



LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)

- ☐ Compatibility Review
- ☐ Lot Line Adjustment
- ☐ Non-Conforming Use Review
- ☐ Natural Resource (NROD) Verification

Type II (OCMC 17.50.030.B)

- ☐ Extension
- ☐ Detailed Development Review
- ☐ Geotechnical Hazards
- ☐ Minor Partition (<4 lots)
- ☐ Minor Site Plan & Design Review
- ☐ Non-Conforming Use Review
- ☐ Site Plan and Design Review
- ☐ Subdivision (4+ lots)
- ☐ Minor Variance
- ☒ Natural Resource (NROD) Review

Type III / IV (OCMC 17.50.030.C)

- ☐ Annexation
- ☐ Code Interpretation / Similar Use
- ☐ Concept Development Plan
- ☐ Conditional Use
- ☐ Comprehensive Plan Amendment (Text/Map)
- ☐ Detailed Development Plan
- ☐ Historic Review
- ☐ Municipal Code Amendment
- ☐ Variance
- ☐ Zone Change

File Number(s): NR-16-001

Proposed Land Use or Activity: NROD New single family home

Project Name: Lot 4 Number of Lots Proposed (If Applicable): 1

Physical Address of Site: 2-2E-28BC-04001

Clackamas County Map and Tax Lot Number(s): 2-2E-28BC-04001

Applicant(s):

Applicant(s) Signature: [Signature]

Applicant(s) Name Printed: Mark Shaw Date: 2/1/16

Mailing Address: PO Box 489 Oregon City, OR 97045

Phone: 503-313-3525 Fax: 503-655-5845 Email: mark@greatwesternrestoration.com

Property Owner(s):

Property Owner(s) Signature: Same as Applicant

Property Owner(s) Name Printed: _____ Date: _____

Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

Representative(s):

Representative(s) Signature: _____

Representative (s) Name Printed: _____ Date: _____

Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

2016 FEB -22 PM 3:55

Natural Resource Overlay Checklist

1. ☒ **Signed Land Use Application Form**
2. ☒ **Narrative**
A complete and detailed narrative description of the proposed development and existing site conditions, existing buildings, public facilities and services, presence of natural features
3. ☒ **Code Criteria**
A narrative explaining all aspects of the proposal in detail and addressing each of the criteria listed in Chapter 17.49, 17.50 and any other applicable section of the Oregon City Municipal Code.
4. ☒ **Site Plan Drawings**
 - ☐ The site plan must be drawn at a scale of no less than one inch equals twenty feet
 - ☐ The site plan must show the location of the proposed development and the lot lines of the property on which development is proposed
 - ☐ The site plan must show the location of the protected natural feature. If the protected feature is a wetland, the delineation must be made by a qualified wetlands specialist pursuant to the 1987 Corps of Engineers Delineation Manual. For all other protected water features, the location must be established by a registered professional engineer or surveyor licensed by the state of Oregon.
 - ☐ The site plan must show the location of the natural resource overlay.
 - ☐ If the proposed development is closer than two hundred feet to the protected water feature, the site plan must include contour intervals of no greater than five feet
 - ☐ If the vegetated corridor is fifteen feet, the site plan must show the protected water feature's drainage area, including all tributaries.
5. ☒ **Architectural Drawings**
Including building elevations and envelopes, if architectural work is proposed.
6. ☒ **Pre-Application Conference Summary Sheet** *meeting notes*
7. *NA* **Additional Information or Reports (If Required in Pre-Application Conference)**
8. *NA* **Sheet Summary of the Meeting with the Applicable Neighborhood Association** *N/A per Kelly Reid*
9. ☒ **A Current Preliminary Title Report for the Subject Property(ies)**
10. ☒ **Mailing Labels for Owners Within 300 Feet of the Subject Site or \$15 for City-provided labels**
The names and addresses of property owners within 300 feet of the site indicated on the most recent property tax rolls. *\$15*
11. ☒ **Copies**
Two (2) copies of all information, reports, and drawings (full-sized and 8.5" by 11") *1 hardcopy per Laura*
12. ☒ **Electronic Version of All Application Materials**
13. ☒ **All Required Application Fees**

Incomplete Applications will not be processed



**GREAT WESTERN
RESTORATION &
REMODELING**

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greatwesternrestoration.com

OR CCB# 99149
Wash CC01 GREATWR000MG

Narrative

To whom it may concern,

I am applying to build a new house on reestablished Lot 4 of Clackamas Heights Supplemental. Lot 4 is directly to the West of 16341 Hiram Avenue. Lot 4 has frontage on an unimproved section of Frederick Street. Lot 4 is also entirely covered by a Natural resource overlay. I have included proposed drawings, along with an NROD report, provided by Turnstone Environmental Consultants. They were one of the consulting firms on a list provided by the Planning Department.

Thank you for your time.

Sincerely,

Mark Shaw
503-313-3525
mark@greatwesternrestoration.com



Prepared for:
Mark Shaw
16341 Hiram Avenue
Oregon City, OR 97045

Prepared by:
Turnstone Environmental Consultants, Inc.
18000 NW Lucy Reeder Road
Portland, OR 97231

January 2016 (Revised March 2016)



NROD Report

for the

Shaw Property

Oregon City, Oregon

PREFACE

This report was originally submitted to the Oregon City Planning Department in December of 2015. Associate City Planner, Pete Walter, informed the applicant and consultant that the original format would not suffice and that a new report should be submitted that outlines Title 17.49 and addresses each section point by point. We hope that this new, revised report meets the planning department's requirements.

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SECTION 1. SITE LOCATION

Turnstone Environmental Consultants, Inc. has prepared this report for the proposed development of a single-family home at 16341 Hiram Avenue, Oregon City 97045 (*Figure 1*). The 0.11-acre project area is located on tax lot 2-2E-28BC-04000 (*Figure 2*). The proposed development would occur on the existing lot of record number 4. The centroid coordinates for the project area are 45.3695/-122.5784. The project area is located within Public Land Survey System ("PLSS") Township 2S, Range 2E, Section 28. The property is located within the Rock Creek-Clackamas Watershed (HUC6: 170900110607). The project area is within the Natural Resource Overlay District ("NROD").

SECTION 2. DESCRIPTION OF PROPOSED DEVELOPMENT

The applicant proposes to construct a single-family residence. The house would occupy 1,032 sq ft and the driveway, sidewalk, and rear patio would occupy 468 sq ft. The total impervious surface and encroachment into the Vegetated Corridor created by the proposed development would be 1,500 sq ft.

SECTION 3. DESCRIPTION OF EXISTING CONDITIONS

Existing Buildings and Public Facilities

There was an existing shed on the western edge of Lot 4 that has recently been demolished. The shed dimensions were approximately 15' x 25'. There was another small shed on the northwest corner of Lot 9 that was also recently demolished. The dimensions were approximately 10' x 10'. There is an existing residence on the eastern portion of Lot 9. There is an existing residence to the south on tax lot 4100. The city right-of-way for Frederick Street runs along the western boundary of Lot 4.

The OC Webmaps application illustrates utilities in the vicinity of Lot 4. Water utilities are shown running north up Frederick Street and stopping just shy of the subject property. Sewer utilities are depicted on the surrounding Hiram Avenue, Gain Street, Front Avenue, and Clear Street but not on Frederick Street. Stormwater utilities are depicted on Hiram Avenue and Front Avenue but not on Frederick Street.

Natural Features

Turnstone conducted a wetland delineation on Lot 4 on Friday, December 4, 2015 (*Figure 3*). Turnstone staff utilized the *Corps of Engineers Wetlands Delineation Manual* (USACE, 1987) along with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, Version 2* (USACE, 2010) to conduct the wetland delineation. The Ordinary High Water Line ("OHWL") determination was made by locating and mapping the upland limit of physical and biological characteristics outlined in Army Corps of Engineers *Regulatory Guidance Letter 05-05* (USACE, 2005). Delineation data forms are provided in Appendix B. Photos are provided in Appendix C.

One freshwater perennial stream was identified within the project area. Wetland is present within the OHWL of the stream but the Interagency document *Wetland Delineation Report Guidance* (DSL/USACE/EPA, 2005) states that "In most instances, incidental amounts of wetland entirely within OHW do not need to be separately delineated." Fergusson Creek flows from east to west along the northern



property boundary. This reach of Fergusson Creek is classified as Riverine Upper Perennial using *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al, 1979). According to Oregon City Municipal Code ("OCMP") Table 17.49.110, a perennial stream has a 50-foot Vegetated Corridor.

Local Wetland Inventory

The reach of Fergusson Creek within the project area appears on the *Oregon City Local Wetland Inventory and Riparian Assessment* (Shapiro and Associates, Inc., 1999) as wetland PP3D. This wetland is not listed as locally-significant in Table 5 of the inventory report.

Trees

There are six trees within the project area. There are three apple (*Malus domestica*), two persimmon (*Diospyros* sp.), and one ornamental cherry (*Prunus* sp.).

SECTION 4. NATURAL RESOURCE OVERLAY DISTRICT STANDARDS ASSESSMENT

Chapter 17.49 - NATURAL RESOURCE OVERLAY DISTRICT

17.49.[0]40 - NROD permit.

An NROD permit is required for those uses regulated under Section 17.49.90, Uses Allowed under Prescribed Conditions. An NROD permit shall be processed under the Type II development permit procedure, unless an adjustment of standards pursuant to Section 17.49.200 is requested or the application is being processed in conjunction with a concurrent application or action requiring a Type III or Type IV development permit. Applications for development on properties affected by the NROD shall delineate or verify the exact location of the NROD as part of a Type I or II development review process unless exempted pursuant to section 17.40.080. (Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

An adjustment from standards is required to permit the project and has been advised by the Oregon City Planning Department ("OCPD"). The entire property is constrained by the NROD.

17.49.[0]50 - Emergencies.

The provisions of this ordinance do not apply to work necessary to protect, repair, maintain, or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies. After the emergency has passed, any disturbed native vegetation areas shall be replanted with similar vegetation found in the Oregon City Native Plant List pursuant to the mitigation standards of Section 17.49.180. For purposes of this section emergency shall mean any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to fire, explosion, flood, severe weather, drought, earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease. (Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

Not applicable. This application is not related to an emergency.



NROD Report
Shaw-Hiram Avenue
Single-Family Home

17.49.[0]60 - Consistency and relationship to other regulations.

A. Where the provisions of the NROD are less restrictive or conflict with comparable provisions of the Oregon City Municipal Code, other City requirements, regional, state or federal law, the provisions that provides the greater protection of the resource shall govern.

B. Compliance with Federal and State Requirements.

a. If the proposed development requires the approval of any other governmental agency, such as the Division of State Lands or the U.S. Army Corps of Engineers, the applicant shall make application for such approval prior to or simultaneously with the submittal of its development application to the City. The planning division shall coordinate City approvals with those of other agencies to the extent necessary and feasible. Any permit issued by the City pursuant to this chapter shall not become valid until other agency approvals have been obtained or those agencies indicate that such approvals are not required.

b. The requirements of this chapter apply only to areas within the NROD and to locally significant wetlands that may be added to the boundary during the course of development review pursuant to Section 17.49.035. If, in the course of a development review, evidence suggests that a property outside the NROD may contain a wetland or other protected water resource, the provisions of this chapter shall not be applied to that development review. However, the omission shall not excuse the applicant from satisfying any state and federal wetland requirements which are otherwise applicable. Those requirements apply in addition to, and apart from the requirements of the City's comprehensive plan and this code.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

The Oregon Department of State Lands and the United States Army Corps of Engineers would take jurisdiction over Fergusson Creek and its associated wetland. Permits and approvals from these agencies will not be necessary because no Removal-Fill activities are proposed within the stream or wetland. A wetland delineation report will not be necessary because the resources are being avoided and the total amount of removal-fill in uplands is less than 50 cubic yards. The agencies will be notified of the proposal through a Land Use Compatibility Statement. Turnstone contacted DSL on December 16, 2015 to verify this and the e-mail record can be provided if necessary.

Prohibited, Exempted and Regulated Uses

17.49.[0]70 - Prohibited uses.

The following development and activities are not allowed within the NROD:

A. Any new gardens, lawns, structures, development, other than those allowed outright (exempted) by the NROD or that is part of a regulated use that is approved under prescribed conditions. Note: Gardens and lawns within the NROD that existed prior to the time the overlay district was applied to a subject property are allowed to continue but cannot expand further into the overlay district.

B. New lots that would have their buildable areas for new development within the NROD are prohibited.

C. The dumping of materials of any kind is prohibited except for placement of fill as provided in subsection-D below. The outside storage of materials of any kind is prohibited unless they existed before the overlay district was applied to a subject property. Uncontained areas of hazardous materials as defined by the Oregon Department of Environmental Quality (ORS 466.005) are also prohibited.



D. Grading, the placement of fill in amounts greater than ten cubic yards, or any other activity that results in the removal of more than ten percent of the existing native vegetation on any lot within the NROD is prohibited, unless part of an approved development activity.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

No prohibited activities are proposed and none would occur unless part of an approved development activity.

17.49.[0]80 - Uses allowed outright (exempted).

The following uses are allowed within the NROD and do not require the issuance of an NROD permit:

A. Stream, wetland, riparian, and upland restoration or enhancement projects as authorized by the city.

B. Farming practices as defined in ORS 215.203 and farm uses, excluding buildings and structures, as defined in ORS 215.203.

C. Utility service using a single utility pole or where no more than one hundred square feet of ground surface is disturbed outside of the top-of-bank of water bodies and where the disturbed area is restored to the pre-construction conditions.

D. Boundary and topographic surveys leaving no cut scars greater than three inches in diameter on live parts of native plants listed in the Oregon City Native Plant List.

E. Soil tests, borings, test pits, monitor well installations, and other minor excavations necessary for geotechnical, geological or environmental investigation, provided that disturbed areas are restored to pre-existing conditions as approved by the community development director.

F. Trails meeting all of the following:

- 1. Construction shall take place between May 1 and October 30 with hand held equipment;*
- 2. Widths shall not exceed forty-eight inches and trail grade shall not exceed twenty percent;*
- 3. Construction shall leave no scars greater than three inches in diameter on live parts of native plants;*
- 4. Located no closer than twenty-five feet to a wetland or the top of banks of a perennial stream or ten feet of an intermittent stream;*
- 5. No impervious surfaces; and*
- 6. No native trees greater than one-inch in diameter may be removed or cut, unless replaced with an equal number of native trees of at least two-inch diameter and planted within ten feet of the trail.*

G. Land divisions provided they meet the following standards, and indicate the following on the final plat:

- 1. Lots shall have their building sites (or buildable areas) entirely located at least five feet from the NROD boundary shown on the city's adopted NROD map. For the purpose of this subparagraph, "building site" means an area of at least three thousand five hundred square feet with minimum dimensions of forty feet wide by forty feet deep;*



2. All public and private utilities (including water lines, sewer lines or drain fields, and stormwater disposal facilities) are located outside the NROD;
3. Streets, driveways and parking areas where all pavement shall be located at least ten feet from the NROD; and
4. The NROD portions of all lots are protected by:
 - a. A conservation easement; or
 - b. A lot or tract created and dedicated solely for unimproved open space or conservation purposes.

H. Site Plan and Design Review applications where all new construction is located outside of the NROD boundary shown on the city's adopted NROD map, and the NROD area is protected by a conservation easement approved in form by the city.

I. Routine repair and maintenance of existing structures, roadways, driveways and utilities.

J. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased.

K. Measures mandated by the City of Oregon City to remove or abate nuisances or hazardous conditions.

L. Planting of native vegetation and the removal of non-native, invasive vegetation (as identified on the Oregon City Native Plant List), and removal of refuse and fill, provided that:

1. All work is done using hand-held equipment;
2. No existing native vegetation is disturbed or removed; and
3. All work occurs outside of wetlands and the top-of-bank of streams.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

Allowed and exempt activities may occur on the subject property.

17.49.[0]90 - Uses allowed under prescribed conditions.

The following uses within the NROD are subject to the applicable standards listed in Sections 17.49.100 through 17.49.190 pursuant to a Type II process:

A. Alteration to existing structures within the NROD when not exempted by Section 17.49.080, subject to Section 17.49.130.

B. A residence on a highly constrained vacant lot of record that has less than three thousand square feet of buildable area, with minimum dimensions of fifty feet by fifty feet, remaining outside the NROD portion of the property, subject to the maximum disturbance allowance prescribed in subsection 17.49.120.A.

C. A land division that would create a new lot for an existing residence currently within the NROD, subject to Section 17.49.160.

D. Land divisions when not exempted by Section 17.49.080, subject to the applicable standards of Section 17.49.160.

E. Trails/pedestrian paths when not exempted by Section 17.49.080, subject to Section 17.49.170 (for trails) or Section 17.49.150 (for paved pedestrian paths).

F. New roadways, bridges/creek crossings, utilities or alterations to such facilities when not exempted by Section 17.49.080.



G. Roads, bridges/creek crossings Subject to Section 17.49.150.

H. Utility lines subject to Section 17.49.140.

I. Stormwater detention or pre-treatment facilities subject to Section 17.49.155.

J. Institutional, industrial or commercial development on a vacant lot of record situated in an area designated for such use that has more than seventy-five percent of its area covered by the NROD, subject to subsection 17.49.120B.

K. City, county and state capital improvement projects, including sanitary sewer, water and storm water facilities, water stations, and parks and recreation projects.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

The proposed development does not qualify for the Type II process and will undergo the Type III process as per OCPD guidance and regulations.

Development Standards

17.49.100 - General development standards.

The following standards apply to all Uses Allowed under Prescribed Conditions within the NROD with the exception of rights of ways (subject to Section 17.49.150), trails (subject to Section 17.49.170), utility lines (subject to Section 17.49.140), land divisions (subject to Section 17.49.160), and mitigation projects (subject to Section 17.49.180 or 17.49.190):

A. Native trees may be removed only if they occur within ten feet of any proposed structures or within five feet of new driveways or if deemed not wind-safe by a certified arborist. Trees listed on the Oregon City Nuisance Plant List or Prohibited Plant List are exempt from this standard and may be removed. A protective covenant shall be required for any native trees that remain;

B. The community development director may allow the landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites in the Natural Resource Overlay District.

C. All vegetation planted in the NROD shall be native and listed on the Oregon City Native Plant List;

D. Grading is subject to installation of erosion control measures required by the City of Oregon;

E. The minimum front, street, or garage setbacks of the base zone may be reduced to any distance between the base zone minimum and zero in order to minimize the disturbance area within the NROD portion of the lot;

F. Any maximum required setback in any zone, such as for multi-family, commercial or institutional development, may be increased to any distance between the maximum and the distance necessary to minimize the disturbance area within the NROD portion of the lot;

G. Fences are allowed only within the disturbance area;

H. Incandescent lights exceeding two hundred watts (or other light types exceeding the brightness of a two hundred watt incandescent light) shall be placed or shielded so that they do not shine directly into resource areas;

I. If development will occur within the one hundred-year floodplain, the FEMA floodplain standards of Chapter 17.42 shall be met; and



J. Mitigation of impacts to the regulated buffer is required, subject to Section 17.49.180 or 17.49.190. (Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

The applicant's proposal shall meet the standards presented in this section.

- A. There are no native trees on the subject property and no native trees will be removed (*Figure 6*).
- B. Habitat on the development site in the NROD will be restored and permanently protected (*Section 5*).
- C. All vegetation planted in the NROD will be native and listed on the Oregon City Native Plant List (*Section 5*).
- D. Temporary Erosion and Sediment Control/Best Management Practices will be implemented (*Figure 9*).
- E. The house will comply with all current R-6 setback requirements (*Figure 7*).
- F. The house will be set back 20 feet from Frederick Street (*Figure 7*).
- G. There will be no new fences constructed with the proposed plan.
- H. Incandescent lights exceeding two hundred watts (or other light types exceeding the brightness of a two hundred watt incandescent light) will be placed or shielded so that they do not shine directly into resource areas.
- I. The development is not within a 100-year floodplain.
- J. Mitigation of impacts to the regulated buffer are proposed in Section 5 of this document.

17.49.110 - Width of vegetated corridor.

A. Calculation of Vegetated Corridor Width within City Limits. The NROD consists of a vegetated corridor measured from the top of bank or edge of a protected habitat or water feature. The minimum required width is the amount of buffer required on each side of a stream, or on all sides of a feature if non-linear. The width of the vegetated corridor necessary to adequately protect the habitat or water feature is specified in Table 17.49.110.



Table 17.49.110

Protected Water Feature Type (see definitions)	Slope Adjacent to Protected Water Feature	Starting Point for Measurements from Water Feature	Width of Vegetated Corridor (see Note 1)
Anadromous fish-bearing streams	Any slope	• Edge of bankfull flow	200 feet
Intermittent streams with slopes less than 25 percent and which drain less than 100 acres	< 25 percent	• Edge of bankfull flow	15 feet
All other protected water features	< 25 percent	• Edge of bankfull flow • Delineated edge of Title 3 wetland	50 feet
	≥25 percent for 150 feet or more (see Note 2)		200 feet
	≥25 percent for less than 150 feet (see Note 2)		Distance from starting point of measurement to top of ravine (break in ≥25 percent slope) (See Note 3) plus 50 feet.

Notes:

1. Required width (measured horizontally) of vegetated corridor unless reduced pursuant to the provisions of Section 17.49.050(I).
2. Vegetated corridors in excess of fifty feet apply on steep slopes only in the uphill direction from the protected water feature.
3. Where the protected water feature is confined by a ravine or gully, the top of the ravine is the break in the ≥25 percent slope.

B. Habitat Areas within City Parks. For habitat and water features identified by Metro as regionally significant which are located within city parks, the NROD Boundary shall correspond to the Metro Regionally Significant Habitat Map.

C. Habitat Areas outside city limit/within UGB. For habitat and water features identified by Metro as regionally significant which are located outside of the city limits as of the date of adoption of this ordinance, the minimum corridor width from any non-anadromous fish bearing stream or wetland shall be fifty feet. (Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)



Comment:

The Vegetated Corridor is 50 feet measured from the edge of bankfull flow of Fergusson Creek. The entire property is within the 50-foot Vegetated Corridor.

17.49.120 - Maximum disturbance allowance for highly constrained lots of record.

In addition to the General Development Standards of Section 17.49.100, the following standards apply to a vacant lot of record that is highly constrained by the NROD, per subsections 17.49.90(B) and 17.49.90(F):

A. Standard for Residential Development. In the NROD where the underlying zone district is zoned Residential (R-10, R-8, R-6, R-5, R-3.5): the maximum disturbance area allowed for new residential development within the NROD area of the lot is three thousand square feet.

B. Standard for all developments not located in R-10, R-8, R-6, R-5, and R-3.5. For all other underlying zone districts, including R-2 multifamily, the maximum disturbance area allowed for a vacant, constrained lot of record development within the NROD is that square footage which when added to the square footage of the lot lying outside the NROD portion equals twenty-five percent of the total lot area.

[1] Lots that are entirely covered by the NROD will be allowed to develop twenty-five percent of their area.

[1] Note: This can be determined by (1) Multiplying the total square footage of the lot by .25; (2) Subtracting from that amount the square footage of the lot that is located outside the NROD; (3) The result is the maximum square footage of disturbance to be allowed in the NROD portion of the lot. If the result is < or = to 0, no disturbance is permitted and the building shall be located outside of the boundary.

C. In all areas of Oregon City, the disturbance area of a vacant, highly constrained lot of record within the NROD shall be set back at least fifty feet from the top of bank on Abernethy Creek, Newell Creek, or Livesay Creek or twenty-five feet from the top of bank of any tributary of the aforementioned Creeks, other water body, or from the delineated edge of a wetland located within the NROD area.

D. If the highly constrained lot of record cannot comply with the above standards, a maximum one thousand five hundred square foot disturbance within the NROD area may be allowed.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

The proposed project meets the standards presented in Subsection D above (Figure 7). "...a maximum one thousand five hundred square foot disturbance within the NROD area may be allowed."

17.49.130 - Existing development standards.

In addition to the General Development Standards of Section 17.49.100, the following standards apply to alterations and additions to existing development within the NROD, except for trails, rights of way, utility lines, land divisions and mitigation projects. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased are exempt from review pursuant to Section 17.49.080J. As of June 1, 2010, applicants for alterations and additions to existing development that are not exempt pursuant to Section 17.49.080J. shall submit a Type II or Type III application pursuant to this section. The application shall include a site plan which delineates a permanent disturbance area that includes all existing buildings, parking and loading areas, paved or graveled areas, patios and decks. The same delineated disturbance area shall be shown on every subsequent proposal for alterations and additions meeting this standard.

A. The following alterations and additions to existing development are permitted subject to the following standards.



1. Alterations or additions that cumulatively total up to a maximum of five hundred square feet of additional disturbance area after June 1, 2010 shall be processed as a Type II permit pursuant to this chapter. The new disturbance area shall not encroach closer than one-half of the distance of the regulated NROD buffer.

2. Alterations or additions that cumulatively exceed five hundred square feet of additional disturbance area or which propose encroachment closer than one-half of the distance of the regulated NROD buffer after June 1, 2010 shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

B. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

Not applicable. This proposal does not relate to existing development.

17.49.140 - Standards for utility lines.

The following standards apply to new utilities, private connections to existing or new utility lines, and upgrades of existing utility lines within the NROD:

A. The disturbance area for private connections to utility lines shall be no greater than ten feet wide;

B. The disturbance area for the upgrade of existing utility lines shall be no greater than fifteen feet wide;

C. New utility lines shall be within the right-of-way, unless reviewed under subsection D.

D. New utility lines that cross above or underneath a drainage way, wetland, stream, or ravine within the NROD but outside of a right-of-way shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

E. No fill or excavation is allowed within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;

F. The Division of State Lands must approve any work that requires excavation or fill in a wetland;

G. Native trees more than ten inches in diameter shall not be removed unless it is shown that there are no feasible alternatives; and

H. Each six to ten-inch diameter native tree cut shall be replaced at a ratio of three trees for each one removed. Each eleven-inch or greater diameter native tree shall be replaced at a ratio of five trees for each removed. The replacement trees shall be a minimum one-half inch diameter and selected from the Oregon City Native Plant List. All trees shall be planted on the applicant's site. Where a utility line is approximately parallel with the stream channel, at least half of the replacement trees shall be planted between the utility line and the stream channel.

I. Mitigation is required, subject to [Section 17.49.180](#) or [17.49.190](#).

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

Private connections associated with the proposed development will have no additional impacts. The applicant proposes to run sanitary sewer, gas, and water in the same trench, to minimize disturbance. I will be able to maintain all required separation between utilities. Power will be run overhead (Figure 7).



17.49.150 - Standards for vehicular or pedestrian paths and roads.

The following standards apply to public rights-of-way and private roads within the NROD, including roads, bridges/stream crossings, driveways and pedestrian paths with impervious surfaces:

- A. Stream crossings shall be limited to the minimum number and width necessary to ensure safe and convenient pedestrian, bicycle and vehicle connectivity, and shall cross the stream at an angle as close to perpendicular to the stream channel as practicable. Bridges shall be used instead of culverts wherever practicable.*
- B. Where the right-of-way or private road crosses a stream the crossing shall be by bridge or a bottomless culvert;*
- C. No fill or excavation shall occur within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;*
- D. If the Oregon Department of State Lands (DSL) has jurisdiction over any work that requires excavation or fill in a wetland, required permits or authorization shall be obtained from DSL prior to release of a grading permit;*
- E. Any work that will take place within the banks of a stream shall be conducted between June 1 and August 31, or shall be approved by the Oregon Department of Fish and Wildlife; and*
- F. Mitigation is required, subject to Section 17.49.180 or 17.49.190.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Editor's note— Ord. No. 10-1003, § 1(Exh. 1), adopted July 7, 2010, renamed section 17.49.150 from "Standards for rights-of-ways" to "Standards for vehicular or pedestrian paths and roads."

Comment:

The proposed driveway and sidewalk will not impact aquatic resources (Figure 7).

17.49.155 - Standards for stormwater facilities.

Approved facilities that infiltrate stormwater on-site in accordance with Public Works Low-Impact Development standards, including but not limited to; vegetated swales, rain gardens, vegetated filter strips, and vegetated infiltration basins, and their associated piping, may be placed within the NROD boundary pursuant to the following standards:

- A. The forest canopy within the driplines of existing trees shall not be disturbed.*
- B. Only vegetation from the Oregon City Native Plant List shall be planted within these facilities.*
- C. Mitigation is required, subject to Sections 17.49.180 or 17.49.190.*
- D. The storm water facility may encroach up to one-half the distance of the NROD corridor.*
- E. The stormwater facility shall not impact more than one thousand square feet of the NROD. Impacts greater than one thousand square feet shall be process as a Type III application.*
- F. The community development director may allow landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites within the Natural Resource Overlay District.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

Not applicable. The applicant's proposal does not include stormwater facilities.



17.49.160 - Standards for land divisions.

Other than those land divisions exempted by Section 17.49.070G., new residential lots created within the NROD shall conform to the following standards.

A. For a lot for an existing residence currently within the NROD. This type of lot is allowed within the NROD for a residence that existed before the NROD was applied to a subject property. A new lot for an existing house may be created through a partition or subdivision process when all of the following are met:

- 1. There is an existing house on the site that is entirely within the NROD area; and*
- 2. The existing house will remain; and*
- 3. The new lot is no larger than required to contain the house, minimum required side setbacks, garage, driveway and a twenty-foot deep rear yard, with the remaining NROD area beyond that point protected by a conservation easement, or by dedicating a conservation tract or public open space.*

B. Subdivisions.

- 1. Prior to preliminary plat approval, the NROD area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection 3. of this section, which shall not be a part of any parcel used for construction of a dwelling unit.*
- 2. Prior to final plat approval, ownership of the NROD tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:*
 - a. Private open space held by the owner or a homeowners association; or*
 - b. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or*
 - c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or*
 - d. Any other ownership proposed by the owner and approved by the city.*
 - e. Tracts shall be exempt from minimum frontage requirements.*

C. Partitions.

- 1. New partitions shall delineate the NROD area either as a separate tract or conservation easement that meets the requirements of subsection 2. of this section.*
- 2. Prior to final plat approval, ownership and maintenance of the NROD area shall be identified to distinguish it from the buildable areas of the development site. The NROD area may be identified as any one of the following:*
 - a. A tract of private open space held by the owner or homeowners association; or*
 - b. For residential land divisions, a tract of private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or*
 - c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit;*
 - d. Conservation easement area pursuant to Section 17.49.180G. and approved in form by the community development director;*
 - e. Any other ownership proposed by the owner and approved by the community development director.*
 - f. Tracts shall be exempt from minimum frontage requirements.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)



Comment:

Not applicable. The applicant's proposal does not relate to land divisions.

17.49.170 - Standards for trails.

The following standards apply to trails within the NROD:

A. All trails that are not exempt pursuant to Section 17.49.80F., except as designated in the Oregon City Parks, Open Space and Trails Master Plans; and

B. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

Not applicable. The applicant's proposal does not relate to trails.

17.49.180 - Mitigation standards.

The following standards (or the alternative standards of Section 17.49.190) apply to required mitigation:

A. Mitigation shall occur at a two-to-one ratio of mitigation area to proposed NROD disturbance area.

Mitigation of the removal or encroachment of a wetland or stream shall not be part of this chapter and will be reviewed by the Division of State Lands or the Army Corp of Engineers during a separate review process;

B. Mitigation shall occur on the site where the disturbance occurs, except as follows:

1. The mitigation is required for disturbance associated with a right-of-way or utility in the right-of-way;

2. The mitigation shall occur first on the same stream tributary, secondly in the Abernethy, Newell or Livesay Creek or a tributary thereof, or thirdly as close to the impact area as possible within the NROD; and

3. An easement that allows access to the mitigation site for monitoring and maintenance shall be provided as part of the mitigation plan.

C. Mitigation shall occur within the NROD area of a site unless it is demonstrated that this is not feasible because of a lack of available and appropriate area. In such cases, the proposed mitigation area shall be contiguous to the existing NROD area so the NROD boundary can be easily extended in the future to include the new resource site.

D. Invasive and nuisance vegetation shall be removed within the mitigation area;

E. Required Mitigation Planting. An applicant shall meet Mitigation Planting Option 1 or 2 below, whichever option results in more tree plantings, except that where the disturbance area is one acre or more, Mitigation Option 2 shall be required. All trees, shrubs and ground cover shall be selected from the Oregon City Native Plant List.

NOTE: Applications on sites where no trees are present or which are predominantly covered with invasive species shall be required to mitigate the site, remove the invasive species and plant trees and native plants pursuant to Option 2.

1. Mitigation Planting Option 1.

a. Option 1 - Planting Quantity. This option requires mitigation planting based on the number and size of trees that are removed from the site pursuant to Table 17.49.180E.1.a. Conifers shall be replaced with conifers. Bare ground shall be planted or seeded with native grasses and ground cover species.



Table 17.49.180E.1.a.—Required Planting Option 1

Size of Tree to be Removed (DBH)	Number of Trees and Shrubs to be Replanted
6 to 12"	2 trees and 3 shrubs
13 to 18"	3 trees and 6 shrubs
19 to 24"	5 trees and 12 shrubs
25 to 30"	7 trees and 18 shrubs
Over 30"	10 trees and 30 shrubs

b. Option 1 - Plant Size. Replacement trees shall be at least one-half inch in caliper on average, measured at six inches above the ground level for field grown trees or above the soil line for container grown trees. Oak, madrone, ash or alder may be one gallon size. Conifers shall be a minimum of six feet in height. Shrubs must be in at least one-gallon container size or the equivalent in ball and burlap, and shall be at least twelve inches in height at the time of planting. All other species shall be a minimum of four-inch pots;

c. Option 1 - Plant Spacing. Except for the outer edges of mitigation areas, trees and shrubs shall be planted in a non-linear fashion. Plant spacing for new species shall be measured from the driplines of existing trees when present. Trees shall be planted on average between eight and twelve feet on center, and shrubs shall be planted on average between four and five feet on center, or clustered in single species groups of no more than four plants, with each cluster planted on average between eight and ten feet on center.

d. Option 1 - Mulching and Irrigation. Mulch new plantings a minimum of three inches in depth and eighteen inches in diameters. Water new plantings one inch per week from June 30th to September 15th, for the three years following planting.

e. Option 1 — Plant Diversity. Shrubs shall consist of at least two different species. If ten trees or more are planted, no more than one-half of the trees may be of the same genus.

2. Mitigation Planting Option 2.

a. Option 2 - Planting Quantity. In this option, the mitigation requirement is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by five hundred, and then multiplying that result times five trees and twenty-five shrubs, and rounding all fractions to the nearest whole number of trees and shrubs; for example, if there will be three hundred thirty square feet of disturbance area, then three hundred thirty divided by five hundred equals .66, and .66 times five equals 3.3, so three trees must be planted, and .66 times twenty-five equals 16.5, so seventeen shrubs must be planted). Bare ground must be planted or seeded with native grasses or herbs. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.

b. Option 2 - Plant Size. Plantings may vary in size dependent on whether they are live cuttings, bare root stock or container stock, however, no initial plantings may be shorter than twelve inches in height.

c. Option 2 - Plant Spacing. Trees shall be planted at average intervals of seven feet on center. Shrubs may be planted in single-species groups of no more than four plants, with clusters planted on average between eight and ten feet on center.

d. Option 2 — Mulching and Irrigation shall be applied in the amounts necessary to ensure eighty percent survival at the end of the required five-year monitoring period.

e. Option 2 — Plant Diversity. Shrubs shall consist of at least three different species. If twenty trees or more are planted, no more than one-third of the trees may be of the same genus.

An alternative planting plan using native plants may be approved in order to create a new wetland area, if it is part of a wetlands mitigation plan that has been approved by the DSL or the U.S. Army Corps of Engineers (USACE) in conjunction with a wetland joint removal/fill permit application.

F. Monitoring and Maintenance. The mitigation plan shall provide for a five-year monitoring and maintenance plan with annual reports in a form approved by the director of community development. Monitoring of the mitigation site is the on-going responsibility of the property owner, assign, or designee, who shall submit said annual report to the city's planning division, documenting plant survival rates of shrubs and trees on the mitigation site. Photographs shall accompany the report that indicate the progress of the mitigation. A minimum of eighty percent survival of trees and shrubs of those species planted is required at the end of the five-year maintenance and monitoring period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than ten square feet that remain at the end the five-year monitoring period shall be replanted or reseeded with native grasses and ground cover species.

G. Covenant or Conservation Easement. Applicant shall record a restrictive covenant or conservation easement, in a form provided by the city, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the city to complete mitigation work in the event of default by the responsible party. Costs borne by the city for such mitigation shall be borne by the owner.

H. Financial Guarantee. A financial guarantee for establishment of the mitigation area, in a form approved by the city, shall be submitted before development within the NROD disturbance area commences. The city will release the guarantee at the end of the five-year monitoring period, or before, upon its determination that the mitigation plan has been satisfactorily implemented pursuant to this section.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

The OCPD recommended that the applicant pursue the Alternative Mitigation Standards presented below in Section 17.49.190.

17.49.190 - Alternative mitigation standards.

In lieu of the above mitigation standards of Section 17.49.180, the following standards may be used. Compliance with these standards shall be demonstrated in a mitigation plan report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the city may require the report to be reviewed by an environmental consultant.



[A.] The report shall document the existing condition of the vegetated corridor as one of the following categories:

Good Existing Vegetated Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and there is more than fifty percent tree canopy coverage in the vegetated corridor.
Marginal Existing Vegetated Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and twenty-five to fifty percent canopy coverage in the vegetated corridor.
Degraded Existing Vegetated Corridor:	Less vegetation and canopy coverage than marginal vegetated corridors, and/or greater than ten percent surface coverage of any non-native species.

B. The proposed mitigation shall occur at a minimum two-to-one ratio of mitigation area to proposed disturbance area;

C. The proposed mitigation shall result in a significant improvement to Good Existing Condition as determined by a qualified environmental professional;

D. There shall be no detrimental impact on resources and functional values in the area designated to be left undisturbed;

E. Where the proposed mitigation includes alteration or replacement of development in a stream channel, wetland, or other water body, there shall be no detrimental impact related to the migration, rearing, feeding or spawning of fish;

F. Mitigation shall occur on the site of the disturbance to the extent practicable. If the proposed mitigation cannot practically occur on the site of the disturbance, then the applicant shall possess a legal instrument, such as an easement, sufficient to carryout and ensure the success of the mitigation.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

The applicant's proposal meets the standards presented in this section. Mitigation is proposed in Section 5 of this report. The standards listed above are addressed below, as required in Section 17.49.230(A).

A. The corridor condition is degraded (see Section 5.2).

B. The proposed mitigation will occur at a 2:1 ratio (see Section 5.1).

C. The proposed mitigation shall result in a significant improvement to Good Existing Condition. The planting and maintenance proposed in Sections 5.4 and 5.6 will ensure 80 percent aerial cover of native vegetation; 50 percent cover of native trees; and less than 10% cover of invasive plant species (see Section 5.10 Performance Standards).

D. There shall be no detrimental impact on resources and functional values in the area designated to be left undisturbed. The property owner will maintain existing uses but not exceed them (see Section 5.1).

E. The applicant's proposal does not include alteration or replacement of development in a stream channel, wetland, or other water body (see Section 5.1).

F. Mitigation would occur on the site of the disturbance to the extent practicable (see Section 5.1).



17.49.200 - Adjustment from standards.

If a regulated NROD use cannot meet one or more of the applicable NROD standards then an adjustment may be issued if all of the following criteria are met. Compliance with these criteria shall be demonstrated by the applicant in a written report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant. Such requests shall be processed under the Type III development permit procedure. The applicant shall demonstrate:

- A. There are no feasible alternatives for the proposed use or activity to be located outside the NROD area or to be located inside the NROD area and to be designed in a way that will meet all of the applicable NROD development standards;*
 - B. The proposal has fewer adverse impacts on significant resources and resource functions found in the local NROD area than actions that would meet the applicable environmental development standards;*
 - C. The proposed use or activity proposes the minimum intrusion into the NROD area that is necessary to meet development objectives;*
 - D. Fish and wildlife passage will not be impeded;*
 - E. With the exception of the standard(s) subject to the adjustment request, all other applicable NROD standards can be met; and*
 - F. The applicant has proposed adequate mitigation to offset the impact of the adjustment.*
- (Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)*

Comment:

The statements listed above are addressed below:

- A. There are no feasible alternatives for the proposed use or activity to be located outside the NROD area or to be located inside the NROD area and to be designed in a way that will meet all of the applicable NROD development standards.*

The property is entirely encompassed by the NROD area. There are no alternative designs that could meet applicable all NROD development standards or alternative layouts with less encroachment.

- B. The proposal has fewer adverse impacts on significant resources and resource functions found in the local NROD area than actions that would meet the applicable environmental development standards;*

No significant resources or associated functions will be impaired by the proposed development. Fergusson Creek is adjacent to the proposed single-family home. Runoff will be dispersed in the Vegetated Corridor to offset peak flows during precipitation events. The proposed vegetated corridor will provide shade and organic inputs into the creek that previously did not exist.

- C. The proposed use or activity proposes the minimum intrusion into the NROD area that is necessary to meet development objectives;*

The entire property is within the NROD area. The property is a highly constrained lot of record that is allowed a maximum of 1,500 sq ft of disturbance (OCMC 17.49.120.D). The proposed 1,032 sq ft living space is the minimum to meet the applicant's development objectives.



D. Fish and wildlife passage will not be impeded;

Fish and wildlife passage will not be impeded by the proposed development. Mitigation measures will serve to enhance habitat.

E. With the exception of the standard(s) subject to the adjustment request, all other applicable NROD standards can be met.

With the exception of the standards subject to the adjustment request, all other applicable NROD standards will be met.

F. The applicant has proposed adequate mitigation to offset the impact of the adjustment.

The proposed mitigation meets applicable mitigation standards (see Section 5).

Application Requirements

17.49.210 - Type II development permit application.

Unless otherwise directed by the NROD standards, proposed development within the NROD shall be processed as a Type II development permit application. All applications shall include the items required for a complete application by Sections 17.49.220—17.49.230, and Section 17.50.080 of the Oregon City Municipal Code as well as a discussion of how the proposal meets all of the applicable NROD development standards 17.49.100—17.49.170.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

The OCPD and NROD standards require that the Type III process be utilized for the proposed development.

17.49.220 - Required site plans.

Site plans showing the following required items shall be part of the application:

A. For the entire subject property (NROD and non-NROD areas):

- 1. The NROD district boundary. This may be scaled in relation to property liens from the NROD Map;*
- 2. One hundred-year floodplain and floodway boundary (if determined by FEMA);*
- 3. Creeks and other waterbodies;*
- 4. Any wetlands, with the boundary of the wetland that will be adjacent to the proposed development determined in a wetlands delineation report prepared by a professional wetland specialist and following the Oregon Division of State Lands wetlands delineation procedures;*
- 5. Topography shown by contour lines of two or one foot intervals for slopes less than fifteen percent and by ten-foot intervals for slopes fifteen percent or greater;*
- 6. Existing improvements such as structures or buildings, utility lines, fences, driveways, parking areas, etc.*
- 7. Extent of the required Vegetated Corridor required by Table 17.49.110.*

B. Within the NROD area of the subject property:



1. The distribution outline of shrubs and ground covers, with a list of most abundant species;
 2. Trees six inches or greater in diameter, identified by species. When trees are located in clusters they may be described by the approximate number of trees, the diameter range, and a listing of dominant species;
 3. An outline of the disturbance area that identifies the vegetation that will be removed. All trees to be removed with a diameter of six inches or greater shall be specifically identified as to number, trunk diameters and species;
 4. If grading will occur within the NROD, a grading plan showing the proposed alteration of the ground at two foot vertical contours in areas of slopes less than fifteen percent and at five foot vertical contours of slopes fifteen percent or greater.
- C. A construction management plan including:
1. Location of site access and egress that construction equipment will use;
 2. Equipment and material staging and stockpile areas;
 3. Erosion control measures that conform to City of Oregon City erosion control standards;
 4. Measures to protect trees and other vegetation located outside the disturbance area.
- D. A mitigation site plan demonstrating compliance with Section 17.49.180 or 17.49.190, including:
1. Dams, weirs or other in-water features;
 2. Distribution, species composition, and percent cover of ground covers to be planted or seeded;
 3. Distribution, species composition, size, and spacing of shrubs to be planted;
 4. Location, species and size of each tree to be planted;
 5. Stormwater management features, including retention, infiltration, detention, discharges and outfalls;
 6. Water bodies or wetlands to be created, including depth;
 7. Water sources to be used for irrigation of plantings or for a water source for a proposed wetland.
- (Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

The applicant and consultant have prepared the required items. The mitigation site plan is included in Figure 4 of this report and the other required site plans have been submitted with the development application.

17.49.230 - Mitigation plan report.

A mitigation plan report that accompanies the above mitigation site plan is also required. The report shall be prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. The mitigation plan report shall, at a minimum, discuss:

- A. Written responses to each applicable Mitigation Standard [Section] 17.49.180 or 17.49.190 indicating how the proposed development complies with the mitigation standards;
- B. The resources and functional values to be restored, created, or enhanced through the mitigation plan;
- C. Documentation of coordination with appropriate local, regional, state and federal regulatory/resource agencies such as the Oregon Department of State Lands (DSL) and the United States Army Corps of Engineers (USACE);
- D. Construction timetables;
- E. Monitoring and Maintenance practices pursuant to Section 17.49.230.F and a contingency plan for undertaking remedial actions that might be needed to correct unsuccessful mitigation actions during the first five years of the mitigation area establishment.



(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

The mitigation plan addresses all of the items listed above and is presented in Section 5 of this report.

Miscellaneous

17.49.240 - Density transfer.

The NROD allocates urban densities to the Non-NROD portions of properties located partially within the NROD, generally resulting in a substantial increase in net development potential.

For lots of record that are located within the NROD, additional density transfer credits are allowed, subject to the following provisions:

A. Density may be transferred from the NROD to non-NROD portions of the same property or of contiguous properties within the same development site;

B. The residential transfer credit shall be as follows: for new residential partitions and subdivisions, one-third of the area of the NROD tract or conservation easement area may be added to the net developable area outside of the tract or conservation easement area within the boundary of the development site in order to calculate the allowable number of lots.

C. Permitted Modifications to Residential Dimensional Standards. In order to allow for a transfer of density pursuant to subsection B. above, the dimensional standards of the base zone may be modified in order minimize disturbance to the NROD. The permissible reductions are specified in Tables 17.49.240C.—17.49.240D.

D. The applicant shall demonstrate that the minimum lot size of the underlying zone has been met. The area of the NROD in subsection B. above that is used to transfer density may be included in the calculation of the average minimum lot size.

E. The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the areas of the NROD Tract.

Table 17.49.240 A: Lot Size Reduction

ZONE	Min. Lot Size (%)	Min. Lot Width	Min. Lot Depth
R-10	5,000 sq. feet	50'	65'
R-8	4,000 sq. feet	45'	60'
R-6	3,500 sq. feet	35'	55'
R-5	3,000 sq. feet	30'	50'
R-3.5	1,800 sq. feet	20'	45'



Table 17.49.240 B: Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot
8,000— 9,999 square feet	15 feet	20 feet	7/9 feet	15 feet	40%
6,000— 7,999 square feet	10 feet	15 feet	5/7 feet	15 feet	40%
4,000— 5,999 square feet	10 feet	15 feet	5/5 feet	10 feet	40%
1,800— 3,999 square feet	5 feet	15 feet	5/5 feet	10 feet	55%

Table 17.49.240 C**Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units**

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot
3,500— 7,000 square feet	10 feet	15 feet	5/0* feet	10 feet	40%
1,800— 3,499 square feet	5 feet	15 feet	5/0* feet	10 feet	55%

**0 foot setback is only allowed on single-family attached units*

F. Transfers for properties zoned Commercial, Institutional, Industrial or Multi-Family uses the transfer credit is ten thousand square feet per acre of land within the NROD;

G. The area of land contained in the NROD area may be excluded from the calculations for determining compliance with minimum density requirements of the land division code.

H. The owner of the transferring property shall execute a covenant with the city that records the transfer of density. The covenant shall be found to meet the requirements of this section and be recorded before building permits are issued; and

I. All other applicable development standards, including setbacks, building heights, and maximum lot coverage shall continue to apply when a density transfer occurs.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

Not applicable. The applicant's proposal does not relate to density transfer.

17.49.250 - Verification of NROD boundary.

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

A wetland delineation was conducted and the results are presented in Section 3 of this report.

17.49.255 - Type I verification.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.

B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:

- 1. No soil, vegetation, hydrologic features have been disturbed;*
- 2. No hydrologic features have been changed;*
- 3. There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.*
- 4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.*
- 5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.*
- 6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.*

There is an existing physical barrier between the site and a protected water feature, including:

- a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.*



b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.

C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.6. above are met the verification application shall be denied. An applicant may then opt to apply for an verification through the Type II process defined below.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

Not applicable. The applicant's proposal does not relate to a Type I verification.

17.49.260. - Type II verification.

Verifications of the NROD which cannot be determined pursuant to the standards of Section 17.49.255 may be processed under the Type II permit procedure.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220 as applicable.

B. Such requests may be approved provided that there is evidence that demonstrates in an environmental report prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry, that a resource function(s) and/or land feature(s) does not apply to a site-specific area.

C. Verification to remove a recently developed area from the NROD shall show that all of the following have been met:

- 1. All approved development in the NROD has been completed;*
- 2. All mitigation required for the approved development, located within the NROD, has been successful; and*
- 3. The previously identified resources and functional values on the developed site no longer exist or have been subject to a significant detrimental impact.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Comment:

Not applicable. The applicant's proposal does not relate to a Type II verification.

17.49.265 - Corrections to violations.

For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met then the applicant's remediation plan shall demonstrate that there will be:

A. No permanent loss of any type of resource or functional value listed in Section 17.49.10, as determined by a qualified environmental professional;

B. A significant improvement of at least one functional value listed in section 17.49.10, as determined by a qualified environmental professional; and

C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)



Comment:

Not applicable. The applicant's proposal does not relate to a violation.

SECTION 5. MITIGATION

Section 5.1 Proposed Impacts and Mitigation

The proposed residence will encroach on 1,500 sq ft of the Vegetated Corridor associated with Fergusson Creek. Construction would occur in the summer of 2016 if the permitting process is completed. OCMC Section 17.49.190 requires mitigation at a 2:1 ratio. The applicant proposes to enhance 650 sq ft of Fergusson Creek and 2350 sq ft of Vegetated Corridor to offset the proposed impacts (*Figure 4*).

Mitigation will occur on the site of the disturbance to the extent practicable. A small amount of the mitigation will occur on Lot 9 to the east and small amount will occur in the Frederick Street right-of-way.

Invasive plant species will be removed from the mitigation area and native species will be planted. The existing fence and railroad ties south of the creek will be removed. There will be no detrimental impact on resources or functional values in the area designated to be left undisturbed. The existing use as a maintained lawn will continue as such. The proposed mitigation does not include alteration or replacement of development in a stream channel, wetland, or other water body. There will be no detrimental impact related to the migration, rearing, feeding, or spawning of fish caused by the development or mitigation proposal.

Section 5.2 Vegetated Corridor Condition Assessment

The current condition of the Vegetated Corridor associated with Fergusson Creek in the vicinity of the project area is degraded. Tree cover is about 20% on the subject property. There is no shrub cover. Herbaceous cover is near 100%. Non-native plant cover is near 100%. None of the species are on the Oregon Department of Agriculture ("ODA") Noxious Weed List but nuisance species such as Himalayan blackberry (*Rubus armeniacus*), reed canarygrass (*Phalaris arundinacea*), and Teasel (*Dipsacus fullonum*) are present within the stream channel. The proposed mitigation will improve the condition from Degraded Existing Condition to Good Existing Condition.

Section 5.3 Functional Assessment

The proposed mitigation will enhance the subject reach of Fergusson Creek and the Vegetated Corridor. A brief description of the existing and proposed condition of Fergusson Creek and the Vegetated Corridor is provided below. A Best Professional Judgement ("BPJ") assessment was conducted that provides a rating from low to high for several relevant functions.

Table 1. Fergusson Creek Function Summary

Functional Attributes	Existing Condition	Proposed Condition
Riparian Shade	Low	High
Channel Sinuosity	Low	Low
Bank Stability	Moderate	High
Habitat Complexity	Low	Moderate
Floodplain Connectivity	Low	Low
Native Species Ubiquity	Low	High



Table 2. Vegetated Corridor Functional Summary

Functional Attributes	Existing Condition	Proposed Condition
Riparian Shade	Low	High
Wildlife Habitat	Low	Moderate
Wood Recruitment	Low	Moderate
Organic Matter Export	Low	Moderate
Food Source	Low	Moderate
Nutrient Absorption	Low	Moderate
Native Species Ubiquity	Low	High

Section 5.4 Planting Plan

The mitigation site has been divided into two planting areas based on hydrologic regime (*Figure 4*). Planting Area A is located below the top of bank of Fergusson Creek and extends to the southern property boundary. Planting Area A receives extensive hydrology and the plants have been specified accordingly. Planting Area B is located in the upland portion of the mitigation area. The plant species proposed in this area prefer moist to dry conditions.

Fifteen trees and seventy-five shrubs (6' o.c.) will be planted in the mitigation area (*Table 3*). Willow and dogwood stakes are specified in clumps of three (3' o.c.). 25 herbaceous plugs are specified within the creek channel (5' o.c). One pound of native grass seed will be broadcast by hand (*Table 4*). The species were chosen based on hydrology tolerance, light requirements, and historic plant community associations. Each tree and shrub will receive, at a minimum, an 18-inch ring of mulch at least three inches deep. Care should be taken not to bury the stem with mulch.

Table 3. Plant Specifications

Common Name	Species Name	Quantity	Type
Trees (12' on center spacing)			
Cascara	<i>Rhamnus purshiana</i>	2	1 gallon
Douglas-fir	<i>Pseudotsuga menziesii</i>	3	1 gallon
Oregon ash	<i>Fraxinus latifolia</i>	3	1 gallon
Pacific crabapple	<i>Malus fusca</i>	2	1 gallon
Pacific willow	<i>Salix lasiandra</i>	5 (15)	live stake
Western redcedar	<i>Thuja plicata</i>	5	1 gallon
Shrubs (6' on center spacing)			
Bald-hip rose	<i>Rosa gymnocarpa</i>	10	1 gallon
Oceanspray	<i>Holodiscus discolor</i>	10	1 gallon
Red-osier dogwood	<i>Cornus stolonifera</i>	5 (15)	live stake
Salmonberry	<i>Rubus spectabilis</i>	10	1 gallon
Sitka willow	<i>Salix sitchensis</i>	10 (30)	live stake
Snowberry	<i>Symphoricarpos albus</i>	10	1 gallon
Thimbleberry	<i>Rubus parviflorus</i>	10	1 gallon
Herbs (5' on center spacing)			
Small-fruited bulrush	<i>Scirpus microcarpus</i>	25	4' plug

Table 4. Grass Seed Specifications

Common Name	Species Name
American sloughgrass	<i>Beckmannia syzigachne</i>
Slender hairgrass	<i>Deschampsia elongata</i>
Spike bentgrass	<i>Agrostis exarata</i>
Tall mannagrass	<i>Glyceria elata</i>
Tufted hairgrass	<i>Deschampsia cespitosa</i>
Weak alkali grass	<i>Torreyochloa pauciflora</i>

Section 5.5 Irrigation

The small size of the mitigation area will allow for a relatively simple irrigation system. A splitter valve will be added to the spigot on the north side of the house. A timer will be attached to filter and pressure reducer. Polyethylene mainline tubing will run the length of the mitigation area. Impact sprinklers will be installed every 25 feet along the tubing. The site would be watered one inch per week from June 30th to September 15th.

Section 5.6 Maintenance

Maintenance would be conducted once per month between April and October throughout the five-year monitoring period. Maintenance would include invasive species control, mulching, garbage removal, and irrigation repair. Manual and mechanical methods will be preferred over chemical application.

Section 5.7 Monitoring

Monitoring will be conducted once per year throughout the five-year monitoring period. Monitoring will occur late in the growing season before deciduous leaves begin to fall. Monitoring reports will be submitted prior to December 31st of each monitoring year.

Section 5.8 Monitoring Methods

Vegetation sampling will be conducted late in the growing season, before leaves fall of deciduous plants, in each of the five monitoring years. A total count of trees and shrubs will be conducted to determine percent survival. Five monitoring plots will be established within the mitigation area (*Figure 5*). Plots will be monumented in the field with orange fiberglass rods. Sample plots will be situated in the same manner from year to year. The bottom left corner of herbaceous plots will be placed at the plot marker and the left edge of the one-meter quadrat frame will be situated to run due east. Shrub and Forest plots are circular plots radiating 10 feet from the plot marker. Vegetation data will be recorded at each plot including species names, percent aerial cover for each species (absolute cover), and percent bare ground. The sample plots will be placed in the same area, relative to the plot center, to ensure reproducible results. Four photopoints will be established across the site to document change over time.

A plant species should automatically be labeled as invasive if it appears on the current Oregon Department of Agriculture Noxious Weed list, plus known problem species including *Phalaris arundinacea*, *Mentha pulegium*, *Holcus lanatus*, *Anthoxanthum odoratum*, and the last crop plant if it is non-native. Non-native plants should be labeled as such if they are listed as non-native on the USDA Plants Database. Beginning in Year Two of monitoring, a non-native plant species will be considered invasive if it comprises more than 15% cover in 10% or more of the sample plots and increases in cover or

frequency from the previous monitoring period. Plants that meet this definition should be considered invasive for all successive years of monitoring.

Section 5.9 Monitoring Report

A qualified environmental specialist will survey the mitigation site annually and report their findings in a monitoring report. The report will document survival rates, species cover, maintenance activities, and general observations. Data will be analyzed to determine if Performance Standards have been successfully achieved. Site photographs will be included with the report.

Section 5.10 Performance Standards

Performance Standard 1: By Year Five, the mitigation site will exhibit an 80% survival rate.

Performance Standard 2: The cover of invasive species shall be no more than 50% in Year Two, 25% in Year Four, and 10% in Year Five.

Performance Standard 3: By Year Five, there shall be no bare spots or areas of invasive species larger than 10 sq ft. Any such areas shall be replanted or reseeded with native grasses and ground cover species.

Section 5.11 Contingency Plan

In the event that the project is not meeting performance standards, the applicant shall perform remedial actions such as invasive plant removal, native plantings, and irrigation repair. The monitoring period may be extended at the discretion of the Community Development Department.

Section 5.12 Financial Guarantee.

A financial guarantee for establishment of the mitigation area, in a form approved by the city, shall be submitted before development within the NROD disturbance area commences. The city will release the guarantee at the end of the five-year monitoring period, or before, upon determination that the mitigation plan has been satisfactorily implemented.

Section 5.13 Covenant or Conservation Easement

The applicant shall record a restrictive covenant or conservation easement, in a form provided by the city, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the city to complete mitigation work in the event of default by the responsible party. Costs borne by the city for such mitigation shall be borne by the owner.

Section 5.13 State and Federal Agency Coordination

The Oregon Department of State Lands and the United States Army Corps of Engineers would take jurisdiction over Fergusson Creek and its associated wetland. Permits and approvals from these agencies will not be necessary because no Removal-Fill activities are proposed within the stream or wetland. A wetland delineation report will not be necessary because the resources are being avoided and the total amount of removal-fill in uplands is less than 50 cubic yards. The agencies will be notified of the proposal through a Land Use Compatibility Statement. Turnstone contacted DSL on December 16, 2015 to verify this and the e-mail record can be provided if necessary.



Section 5.14 Adjustment from Standards

A. There are no feasible alternatives for the proposed use or activity to be located outside the NROD area or to be located inside the NROD area and to be designed in a way that will meet all of the applicable NROD development standards.

The property is entirely encompassed by the NROD area. There are no alternative designs that could meet applicable all NROD development standards or alternative layouts with less encroachment.

B. The proposal has fewer adverse impacts on significant resources and resource functions found in the local NROD area than actions that would meet the applicable environmental development standards;

No significant resources or associated functions will be impaired by the proposed development.

C. The proposed use or activity proposes the minimum intrusion into the NROD area that is necessary to meet development objectives;

The entire property is within the NROD area. The property is a highly constrained lot of record that is allowed a maximum of 1,500 sq ft of disturbance (OCMC 17.49.120.D). The proposed 1,032 sq ft living space is the minimum to meet the applicant's development objectives.

D. Fish and wildlife passage will not be impeded;

Fish and wildlife passage will not be impeded by the proposed development. Mitigation measures will serve to enhance habitat.

E. With the exception of the standard(s) subject to the adjustment request, all other applicable NROD standards can be met.

To be determined by Community Development Department.

F. The applicant has proposed adequate mitigation to offset the impact of the adjustment.

The proposed mitigation meets applicable mitigation standards.

LITERATURE CITATIONS

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Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1*, US Army Engineer Waterways Experiment Station, Vicksburg, MS.

Oregon City Municipal Code.

https://www.municode.com/library/or/oregon_city/codes/code_of_ordinances



NROD Report
Shaw-Hiram Avenue
Single-Family Home

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

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U.S. Army Corp of Engineers. 2013. State of Oregon-NWPL Final Draft Ratings.



Appendix A

Figures

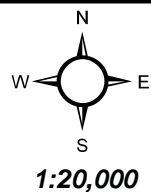


Figure 1:

Vicinity Map

Legend

 **Study Area**

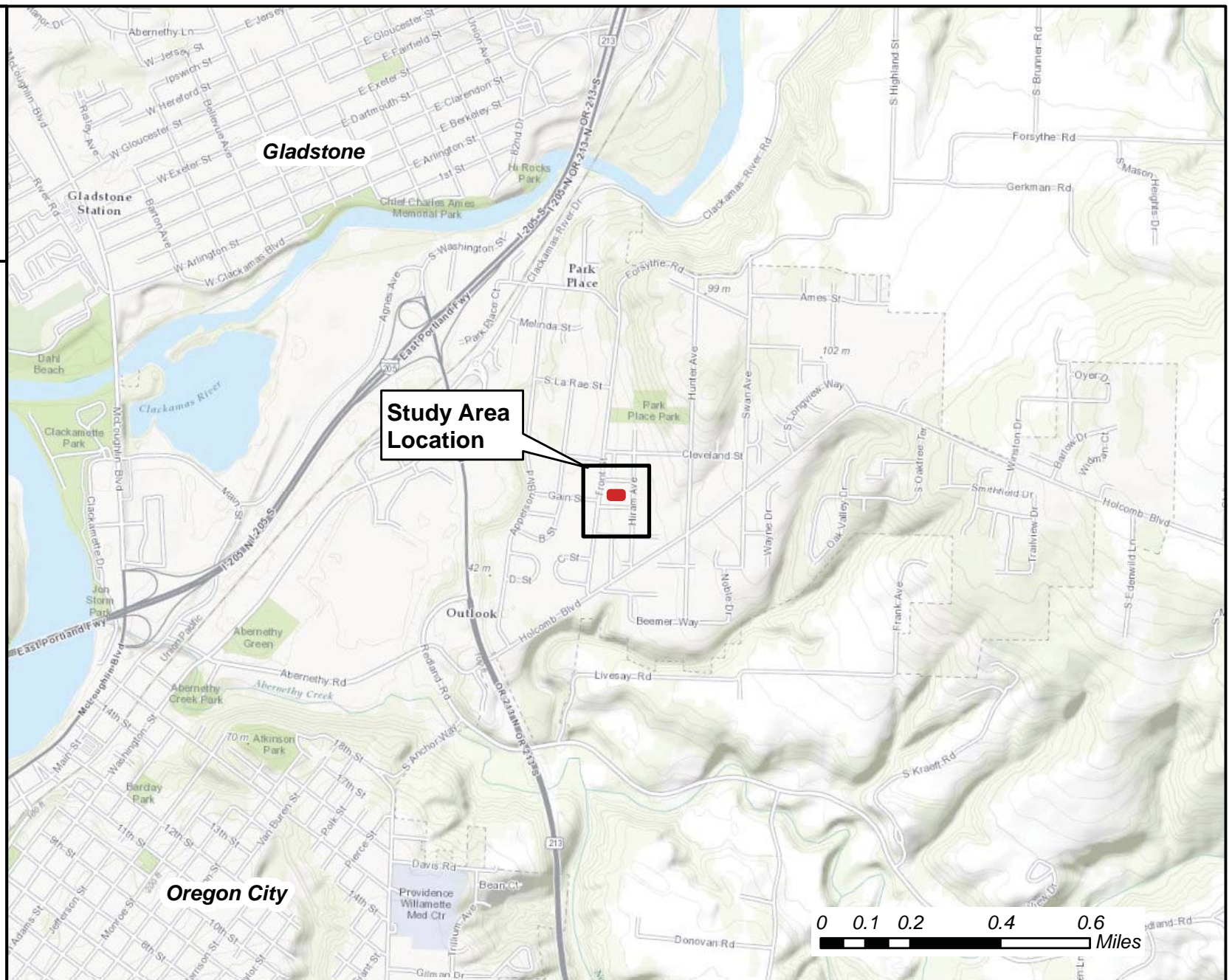


Shaw-Hiram Avenue

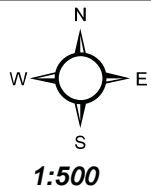
Clackamas County, Or.

12/18/2015

NOTES:



Tax Lot Map



Shaw-Hiram Avenue

Clackamas County, Or.

12/18/2015









NOTES:

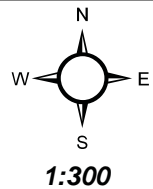
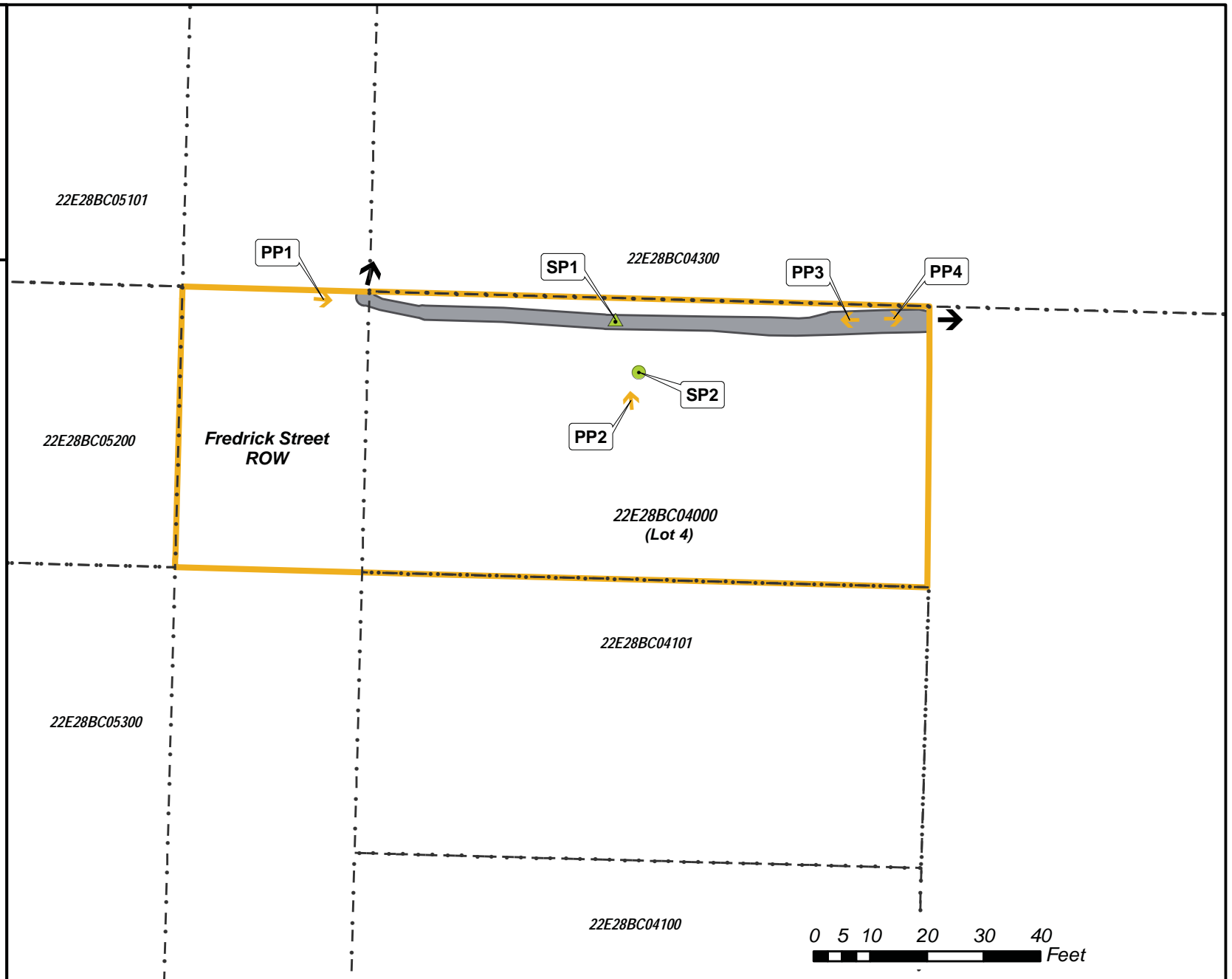
1. Tax lot data provided by Clackamas County assessors office. Spatial accuracy is unknown but assumed to be 1 meter or less.
2. Aerial photo basemap provided by Terraserver, photo date: 7/8/2010

Figure 3:

Wetland Delineation Map

Legend

-  Upland Sample Point
-  Wetland Sample Point
-  Photo Point
-  OHWL Area (0.007 acres)
-  Study Area (0.15 acres)
-  Tax Lots
-  Waterway Extends Outside Study Area
-  Wetland Extends Outside Study Area



Shaw-Hiram Avenue

Clackamas County, Or.

12/18/2015

- NOTES:**
1. All wetland/Waterway points and boundaries were collected with a resource grade GPS unit capable of sub-meter accuracy. All features collected have an accuracy of 1 meter or less.
 2. Tax lot data provided by Clackamas County. Spatial accuracy is unknown but assumed to be 1 meter or less.

Figure 4:

Mitigation Plan

Legend

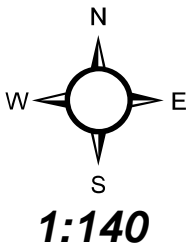
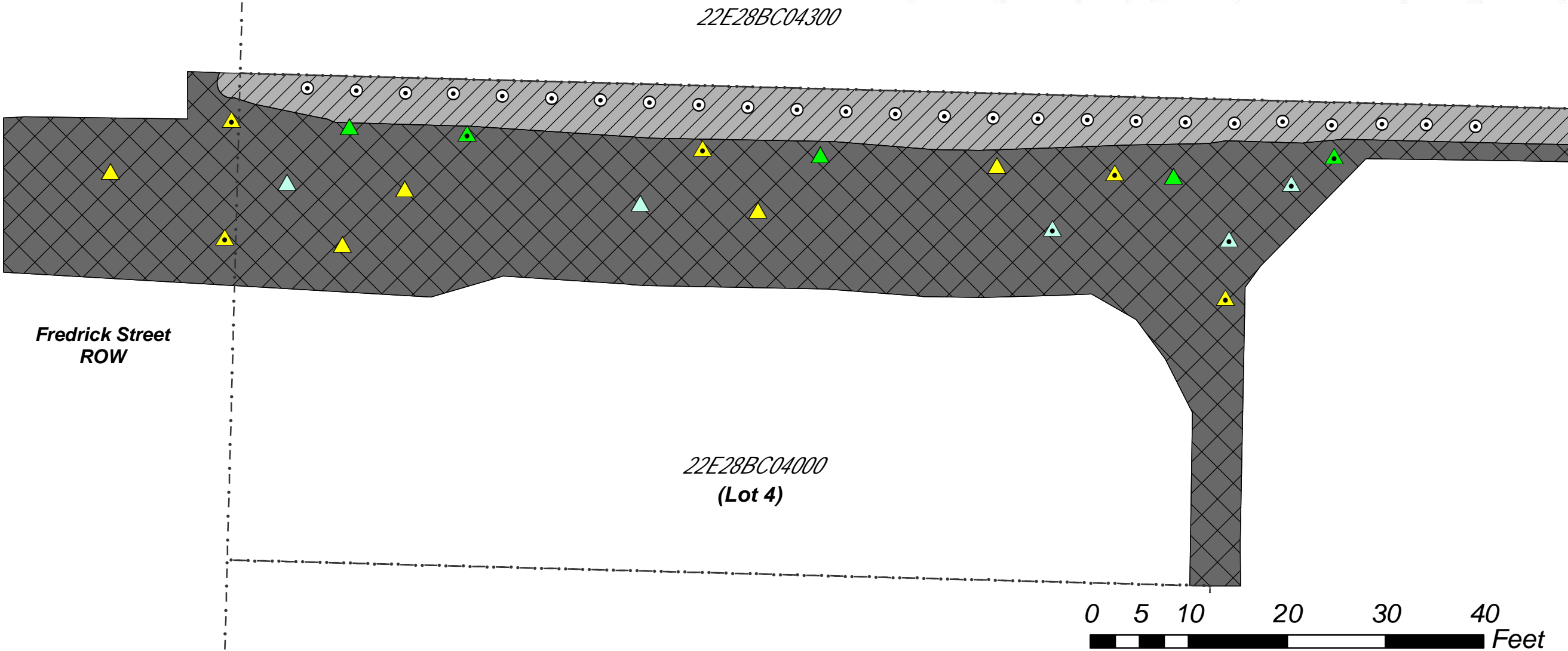
- Herbs
- Small-fruited bulrush
- Trees
- Cascara
 - Douglas-fir
 - Oregon ash
 - Pacific crabapple
 - Pacific willow
 - Western redcedar
- Planting Area A (Livestakes)
- Planting Area B (Shrubs)
- Tax Lots
- Planting Area A (649 sqft.)
- Planting Area B (2352 sqft.)

Planting Area A

Common Name	Species Name	Quantity	Type
Shrubs			
Pacific willow	Salix lasiandra	5 (15)	live stake
Red-osier dogwood	Cornus stolonifera	5 (15)	live stake
Sitka willow	Salix sitchensis	10 (30)	live stake
Herbs			
Small-fruited bulrush	Scirpus microcarpus	25	4' plugs

Planting Area B

Common Name	Species Name	Quantity	Type
Trees			
Cascara	Rhamnus purshiana	2	1 gallon
Douglas-fir	Pseudotsuga menziesii	3	1 gallon
Oregon ash	Fraxinus latifolia	3	1 gallon
Pacific crabapple	Malus fusca	2	1 gallon
Western redcedar	Thuja plicata	5	1 gallon
Shrubs			
Bald-hip rose	Rosa gymnocarpa	10	1 gallon
Oceanspray	Holodiscus discolor	10	1 gallon
Salmonberry	Rubus spectabilis	10	1 gallon
Snowberry	Symphoricarpos albus	10	1 gallon
Thimbleberry	Rubus parviflorus	10	1 gallon



Shaw-Hiram Avenue

Clackamas County, Or.






3/15/2016

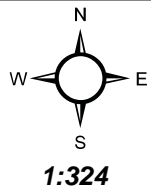
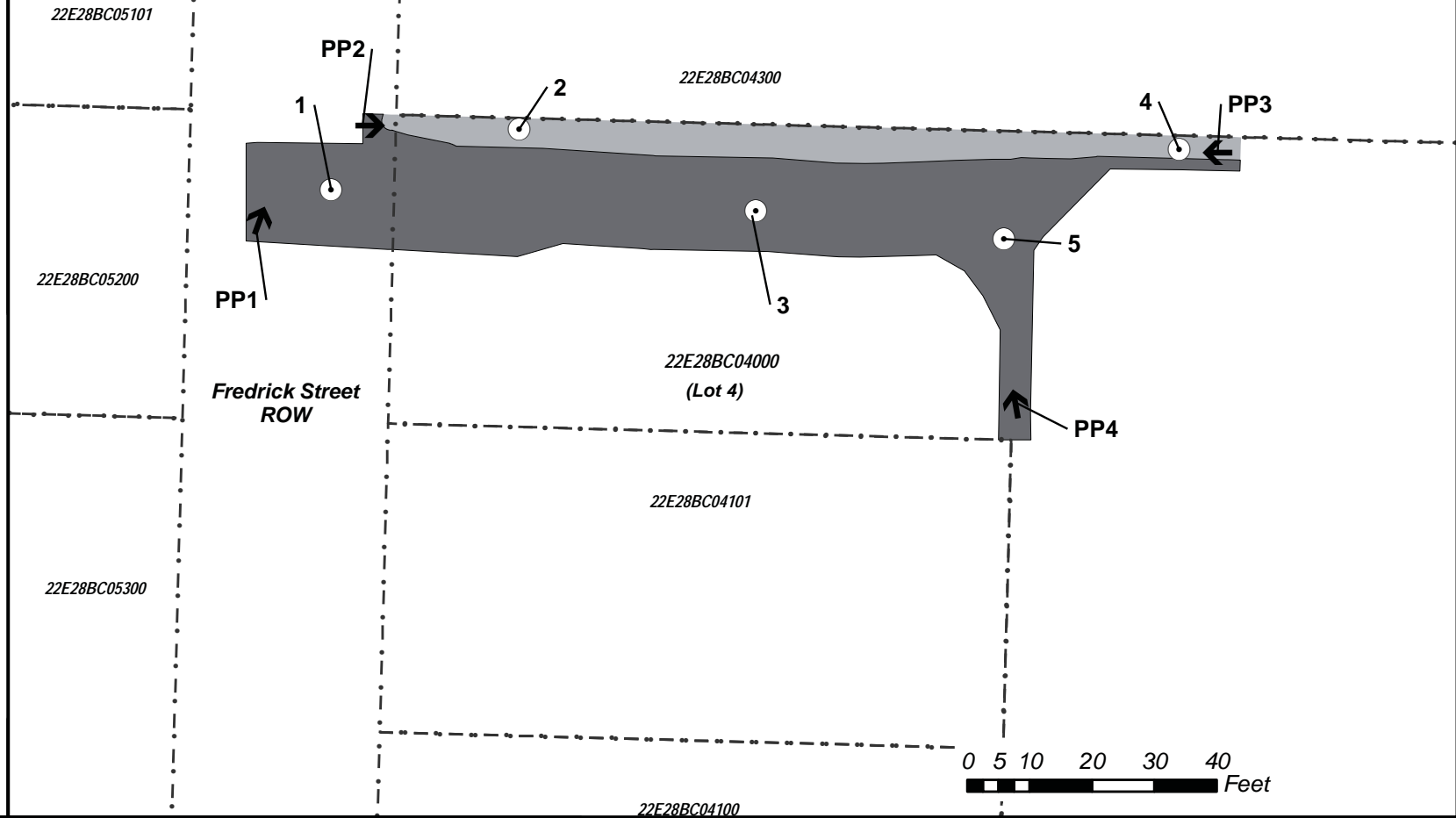
NOTES:
1. Tax lot data provided by Clackamas County. Spatial accuracy is unknown but assumed to be 1 meter or less.

Figure 5:

**Monitoring
Plan**

Legend

-  Tax Lots
-  Vegetation Monitoring Plot
-  Photo Point
-  Planting Area A (649 sqft.)
-  Planting Area B (2352 sqft.)



Shaw-Hiram Avenue

Clackamas County, Or.

12/18/2015

NOTES:

1. Tax lot data provided by Clackamas County. Spatial accuracy is unknown but assumed to be 1 meter or less.

**Figure 6.
Existing
Conditions**

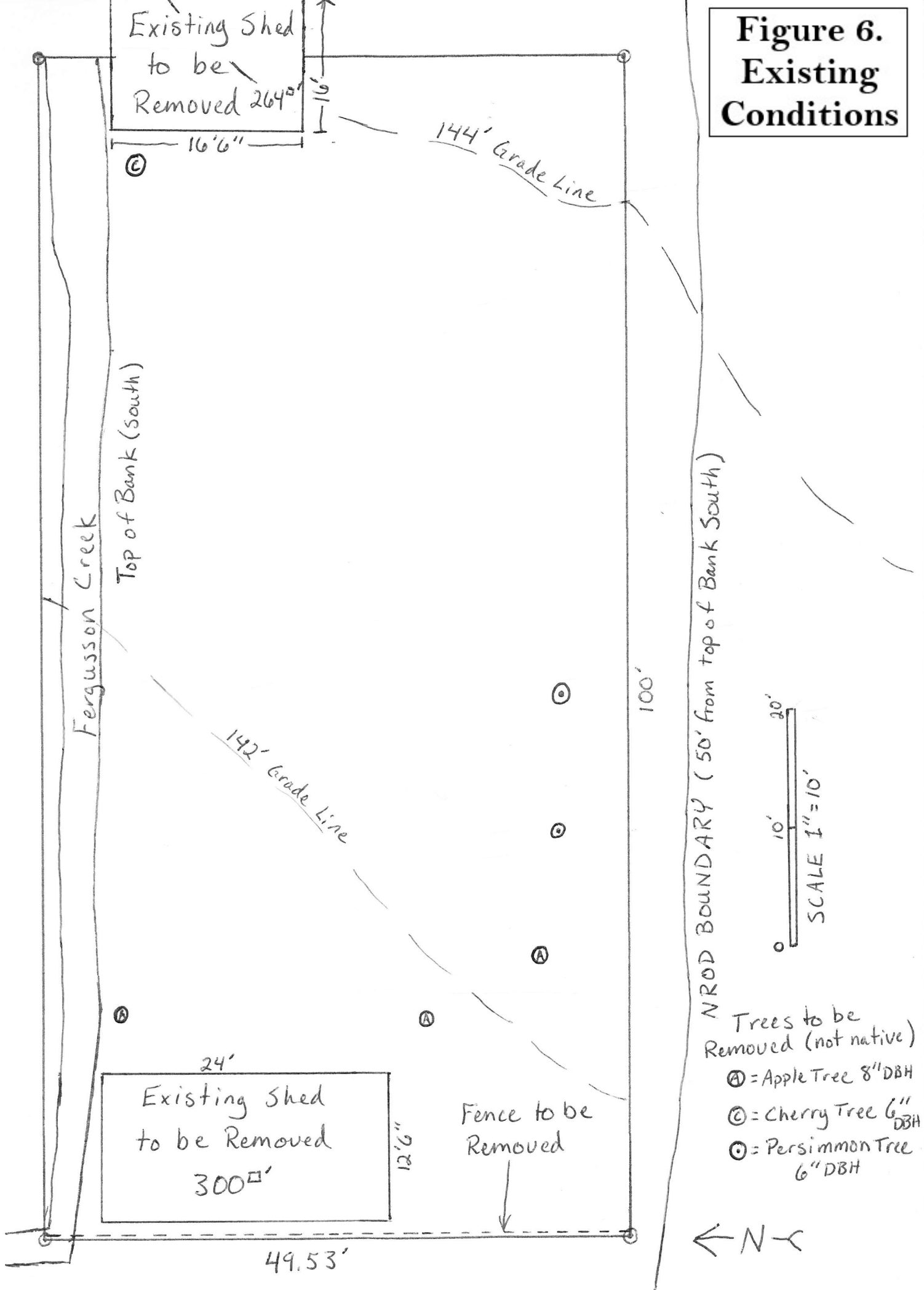
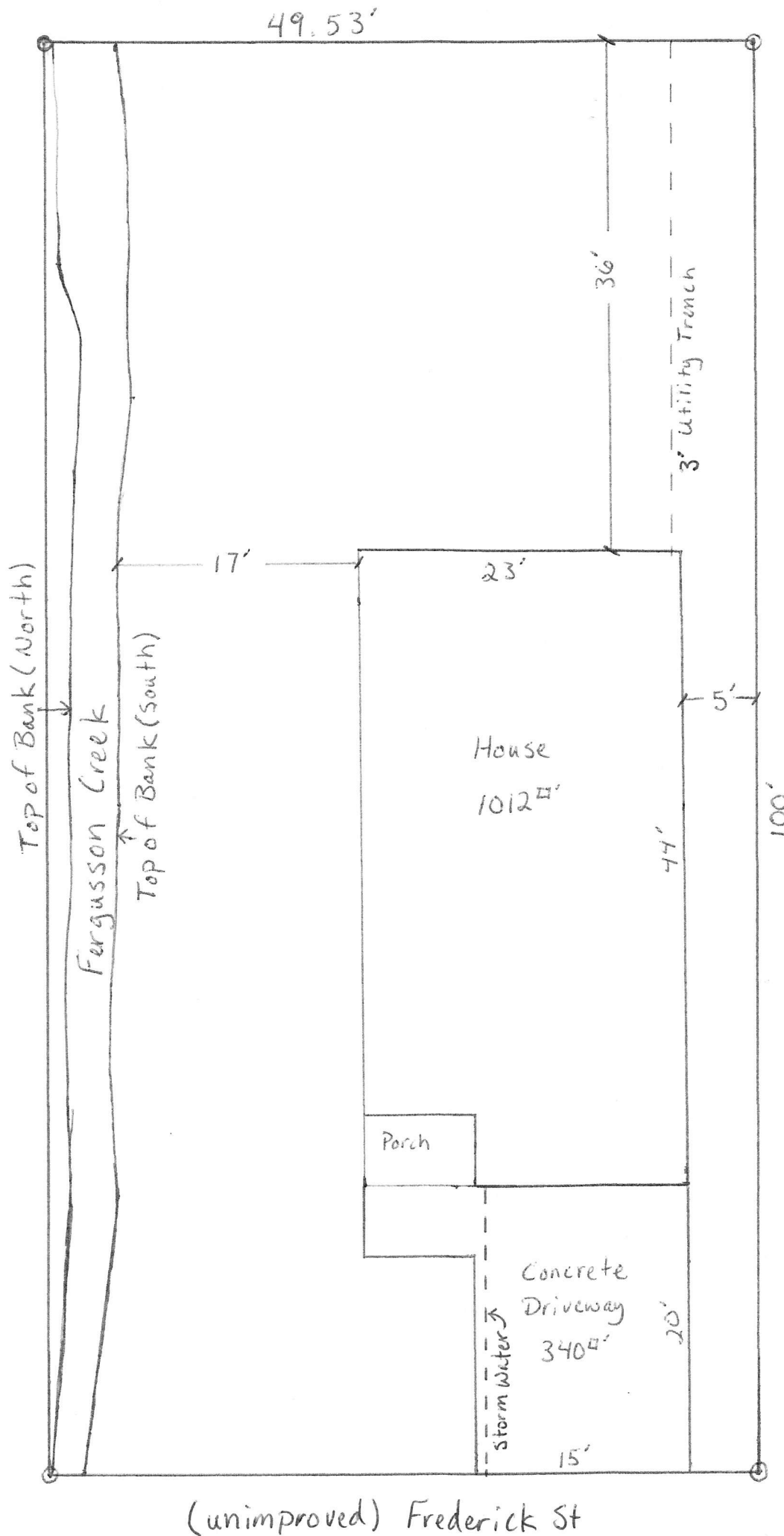


Figure 7. Proposed Site Plan

Disturbance Summary

House 1012^{sq}'
 Driveway 340^{sq}'
 Utility Trench 108^{sq}'
 Total 1460^{sq}'

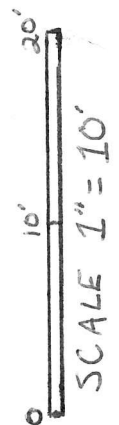
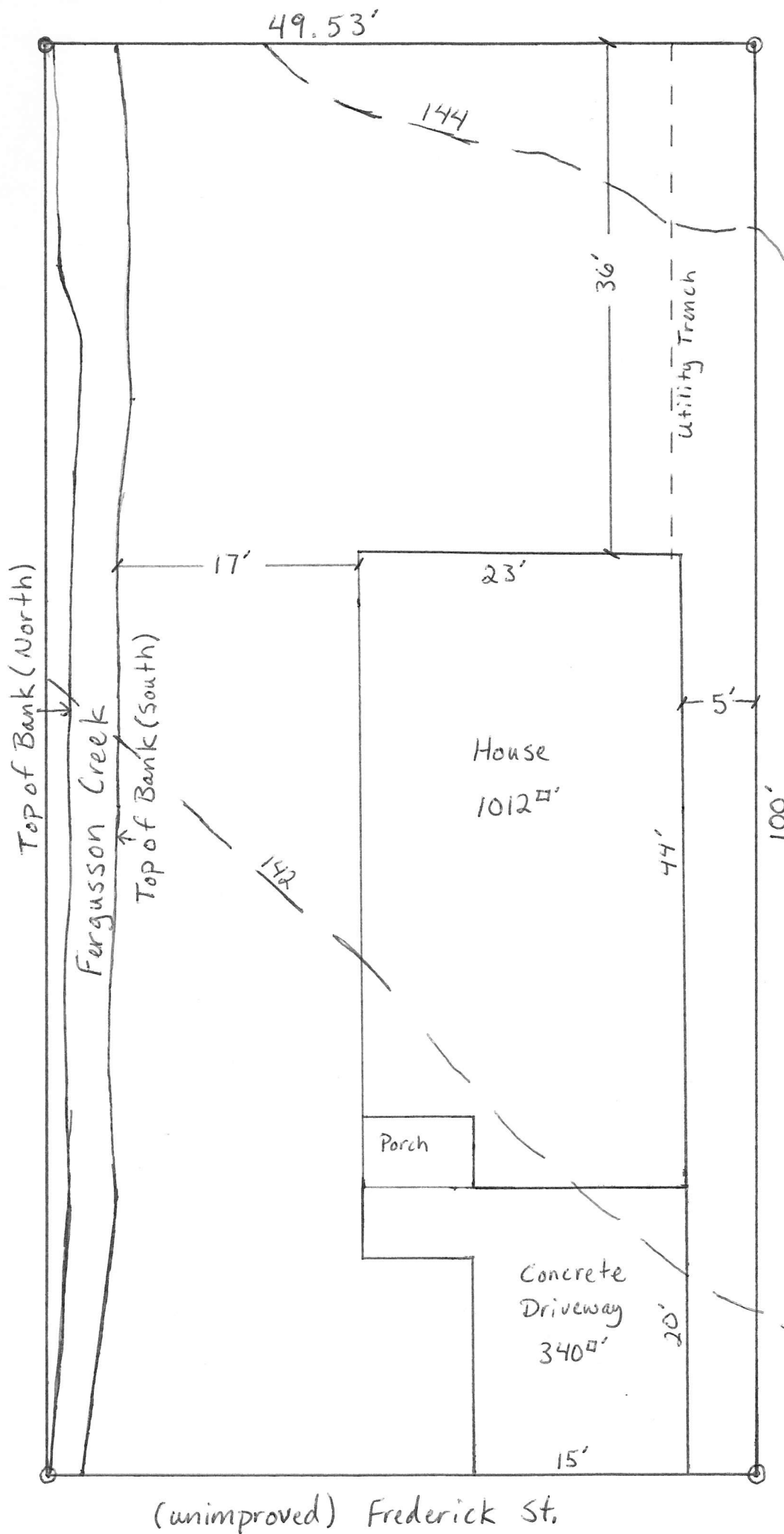


20'
 10'
 0'
 SCALE 1" = 10'

← N ↗

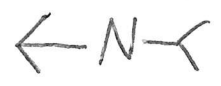
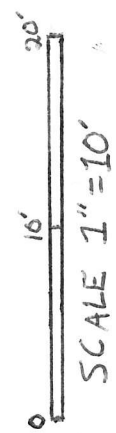
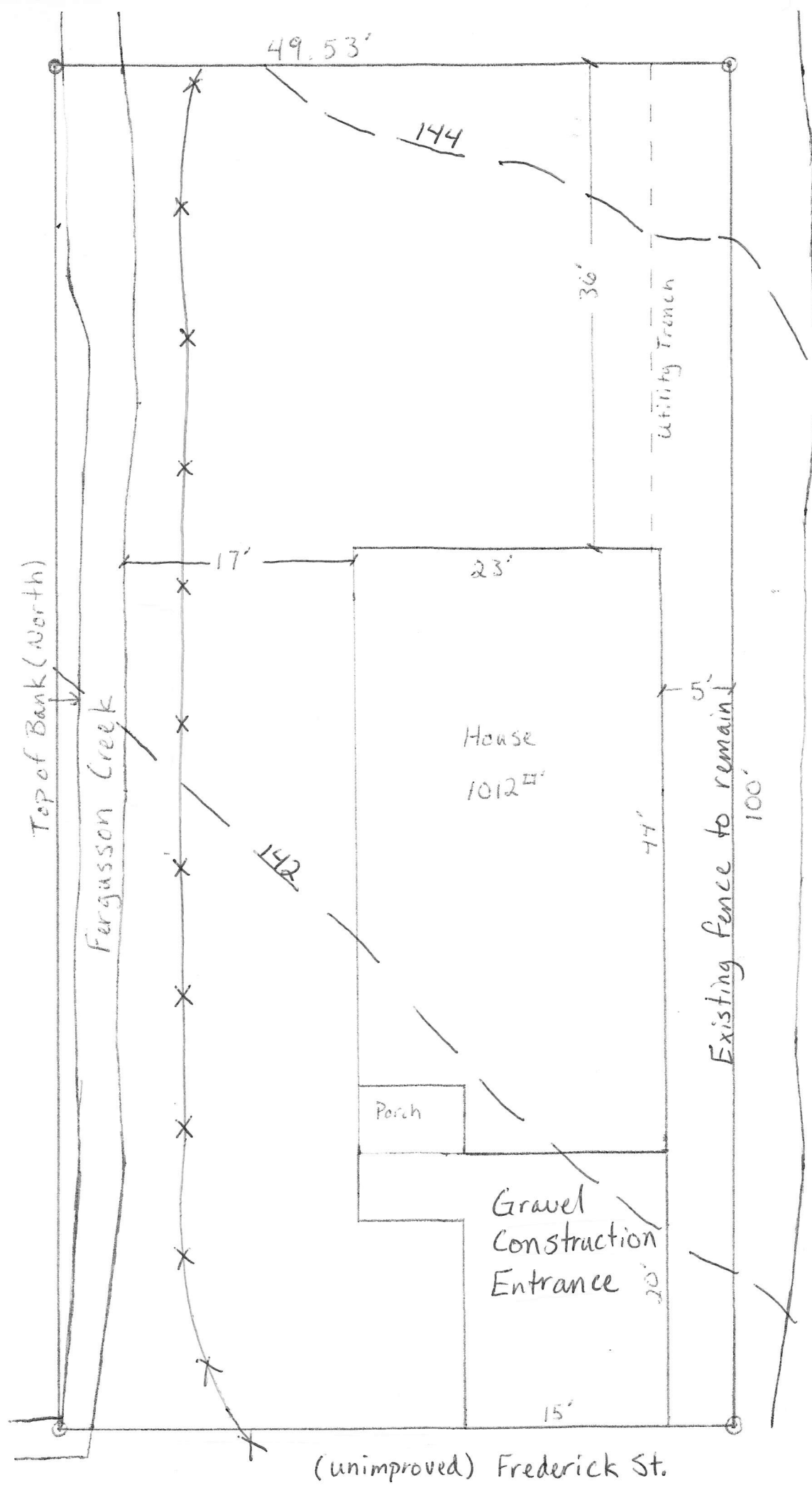
**Figure 8.
Grading Plan**

We do not intend to change the existing contours by more than $\pm 6"$.



**Figure 9.
Construction
Management
Plan**

X-X-X = silt fence
to protect Fergusson
Creek during
Construction



Appendix B

Data Forms



NROD Report
Shaw-Hiram Avenue
Single-Family Home

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Hiram Avenue City/County: Oregon City/Clackamas Sampling Date: 04-Dec-15
 Applicant/Owner: Mark Shaw State: OR Sampling Point: SP1
 Investigator(s): Tom Dee Section, Township, Range: S 2S T 2E R 28
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): flat Slope: 0.5 % / 0.3 °
 Subregion (LRR): A Lat.: 45.369606 Long.: -122.578447 Datum: NAD83
 Soil Map Unit Name: Woodburn silt loam, 3-8% slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks:	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>5m</u>)	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>320</u> (B) Prevalence Index = B/A = <u>3.200</u>
= Total Cover				

Sapling/Shrub Stratum (Plot size: <u>3m</u>)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				

Herb Stratum (Plot size: <u>1m</u>)				
1. <u>Agrostis capillaris</u>	80	<input checked="" type="checkbox"/> 80.0%	FAC	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
2. <u>Dactylis glomerata</u>	10	<input type="checkbox"/> 10.0%	FACU	
3. <u>Hypochaeris radicata</u>	5	<input type="checkbox"/> 5.0%	FACU	
4. <u>Taraxacum officinale</u>	5	<input type="checkbox"/> 5.0%	FACU	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: <u>3m</u>)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
2. _____	0	<input type="checkbox"/> 0.0%	_____	
_____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>

% Bare Ground in Herb Stratum: <u>0</u>				
Remarks:				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²			
0-16	10YR	3/2	100%						Silt Loam	
16-20	10YR	4/1	90%	10YR	5/8	10%	C	M	Silt Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydrology

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:		
Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text" value="0"/>
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="16"/>
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="14"/>

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Hiram Avenue City/County: Oregon City/Clackamas Sampling Date: 04-Dec-15
 Applicant/Owner: Mark Shaw State: OR Sampling Point: SP2
 Investigator(s): Tom Dee Section, Township, Range: S 2S T 2E R 28
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): flat Slope: 0.5 % / 0.3 °
 Subregion (LRR): A Lat.: 45.369621 Long.: -122.578448 Datum: NAD83
 Soil Map Unit Name: Woodburn silt loam, 3-8% slopes NWI classification: R3

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks:	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>5m</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.000</u>
= Total Cover				

Sapling/Shrub Stratum (Plot size: <u>3m</u>)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				

Herb Stratum (Plot size: <u>1m</u>)				
1. <u>Phalaris arundinacea</u>	100	<input checked="" type="checkbox"/> 100.0%	FACW	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
100				
Woody Vine Stratum (Plot size: <u>3m</u>)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
2. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
0				
% Bare Ground in Herb Stratum: <u>0</u>				
Remarks:				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix		%	Redox Features				Texture	Remarks
	Color (moist)			Color (moist)		%	Type ¹		
0-20	10YR	5/1	90%	10YR	5/8	10%	C	M	Silt Loam

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydrology

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Frost Heave Hummocks (D7)	

Field Observations:	
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="2"/>
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="0"/>
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="0"/>

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Appendix C

Photos



NROD Report
Shaw-Hiram Avenue
Single-Family Home



Photopoint 1. Fergusson Creek looking east



Photopoint 2. Sample Points 1 and 2 looking north



Photopoint 3. Fergusson Creek looking west



Photopoint 4. Fergusson Creek looking east

Turnstone Responses to DEA Comment Letter (*dated February 26, 2016*)

General

17.49.[0]40 - NROD permit.

The applicant is requesting an adjustment of standards, as the applicant proposes to reduce the required 25-foot vegetative corridor, therefore the application is processed as a Type III.

Development Standards

17.49.100 – General Development Standards

In response to this provision, Section 4 of the NROD Report for the Shaw Property prepared by Turnstone Environmental Consultants, Inc., dated December 2015 (“NROD Report”), states: “The applicant’s proposal shall meet the standards presented in this section.” However, the Report does not provide any evidence that the application meets the standards, and does not address any of the standards specifically. For example, are any grading (D), fence (G), or lighting (H) proposed? Neither the Report narrative nor the figures in Appendix A indicate.

General development standards have been addressed in the updated NROD report.

17.49.110 – Width of vegetated corridor

The applicant needs to show Fergusson Creek and the required and proposed vegetated corridor, to scale, on a site plan.

Figure 7 shows Fergusson Creek (top of bank), to scale, and the existing 50’ Vegetated Corridor.

17.49.120 – Maximum disturbance allowance for highly constrained lots of record

The applicant needs to show, to scale, on a site plan, that the proposal will not exceed the maximum of 1,500 square feet of disturbance, in order to verify this.

I have provided “Proposed Conditions Plan” showing the total proposed disturbance area is less than 1500 square feet. Updated NROD report references Figure 7: Proposed Site Plan.

17.49.140 – Standards for utility lines

The applicant needs to show the proposed location of connections, width of disturbance, and tree removal (if any) on a site plan in order to verify that connections will have no impacts.

I have provided “Proposed Conditions Plan” showing the utility trench. I am proposing to run sanitary sewer, gas, and water in the same trench, to minimize disturbance. I will be able to maintain all required separation between utilities. Power will be run overhead. Updated NROD report references Figure 7: Proposed Site Plan.

17.49.150 – Standards for vehicular or pedestrian paths and roads

The applicant needs to show the proposed driveway and associated excavation/fill relative to the OHW line and stream bank on a site plan in order to verify the applicant's statement of no impact.

Updated NROD report references Figure 7: Proposed Site Plan.

17.49.190 – Alternative mitigation standards

The applicant needs to show the existing corridor area and the proposed disturbance area in order to verify that the mitigation is at a 2:1 ratio.

Updated NROD report references Figure 7: Proposed Site Plan.

17.49.200 – Adjustment from standards

The applicant needs to provide evidence that the application meets the standards, and needs to address the standards A through F specifically, in order to verify the NROD Report statement that the application proposal meets the standards.

The updated NROD report provides evidence that the application meets the standards.

Application Requirements

17.49.210 - Type II development permit application.

Unless otherwise directed by the NROD standards, proposed development within the NROD shall be processed as a Type II development permit application. All applications shall include the items required for a complete application by Sections 17.49.220—17.49.230, and Section 17.50.080 of the Oregon City Municipal Code as well as a discussion of how the proposal meets all of the applicable NROD development standards 17.49.100—17.49.170.

Responses are provided in the NROD Report. However, the responses do not include evidence to verify the applicant's statements of compliance with standards and criteria.

17.49.220 - Required site plans.

Site plans showing the following required items shall be part of the application:

A. For the entire subject property (NROD and non-NROD areas):

1. The NROD district boundary. This may be scaled in relation to property liens from the NROD Map;

The NROD boundary is shown on the map provided by the City, created on 2/10/2016. Lot 4 is entirely within the NROD boundary.

2. One hundred-year floodplain and floodway boundary (if determined by FEMA);

Neither the NROD Report narrative nor the figures in Appendix A show or mention the one hundred-year floodplain. The applicant needs to show the floodplain in relation to the subject property or to verify that the property is not within the floodplain.

The property is not mapped within the 100-year floodplain. This is mentioned in the comments for 17.49.100 - General development standards in the updated NROD report. There is no floodplain present that would be mapped.

3. Creeks and other waterbodies;

The Fergusson Creek is discussed in the NROD Report, but not shown on the figures in Appendix A. "Stream" is labeled on the hand-drawn existing conditions, proposed conditions, and plot plan that were submitted for the pre-application conference, but not shown. The top of bank is shown as 3 feet from the boundary of Lot 4. The applicant needs to provide a plan that shows the stream top of bank (and whether it is uniformly 3 feet from) relative to the property line.

The Ordinary High Water Line of Fergusson Creek is depicted in Figure 3. Figure 6 depicts the Top of Bank. It is not uniformly 3 feet from the property line.

4. Any wetlands, with the boundary of the wetland that will be adjacent to the proposed development determined in a wetlands delineation report prepared by a professional wetland specialist and following the Oregon Division of State Lands wetlands delineation procedures;

The NROD Report shows the wetlands on Appendix A, Figure 3, Wetland Delineation Map and includes the delineation forms in Appendix B.

5. Topography shown by contour lines of two or one foot intervals for slopes less than fifteen percent and by ten-foot intervals for slopes fifteen percent or greater;

Topography is shown on the map provided by the City, created on 2/10/2016.

6. Existing improvements such as structures or buildings, utility lines, fences, driveways, parking areas, etc.

Neither the hand-drawn Existing Conditions plan provided for the pre-application conference nor the figures in Appendix A of the NROD report show utility lines or fences. The NROD Report, in Section 5.1, mentions that a fence would be removed. The applicant needs to show the fence on a site plan.

Please see the Figure 6 of the updated NROD report.

7. Extent of the required Vegetated Corridor required by Table 17.49.110

The required vegetated corridor is not shown. The NROD Report states the required width as 50 feet, as the NROD Report lists Fergusson Creek as "all other protected waters" in Table 17.49.110 and the lot as having a less than 25 percent slope. The proposed 17.53-foot vegetated corridor is shown on the hand-drawn proposed conditions plan and plot plan submitted for the pre-application conference. The vegetated corridor is shown as a uniform distance from the lot line, but it is not clear whether Fergusson Creek runs absolutely parallel to the lot line.

Please see the Figure 6 of the updated NROD report.

B. Within the NROD area of the subject property: (Please note that since Lot 4 is entirely within the NROD, this section B applies to the entire proposal.)

1. The distribution outline of shrubs and ground covers, with a list of most abundant species;

No plan shows existing shrubs and ground covers, nor lists abundant species. Section 5.2 of the NROD Report mentions the percentage of shrub and herbaceous cover. However, the applicant needs to list species and show distribution on Lot 4.

Please see the Figure 6 of the updated NROD report.

2. Trees six inches or greater in diameter, identified by species. When trees are located in clusters they may be described by the approximate number of trees, the diameter range, and a listing of dominant species;

No plan shows existing trees, nor lists species. Section 5.2 of the NROD Report mentions the percentage of tree cover. However, the applicant needs to list species and size and show distribution on Lot 4.

Please see the Figure 6 of the updated NROD report.

3. An outline of the disturbance area that identifies the vegetation that will be removed. All trees to be removed with a diameter of six inches or greater shall be specifically identified as to number, trunk diameters and species;

No outline of disturbance area is shown. Section 5.1 of the NROD Report states: "Invasive plant species will be removed from the mitigation area and native species will be planted." However, the applicant needs to show the removal area on a site plan. It is not clear if any trees will be removed. The applicant needs to specify whether any tree removal is proposed, and if so, show the number, species, and diameter.

Please see the Figure 6 of the updated NROD report. The entire mitigation area is dominated by invasive herbaceous plants that will be replaced with natives over the course of the monitoring period.

4. If grading will occur within the NROD, a grading plan showing the proposed alteration of the ground at two foot vertical contours in areas of slopes less than fifteen percent and at five foot vertical contours of slopes fifteen percent or greater.

No plan shows proposed contours or areas of grading. It is unclear whether grading is proposed. The applicant needs to state whether grading is proposed, and if it is, provide a grading plan.

Please see the Figure 8 of the updated NROD report.

C. A construction management plan including:

1. Location of site access and egress that construction equipment will use;

2. Equipment and material staging and stockpile areas;

3. Erosion control measures that conform to City of Oregon City erosion control standards;

4. Measures to protect trees and other vegetation located outside the disturbance area.

A construction management plan is not included. None of the plans included in Appendix A show access/egress, staging areas, erosion control measures, or tree protection. The NROD Report does not describe any of these. The applicant needs to provide these.

Please see the Figure 9 of the updated NROD report.

D. A mitigation site plan demonstrating compliance with Section 17.49.180 or 17.49.190, including:

1. Dams, weirs or other in-water features;

The applicant does not propose any of these features.

2. Distribution, species composition, and percent cover of ground covers to be planted or seeded;

Section 5.4, Planting Plan of the NROD Report lists species and quantities of proposed ground covers. However, Figure 4, Mitigation Plan, does not specifically show distribution of the plantings—it only shows Area A and Area B. The applicant needs to provide a planting plan that shows the distribution of ground cover plantings.

Small-fruited bulrush have been added to Figure 4.

3. Distribution, species composition, size, and spacing of shrubs to be planted;

Section 5.4, Planting Plan of the NROD Report lists species and quantities of proposed shrubs. However, Figure 4, Mitigation Plan, does not specifically show distribution of the plantings—it only shows Area A and Area B. The applicant needs to provide a planting plan that shows the distribution of shrub plantings.

Shrubs have been added to Figure 4.

4. Location, species and size of each tree to be planted;

Section 5.4, Planting Plan of the NROD Report lists species and quantities of proposed shrubs. However, Figure 4, Mitigation Plan, does not specifically show distribution or spacing of the plantings—it only shows Area A and Area B. The applicant needs to provide a planting plan that shows the distribution of tree plantings.

Trees have been added to Figure 4.

5. Stormwater management features, including retention, infiltration, detention, discharges and outfalls;

The applicant does not propose any stormwater management features for the proposed project.

6. Water bodies or wetlands to be created, including depth;

The applicant does not propose to create any water bodies or wetlands.

7. Water sources to be used for irrigation of plantings or for a water source for a proposed wetland.

Section 5.5, Irrigation, describes the water source.

17.49.230 - Mitigation plan report.

A. Written responses to each applicable Mitigation Standard [Section] 17.49.180 or 17.49.190 indicating how the proposed development complies with the mitigation standards;

The applicant needs to show the existing corridor area and the proposed disturbance area in order to verify that the mitigation is at a 2:1 ratio.

Please see the Figures 6 and 7 of the updated NROD report.

B. The resources and functional values to be restored, created, or enhanced through the mitigation plan

Tables 1 and 2 in Section 5.3 of the NROD Report provide assessments of Fergusson Creek and the vegetated corridor. However, the applicant needs to provide a discussion on restoration and enhancement and how the planting plan will accomplish restoration and enhancement.

Section 5.1 describes the mitigation proposal. Removing invasives/planting natives is the only project element and it can therefore be assumed that the functional lift illustrated in Tables 1 and 2 is derived from removing invasives and planting natives.

C. Documentation of coordination with appropriate local, regional, state and federal regulatory/resource agencies such as the Oregon Department of State Lands (DSL) and the United States Army Corps of Engineers (USACE);

Section 5.13 of the NROD Report includes information regarding DSL and USACE coordination.

D. Construction timetables;

Section 5.1 of the NROD Report includes the anticipated construction timing.

E. Monitoring and Maintenance practices pursuant to Section 17.49.230.F and a contingency plan for undertaking remedial actions that might be needed to correct unsuccessful mitigation actions during the first five years of the mitigation area establishment.

Sections 5.6 to 5.11 of the NROD Report describe monitoring, maintenance, and contingency.

Responses to Planting Comments

Make sure that the map is to scale. The base map is a tax lot map with a bar scale (feet), but text notes that spatial accuracy (meter) is unknown. Besides this contradiction, plant quantities cannot be mapped on a plan with unknown area.

The area is known and the map is to scale. The county tax lot layers do not provide an accuracy statement, so we can't give one with any confidence. The lot scales off correctly and the areas are known.

Clarify the wet conditions of the planting areas with a note. The planting plan indicates that Area A is wetter than Area B. Is there open water? A delineated wetland? A seep? A roof drain diversion?

Read Section 5.4 of the mitigation plan. "The mitigation site has been divided into two planting areas based on hydrologic regime (*Figure 4*). Planting Area A is located below the top of bank of Fergusson Creek and extends to the southern property boundary. Planting Area A receives extensive hydrology and the plants have been specified accordingly. Planting Area B is located in the upland portion of the mitigation area. The plant species proposed in this area prefer moist to dry conditions.

Add symbols to the figures and their legends as follows:

- *Trees with each species as a separate symbol.*
- *Shrubs represented in a hatch pattern with a line in the plant schedule describing the plant spacing.*
- *The live stakes in a hatch pattern*
- *The bulrush in a separate hatch pattern.*
- *Re-evaluate the location of the bulrush. It requires saturated conditions, wetter than the wetland "shrubs".*

Symbols have been added to the planting plan. It should be acceptable to depict planting sections. The bulrush will be located on the margins of the creek and will have plenty of hydrology to "thrive".

Add notes in the plant schedule that describe plant spacing.

Spacing notes have been added to the planting plan in Table 3 of the NROD report.

Re-evaluate the Pacific willow live stake. It is listed under shrubs, but it grows to 60' in height and has a sprawling growth habit. This exceeds the definition of a shrub.

Pacific willow has been added to the tree category in Table 3. There are trees proposed that may exceed 250' in height.

Either add a note to explain that shrubs would be randomly intermixed, which would describe the plant distribution, or, preferably, group the shrubs by size at maturity and put those closest to the proposed

building footprint and taller plants farther from the building footprint and leave gaps in the planting (hatch patterns) to allow for views and circulation.

We have added map symbols to Figure 4.

A significant area of “B” planting is proposed in the Fredrick Street right-of-way. Is this correct?

That is correct. The city said it was okay.