foot wide Retail Commercial property wedged between SW Borchers Drive, a collector, and Highway 99W, a principal arterial. The required landscaped visual corridors of 10 feet for the collector and 25 feet for the highway make this property very hard to develop, leaving only about 25 feet of space. This shape and developable width circumstance are exceptional and extraordinary circumstances in this zone and area. The applicant does not have

control over the size or shape of the property, nor does the applicant have control over the property's proximity to higher-classification streets requiring visual corridors. Exceptional and extraordinary circumstances apply to this property and, therefore, this standard has been met.

- B. *The variance is necessary for the preservation of a property right of the applicant substantially the same as owners of other property in the same zone or vicinity.*

The applicant is requesting a minor reduction to the width of the landscaped visual corridor along Highway 99W. The applicant is proposing to place 7.5 feet of landscaped visual corridor on private property and an additional 14.5 feet of corridor within the right-of-way between the sidewalk and the property. This would result in a total of 22 feet of landscaping between the back of sidewalk and the property. The 7.5 feet of landscaped area on the private property was discussed previously in this report and it is conditioned that this be increased to 10 feet in width, adding an additional 2.5 feet, resulting in a total landscaped width of 24.5 feet.

In the past, the Code has been mistakenly interpreted to allow the visual corridor partially within the right-of-way separating the property from the sidewalk, particularly along the stretch of Highway 99W between Edy and Roy Rogers, where this property sits. The visual corridor is partially within the right-of-way on the Walgreens site and on the Shell Station site. Allowing this property owner to place a portion of the visual corridor within the right-of-way would allow the same right given to other property owners in the same vicinity. Allowing the 0.5 foot reduction in the width of the visual corridor to make development of the property possible affords the applicant the right to develop property, the same right shared by property owners in the same zone and vicinity. This standard has been met.

- C. *The authorization of the variance will not be materially detrimental to the purposes of this Code, or to other property in the zone or vicinity in which the property is located, or otherwise conflict with the goals, objectives and policies of the Comprehensive Plan.*

Allowing a portion of the visual corridor in the right-of-way would be similar to the interpretation of the Code made on previous properties in the area and would therefore not be materially detrimental to other properties in the zone or vicinity of the property or to the Code. The 0.5 foot total reduction in landscaped area does not affect the overall provision of the visual corridor and, therefore, is also not detrimental to the purposes of the code or surrounding properties. The variance requested does not conflict with the goals, objectives and policies of the Comprehensive Plan. This standard has been met.

- D. *The hardship is not self-imposed and the variance requested is the minimum variance which would alleviate the hardship.*

The applicant acquired this property in the current size, shape and location adjacent to a collector and principal arterial. The hardship is not self-imposed. Allowing the applicant to place part of the visual corridor within the right-of-way and reduce the overall width of the visual corridor by 0.5 feet is the minimum variance which would alleviate the hardship and allow development of the property. This standard has been met.

Mr. Ferris expressed the belief that the owners' purchase of the property with the knowledge of its size, shape, and location is the same as creating the hardship. The hearings officer disagrees.

- E. *The hardship does not arise from a violation of this Code.*

As discussed previously, past interpretations of the Code have allowed placement of the visual corridor within the right-of-way. Allowing the placement of the visual corridor partially within the right-of-way and with a reduction of the width does not arise from a violation of the Code. This standard has been met.

VII. DECISION

It is therefore the decision of the Hearings Officer, based on a review of the applicable code provisions, agency comments, staff review, and public testimony, to **APPROVE** the site plan and variance in **SP 06-12/VAR 06-03 Sharkie's Coffee**, as conditioned below:

VIII. CONDITIONS OF APPROVAL

- A. General Conditions:

The following applies throughout the development and occupancy of the site:

1. Compliance with the Conditions of Approval is the responsibility of the developer.
2. This land use approval shall substantially comply with the submitted preliminary site plans dated "2/07" and prepared by SFA Design Group, LLC., except as modified in the conditions specified in this decision.
3. The developer is responsible for all costs associated with private and public facility improvements.

4. **The Site Plan approval is valid for a period of two (2) years from the date of the decision notice.** Extensions may be granted by the City as afforded by the Sherwood Zoning and Community Development Code.
 5. Unless specifically exempted in writing by the final decision, the development shall comply with all applicable City of Sherwood and other applicable agency codes and standards except as modified herein.
 6. Additional development or change of use may require a new development application and approval.
 7. A temporary use permit application shall be submitted and approved by the Planning Department prior to placement of a construction trailer on-site.
- B. Prior to Grading the site or the demolition of structures:
1. Obtain City of Sherwood Building Department approval of grading plans and erosion control.
 2. Any existing wells, septic systems and/or underground storage tanks shall be abandoned in accordance with Oregon state law.
- C. Prior to building permit submittal:
1. Submit public improvement plans to the Engineering Department that show:
 - A 5-foot tree lawn along SW Borchers Drive (if this does not fit with the sidewalk and curb within the 10-foot right-of-way dedication, a public sidewalk easement will be required over the portion of sidewalk on public property)
 - Street lights on SW Borchers Drive (or a photometric design documenting that street lights are not necessary per the Illuminating Engineer's Society guidelines).
 - The driveways on SW Borchers Drive reduced in size/repositioned to allow for 100 feet between them (likely an 8-foot reduction in the width of the NE driveway)
 - Removal of the existing driveway between the site and Highway 99 and replacement with a full height curb, provided that such removal does not reduce the width of the existing driveway drop serving the property to the south to less than 24 feet.
 - Extension of the sidewalk and landscape strip to the westernmost point of the site's highway frontage
 - a sanitary sewer design per CWS Design and Construction Standards
 - a water design per TVWD standards

- a stormwater design per CWS Design and Construction Standards
 - all overhead utilities placed underground
 - a public utility easements along all right-of-way
 - fiber optic conduit per Sherwood Broadband standards
 - 7 street trees along Borchers and 3 street trees along Highway 99W. The trees must be from the city's recommended street tree list in Chapter 8 of the Zoning and Development Code.
2. Submit a final site plan to the Planning Department that shows:
- only one driveway through the site (the removal of "one way lane #2 and the associated call box island)
 - a minimum ten-foot wide landscaped strip on the property separating the parking area from the Highway 99W right-of-way
 - a landscaped island adjacent to the property to the southwest and east of the proposed joint access easement.
 - interior parking area landscaping between the furthest west parking space and the next parking space
 - a visual corridor along Highway 99W that meets the standards of 8.304.04.E
 - one ADA accessible parking space and a marked accessible route to the employee entrance
 - three standard parking spaces and one compact space, marked as compact
 - the bicycle area as covered by an awning, canopy or a separate shelter cover
 - 7 street trees along Borchers and 3 street trees along Highway 99W. The trees must be from the city's recommended street tree list in Chapter 8 of the Zoning and Development Code
 - a design for the solid waste and recycling enclosure that complies with the design standards of 5.502.
 - a photometric plan of any on-site lighting proposed.
 - that the awning above the walk-up window provides significant articulation and provides at least 3 feet of shelter from the rain
 - additional windows or architectural elements along the elevation facing SW Borchers Drive
 - signage at the entrance to the site from Borchers Drive that prohibits vehicle stacking into Borchers Drive
 - signage at the exit to Borchers Drive that prohibits access to Highway 99 thru the Shell station property

D. Prior to building permit issuance:

1. Receive approval of the final site plan from the Planning Department.
2. Receive approval of the public improvement plans from the Engineering Department.
3. Obtain a Highway 99W Trip Allocation Certificate from the Engineering Department.
4. Submit satisfactory legal evidence of both joint access easements clearly establishing the joint use to the Planning Department.
5. Submit verification from Pride Disposal that the location and design of the solid waste and recycling facility is acceptable.
6. The building plans shall conform to the revised and approved site plan and engineering plans.
7. Building plans and site plans shall comply with all Tualatin Valley Fire & Rescue requirements.

D. Prior to receiving an occupancy permit:

1. Obtain approval and acceptance of the public improvements by the Engineering Department.
2. All site improvements shall be installed consistent with the submitted plans and conditions listed above. This will be reviewed by a final site inspection from the Sherwood Planning Department once requested by the applicant.
3. All other appropriate department and agency conditions have been met.

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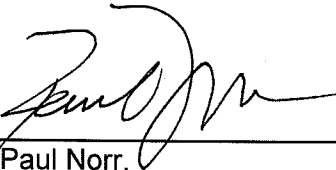
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E. On-going Conditions:

1. The continual operation of the property shall comply with the applicable requirements of the Sherwood Zoning and Community Development Code.
2. All deliveries to the site must be made by the operator. Delivery trucks may not come onto the site.

DATED: May 11, 2007.



Paul Norr,
Hearings Officer

NOTICE OF APPEAL RIGHTS

The decision of the Hearings Officer detailed above will become final unless a petition for review (an appeal) is filed with the City Recorder not more than 14 calendar days after the date on which the Hearing Authority took final action on the land use application, or 14 calendar days after written notice of the action was mailed, whichever date applies, pursuant to the City of Sherwood Zoning & Community Development Code, Chapter 3.4. If the 14th day falls on a Saturday, Sunday or legal holiday, then the appeal period ends on the next business day. To file a petition for review (an appeal) contact the City of Sherwood Planning Department located at 22560 SW Pine Street, Sherwood, OR 97140, or telephone (503) 625-5522.