

STAFF REPORT FOR THE PLANNING COMMISSION

FILE NUMBER:

SUB-18-04/WAP-18-05

HEARING DATE:

August 21, 2019

REQUEST:

12-lot Subdivision at 22870 Weatherhill Road

APPROVAL

CRITERIA:

Community Development Code (CDC) Chapter 12, Single-Family Residential Detached and Attached, R-7; Chapter 32, Water

Resource Area Protection; Chapter 48, Access, Egress and

Circulation; Chapter 55, Design Review; Chapter 85 Land Division

General Provisions; Chapter 92, Required Improvements.

STAFF REPORT

PREPARED BY:

Jennifer Arnold, Associate Planner



Planning Manager's Initials Development Review Engineer's Initials &

TABLE OF CONTENTS

TABLE OF CONTENTS	
STAFF ANALYSIS AND RECOMMENDATION	2
GENERAL INFORMATION	
EXECUTIVE SUMMARY	3
SITE CONDITIONS	3
THE STATE OF THE S	3-4
ADDENDUM	5-20
EXHIBITS	
PC-1 AFFIDAVIT AND NOTICE PACKET	21-25
DC 2 COMPLETENESS LETTER	
PC-3 APPLICANT'S SUBMITTAL 12/27/18	28-392
DC 4 ADDITIONALT'S STIDMITTAL 2/20/19	393-323
PC-5 APPLICANT'S SUBMITTAL 5/23/19	530-653
DC 6 DUBLIC TESTIMONY	034-030
PC-7 STAFF MEMORANDOM	658-000
DC 9 TVED COMMENTS	001-003

GENERAL INFORMATION

APPLICANT/

CONSULTANT:

Emerio Design, LLC

6445 SW Fallbrook PL. STE 100

Beaverton, OR 97008

OWNER:

22870 Weatherhill, LLC

12870 SW Morningstar DR.

Tigard, OR 97223

SITE LOCATION:

22870 Weatherhill Road West Linn, OR 97068

LEGAL

DESCRIPTION:

Tax lot 405 Assessor's Map 21E 35B

SITE SIZE:

111,537 square feet (2.56 acres)

ZONING:

R-7, Single-Family Residential Detached and Attached. (7,000 square foot minimum lot size for single family detached homes)

COMP PLAN

DESIGNATION:

Low-Density Residential

120-DAY PERIOD:

This application became complete on June 12, 2019. The 120-day maximum application-processing period ends on September 21,

2019.

PUBLIC NOTICE:

Public notice was mailed to the all neighborhood associations and affected property owners on August 1, 2019. The property was posted with a notice sign on August 9, 2019. The notice was published in the West Linn Tidings on August 8, 2019. The notice requirements of CDC Chapter 99 have been met. In addition, the application was posted on the City's website.

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EXECUTIVE SUMMARY

The applicant seeks approval of a 12-lot Subdivision Preliminary Plat the 111,537 square foot site. All lots will exceed 7,000 square feet in size per the underlying R-7 zone. Access will be to a public street either directly off of Weatherhill Road or via the Satter Street extension. Proposed lot 6 is the only proposed flag lot proposed with this subdivision.

The applicable approval criteria include:

- Chapter 12, Single-Family Residential Detached and Attached, R-7;
- Chapter 48, Access, Egress and Circulation;
- Chapter 85, Land Division General Provisions;
- Chapter 92, Required Improvements

<u>Site Conditions:</u> The property initially has a gradual slope towards the rear of the property but the steepness increases to an average slope of 16%. There is a grove of trees near the rear property line and an ephemeral stream begins on the parcel. The existing single family home on the property will be removed.

Public comments:

See Planning Commission Exhibit PC-4 for Public Testimony

RECOMMENDATION

Staff recommends approval of application SUB-18-04/WAP-18-05, based on: 1) the findings submitted by the applicant, which are incorporated by this reference, 2) supplementary staff findings included in the Addendum below, and 3) the addition of conditions of approval below. With these findings, the applicable approval criteria are met. The conditions are as follows:

- Site Plan. With the exception of modifications required by these conditions, the final plat shall conform to the submitted Preliminary Plat and Preliminary Site Plan, (Sheets 6/13 and 7/13).
- Engineering Standards. All public improvements and facilities including street improvements, utilities, grading, onsite storm water design, driveway placement and construction, pavement mitigation, street lighting, street trees, easements, and easement locations are subject to the City Engineer's review, modification,

- and approval per the City adopted Public Works standards. All improvements must be designed, constructed, and completed prior to final plat approval. The Director of Public Works may allow a waiver of improvements as allowed by Code. (See Staff Findings: 6, 12, 13, 14, 19, 20, 23, 29, 32, 33, 35, 39, & 40-44)
- 3. Sewer Easement. The Applicant shall record a sewer easement to utilize a City owned tract for the proposed sewer extension to the subject property. This easement shall be shown on the face of the plat. Alternatively, the easement may be recorded separately and the recorded number shall be referenced on the face of the plat. (See Staff finding: 30 & 32)
- Mitigation and Re-Vegetation. Prior to recording of the final plat, all on-site mitigation and revegetation shall be completed per the Schott and Associates "Natural Resource Assessment" dated February 2019. (See Staff Findings: 2 & 3)
- Water Quality Tract. The applicant shall dedicate the water quality tract to the City
 of West Linn and reference this dedication on the face of the plat.

ADDENDUM

PLANNING COMMISSION STAFF REPORT August 21, 2019

STAFF EVALUATION OF THE PROPOSAL'S COMPLIANCE WITH APPLICABLE CODE CRITERIA

I. CHAPTER 12, SINGLE-FAMILY RESIDENTIAL DETACHED AND ATTACHED, R-7 12.030 PERMITTED USES

The following uses are permitted outright in this zone.

Single-family detached residential unit.

(...)

12.070 DIMENSIONAL REQUIREMENTS, USES PERMITTED OUTRIGHT AND USES PERMITTED UNDER PRESCRIBED CONDITIONS

Except as may be otherwise provided by the provisions of this code, the following are the requirements for uses within this zone:

- A. The minimum lot size shall be:
 - For a single-family detached unit, 7,000 square feet.
 - 2. For each attached single-family unit, 5,500 square feet. No yard shall be required between the units.
- B. The minimum front lot line length or the minimum lot width at the front lot line shall be 35 feet.
- C. The average minimum lot width shall be 35 feet.
- D. Repealed by Ord. 1622.
- E. The minimum yard dimensions or minimum building setback areas from the lot line shall be:
 - For the front yard, 20 feet, except for steeply sloped lots where the provisions of CDC 41.010 shall apply.
 - For an interior side yard, seven and one-half feet.
 - 3. For a side yard abutting a street, 15 feet.
 - For a rear yard, 20 feet.
- F. The maximum building height shall be 35 feet, except for steeply sloped lots in which case the provisions of CDC 41.010 shall apply.
- G. The maximum lot coverage shall be 35 percent.
- H. The minimum width of an accessway to a lot which does not abut a street or a flag lot shall be 15 feet.
- I. The maximum floor area ratio shall be 0.45. Type I and II lands shall not be counted toward lot area when determining allowable floor area ratio, except that a minimum floor area ratio of 0.30 shall be allowed regardless of the classification of lands within the property. That 30 percent shall be based upon the entire property including Type I and II lands. Existing residences

in excess of this standard may be replaced to their prior dimensions when damaged without the requirement that the homeowner obtain a non-conforming structures permit under Chapter 66 CDC.

J. The sidewall provisions of Chapter 43 CDC shall apply. (Ord. 1226, 1988; Ord. 1308, 1991; Ord. 1377, 1995; Ord. 1538, 2006; Ord. 1622 § 24, 2014; Ord. 1675 § 11, 2018)

Staff Response 1: The applicant proposes single-family detached residential units. All other standards cited above have been reviewed and exceeded by each lot. At the time that building permits are applied for the construction of a house, the front, side and rear setbacks, building height, lot coverage, FAR, sidewall transition requirements, off-street parking, fencing, and clear vision provisions on corner lots will be reviewed for compliance. The existing house on the property is proposed to be removed. See sheet 2/13 of the applicant's submitted plans. Staff determines the criterion is met.

CHAPTER 32: WATER RESOURCE AREA PROTECTION 32.060 APPROVAL CRITERIA (STANDARD PROCESS) (...)

D. WRA width.

Ephemeral Stream – 15 feet

Staff Finding 2: The West Linn adopted Water Resource Area (WRA) Map shows a stream on this property. The applicant submitted a Natural Resource Assessment by Schott and Associates which identifies this stream type as ephemeral. The applicant shows the ephemeral stream near the southern property line (see sheet 11/13 'Composite Utility Plan' of the applicant's submittal). The applicant has proposed to install a sewer line and water line within the 15 foot ephemeral stream protection area, but not within the resource itself. This will result in an approximately 100 square feet of temporarily disturbed area. No utilities are proposed to cross the ephemeral stream. No structures or permanent disturbances are proposed within the 15 foot protection area. Per condition of approval 4, the applicant shall complete all mitigation and re-vegetation for the temporarily disturbed area within the water resource protection area as identified by Schott and Associates. Subject to the conditions of approval, the criteria is met.

(...)

- F. Roads, driveways and utilities.
- 1. New roads, driveways, or utilities shall avoid WRAs unless the applicant demonstrates that no other practical alternative exists. In that case, road design and construction techniques shall minimize impacts and disturbance to the WRA by the following methods:
 - a. New roads and utilities crossing riparian habitat areas or streams shall be aligned as close to perpendicular to the channel as possible.
 - b. Roads and driveways traversing WRAs shall be of the minimum width possible to comply with applicable road standards and protect public safety. The footprint of grading and site clearing to accommodate the road shall be minimized.
 - c. Road and utility crossings shall avoid, where possible:

- 1) Salmonid spawning or rearing areas;
- 2) Stands of mature conifer trees in riparian areas;
- 3) Highly erodible soils;
- 4) Landslide prone areas;
- Damage to, and fragmentation of, habitat; and
- 6) Wetlands identified on the WRA Map.

(...)

Staff Finding 3: The applicant has proposed a minor and temporary impact from the installation of the water and sewer line in the water resource protection area. See Staff finding 2. The applicant has not proposed any roadways or homes within the protected area. The applicant has submitted a "Natural Resource Assessment" dated February 2019 by Schott and Associates (dated February 2019). Subject to the conditions of approval, the criteria is met.

CHAPTER 48, ACCESS CONTROL

48.025 ACCESS CONTROL

B. Access Control Standards

1. Traffic impact analysis requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements. (See also CDC <u>55.125</u>, Traffic Impact Analysis.)

Staff Finding 4: No traffic impact analysis (TIA) is required since none of the criteria of 85.170(B) (2) are met. For example, an Average Daily Trip count (ADT) of 250 is required before a TIA is needed. The addition of 12 additional/new homes should only generate an ADT of 114.84 new trips per day according to the Institute of Traffic Engineers (ITE) trip generation tables at 9.57 trips per household. See Memorandum dated February 14, 2019 for preliminary trip generation in the applicant's submittal dated 2/20/19. This criterion is met.

2. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

Staff Finding 5: Access to this site will be via the existing public streets or via the extension of Satter Street. Lots 1, 2, and 3 will take access via Weatherhill Road and all other lots will take access via the extension of Satter Street. Lots 6 and 7 are accessed via a shared driveway from Statter Street with lot 6 shown as a flag lot. All proposed driveways will be reviewed by the City Engineer at the time of building permit review. This criterion is met.

- 3. Access options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (planned access shall be consistent with adopted public works standards and TSP). These methods are "options" to the developer/subdivider.
- a) Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.
- b) Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.
- c) Option 3. Access is from a public street adjacent to the development lot or parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in subsection (B) (6) of this section.

Staff Finding 6: The applicant proposes access to all lots by use of Option 3, however lot 6 is shown to be a flag lot with only the pole fronting a public street. All access points will be made from within the subdivision directly from Weatherhill Road or the proposed extension of Satter Street. Lots 6 and 7 are accessed via a shared driveway onto the proposed extension of Satter Street. Weatherhill Road and Satter Street are designated local streets. These criteria are met.

4. Subdivisions fronting onto an arterial street.

(...)

Double-frontage lots.

(...)

Staff Finding 7 This subdivision does not front on an arterial, as Weatherhill Road and Satter Street extension are local streets. Access of these lots will be via Weatherhill Road (proposed lots 1, 2, & 3) or the extension of Satter Street (all remaining lots). See Staff Findings 14 and 15. These criteria are satisfied.

6. Access spacing.

(...)

- Number of access points.
- 8. Shared driveways.

Staff Finding 8: All access points will be made from within the subdivision directly from Weatherhill Road or the proposed extension of Satter Street. Lots 6 and 7 are accessed via a shared driveway onto the proposed extension of Satter Street (lot 6 is shown as a flag lot). Weatherhill Road and Satter Street are designated local streets. Subject to condition of approval 2, the criteria is met.

- C. Street connectivity and formation of blocks required.
 In order to promote efficient vehicular and pedestrian circulation throughout the City, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:
- Block length and perimeter.
 The maximum block length shall not exceed 800 feet or 1,800 feet along an arterial.

Staff Finding 9: The applicant proposes to extend the stubbed-out section of Satter Street to the west of the subject property through this proposed subdivision to the eastern property line. The applicant has proposed a 52 foot right of way which allows for parking on one side. This is wider than the existing sections of Satter Street. The proposed subdivision is following the previous block development pattern by extending Satter Street. Staff adopts the applicant's findings found on page 7 of the applicant's supplemental submittal dated 5/23/19. This criterion is met.

48.030 MINIMUM VEHICULAR REQUIREMENTS FOR RESIDENTIAL USES

- A. Direct individual access from single-family dwellings and duplex lots to an arterial street (...)
- B. When any portion of any house is less than 150 feet from the adjacent right-of-way, access to the home is as follows:
- 1. One single-family residence, including residences with an accessory dwelling unit as defined in CDC <u>02.030</u>, shall provide 10 feet of unobstructed horizontal clearance. Dual-track or other driveway designs that minimize the total area of impervious driveway surface are encouraged.
- 2. Two to four single-family residential homes equals a 14- to 20-foot-wide paved or all-weather surface. Width shall depend upon adequacy of line of sight and number of homes.

Staff Finding 10: Staff incorporates applicant findings on pages 8 and 9 of the applicant's submittal. These criteria are met.

3. Maximum driveway grade shall be 15 percent. The 15 percent shall be measured along the centerline of the driveway only. Variations require approval of a Class II variance by the Planning Commission pursuant to Chapter 75 CDC. Regardless, the last 18 feet in front of the garage shall be under 12 percent grade as measured along the centerline of the driveway only. Grades elsewhere along the driveway shall not apply.

Staff Finding 11: The applicant shall comply with maximum driveway grades during construction of the homes. The proposed grading plan shown on sheet 10/13 of the applicant's submittal does not identify grades above 15% at driveway locations. This criterion is met.

4. The driveway shall include a minimum of 20 feet in length between the garage door and the back of sidewalk, or, if no sidewalk is proposed, to the paved portion of the right-of-way.

Staff Finding 12: The applicant shall comply with driveway length requirements during the construction of the homes. These criteria are met.

- C. When any portion of one or more homes is more than 150 feet from the adjacent right-of-way, the provisions of subsection B of this section shall apply in addition to the following provisions.
- 1. A turnaround may be required as prescribed by the Fire Chief.
- 2. Minimum vertical clearance for the driveway shall be 13 feet, six inches.
- 3. A minimum centerline turning radius of 45 feet is required unless waived by the Fire Chief.
- 4. There shall be sufficient horizontal clearance on either side of the driveway so that the total horizontal clearance is 20 feet

Staff Finding 13: Staff incorporates applicant findings on page 9 of the applicant's submittal. The applicant has proposed a fire turnaround located on the flag pole of lot 6. The criteria are met

- E. Access and/or service drives for multi-family dwellings shall be fully improved with hard surface pavement:
- 1. With a minimum of 24-foot width when accommodating two-way traffic; or
- 2. With a minimum of 15-foot width when accommodating one-way traffic. Horizontal clearance shall be two and one-half feet wide on either side of the driveway.
- 3. Minimum vertical clearance of 13 feet, six inches.
- 4. Appropriate turnaround facilities per Fire Chief's standards for emergency vehicles when the drive is over 150 feet long. Fire Department turnaround areas shall not exceed seven percent grade unless waived by the Fire Chief.
- 5. The grade shall not exceed 10 percent on average, with a maximum of 15 percent.
- 6. A minimum centerline turning radius of 45 feet for the curve.
- F. Where on-site maneuvering and/or access drives are necessary to accommodate required parking, in no case shall said maneuvering and/or access drives be less than that required in Chapters 46 and 48 CDC.
- G. The number of driveways or curb cuts shall be minimized on arterials or collectors. Consolidation or joint use of existing driveways shall be required when feasible.
- H. In order to facilitate through traffic and improve neighborhood connections, it may be necessary to construct a public street through a multi-family site.
- Gated accessways to residential development other than a single-family home are prohibited.

Staff Finding 14: The applicant proposal is for single-family homes less than 150 feet from public right of way, driveways less than 15% grade and no gated access points. No arterial roadways are proposed with this application. All driveways shall meet the engineering standards of Condition of Approval number 2. These criteria are met.

48.060 WIDTH AND LOCATION OF CURB CUTS AND ACCESS SEPARATION REQUIREMENTS

A. Minimum curb cut width shall be 16 feet.

- B. Maximum curb cut width shall be 36 feet, except along Highway 43 in which case the maximum curb cut shall be 40 feet. For emergency service providers, including fire stations, the maximum shall be 50 feet.
- C. No curb cuts shall be allowed any closer to an intersecting street right-of-way line than the following:
- On an arterial when intersected by another arterial, 150 feet.

(...)

On a local street when intersecting any other street, 35 feet.

Staff Finding 15: All driveways and curb cuts shall meet the engineering standards of Condition of Approval number 2. Satter Street and Weatherhill Road are both local streets. These criteria are met.

- D. There shall be a minimum distance between any two adjacent curb cuts on the same side of a public street, except for one-way entrances and exits, as follows:
- On an arterial street, 150 feet.
- 2. On a collector street, 75 feet.
- 3. Between any two curb cuts on the same lot or parcel on a local street, 30 feet.

(...)

E. A rolled curb may be installed in lieu of curb cuts and access separation requirements.

Staff Finding 16: See Staff Finding 14-15. These criteria are met.

F. Curb cuts shall be kept to the minimum, particularly on Highway 43. Consolidation of driveways is preferred. The standard on Highway 43 is one curb cut per business if consolidation of driveways is not possible.

Staff Finding 17: The applicant proposes to provide access to Weatherhill Road (lots 1, 2, and 3) and Satter Street (lots 4-12). The applicant shows a shared curb cut for lots 6 and 7 on sheet 7/13. Proposed lot 6 is a flag lot with 19.8 feet of street frontage on Satter Street. This criterion is met.

G. Adequate line of sight pursuant to engineering standards should be afforded at each driveway or accessway.

Staff Finding 18: The City Engineer has verified compliance with Chapter 48 requirements. This criterion is met.

CHAPTER 85, GENERAL PROVISIONS (LAND DIVISION)

85.200 APPROVAL CRITERIA

No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to provide service to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.

A. Streets.

1. General. The location, width and grade of streets shall be considered in their relation to existing and planned streets (...) Internal streets are the responsibility of the developer. All streets bordering the development site are to be developed by the developer with, typically, half-street improvements or to City standards prescribed by the Public Works Director. (....)

Staff Finding 19: The applicant has proposed to extend Satter Street, currently stubbed to the western property boundary, through the subject property and stub it to the eastern property boundary. Eventually, Satter Street will connect with an existing section when the property at 22864 Weatherhill Road redevelops. Satter Street is designated as a local street and the applicant proposes a right-of-way width of 52 feet to allow for parking on one side. The applicant is also proposing to dedicate 13 feet to right-of-way for Weatherhill Road widening and improvements. This criteria is met.

- Right-of-way and roadway widths.
- 3. Street widths. Street widths shall depend upon which classification of street is proposed. The classifications and required cross sections are established in Chapter 8 of the adopted TSP. (...)
- 4. The decision-making body shall consider the Public Works Director's recommendations on the desired right-of-way width, pavement width and street geometry of the various street types within the subdivision after consideration by the Public Works Director of the following criteria: (...)

Staff Finding 20: See Staff Finding 19. The applicant proposes a 52 foot right-of-way to allow for parking on one side of Satter Street. This criteria is met.

(...)

16. Sidewalks. Sidewalks shall be installed per CDC <u>92.010(H)</u>, Sidewalks. The residential sidewalk width is six feet plus planter strip...or to match existing sidewalks or right-of-way limitations.

(...)

Staff Finding 21: The applicant is proposing to construct sidewalks and planter strip along both sides of the Satter Street extension and along this property's frontage on Weatherhill Road per condition of approval 2. The applicant is proposing to dedicate 13 feet to right-of-way improvements along Weatherhill Road. Subject to conditions of approval the criteria is met.

(...)

19. All lots in a subdivision shall have access to a public street. Lots created by partition may have access to a public street via an access easement pursuant to the standards and limitations set forth for such accessways in Chapter 48 CDC.

Staff Finding 22: All lots will access a public street (Satter Street or Weatherhill Road) via individual driveways and a shared driveway between proposed lots 6 and 7 as lot 6 is shown as a flag lot. See condition of approval 2 and staff finding 3. Subject to conditions of approval, the criteria is met.

(...)
22. Based upon the determination of the City Manager or the Manager's designee, the applicant shall construct or cause to be constructed, or contribute a proportionate share of the costs, for all necessary off-site improvements identified by the transportation analysis commissioned to address CDC 85.170(B)(2) that are required to mitigate impacts from the

Staff Finding 23: No offsite improvements are required with this subdivision. The criteria is met.

B. Blocks and lots.

proposed subdivision.

1. General

(...)

2. Sizes

(...)

3. Lot size and shape

Staff Finding 24: The applicant proposes to extend Satter Street through the subject property and continue the existing development pattern. Each lot has access to a public street and no lots will take access via an arterial road. Each lot exceeds the 7,000 square foot minimum lot size. These criteria are met.

4. <u>Access</u>. Access to subdivisions, partitions, and lots shall conform to the provisions of Chapter 48 CDC, Access, Egress and Circulation.

Staff Finding 25: Please see staff findings 4 to 18. The criterion is met.

Double frontage lots and parcels.

(...)

6. Lot and parcel side lines

Staff Finding 26: No double frontage lots are proposed with this application. The applicant has proposed the lot lines for each lot to meet the public right-of-way at right angles as far as practical. This criteria is met.

- 7. Flag lots. Flag lots can be created where it can be shown that no other reasonable street access is possible to achieve the requested land division. A single flag lot shall have a minimum street frontage of 15 feet for its accessway. Where two to four flag lots share a common accessway, the minimum street frontage and accessway shall be eight feet in width per lot. Common accessways shall have mutual maintenance agreements and reciprocal access and utility easements. The following dimensional requirements shall apply to flag lots:
- a. Setbacks applicable to the underlying zone shall apply to the flag lot. (...)
- e. As per CDC <u>48.030</u>, the accessway shall have a minimum paved width of 12 feet.

Staff Finding 27: The applicant proposes one flag lot (lot 6) with 19.8 feet of street frontage for access. Staff adopts the applicant's findings on page 25 of the applicant's submittal dated 12/27/18.

8. Large lots or parcels.

Staff Finding 28: Staff incorporates applicant findings on page 25 of the applicant's submittal dated 12/27/18. This criterion is met.

C. Pedestrian and bicycle trails.

(...)

D. Transit Facilities.

(...)

Staff Finding 29: The TSP does not identify Satter Street or Weatherhill Road in the Bike Plan or Pedestrian Plan improvement projects (See tables 4 and 6 of the TSP). The applicant proposes to construct a sidewalk along the frontage of the subject property on Weatherhill Road and along both sides of the extension of Satter Street (see sheet 7/13 of the applicant's submittal). The applicant does not propose any additional bike or pedestrian trails with this application. The criteria is met.

E. Grading.

Grading of building sites shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:

- 1. All cuts and fills shall comply with the excavation and grading provisions of the Uniform Building Code and the following:
- a. Cut slopes shall not exceed one and one-half feet horizontally to one foot vertically (i.e., 67 percent grade).
- b. Fill slopes shall not exceed two feet horizontally to one foot vertically (i.e., 50 percent grade). Please see the following illustration.

- The character of soil for fill and the characteristics of lot and parcels made usable by fill shall be suitable for the purpose intended.
- 3. If areas are to be graded (more than any four-foot cut or fill), compliance with CDC 85.170(C) is required.
- 4. The proposed grading shall be the minimum grading necessary to meet roadway standards, and to create appropriate building sites, considering maximum allowed driveway grades.
- 5. Type I lands shall require a report submitted by an engineering geologist, and Type I and Type II lands shall require a geologic hazard report.
- Repealed by Ord. 1635.
- 7. On land with slopes in excess of 12 percent, cuts and fills shall be regulated as follows:
- Toes of cuts and fills shall be set back from the boundaries of separate private ownerships at least three feet, plus one-fifth of the vertical height of the cut or fill. Where an exception is required from that requirement, slope easements shall be provided.
- b. Cuts shall not remove the toe of any slope where a severe landslide or erosion hazard exists (as described in subsection (G)(5) of this section).
- c. Any structural fill shall be designed by a registered engineer in a manner consistent with the intent of this code and standard engineering practices, and certified by that engineer that the fill was constructed as designed.
- d. Retaining walls shall be constructed pursuant to Section 2308(b) of the Oregon State Structural Specialty Code.
- e. Roads shall be the minimum width necessary to provide safe vehicle access, minimize cut and fill, and provide positive drainage control.
- 8. Land over 50 percent slope shall be developed only where density transfer is not feasible. The development will provide that:
- a. At least 70 percent of the site will remain free of structures or impervious surfaces.
- Emergency access can be provided.
- Design and construction of the project will not cause erosion or land slippage.
- d. Grading, stripping of vegetation, and changes in terrain are the minimum necessary to construct the development in accordance with subsection J of this section.

Staff Finding 30: All grading and erosion control plans will be reviewed by the City Engineer at the time the applicant applies for building permits. A geotechnical report was submitted with this subdivision application (see applicant's submitted geotechnical report dated November 9, 2018). The criteria is met.

- F. Water.
- 1. A plan for domestic water supply lines or related water service facilities shall be prepared consistent with the adopted Comprehensive Water System Plan, plan update, March 1987, and subsequent superseding revisions or updates.
- Adequate location and sizing of the water lines.
- Adequate looping system of water lines to enhance water quality.
- 4. For all non-single-family developments, there shall be a demonstration of adequate fire flow to serve the site.

5. A written statement, signed by the City Engineer, that water service can be made available to the site by the construction of on-site and off-site improvements and that such water service has sufficient volume and pressure to serve the proposed development's domestic, commercial, industrial, and fire flows.

Staff Finding 31: The applicant proposes to extend the water line currently stubbed out in the Satter Street right-of way through the subject site to serve the proposed lots. The extension shall be reviewed and approved by the City Engineer per condition of approval 2. The applicant may also utilize the existing water line in the Weatherhill Road right-of-way (see 'Composite Utility Plan' sheet 11/13 of the applicant's submittal). Subject to conditions of approval, the criteria is met.

G. Sewer.

- 1. A plan prepared by a licensed engineer shall show how the proposal is consistent with the Sanitary Sewer Master Plan (July 1989). Agreement with that plan must demonstrate how the sanitary sewer proposal will be accomplished and how it is gravity-efficient. The sewer system must be in the correct basin and should allow for full gravity service.
- 2. Sanitary sewer information will include plan view of the sanitary sewer lines, including manhole locations and depth or invert elevations.
- 3. Sanitary sewer lines shall be located in the public right-of-way, particularly the street, unless the applicant can demonstrate why the alternative location is necessary and meets accepted engineering standards.
- 4. Sanitary sewer line should be at a depth that can facilitate connection with down-system properties in an efficient manner.
- 5. The sanitary sewer line should be designed to minimize the amount of lineal feet in the system.
- 6. The sanitary sewer line shall avoid disturbance of wetland and drainageways. In those cases where that is unavoidable, disturbance shall be mitigated pursuant to Chapter 32 CDC, Water Resource Area Protection, all trees replaced, and proper permits obtained. Dual sewer lines may be required so the drainageway is not disturbed.
- 7. Sanitary sewer shall be extended or stubbed out to the next developable subdivision or a point in the street that allows for reasonable connection with adjacent or nearby properties.
- 8. The sanitary sewer system shall be built pursuant to DEQ, City, and Tri-City Service District sewer standards. The design of the sewer system should be prepared by a licensed engineer, and the applicant must be able to demonstrate the ability to satisfy these submittal requirements or standards at the pre-construction phase.
- 9. A written statement, signed by the City Engineer, that sanitary sewers with sufficient capacity to serve the proposed development and that adequate sewage treatment plant capacity is available to the City to serve the proposed development

Staff Finding 32: The Sewer Master Plan has confirmed that there is sufficient sanitary system and sewage treatment facility capacity. The applicant proposes to connect with the existing sewer line in the Crestview Drive right-of-way to serve all proposed lots (See 'Composite Utility Plan' sheet 11/13 of the applicant's submittal). The applicant shall record a

sewer easement to utilize an existing City owned tract for the sewer extension per condition of approval 3. Subject to conditions of approval, the criteria is met.

H. <u>Storm detention and treatment</u>. All proposed storm detention and treatment facilities comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards, there will be no adverse off-site impacts caused by the development (including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream), and there is sufficient factual data to support the conclusions of the submitted plan.

Staff Finding 33: The applicant has proposed a stormwater detention and treatment facility on the east/southeastern portion of the subject site adjacent to proposed lot 7. In addition to this facility, the applicant has proposed LIDA planters on each lot. All treated overflow is proposed to be directed into the existing stormwater infrastructure located in a City owned tract south of the subject property. This criteria is met.

I. Utility easements.

Subdivisions and partitions shall establish utility easements to accommodate the required service providers as determined by the City Engineer. The developer of the subdivision shall make accommodation for cable television wire in all utility trenches and easements so that cable can fully serve the subdivision.

Staff Finding 34: An 8 foot public utility easement shall be recorded on the face of the plat per condition of approval 2 along all lot frontages. The applicant shows these easements on sheet 11/13 'Composite Utility Plan'. In addition, the applicant shall record a sewer easement to extend the existing sewer line in the Crestview Drive right-of-way through a City owned tract to serve the proposed subdivision per condition of approval 3. Subject to conditions of approval, this criteria is met.

J. Supplemental provisions.

(...)

Street trees.

Street trees are required as identified in the appropriate section of the municipal code and Chapter <u>54</u> CDC.

4. Lighting.

To reduce ambient light and glare, high or low pressure sodium light bulbs shall be required for all subdivision street or alley lights. The light shall be shielded so that the light is directed downwards rather than omni-directional.

Staff Finding 35: The applicant will provide street trees and street lighting on Weatherhill Road and Satter Street, as required by the Public Works standards and Condition of Approval 2. The criteria is met.

Dedications and exactions.

The City may require an applicant to dedicate land and/or construct a public improvement that provides a benefit to property or persons outside the property that is the subject of the application when the exaction is roughly proportional. No exaction shall be imposed unless supported by a determination that the exaction is roughly proportional to the impact of development.

Staff Finding 36: The subject property fronts Weatherhill Road and Satter Street is stubbed to the western property boundary. The applicant proposes to extend the stubbed section of Satter Street on the western property boundary through the subject property and dedicate it as public right-of-way. In addition, the applicant is required to dedicate 13 feet of property to the Weatherhill Road right-of-way for street improvements. These dedications are shown on sheet 6/13 'Preliminary Plat' of the applicant's submittal. This criterion is met.

6. Underground utilities.

All utilities, such as electrical, telephone, and television cable, that may at times be above ground or overhead shall be buried underground in the case of new development. The exception would be in those cases where the area is substantially built out and adjacent properties have above-ground utilities and where the development site's frontage is under 200 feet and the site is less than one acre. High voltage transmission lines, as classified by Portland General Electric or electric service provider, would also be exempted. Where adjacent future development is expected or imminent, conduits may be required at the direction of the City Engineer. All services shall be underground with the exception of standard above-grade equipment such as some meters, etc.

Staff Finding 38: The subject property has site frontage of 279.57 feet and is 2.56 acres, thus not qualifying for the exception. The applicant shall place all overhead utilities underground or if approved by the Public Works Director, pay fee-in-lieu as part of the development per condition of approval 2. Subject to the conditions of approval, the criteria is met.

7. Density requirement.

Density shall occur at 70 percent or more of the maximum density allowed by the underlying zoning. These provisions would not apply when density is transferred from Type I and II lands as defined in CDC <u>02.030</u>. Development of Type I or II lands are exempt from these provisions. Land divisions of three lots or less would also be exempt.

Staff Finding 39: The subject property is 2.11 acres (92,276 sq. ft.) after the right-of-way dedications. The subject property contains 77,545 square feet of land sloped 25% of less (See applicant's submittal sheet 5/13 'Slope Analysis Plan'). No lots are considered oversized and staff adopts the applicant's findings on page 30 of the applicant's supplemental submittal dated 5/23/19. This criterion is met.

8. Mix requirement.

The "mix" rule means that developers shall have no more than 15 percent of the R-2.1 and R-3 development as single-family residential. The intent is that the majority of the site shall be developed as medium high density multi-family housing.

Staff Finding 40: The property is zoned R-7, so this criteria does not apply.

9. Heritage trees/significant tree and tree cluster protection.
All heritage trees, as defined in the Municipal Code, shall be saved. Diseased heritage trees, as determined by the City Arborist, may be removed at his/her direction. All non-heritage trees and clusters of trees (three or more trees with overlapping dripline; however, native oaks need not have an overlapping dripline) that are considered significant by virtue of their size, type, location, health, or numbers shall be saved pursuant to CDC 55.100(B)(2). Trees are defined per the municipal code as having a trunk six inches in diameter or 19 inches in circumference at a point five feet above the mean ground level at the base of the trunk.

Staff Finding 41: The applicant has inventoried all 120 trees onsite and 4 offsite trees. Of the 124 total trees, 45 are considered significant. The applicant proposes to retain 7 of the 45 significant trees and 9 of the nonsignificant onsite trees. All 4 offsite trees are considered nonsignificant and the applicant proposes to retain 2 of the 4 offsite trees. No heritage trees are identified on this property (See applicant's submittal Sheet 3/13 'Tree Preservation Plan'). No significant trees are identified in Type I or II lands on the subject site. The existing significant tree canopy is 50,265 square feet and the proposed tree canopy retained by the applicant is 10,687 square feet (21.3% retention). This criterion is met.

CHAPTER 92, REQUIRED IMPROVEMENTS

92.010 PUBLIC IMPROVEMENTS FOR ALL DEVELOPMENT

The following improvements shall be installed at the expense of the developer and meet all City codes and standards:

- A. Streets within subdivisions.
- B. Extension of streets to subdivisions
- C. Local and minor collector streets
- D. Monuments

Staff Finding 42: The applicant shall install improvements to meet the West Linn Public Works Design Standards per Condition of Approval 2. Subject to the Conditions of Approval, these criteria are met.

E. Storm detention and treatment. For Type I, II and III lands (refer to definitions in Chapter <u>02</u> CDC), a registered civil engineer must prepare a storm detention and treatment plan, at a scale sufficient to evaluate all aspects of the proposal, and a statement that demonstrates:

- 1. The location and extent to which grading will take place indicating general contour lines, slope ratios, slope stabilization proposals, and location and height of retaining walls, if proposed.
- 2. All proposed storm detention and treatment facilities comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards.
- 3. There will be no adverse off-site impacts, including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream.
- 4. There is sufficient factual data to support the conclusions of the plan.
- 5. Per CDC $\underline{99.035}$, the Planning Director may require the information in subsections (E)(1), (2), (3) and (4) of this section for Type IV lands if the information is needed to properly evaluate the proposed site plan.

Staff Finding 43: The applicant has submitted a Preliminary Storm Report, prepared by a licensed engineer, which complies with the West Linn Public Works Design Standards, shows no adverse off-site impacts, and provides sufficient factual data to support the conclusions of the plan. The applicant shall comply with the requirements and install improvements to meet the West Linn Public Works Design Standards Condition of Approval 2. Subject to the Conditions of Approval, these criteria are met.

```
F. Sanitary sewers
(...)
G. Water system
(...)
H. Sidewalks.
(...)
```

Staff Finding 44: The applicant has designed the sanitary sewer, water system, and sidewalks to comply with City of West Linn Public Works Design Standards. The applicant shall install all improvements to meet the Standards per Condition of Approval 2. Subject to the Conditions of Approval, these criteria are met.

- I. Bicycle routes.
- J. Street name signs.
- K. Dead-end street signs.
- L. Signs indicating future use.
- M. Street lights.

Staff Finding 45: The applicant shall comply with the requirements and install improvements to meet the West Linn Public Works Design Standards per Condition of Approval 2. Subject to the Conditions of Approval, these criteria are met.

- N. Utilities.
- O. Curb cuts and driveways.

P. Street trees.

Q. Joint mailbox facilities

Staff Finding 46: The applicant shall comply with the requirements and install improvements to meet the West Linn Public Works Design Standards per Condition of Approval 2. Subject to the Conditions of Approval, these criteria are met.

92.030 IMPROVEMENT PROCEDURES (...)

Staff Finding 47: The applicant shall comply with the requirements and install improvements to meet the West Linn Public Works Standards. Subject to condition of approval 2, these criteria are met.

PC-1 AFFIDAVIT AND NOTICE PACKET

PC-1 AFFIDAVIT AND NOTICE PACKET

AFFIDAVIT OF NOTICE

We, the undersigned do hereby certify that, in the interest of the party (parties) initiating a proposed land use, the following took place on the dates indicated below:

File I	No. SUB-18-04 Applicant's Name Stev	e Miller: Emeno Design
Sche	elopment Name duled Meeting/Decision DateAUGUST 21,	2015
NO	FICE: Notices were sent at least 20 days prior to the so 30 of the Community Development Code. (check below)	heduled hearing meeting or decision data per Section
	EA X	
A.	The applicant (date) 8/1/19	_ (signed) Should Cold
B.	Affected property owners (date) 8/1/19	(signed) Shurt asla
C.	School District/Board (date)	(signed)
D.	Other affected gov't. agencies (date)	(signed)
E.	Affected neighborhood assns. (date) 8/1/19	(signed) Sent Cold
F.	All parties to an appeal or review (date)	(signed)
At lea	ast 10 days prior to the scheduled hearing or meeting, not	ice was published/posted:
Tidin	gs (published date) 8/8/19	Quil add
	s website (posted date) 8/1/19	(signed)
SIGN	N	(Section)
At lea	ast 10 days prior to the scheduled hearing, meeting or	decision data a sign and a la
Sectio	on 99.080 of the Community Development Code.	decision date, a sign was posted on the property per
(date)	8/9/19 (signed) Jewih	ald
NOT	ICE, No.	
99.080	<u>ICE</u> : Notices were sent at least 14 days prior to the schoof the Community Development Code. (check below)	eduled hearing, meeting, or decision date per Section
TYPE	20 10 MACA 10	
A.	The combined (data)	(cione d)
В.	Affected property owners (date)	(signed)
C.	School District/Board (date)	(signed)
D.	Other affected gov't. agencies (date)	(signed)
E.	Affected neighborhood assns. (date)	(signed)
	(uate)	(signed)
Notice Date: _	was posted on the City's website at least 10 days prior to	the scheduled hearing or meeting. (signed)
STAF	F REPORT mailed to applicant, City Council/Planning	
prior to	o the scheduled hearing.	Commission and any other applicable parties 10 days
(date)_	8/9/19 (signed)	Gold
FINAl survey	L <u>DECISION</u> notice mailed to applicant, all other particles or soffice.	rties with standing, and, if zone change, the County
(date)_	(signed)	
	vw\forms\affidvt of notice-land use (9/09)	

CITY OF WEST LINN PLANNING COMMISSION PUBLIC HEARING NOTICE FILE NO. SUB-18-04/WAP-18-05

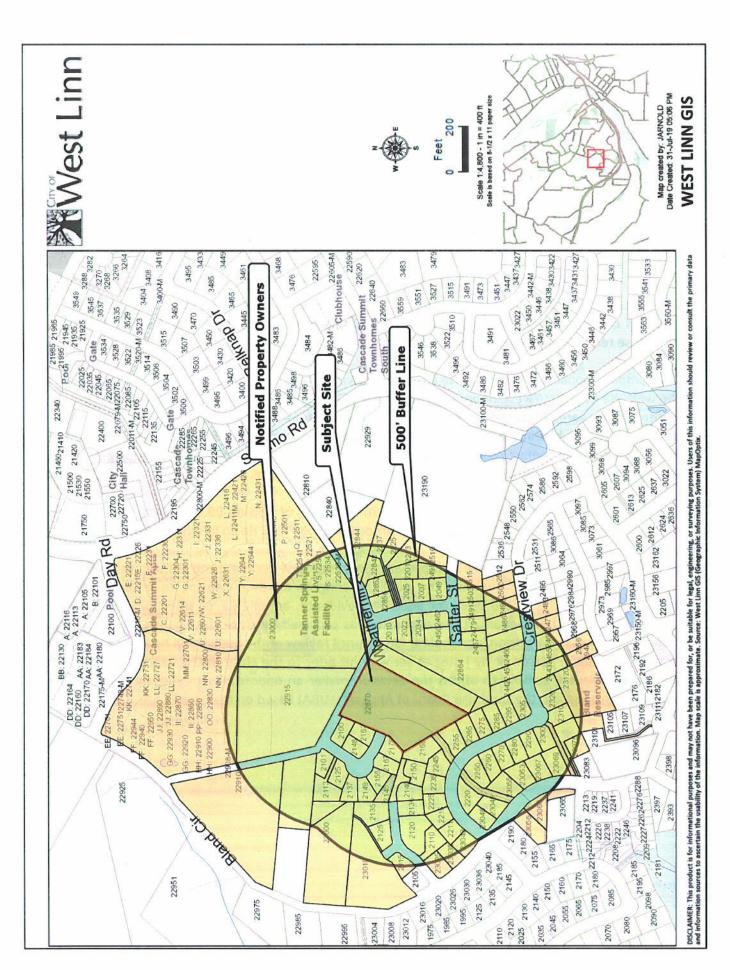
The West Linn Planning Commission will hold a public hearing on **Wednesday**, **August 21**, **2019**, **starting at 6:30 p.m.** in the Council Chambers of City Hall, 22500 Salamo Road, West Linn, to consider a request for a 12-Lot Subdivision and Water Resource Area Permit at 22870 Weatherhill Road.

The decision by the Planning Commission to approve or deny this request will be based upon the applicable criteria found in Chapters 12, 32, 48, 85, 92, and 99 of the West Linn Community Development Code. At the hearing, it is important that comments relate specifically to the applicable criteria.

You have been notified of this proposal because County records indicate that you own property within 500 feet of the subject property (Clackamas County Assessor's Map 2S-1E-35B, Tax Lot 405), or as otherwise required by Chapter 99 of the CDC.

The complete application in the above noted file is available for inspection at no cost at City Hall or via the web site at https://westlinnoregon.gov/planning/22870-weatherhill-drive-12-lot-subdivision-and-water-resource-area-protection or copies can be obtained for a minimal charge per page. At least ten days prior to the hearing, a copy of the staff report will be available for inspection. For further information, please contact Associate Planner Jennifer Arnold at jarnold@westlinnoregon.gov or 503-742-6057. Alternately, visit City Hall, 22500 Salamo Road, West Linn, OR 97068.

The hearing will be conducted in accordance with the rules of Section 99.170 of the CDC. Anyone wishing to present written testimony on this proposed action may do so in writing prior to, or at the public hearing. Oral testimony may be presented at the public hearing. At the public hearing, the Planning Commission will receive a staff presentation, and invite both oral and written testimony. The Planning Commission may continue the public hearing to another meeting to obtain additional information, leave the record open for additional evidence, arguments, or testimony, or close the public hearing and take action on the application as provided by state law. In the event that the Planning Commission decision is appealed, City Council review of the appeal will be de novo. Failure to raise an issue in person or by letter at some point prior to the close of the hearing, or failure to provide sufficient specificity to afford the decision maker an opportunity to respond to the issue, precludes an appeal to the Land Use Board of Appeals (LUBA) based on that issue.





NOTICE OF UPCOMING PLANNING COMMISSION DECISION

PROJECT # SUB-18-04 MAIL: 8/1/2019 TIDINGS: 8/8/2019

CITIZEN CONTACT INFORMATION

To lessen the bulk of agenda packets and land use application notice, and to address the concerns of some City residents about testimony contact information and online application packets containing their names and addresses as a reflection of the mailing notice area, this sheet substitutes for the photocopy of the testimony forms and/or mailing labels. A copy is available upon request.

PC-2 COMPLETENESS LETTER



June 12, 2019

Emerio Design, LLC ATTN: Steve Miller 6445 SW Fallbrook Place, STE: 100 Beaverton, OR 97008

SUBJECT: SUB-18-04 application for 12-lot Subdivision at 22870 Weatherhill Road

Greetings:

You submitted this application on December 27, 2018. The Planning and Engineering Departments found the application incomplete on January 23, 2019. Additional information was provided but the application was deemed incomplete a second time on March 28, 2019. All required information was subsequently provided on May 23, 2019. The application has now been deemed **complete**. The city has 120 days to exhaust all local review; that period ends September 21, 2019.

Please be aware that determination of a complete application does not guarantee a recommendation of approval from staff for your proposal as submitted – it signals that staff believes you have provided the necessary information for the Planning Commission to render a decision on your proposal.

A 20-day public notice will be prepared and mailed. This notice will identify the Planning Commission hearing date.

Please contact me at 503-742-6057, or by email at jarnold@westlinnoregon.gov if you have any questions or comments.

Sincerely,

Jennifer Arnold

Associate Planner

Juil aslo

PC-3 Applicant's Submittal 12/27/18



Planning & Development • 22500 Salamo Rd #1000 • West Linn, Oregon 97068 Telephone 503.656.4211 • Fax 503.656.4106 • westlinnoregon.gov

DEVELOPMENT REVIEW APPLICATION

STAFF CONTACT PROJECT NO(S). 17 .V M				
Sunfer Arnold PROJECT NOIS, 5UB-18-0	4/WAP-18-06			
NON-REFLINDABLE FEE(S) 3,350 REFUNDABLE DEPOSIT(S)	TOTAL 9,950			
Type of Review (Please check all that apply):				
Annexation (ANX) Historic Review	Subdivision (SUB)			
Appeal and Review (AP) * Legislative Plan or Change	Temporary Uses *			
Conditional Use (CUP) Lot Line Adjustment (LLA) */**	Time Extension *			
☐ Design Review (DR) ☐ Minor Partition (MIP) (Preliminary Plat or Pla ☐ Easement Vacation ☐ Non-Conforming Lots, Uses & Structures	n) Variance (VAR) Water Resource Area Protection/Single Lot (WAP)			
Extraterritorial Ext. of Utilities Planned Unit Development (PUD)	Water Resource Area Protection/Wetland (WAP)			
Final Plat or Plan (FP) Pre-Application Conference (PA) */**	Willamette & Tualatin River Greenway (WRG)			
Flood Management Area Street Vacation	Zone Change			
Hillside Protection & Erosion Control	porary Sign Pormit applications require			
Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.				
Site Location/Address:	Assessor's Map No.: 21E35B			
22870 WEATHERHILL RD.	Tax Lot(s): 405			
	Total Land Area: 2.57 Acres			
Brief Description of Proposal: APPLICANT PROPOSES TO SUBDIVI	DE 2.57 ACRES INTO A 12-LOT			
RESIDENTIAL SUBDIVISION IN THE R-7 ZONE.				
please print) EMERIO DESIGN, LLC / ATTN: STEVE MILLER	Phone: (541) 318-7487			
Address: 6445 SW FALLBROOK PL., STE 100	Email:			
City State Zip: BEAVERTON, OR 97008	STEVEM@EMERIODESIGN.COM			
	DL (074) nor not t			
Owner Name (required): 22870 WEATHERHILL, LLC/ROD FRIESEN	Phone: (971) 235-3314			
Owner Name (required): 22870 WEATHERHILL, LLC/ROD FRIESEN (please print) Address: 22870 WEAHTERHILL RD	Email: rod.friesen@frontier.com			
Owner Name (required): 22870 WEATHERHILL, LLC/ROD FRIESEN (please print) Address: 22870 WEAHTERHILL RD City State Zip: WEST LINN, OR 97068				
Address: 22870 WEAHTERHILL RD City State Zip: WEST LINN, OR 97068 Consultant Name: EMERIO DESIGN, LLC – ATTN: STEVE MILLER				
Address: 22870 WEAHTERHILL RD City State Zip: WEST LINN, OR 97068	Phone: (541) 318-7487 Email:			
Address: 22870 WEAHTERHILL RD City State Zip: WEST LINN, OR 97068 Consultant Name: EMERIO DESIGN, LLC – ATTN: STEVE MILLER (please print)	Phone: (541) 318-7487			
Address: 22870 WEAHTERHILL RD City State Zip: WEST LINN, OR 97068 Consultant Name: EMERIO DESIGN, LLC – ATTN: STEVE MILLER (please print) Address: 6445 SW FALLBROOK PL., SUITE 100 City State Zip: BEAVERTON, OR 97008 1. All application fees are non-refundable (excluding deposit). Any overruns to deposit	Phone: (541) 318-7487 Email: stevem@emeriodesign.com			
Address: 22870 WEAHTERHILL RD City State Zip: WEST LINN, OR 97068 Consultant Name: EMERIO DESIGN, LLC – ATTN: STEVE MILLER (please print) Address: 6445 SW FALLBROOK PL., SUITE 100 City State Zip: BEAVERTON, OR 97008 1. All application fees are non-refundable (excluding deposit). Any overruns to deposit the owner/applicant or their representative should be present at all public hearing.	Phone: (541) 318-7487 Email: stevem@emeriodesign.com			
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City State Zip: WEST LINN, OR 97068 Consultant Name: EMERIO DESIGN, LLC – ATTN: STEVE MILLER (please print) Address: 6445 SW FALLBROOK PL., SUITE 100 City State Zip: BEAVERTON, OR 97008 1. All application fees are non-refundable (excluding deposit). Any overruns to deposit and the control of the contro	Phone: (541) 318-7487 Email: stevem@emeriodesign.com sit will result in additional billing. s. he appeal period has expired. submitted with this application. D in PDF format.			



CIVIL ENGINEERS & PLANNERS

DATE: 12-27-2018

PROPERTY OWNER/

DEVLOPER: 22870 Weatherhill, LLC

%Partnership Administrator: Rod Friesen

12810 SW Morningstar Dr.

Tigard, OR 97223 Ph.: (971) 235-3314

E-mail: rod.friesen@frontier.com

CIVIL ENGINEER, PLANNING &

SURVEYOR: Emerio Design, LLC

Attn: Steve Miller

6445 SW Fallbrook Pl., Suite 100

Beaverton, OR 97008 (541) 318-7487

E-mail: stevem@emeriodesign.com

REQUEST: Approval of 24-Lot Subdivision in the R-7 zone.

SITE

LOCATION: 22870 Weatherhill Rd.

ZONING: Single-Family Residential Detached and attached (R-7), City of West Linn, Oregon

SITE SIZE: 2.57 Acres

LEGAL DESCRIPTION: Tax Map 2S1E35B, Tax Lot 405

LIST OF EXHIBITS:

- 1 Detailed Plan Set
- 2 Pre-Application Notes
- 3 Neighborhood Meeting Notice
- 4 Phase I Environmental Report
- 5 Geotechnical Report

6 – Stormwater Management Report

7 - Arborist Report

WEST LINN APPLICABLE COMMUNITY DEVELOPMENT CODE (CDC) SECTIONS

CDC Chapter 12: (R-7 Zone)

CDC Chapter 32: Water Resource Area Protection

CDC Chapter 48: Access, Egress and Circulation

CDC Chapter 85: Land Division

CDC Chapter 92: Required Improvements

I. <u>INTRODUCTION</u>

The applicant is applying to subdivide an approximately 2.57 – acre property in a manner that allows the applicant to provide a variety of lot sizes and housing types. The subject property was recently annexed into the City of West Linn pursuant to File No. ANX-17-01 and Ordinance #1671. A pre-application conference was held with the City to discuss the subdivision of this property on September 6, 2018 by the Applicant.

The subject property is located on the south side of Weatherhill Road approximately 180-feet east Satter Street. The property is located on a hill and the site slopes gently downward to the south/southeast. There is one existing single-family residential home on the property, as well as the presence of a headwater to a small ephemeral stream on the southern edge of the property. The home will be removed with the development of the subdivision. There are trees, planted fields and grass, and a defined garden area on the property.

Adjacent properties to the south, east and west are within the West Linn City limits and are zoned R-7. These properties are developed with residential dwellings. There are two (2) properties located immediately to the north and across Weatherhill Road. One is located within the City and is developed with the Tanner Springs Assisted Living facility, while the other is located in unincorporated Clackamas County and is developed with a single-family residence.

II. CONFORMANCE WITH CITY OF WEST LINN CODE APPROVAL CRITERIA

CHAPTER 12 SINGLE-FAMILY RESIDENTIAL DETACHED AND ATTACHED, R-7

12.030 PERMITTED USES

The following uses are permitted outright in this zone.

1. Single-family detached residential unit.

RESPONSE: The proposed use is single-family detached residential units, a use permitted outright in the R-7 zone. The applicant's proposal satisfies the requirements of this section.

12.070 DIMENSIONAL REQUIREMENTS, USES PERMITTED OUTRIGHT AND USES PERMITTED UNDER PRESCRIBED CONDITIONS

Except as may be otherwise provided by the provisions of this code, the following are the requirements for uses within this zone:

- A. The minimum lot size shall be:
 - 1. For a single-family detached unit, 7,000 square feet.
- B. The minimum front lot line length or the minimum lot width at the front lot line shall be 35 feet.
- C. The average minimum lot width shall be 35 feet.

RESPONSE: The sizes of the twelve (12) lots proposed in the subdivision are between 7,004 square feet, and 9,744 square feet, with an average lot size of 7,490 square feet. As such, all twelve (12) lots meet or exceed the 7,000-square foot minimum lot size. All proposed front lot lines will meet or exceed the 35-foot minimum front lot line length, as well as the minimum average lot width of 35 feet. Therefore, all twelve (12) lots comply with the above criteria.

- E. The minimum yard dimensions or minimum building setback areas from the lot line shall be:
 - 1. For the front yard, 20 feet, except for steeply sloped lots where the provisions of CDC 41.010 shall apply.
 - 2. For an interior side yard, seven and one-half feet.
 - 3. For a side yard abutting a street, 15 feet.
 - 4. For a rear yard, 20 feet.
- F. The maximum building height shall be 35 feet, except for steeply sloped lots in which case the provisions of CDC 41.010 shall apply.
- G. The maximum lot coverage shall be 35 percent.
- H. The minimum width of an accessway to a lot which does not abut a street or a flag lot shall be 15 feet.
- I. The maximum floor area ratio shall be 0.45. Type I and II lands shall not be counted toward lot area when determining allowable floor area ratio, except that a minimum floor area ratio of 0.30 shall be allowed regardless of the classification of lands within the property. That 30 percent shall be based upon the entire property including Type I and II lands. Existing residences in excess of this standard may be replaced to their prior dimensions when damaged without the requirement that the homeowner obtain a non-conforming structures permit under Chapter 66 CDC.
- J. The sidewall provisions of Chapter 43 CDC shall apply.

RESPONSE: No homes are being proposed at this time. All Yard dimensions, building height, lot coverage, floor area ratios and sidewall provisions will be verified at time of building permit submittal.

CHAPTER 48 – ACCESS, EGRESS AND CIRCULATION

48.025 ACCESS CONTROL

- A. Purpose. The following access control standards apply to public, industrial, commercial and residential developments including land divisions. Access shall be managed to maintain an adequate level of service and to maintain the functional classification of roadways as required by the West Linn Transportation System Plan.
- B. Access control standards.
- Traffic impact analysis requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements.

RESPONSE: The City has not required a traffic impact analysis due to the small size and low impacts of the proposed development.

2. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

RESPONSE: Each lot on the property will include a driveway to provide access to/from either Weahterhill Rd. and/or Satter St., which are both public streets adjacent to the site with a local designation. The City's spacing standards for driveways along residential streets has been maintained for all new driveway access locations. The proposed configuration will create a safe and efficient access configuration for each new driveway.

- Access options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (planned access shall be consistent with adopted public works standards and TSP). These methods are "options" as approved by the City Engineer.
 - a) Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.
 - b) Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.

c) Option 3. Access is from a public street adjacent to the development lot or parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in subsection (B)(6) of this section.

RESPONSE: The Applicant is proposing access to the site via Option 3. The proposed design limits curb cuts for access to the new lots proposed within this development. Each lot will take access to either Weatherhill Rd. or Satter St. via individual driveways. The City's spacing standards for driveways along residential streets has been maintained for all new driveway access locations. The proposed configuration will create a safe and efficient access configuration for each new driveway.

4. Subdivisions fronting onto an arterial street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).

RESPONSE: The proposed development does not front onto an arterial street. The requirements of this section do not apply.

5. Double-frontage lots. When a lot or parcel has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street. When a lot or parcel has frontage opposite that of the adjacent lots or parcels, access shall be provided from the street with the lowest classification.

RESPONSE: No double fronted lots will be created as part of this subdivision.

- 6. Access spacing.
 - a. The access spacing standards found in the adopted Transportation System Plan (TSP) shall be applicable to all newly established public street intersections and non-traversable medians. Deviation from the access spacing standards may be granted by the City Engineer if conditions are met as described in the access spacing variances section in the adopted TSP.
 - b. Private drives and other access ways are subject to the requirements of CDC 48.060.

RESPONSE: The Applicant's proposed driveway locations are shown on the site plan (see Sheet 7). The City's access spacing requirements for new driveways onto a residential local street have been maintained.

7. Number of access points. For single-family (detached and attached), two-family, and duplex housing types, one street access point is permitted per lot or parcel, when alley access cannot otherwise be provided; except that two access points may be permitted corner lots (i.e., no more than one access per street), subject to the access spacing standards in subsection (B)(6) of this section. The number of street access points for multiple family, commercial, industrial, and public/institutional

developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with subsection (B)(8) of this section, in order to maintain the required access spacing, and minimize the number of access points.

RESPONSE: The Applicant is proposing only one access point for each single-family lot. New driveways will be created for all 12 lots.

- 8. Shared driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:
 - a. Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line, but may be extended in the future as the adjacent lot or parcel develops. "Developable" means that a lot or parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).
 - b. Access easements (i.e., for the benefit of affected properties) shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.
 - c. Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, lot or parcel configuration, and similar conditions) prevent extending the street/driveway in the future.

RESPONSE: The Applicant is not proposing any shared driveways for the development.

- C. Street connectivity and formation of blocks required. In order to promote efficient vehicular and pedestrian circulation throughout the City, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:
 - 1. Block length and perimeter. The maximum block length shall not exceed 800 feet or 1,800 feet along an arterial.
 - 2. Street standards. Public and private streets shall also conform to Chapter 92 CDC, Required Improvements, and to any other applicable sections of the West Linn Community Development Code and approved TSP.
 - Exception. Exceptions to the above standards may be granted when blocks are divided by one or more pathway(s), in conformance with the provisions of CDC 85.200(C), Pedestrian and Bicycle Trails, or cases where extreme topographic (e.g., slope, creek, wetlands, etc.) conditions or compelling functional limitations preclude

implementation, not just inconveniences or design challenges.

RESPONSE: No new roads are being proposed as part of the subdivision. Satter Street is currently stubbed at the western boundary of the site. With this proposal the applicant will be extending Satter Street through the site from west to east and stubbing the street at the eastern boundary of the site for future extension.

The existing block length along Weatherhill Rd. between the center-line of Satter Street and De Vries Way is 584 feet. With the extension of Satter Street through the site, it will allow for the future extension of the street through the neighbor's property where it will be connected with the existing Satter Street stub located in the Weatherhill Estates subdivision. Once Satter Street is connected between the Weatherhill Subdivision and the Weatherhill Estates Subdivision, a block length will be established that is 926 feet in length. When the property to the east of the subject property redevelops, there will be an opportunity to establish a new block length of 800-feet by creating a new street connection with Weatherhill Road.

Existing development patterns and topographic conditions preclude the extension of any new roadways through the site or within close proximity which could logically provide for future connectivity. Furthermore, Figure 12 of the West Linn Transportation System Plan – Recommended Local Street Connectivity Projects – does not identify a new street connection within or adjacent to this site. All street standards will be met as shown in the submitted plan set.

48.030 MINIMUM VEHICULAR REQUIREMENTS FOR RESIDENTIAL USES

A. Direct individual access from single-family dwellings and duplex lots to an arterial street, as designated in the transportation element of the Comprehensive Plan, is prohibited for lots or parcels created after the effective date of this code where an alternate access is either available or is expected to be available by imminent development application. Evidence of alternate or future access may include temporary cul-de-sacs, dedications or stubouts on adjacent lots or parcels, or tentative street layout plans submitted at one time by adjacent property owner/developer or by the owner/developer, or previous owner/developer, of the property in question.

In the event that alternate access is not available as determined by the Planning Director and City Engineer, access may be permitted after review of the following criteria:

- 1. Topography.
- 2. Traffic volume to be generated by development (i.e., trips per day).
- 3. Traffic volume presently carried by the street to be accessed.
- 4. Projected traffic volumes.
- Safety considerations such as line of sight, number of accidents at that location, emergency vehicle access, and ability of vehicles to exit the site without backing into traffic.

- 6. The ability to consolidate access through the use of a joint driveway.
- 7. Additional review and access permits may be required by State or County agencies.

RESPONSE: The Applicant is not proposing new access to any arterials; therefore, this subsection does not apply.

- B. When any portion of any house is less than 150 feet from the adjacent right-of-way, access to the home is as follows:
 - One single-family residence, including residences with an accessory dwelling unit as
 defined in CDC 02.030, shall provide 10 feet of unobstructed horizontal clearance. Dualtrack or other driveway designs that minimize the total area of impervious driveway
 surface are encouraged.
 - 2. Two to four single-family residential homes equals a 14- to 20-foot-wide paved or all weather surface. Width shall depend upon adequacy of line of sight and number of homes.
 - 3. Maximum driveway grade shall be 15 percent. The 15 percent shall be measured along the centerline of the driveway only. Variations require approval of a Class II variance by the Planning Commission pursuant to Chapter 75 CDC. Regardless, the last 18 feet in front of the garage shall be under 12 percent grade as measured along the centerline of the driveway only. Grades elsewhere along the driveway shall not apply.
 - 4. The driveway shall include a minimum of 20 feet in length between the garage door and the back of sidewalk, or, if no sidewalk is proposed, to the paved portion of the right-ofway.
- C. When any portion of one or more homes is more than 150 feet from the adjacent right-of-way, the provisions of subsection B of this section shall apply in addition to the following provisions.
 - 1. A turnaround may be required as prescribed by the Fire Chief.
 - 2. Minimum vertical clearance for the driveway shall be 13 feet, six inches.
 - 3. A minimum centerline turning radius of 45 feet is required unless waived by the Fire Chief.
 - 4. There shall be sufficient horizontal clearance on either side of the driveway so that the total horizontal clearance is 20 feet.
- D. Access to five or more single-family homes shall be by a street built to full construction code standards. All streets shall be public. This full street provision may only be waived by variance.
- E. Access and/or service drives for multi-family dwellings shall be fully improved with hard surface pavement:
 - 1. With a minimum of 24-foot width when accommodating two-way traffic; or

- 2. With a minimum of 15-foot width when accommodating one-way traffic. Horizontal clearance shall be two and one-half feet wide on either side of the driveway.
- 3. Minimum vertical clearance of 13 feet, six inches.
- 4. Appropriate turnaround facilities per Fire Chief's standards for emergency vehicles when the drive is over 150 feet long. Fire Department turnaround areas shall not exceed seven percent grade unless waived by the Fire Chief.
- 5. The grade shall not exceed 10 percent on average, with a maximum of 15 percent.
- 6. A minimum centerline turning radius of 45 feet for the curve.
- F. Where on-site maneuvering and/or access drives are necessary to accommodate required parking, in no case shall said maneuvering and/or access drives be less than that required in Chapters 46 and 48 CDC.
- G. The number of driveways or curb cuts shall be minimized on arterials or collectors. Consolidation or joint use of existing driveways shall be required when feasible.
- H. In order to facilitate through traffic and improve neighborhood connections, it may be necessary to construct a public street through a multi-family site.
- Gated accessways to residential development other than a single-family home are prohibited.

RESPONSE: Access to each lot will be provided to/from either Weatherhill Rd. or Satter St., which are both local residential streets, and will meet the minimum vehicular requirements of this subsection.

48.060 WIDTH AND LOCATION OF CURB CUTS AND ACCESS SEPARATION REQUIREMENTS

- A. Minimum curb cut width shall be 16 feet.
- B. Maximum curb cut width shall be 36 feet, except along Highway 43 in which case the maximum curb cut shall be 40 feet. For emergency service providers, including fire stations, the maximum shall be 50 feet.
- C. No curb cuts shall be allowed any closer to an intersecting street right-of-way line than the following:
 - 1. On an arterial when intersected by another arterial, 150 feet.
 - 2. On an arterial when intersected by a collector, 100 feet.
 - 3. On an arterial when intersected by a local street, 100 feet.
 - 4. On a collector when intersecting an arterial street, 100 feet.

- 5. On a collector when intersected by another collector or local street, 35 feet.
- 6. On a local street when intersecting any other street, 35 feet.
- D. There shall be a minimum distance between any two adjacent curb cuts on the same side of a public street, except for one-way entrances and exits, as follows:
 - 1. On an arterial street, 150 feet.
 - 2. On a collector street, 75 feet.
 - 3. Between any two curb cuts on the same lot or parcel on a local street, 30 feet.
- E. A rolled curb may be installed in lieu of curb cuts and access separation requirements.
- F. Curb cuts shall be kept to the minimum, particularly on Highway 43. Consolidation of driveways is preferred. The standard on Highway 43 is one curb cut per business if consolidation of driveways is not possible.
- G. Adequate line of sight pursuant to engineering standards should be afforded at each driveway or accessway.

RESPONSE: All streets serving the subdivision are local residential streets. All proposed curb cuts will meet the spacing requirements of this section and will be confirmed during the construction plan review prior to commencing construction of the subdivision.

CHAPTER 85 GENERAL PROVISIONS

85.170 SUPPLEMENTAL SUBMITTAL REQUIREMENTS FOR TENTATIVE SUBDIVISION OR PARTITION PLAN

B. <u>Transportation</u>.

- Centerline profiles with extensions shall be provided beyond the limits of the proposed subdivision to the point where grades meet, showing the finished grade of streets and the nature and extent of street construction. Where street connections are not proposed within or beyond the limits of the proposed subdivision on blocks exceeding 330 feet, or for cul-de-sacs, the tentative plat or partition shall indicate the location of easements that provide connectivity for bicycle and pedestrian use to accessible public rights-of-way.
- 2. Traffic Impact Analysis (TIA).
 - a. <u>Purpose.</u> The purpose of this section of the code is to implement Section 660-012-0045(2)(e) of the State Transportation Planning Rule that requires the City to adopt a process to apply conditions to development proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Analysis must be submitted with a development application in order to

determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Study; and who is qualified to prepare the study.

- b. <u>Typical average daily trips.</u> The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as the standards by which to gauge average daily vehicle trips.
- c. <u>Traffic impact analysis requirements.</u>
 - 1) Preparation. A Traffic Impact Analysis shall be prepared by a professional engineer qualified under OAR 734-051-0040. The City shall commission the traffic analysis and it will be paid for by the applicant.
 - 2) Transportation Planning Rule compliance. See CDC 105.050(D), Transportation Planning Rule Compliance.
 - 3) Pre-application conference. The applicant will meet with West Linn Public Works prior to submitting an application that requires a traffic impact application. This meeting will determine the required elements of the TIA and the level of analysis expected.

RESPONSE: The Applicant is not proposing a change in zoning or a plan amendment designation as a part of this land use application, therefore a Traffic Impact Analysis (TIA) is not required per this subsection.

C. Grading.

- If areas are to be graded, a plan showing the location of cuts, fill, and retaining walls, and information on the character of soils shall be provided. The grading plan shall show proposed and existing contours at intervals per CDC 85.160(E)(2).
- 2. The grading plan shall demonstrate that the proposed grading to accommodate roadway standards and create appropriate building sites is the minimum amount necessary.
- 3. The grading plan must identify proposed building sites and include tables and maps identifying acreage, location and type of development constraints due to site characteristics such as slope, drainage and geologic hazards. For Type I, II, and III lands (refer to definitions in Chapter O2 CDC), the applicant must provide a geologic report, with text, figures and attachments as needed to meet the industry standard of practice, prepared by a certified engineering geologist and/or a geotechnical professional engineer, that includes:
 - a. Site characteristics, geologic descriptions and a summary of the site investigation conducted;
 - b. Assessment of engineering geological conditions and factors;

- c. Review of the City of West Linn's Natural Hazard Mitigation Plan and applicability to the site; and
- d. Conclusions and recommendations focused on geologic constraints for the proposed land use or development activity, limitations and potential risks of development, recommendations for mitigation approaches and additional work needed at future development stages including further testing and monitoring.

RESPONSE: As part of the application materials, the applicant has provided a grading and erosion control plan (see Sheet 10) showing the locations of cuts, fills, and retaining walls. The Applicant has also provided a detailed Geotechnical report that provides information on the character of the soils. Together, these documents demonstrate that the proposed grading plan to accommodate roadway standards and create appropriate building sites is the minimum amount necessary given the sites topographic and soil conditions. The Applicant's proposal satisfies the above criteria and will be further reviewed with the civil plans prior to commencing any construction.

D. Water.

- A plan for domestic potable water supply lines and related water service facilities, such as reservoirs, etc., shall be prepared by a licensed engineer consistent with the adopted Comprehensive Water System Plan and most recently adopted updates and amendments.
- Location and sizing of the water lines within the development and off-site extensions.
 Show on-site water line extensions in street stubouts to the edge of the site, or as needed to complete a loop in the system.
- 3. Adequate looping system of water lines to enhance water quality.
- 4. For all non-single-family developments, calculate fire flow demand of the site and demonstrate to the Fire Chief. Demonstrate to the City Engineer how the system can meet the demand.

RESPONSE: A utility plan has been submitted by the Applicant as part of the overall application materials. The utility plan shows the location and sizing of the water lines, as well as on-site water line extensions in street stubouts to the edge of the site, or as needed to complete a loop in the system. All proposed water improvements are included on the utility plan (see Sheet 11) of the land use application.

E. Sewer.

- A plan prepared by a licensed engineer shall show how the proposal is consistent with the Sanitary Sewer Master Plan and subsequent updates and amendments.
 Agreement with that plan must demonstrate how the sanitary sewer proposal will be accomplished and how it is efficient. The sewer system must be in the correct zone.
- Sanitary sewer information will include plan view of the sanitary sewer lines, including manhole locations and depths. Show how each lot or parcel would be sewered.

- 3. Sanitary sewer lines shall be located in the public right-of-way, particularly the street, unless the applicant can demonstrate why the alternative location is necessary and meets accepted engineering standards.
- 4. Sanitary sewer line should be at a depth that can facilitate connection with downsystem properties in an efficient manner.
- 5. The sanitary sewer line should be designed to minimize the amount of lineal feet in the system.
- 6. The sanitary sewer line shall minimize disturbance of natural areas and, in those cases where that is unavoidable, disturbance shall be mitigated pursuant to the appropriate chapters (e.g., Chapter 32 CDC, Water Resource Area Protection).
- Sanitary sewer shall be extended or stubbed out to the next developable subdivision or a
 point in the street that allows for reasonable connection with adjacent or nearby
 properties.
- 8. The sanitary sewer system shall be built pursuant to Department of Environmental Quality (DEQ), City, and Tri-City Service District sewer standards. This report should be prepared by a licensed engineer, and the applicant must be able to demonstrate the ability to satisfy these submittal requirements or standards at the pre-construction phase.

RESPONSE: A utility plan has been submitted by the Applicant as part of the overall application materials. The utility plan shows the location and sizing of the sewer lines. Sanitary sewer will be extended or stubbed out to the next developable subdivision or to a point in the street that allows for reasonable connection with adjacent or nearby properties. The proposed sanitary sewer lines will be located to minimize disturbance of natural areas; however, in those cases where that is unavoidable, disturbances will be kept to a minimum and mitigated pursuant to Chapter 32 of the Community Development Code (CDC), Water Resource Area Protection.

All proposed sewer improvements will be built pursuant to DEQ, City, and Tri-City Service District standards, and those improvements are included on the utility plan (see Sheet 11) of the land use application.

F. <u>Storm</u>. A proposal shall be submitted for storm drainage and flood control including profiles of proposed drainageways with reference to the most recently adopted Storm Drainage Master Plan.

RESPONSE: A utility plan has been submitted by the Applicant as part of the overall application materials. The utility plan shows the location and sizing of the stormwater lines. The public stormwater plan will include LIDA storm planters in the right-of-way for treatment and detention for the street. Individual LIDA planters will also be located on each lot for the treatment/detention of the future homes according to City requirements. All proposed storm drainage improvements are included on the utility plan (see Sheet 11) of the land use application.

85.180 REDIVISION PLAN REQUIREMENT

A redivision plan shall be required for a partition or subdivision, where the property could be developed at a higher density, under existing/proposed zoning, if all services were available and adequate to serve the use.

RESPONSE: The property is being developed at the highest density allowed under applicable zoning, therefore a redivision plan is not required.

85.200 APPROVAL CRITERIA

No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to provide service to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.

A. Streets.

1. <u>General.</u> The location, width and grade of streets shall be considered in their relation to existing and planned streets, to the generalized or reasonable layout of streets on adjacent undeveloped lots or parcels, to topographical conditions, to public convenience and safety, to accommodate various types of transportation (automobile, bus, pedestrian, bicycle), and to the proposed use of land to be served by the streets. The functional class of a street aids in defining the primary function and associated design standards for the facility. The hierarchy of the facilities within the network in regard to the type of traffic served (through or local trips), balance of function (providing access and/or capacity), and the level of use (generally measured in vehicles per day) are generally dictated by the functional class. The street system shall assure an adequate traffic or circulation system with intersection angles, grades, tangents, and curves appropriate for the traffic to be carried. Streets should provide for the continuation, or the appropriate projection, of existing principal streets in surrounding areas and should not impede or adversely affect development of adjoining lands or access thereto.

To accomplish this, the emphasis should be upon a connected continuous pattern of local, collector, and arterial streets rather than discontinuous curvilinear streets and cul-de-sacs. Deviation from this pattern of connected streets should only be permitted in cases of extreme topographical challenges including excessive slopes (35 percent-plus), hazard areas, steep drainageways, wetlands, etc. In such cases, deviations may be allowed but the connected continuous pattern must be reestablished once the topographic challenge is passed. Streets should be oriented with consideration of the sun, as site conditions allow, so that over 50 percent of the front building lines of homes are oriented within 30 degrees of an east-west axis.

Internal streets are the responsibility of the developer. All streets bordering the development site are to be developed by the developer with, typically, half-street improvements or to City standards prescribed by the City Engineer. Additional travel lanes may be required to be consistent with adjacent road widths or to be consistent with the adopted Transportation System Plan (TSP) and any adopted updated plans.

An applicant may submit a written request for a waiver of abutting street improvements if the TSP prohibits the street improvement for which the waiver is requested. Those areas with numerous (particularly contiguous) under-developed or undeveloped tracts will be required to install street improvements. When an applicant requests a waiver of street improvements and the waiver is granted, the applicant shall pay an in-lieu fee equal to the estimated cost, accepted by the City Engineer, of the otherwise required street improvements. As a basis for this determination, the City Engineer shall consider the cost of similar improvements in recent development projects and may require up to three estimates from the applicant. The amount of the fee shall be established prior to the Planning Commission's decision on the associated application. The in-lieu fee shall be used for in kind or related improvements.

Streets shall also be laid out to avoid and protect tree clusters and significant trees, but not to the extent that it would compromise connectivity requirements per this subsection (A)(1), or bring the density below 70 percent of the maximum density for the developable net area. The developable net area is calculated by taking the total site acreage and deducting Type I and II lands; then up to 20 percent of the remaining land may be excluded as necessary for the purpose of protecting significant tree clusters or stands as defined in CDC 55.100(B)(2).

RESPONSE: This site is located along Weatherhill Road between Satter Street to the west and De Vries Way to the east. All streets, whether existing or proposed, are designated as local streets. The development of this site will not affect the connectivity of these two streets. Aside from the extension of Satter Street through the site, Figure 12 of the West Linn Transportation System Plan – Recommended Local Street Connectivity Projects – does not identify a new street connection within or adjacent to this site.

2. Right-of-way widths shall depend upon which classification of street is proposed. The right-of-way widths are established in the adopted TSP.

RESPONSE: The site abuts Weatherhill Road along the northern property boundary. Satter Street is stubbed to the sites western property boundary. Both streets are designated as local streets. As part of the proposed development, the Applicant will be dedicating 13-feet of right-of-way for Weatherhill street to make necessary improvements along Weatherhill Road. Satter Street is a local street with a 52-foot right-of-way. In an effort to provide on-street parking on one side of Satter Street, the applicant will be widening the right-of-way for Satter Street to 58-feet. Right-of-way for both streets meet the width requirements as determined by their functional classifications.

3. <u>Street widths</u>. Street widths shall depend upon which classification of street is proposed. The classifications and required cross sections are established in the adopted TSP.

The following table identifies appropriate street width (curb to curb) in feet for various street classifications. The desirable width shall be required unless the applicant or his or her engineer can demonstrate that site conditions, topography, or site design require the reduced minimum width. For local streets, a 12-foot travel lane may only be used as a shared local street when the available right of-way is too narrow to accommodate bike lanes and sidewalks.

RESPONSE: No new streets or roads are proposed with this land use application. Weatherhill Road and Satter Street will continue to meet street width requirements.

- 4. The decision-making body shall consider the City Engineer's recommendations on the desired right-of-way width, pavement width and street geometry of the various street types within the subdivision after consideration by the City Engineer of the following criteria:
 - a. The type of road as set forth in the Transportation Master Plan.
 - b. The anticipated traffic generation.
 - c. On-street parking requirements.
 - d. Sidewalk and bikeway requirements.
 - e. Requirements for placement of utilities.
 - f. Street lighting.
 - g. Drainage and slope impacts.
 - h. Street trees.
 - i. Planting and landscape areas.
 - j. Existing and future driveway grades
 - k. Street geometry.
 - I. Street furniture needs, hydrants.

RESPONSE: Aside from the 13-foot right-of-way dedication along Weatherhill Rd. and the associated improvements (i.e. sidewalk, planter strip and paving), the pre-application conference notes do not identify the need for any further improvements along Weatherhill Road. Satter Street has been designed to comply with all City standards and specification.

- 5. Additionally, when determining appropriate street width, the decision-making body shall consider the following criteria:
 - a. When a local street is the only street serving a residential area and is expected to carry more than the normal local street traffic load, the designs with two travel and one parking lane are appropriate.
 - b. Streets intended to serve as signed but unstriped bike routes should have the travel lane widened by two feet.

- c. Collectors should have two travel lanes and may accommodate some parking. Bike routes are appropriate.
- d. Arterials should have two travel lanes. On-street parking is not allowed unless part of a Street Master Plan. Bike lanes are required as directed by the Parks Master Plan and Transportation Master Plan.

RESPONSE: The proposed development will result in twelve (12) new homes taking access to the existing surrounding transportation system. No arterial streets are adjacent to this proposal.

6. <u>Reserve strips.</u> Reserve strips or street plugs controlling the access to streets are not permitted unless owned by the City.

RESPONSE: The Applicant does not propose reserve strips or street plugs with this application. All rights-of-way will be dedicated to the edge of the adjoining properties.

7. <u>Alignment.</u> All streets other than local streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuations of the centerlines thereof. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the centerlines of streets having approximately the same direction and otherwise shall not be less than 100 feet.

RESPONSE: Except for extending Satter Street through the site, which will be the continuation of an existing street stub, no new streets or roads are proposed as part of this application.

8. <u>Future extension of streets.</u> Where necessary to give access to or permit a satisfactory future subdivision of adjoining land, streets shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without turnarounds. (Temporary turnarounds built to Fire Department standards are required when the dead-end street is over 100 feet long.)

RESPONSE: As noted above, Satter Street will be extended through the site as part of the development and stubbed to the sites eastern property boundary to permit the satisfactory subdivision of adjoining land. The Applicant's proposal satisfies this criterion.

9. <u>Intersection angles.</u> Streets shall be laid out to intersect angles as near to right angles as practical, except where topography requires lesser angles, but in no case less than 60 degrees unless a special intersection design is approved. Intersections which are not at right angles shall have minimum corner radii of 15 feet along right-of-way lines which form acute angles. Right-of-way lines at intersections with arterial streets shall have minimum curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 25 feet. All radii shall maintain a uniform width between the roadway and the right-of-way lines. The intersection of more than two streets at any one point will not be allowed unless no alternative design exists.

RESPONSE: No new intersections are being proposed as part of the Applicant's proposal, therefore, the above criterion does not apply to the Applicant's request.

10. <u>Additional right-of-way for existing streets.</u> Wherever existing street rights-of-way adjacent to or within a tract are of inadequate widths based upon the standards of this chapter, additional right-of-way shall be provided at the time of subdivision or partition.

RESPONSE: The applicant will be dedicating 13-feet of right-of-way for Weatherhill Rd. along the sites frontage.

11. Cul-de-sacs.

- a. New cul-de-sacs and other closed-end streets (not including stub streets intended to be connected) on sites containing less than five acres, or sites accommodating uses other than residential or mixed use development, are not allowed unless the applicant demonstrates that there is no feasible alternative due to:
 - 1) Physical constraints (e.g., existing development, the size or shape of the site, steep topography, or a fish bearing stream or wetland protected by Chapter 32 CDC), or
 - 2) Existing easements or leases.
- b. New cul-de-sacs and other closed-end streets, consistent with subsection (A)(11)(a) of this section, shall not exceed 200 feet in length or serve more than 25 dwelling units unless the design complies with all adopted Tualatin Valley Fire and Rescue (TVFR) access standards and adequately provides for anticipated traffic, consistent with the Transportation System Plan (TSP).
- c. New cul-de-sacs and other closed-end streets (not including stub streets intended to be connected) on sites containing five acres or more that are proposed to accommodate residential or mixed use development are prohibited unless barriers (e.g., existing development, steep topography, or a fish bearing stream or wetland protected by Chapter 32 CDC, or easements, leases or covenants established prior to May 1, 1995) prevent street extensions. In that case, the street shall not exceed 200 feet in length or serve more than 25 dwelling units, and its design shall comply with all adopted TVFR access standards and adequately provide for anticipated traffic, consistent with the TSP.
- d. Applicants for a proposed subdivision, partition or a multifamily, commercial or industrial development accessed by an existing cul-de-sac/closed-end street shall demonstrate that the proposal is consistent with all applicable traffic standards and TVFR access standards.
- e. All cul-de-sacs and other closed-end streets shall include direct pedestrian and bicycle accessways from the terminus of the street to an adjacent street or pedestrian and bicycle accessways unless the applicant demonstrates that such connections are precluded by physical constraints or that necessary easements cannot be obtained at a reasonable cost.

f. All cul-de-sacs/closed-end streets shall terminate with a turnaround built to one of the following specifications (measurements are for the traveled way and do not include planter strips or sidewalks).

RESPONSE: No cul-de-sacs are proposed as part of this land use application.

12. Street names. No street names shall be used which will duplicate or be confused with the names of existing streets within the City. Street names that involve difficult or unusual spellings are discouraged. Street names shall be subject to the approval of the Planning Commission or Planning Director, as applicable. Continuations of existing streets shall have the name of the existing street. Streets, drives, avenues, ways, boulevards, and lanes shall describe through streets. Place and court shall describe cul-de-sacs. Crescent, terrace, and circle shall describe loop or arcing roads.

RESPONSE: No new streets are proposed as part of this land use application.

13. Grades and curves. Grades and horizontal/vertical curves shall meet the West Linn Public Works Design Standards.

RESPONSE: Any grades and/or horizontal/vertical curves will be designed to meet West Linn Public Works Design Standards.

14. Access to local streets. Intersection of a local residential street with an arterial street may be prohibited by the decision-making authority if suitable alternatives exist for providing interconnection of proposed local residential streets with other local streets. Where a subdivision or partition abuts or contains an existing or proposed major arterial street, the decision-making authority may require marginal access streets, reverse-frontage lots with suitable depth, visual barriers, noise barriers, berms, no-access reservations along side and rear property lines, and/or other measures necessary for adequate protection of residential properties from incompatible land uses, and to ensure separation of through traffic and local traffic.

RESPONSE: The property does not abut nor contain an existing or proposed arterial street.

- 15. Alleys. Alleys shall be provided in commercial and industrial districts unless other permanent provisions for access to off-street parking and loading facilities are made as approved by the decision-making authority. While alley intersections and sharp changes in alignment should be avoided, the corners of necessary alley intersections shall have radii of not less than 10 feet. Alleys may be provided in residential subdivisions or multi-family projects. The decision to locate alleys shall consider the relationship and impact of the alley to adjacent land uses. In determining whether it is appropriate to require alleys in a subdivision or partition, the following factors and design criteria should be considered:
 - a. The alley shall be self-contained within the subdivision. The alley shall not abut undeveloped lots or parcels which are not part of the project proposal. The alley will not stub out to abutting undeveloped parcels which are not part of the project proposal.

- b. The alley will be designed to allow unobstructed and easy surveillance by residents and police.
- c. The alley should be illuminated. Lighting shall meet the West Linn Public Works Design Standards.
- d. The alley should be a semi-private space where strangers are tacitly discouraged.
- e. Speed bumps may be installed in sufficient number to provide a safer environment for children at play and to discourage through or speeding traffic.
- f. Alleys should be a minimum of 14 feet wide, paved with no curbs.

RESPONSE: No alleys are proposed as part of this land use application.

16. Sidewalks. Sidewalks shall be installed per CDC 92.010(H), Sidewalks. The residential sidewalk width is six feet plus planter strip as specified below. Sidewalks in commercial zones shall be constructed per subsection (A)(3) of this section. See also subsection C of this section. Sidewalk width may be reduced with City Engineer approval to the minimum amount (e.g., four feet wide) necessary to respond to site constraints such as grades, mature trees, rock outcroppings, etc., or to match existing sidewalks or right-of-way limitations.

RESPONSE: The applicant proposes to install a sidewalk along the sites Weatherhill Rd. frontage, as well as provide sidewalks along both sides of Satter St. with the extension of the street through the site.

17. Planter strip. The planter strip is between the curb and sidewalk providing space for a grassed or landscaped area and street trees. The planter strip shall be at least 6 feet wide to accommodate a fully matured tree without the boughs interfering with pedestrians on the sidewalk or vehicles along the curbline. Planter strip width may be reduced or eliminated, with City Engineer approval, when it cannot be corrected by site plan, to the minimum amount necessary to respond to site constraints such as grades, mature trees, rock outcroppings, etc., or in response to right-of-way limitations.

RESPONSE: The applicant proposes to install a planter strip along the sites Weatherhill Rd. frontage, as well as provide planter strips along both sides of Satter St. with the extension of the street through the site.

18. Streets and roads shall be dedicated without any reservations or restrictions.

RESPONSE: No reservations or restrictions are being proposed with the street dedications.

19. All lots in a subdivision shall have access to a public street. Lots created by partition may have access to a public street via an access easement pursuant to the standards and limitations set forth for such accessways in Chapter 48 CDC.

RESPONSE: All proposed lots created by the subdivision in this land use application will have access to a public street per City requirements.

20. Gated streets. Gated streets are prohibited in all residential areas on both public and private streets. A driveway to an individual home may be gated.

RESPONSE: No gated streets are being proposed as part of this land use application.

- 21. Entryway treatments and street isle design. When the applicant desires to construct certain walls, planters, and other architectural entryway treatments within a subdivision, the following standards shall apply:
 - a. All entryway treatments except islands shall be located on private property and not in the public right-of-way.
 - b. Planter islands may be allowed provided there is no structure (i.e., brick, signs, etc.) above the curbline, except for landscaping. Landscaped islands shall be set back a minimum of 24 feet from the curbline of the street to which they are perpendicular.
 - c. All islands shall be in public ownership. The minimum aisle width between the curb and center island curbs shall be 14 feet. Additional width may be required as determined by the City Engineer.
 - d. Brick or special material treatments are acceptable at intersections with the understanding that the City will not maintain these sections except with asphalt overlay, and that they must meet the Americans with Disabilities Act (ADA) standards. They shall be laid out to tie into existing sidewalks at intersections.
 - e. Maintenance for any common areas and entryway treatments (including islands) shall be guaranteed through homeowners association agreements, CC&Rs, etc.
 - f. Under Chapter 52 CDC, subdivision monument signs shall not exceed 32 square feet in area.

RESPONSE: No entryway treatments are being proposed as part of this land use application; therefore, the above criteria do not apply to the applicant's request.

22. Based upon the determination of the City Manager or the Manager's designee, the applicant shall construct or cause to be constructed, or contribute a proportionate share of the costs, for all necessary off-site improvements identified by the transportation analysis commissioned to address CDC 85.170(B)(2) that are required to mitigate impacts from the proposed subdivision. The proportionate share of the costs shall be determined by the City Manager or Manager's designee, who shall assume that the proposed subdivision provides improvements in rough proportion to identified impacts of the subdivision. Off-site transportation improvements will include bicycle and pedestrian improvements as identified in the adopted City of West Linn TSP.

RESPONSE: The City Manager has not identified the need for any off-site improvements related to the development of this property; therefore, the above criterion does not apply to the applicant's proposal.

B. Blocks and lots.

General. The length, width, and shape of blocks shall be designed with due regard for the
provision of adequate building sites for the use contemplated; consideration of the need
for traffic safety, convenience, access, circulation, and control; and recognition of
limitations and opportunities of topography and solar access.

RESPONSE: No new roads are proposed as part of this land use application and the block pattern is already established.

2. Sizes. The recommended block size is 400 feet in length to encourage greater connectivity within the subdivision. Blocks shall not exceed 800 feet in length between street lines, except for blocks adjacent to arterial streets or unless topographical conditions or the layout of adjacent streets justifies a variation. Designs of proposed intersections shall demonstrate adequate sight distances to the City Engineer's specifications. Block sizes and proposed accesses must be consistent with the adopted TSP. Subdivisions of five or more acres that involve construction of a new street shall have block lengths of no more than 530 feet. If block lengths are greater than 530 feet, accessways on public easements or right-of-way for pedestrians and cyclists shall be provided not more than 330 feet apart. Exceptions can be granted when prevented by barriers such as topography, rail lines, freeways, pre-existing development, leases, easements or covenants that existed prior to May 1, 1995, or by requirements of Titles 3 and 13 of the UGMFP. If streets must cross water features protected pursuant to Title 3 UGMFP, provide a crossing every 800 to 1,200 feet unless habitat quality or the length of the crossing prevents a full street connection.

RESPONSE: No new roads are proposed as part of this land use application and the block pattern is already established.

3. Lot size and shape. Lot or parcel size, width, shape, and orientation shall be appropriate for the location of the subdivision or partition, for the type of use contemplated, for potential utilization of solar access, and for the protection of drainageways, trees, and other natural features. No lot or parcel shall be dimensioned to contain part of an existing or proposed street. All lots or parcels shall be buildable. "Buildable" describes lots that are free of constraints such as wetlands, drainageways, etc., that would make home construction impossible. Lot or parcel sizes shall not be less than the size required by the zoning code unless as allowed by planned unit development (PUD).

RESPONSE: The proposed lots created through this subdivision are each a minimum of 7,000 square feet in size to accommodate single family detached dwelling units in the R-7 zone. All proposed lots meet or exceed the minimum requirements for front lot line length, lot width and lot depth.

4. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street parking and service facilities required by the type of use proposed.

RESPONSE: The applicant is proposing residential development for this site, so the above criterion is not applicable to the proposal.

5. Access. Access to subdivisions, partitions, and lots shall conform to the provisions of Chapter 48 CDC, Access, Egress and Circulation.

RESPONSE: The subdivision, as proposed, conforms to the provisions of Chapter 48 CDC.

6. Double frontage lots and parcels. Double frontage lots and parcels have frontage on a street at the front and rear property lines. Double frontage lots and parcels shall be avoided except where they are essential to provide separation of residential development from arterial streets or adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. A planting screen or impact mitigation easement at least 10 feet wide, and across which there shall be no right of access, may be required along the line of building sites abutting such a traffic artery or other incompatible use.

RESPONSE: This land use application does not include double frontage lots.

 Lot and parcel side lines. The lines of lots and parcels, as far as is practicable, should run at right angles to the street upon which they face, except that on curved streets they should be radial to the curve.

RESPONSE: All proposed lot lines and side parcel lines run at right angles to the street as far as is practicable.

- 8. Flag lots. Flag lots can be created where it can be shown that no other reasonable street access is possible to achieve the requested land division. A single flag lot shall have a minimum street frontage of 15 feet for its accessway. Where two to four flag lots share a common accessway, the minimum street frontage and accessway shall be eight feet in width per lot. Common accessways shall have mutual maintenance agreements and reciprocal access and utility easements. The following dimensional requirements shall apply to flag lots:
 - a. Setbacks applicable to the underlying zone shall apply to the flag lot.
 - b. Front yard setbacks may be based on the rear property line of the lot or parcel which substantially separates the flag lot from the street from which the flag lot gains access. Alternately, the house and its front yard may be oriented in other directions so long as some measure of privacy is ensured, or it is part of a pattern of development, or it better fits the topography of the site.
 - c. The lot size shall be calculated exclusive of the accessway; the access strip may not be counted towards the area requirements.
 - d. The lot depth requirement contained elsewhere in this code shall be measured from the rear property line of the lot or parcel which substantially separates the flag lot from the street from which the flag lot gains access.
 - e. As per CDC 48.030, the accessway shall have a minimum paved width of 12 feet.

f. If the use of a flag lot stem to access a lot is infeasible because of a lack of adequate existing road frontage, or location of existing structures, the proposed lot(s) may be accessed from the public street by an access easement of a minimum 15-foot width across intervening property.

RESPONSE: The land use application proposed one (1) flag lot as part of the subdivision. Lot 6 will be configured as a flag lot because no other reasonable street access is possible given the irregular shape of the parent parcel. The proposed flag lot will have 19.8-feet of street frontage for its accessway. As proposed the flag lot complies with all city requirements.

- 9. Large lots or parcels. In dividing tracts into large lots or parcels which, at some future time, are likely to be redivided, the approval authority may:
 - a. Require that the blocks be of such size and shape, and be so divided into building sites, and contain such easements and site restrictions as will provide for extension and opening of streets at intervals which will permit a subsequent division of any tract into lots or parcels of smaller size; or
 - Alternately, in order to prevent further subdivision or partition of oversized and constrained lots or parcels, restrictions may be imposed on the subdivision or partition plat.

RESPONSE: The proposed lots are not likely to be redivided as the density proposed and the lot sizes proposed are consistent with the maximum allowable density per the site's zoning.

- C. Pedestrian and bicycle trails.
 - 1. Trails or multi-use pathways shall be installed, consistent and compatible with federal ADA requirements and with the Oregon Transportation Planning Rule, between subdivisions, cul-de-sacs, and streets that would otherwise not be connected by streets due to excessive grades, significant tree(s), and other constraints natural or manmade. Trails shall also accommodate bicycle or pedestrian traffic between neighborhoods and activity areas such as schools, libraries, parks, or commercial districts. Trails shall also be required where designated by the Parks Master Plan.
 - 2. The all-weather surface (asphalt, etc.) trail should be eight feet wide at minimum for bicycle use and six feet wide at minimum for pedestrian use. Trails within 10 feet of a wetland or natural drainageway shall not have an all-weather surface, but shall have a soft surface as approved by the Parks Director. These trails shall be contained within a corridor dedicated to the City that is wide enough to provide trail users with a sense of defensible space. Corridors that are too narrow, confined, or with vegetative cover may be threatening and discourage use. Consequently, the minimum corridor width shall be 20 feet. Sharp curves, twists, and blind corners on the trail are to be avoided as much as possible to enhance defensible space. Deviations from the corridor and trail width are permitted only where topographic and ownership constraints require it.

- 3. Defensible space shall also be enhanced by the provision of a three- to four-foot-high matte black chain link fence or acceptable alternative along the edge of the corridor. The fence shall help delineate the public and private spaces.
- 4. The bicycle or pedestrian trails that traverse multi-family and commercial sites should follow the same defensible space standards but do not need to be defined by a fence unless required by the decision-making authority.
- 5. Except for trails within 10 feet of a wetland or natural drainageway, soft surface or gravel trails may only be used in place of a paved, all-weather surface where it can be shown to the Planning Director that the principal users of the path will be recreational, non-destination-oriented foot traffic, and that alternate paved routes are nearby and accessible.
- 6. The trail grade shall not exceed 12 percent except in areas of unavoidable topography, where the trail may be up to a 15 percent grade for short sections no longer than 50 feet. In any location where topography requires steeper trail grades than permitted by this section, the trail shall incorporate a short stair section to traverse the area of steep grades.

RESPONSE: Sidewalks are provided along the frontages of the property. No pedestrian or bicycle trails are required.

D. Transit facilities.

- 1. The applicant shall consult with Tri-Met and the City Engineer to determine the appropriate location of transit stops, bus pullouts, future bus routes, etc., contiguous to or within the development site. If transit service is planned to be provided within the next two years, then facilities such as pullouts shall be constructed per Tri-Met standards at the time of development. More elaborate facilities, like shelters, need only be built when service is existing or imminent. Additional rights-of-way may be required of developers to accommodate buses.
- 2. The applicant shall make all transit-related improvements in the right-of-way or in easements abutting the development site as deemed appropriate by the City Engineer.
- Transit stops shall be served by striped and signed pedestrian crossings of the street within 150 feet of the transit stop where feasible. Illumination of the transit stop and crossing is required to enhance defensible space and safety. ODOT approval may be required.
- 4. Transit stops should include a shelter structure bench plus eight feet of sidewalk to accommodate transit users, non-transit-related pedestrian use, and wheelchair users. Tri-Met must approve the final configuration.

RESPONSE: No transit facilities have been identified by Tri-Met or the City Development Engineer adjacent to this property. The above criteria do not apply to the Applicant's proposal.

- E. Grading. Grading of building sites shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:
 - 1. All cuts and fills shall comply with the excavation and grading provisions of the Uniform Building Code and the following:
 - a. Cut slopes shall not exceed one and one-half feet horizontally to one foot vertically (i.e., 67 percent grade).
 - b. Fill slopes shall not exceed two feet horizontally to one foot vertically (i.e., 50 percent grade). Please see the following illustration.
 - 2. The character of soil for fill and the characteristics of lot and parcels made usable by fill shall be suitable for the purpose intended.
 - 3. If areas are to be graded (more than any four-foot cut or fill), compliance with CDC 85.170(C) is required.
 - 4. The proposed grading shall be the minimum grading necessary to meet roadway standards, and to create appropriate building sites, considering maximum allowed driveway grades.
 - 5. Type I lands shall require a report submitted by an engineering geologist, and Type I and Type II lands shall require a geologic hazard report.
 - 6. Repealed by Ord. 1635.
 - 7. On land with slopes in excess of 12 percent, cuts and fills shall be regulated as follows:
 - a. Toes of cuts and fills shall be set back from the boundaries of separate private ownerships at least three feet, plus one-fifth of the vertical height of the cut or fill. Where an exception is required from that requirement, slope easements shall be provided.
 - b. Cuts shall not remove the toe of any slope where a severe landslide or erosion hazard exists (as described in subsection (G)(5) of this section).
 - c. Any structural fill shall be designed by a registered engineer in a manner consistent with the intent of this code and standard engineering practices, and certified by that engineer that the fill was constructed as designed.
 - d. Retaining walls shall be constructed pursuant to Section 2308(b) of the Oregon State Structural Specialty Code.
 - e. Roads shall be the minimum width necessary to provide safe vehicle access, minimize cut and fill, and provide positive drainage control.

- 8. Land over 50 percent slope shall be developed only where density transfer is not feasible. The development will provide that:
 - a. At least 70 percent of the site will remain free of structures or impervious surfaces.
 - b. Emergency access can be provided.
 - c. Design and construction of the project will not cause erosion or land slippage.
 - d. Grading, stripping of vegetation, and changes in terrain are the minimum necessary to construct the development in accordance with subsection J of this section.

RESPONSE: A geotechnical engineering report is included with this submittal. A grading plan has been included in the submitted plans which complies with all criteria of this subsection.

F. Water.

- 1. A plan for domestic water supply lines or related water service facilities shall be prepared consistent with the adopted Comprehensive Water System Plan, plan update, March 1987, and subsequent superseding revisions or updates.
- 2. Adequate location and sizing of the water lines.
- 3. Adequate looping system of water lines to enhance water quality.
- 4. For all non-single-family developments, there shall be a demonstration of adequate fire flow to serve the site.
- 5. A written statement, signed by the City Engineer, that water service can be made available to the site by the construction of on-site and off-site improvements and that such water service has sufficient volume and pressure to serve the proposed development's domestic, commercial, industrial, and fire flows.

RESPONSE: The Applicant proposes new water service connections for all proposed lots off of either Weatherhill Road or Satter Street, which will be extended through the site as part of this application. This proposal is consistent with the adopted Comprehensive Water System Plan. All proposed water improvements are included on the utility plan of the land use application.

G. Sewer.

- A plan prepared by a licensed engineer shall show how the proposal is consistent with the Sanitary Sewer Master Plan (July 1989). Agreement with that plan must demonstrate how the sanitary sewer proposal will be accomplished and how it is gravity-efficient. The sewer system must be in the correct basin and should allow for full gravity service.
- 2. Sanitary sewer information will include plan view of the sanitary sewer lines, including manhole locations and depth or invert elevations.
- 3. Sanitary sewer lines shall be located in the public right-of-way, particularly the street, unless the applicant can demonstrate why the alternative location is necessary and meets accepted engineering standards.

- 4. Sanitary sewer line should be at a depth that can facilitate connection with downsystem properties in an efficient manner.
- 5. The sanitary sewer line should be designed to minimize the amount of lineal feet in the system.
- 6. The sanitary sewer line shall avoid disturbance of wetland and drainageways. In those cases where that is unavoidable, disturbance shall be mitigated pursuant to Chapter 32 CDC, Water Resource Area Protection, all trees replaced, and proper permits obtained. Dual sewer lines may be required so the drainageway is not disturbed.
- Sanitary sewer shall be extended or stubbed out to the next developable subdivision or a
 point in the street that allows for reasonable connection with adjacent or nearby
 properties.
- 8. The sanitary sewer system shall be built pursuant to DEQ, City, and Tri-City Service District sewer standards. The design of the sewer system should be prepared by a licensed engineer, and the applicant must be able to demonstrate the ability to satisfy these submittal requirements or standards at the pre-construction phase.
- A written statement, signed by the City Engineer, that sanitary sewers with sufficient
 capacity to serve the proposed development and that adequate sewage treatment plant
 capacity is available to the City to serve the proposed development.

RESPONSE: The Applicant proposes new sewer service connections for all proposed lots off of either Weatherhill Road or Satter Street, which will be extended through the site as part of this application. All proposed sewer improvements are included on the utility plan of the land use application. The proposed sanitary sewer system is consistent with the Sanitary Sewer Master Plan, is in the correct basin and allows for full gravity service.

H. Storm detention and treatment. All proposed storm detention and treatment facilities comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards, there will be no adverse off-site impacts caused by the development (including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream), and there is sufficient factual data to support the conclusions of the submitted plan.

RESPONSE: The Applicant's proposed stormwater detention and treatment design will include a public storm treatment/detention system consisting of LIDA storm planters for treatment and detention within the Satter Street right-of-way. The Applicant is also proposing to install individual LIDA planters on each lot for the future homes according to City requirements. All proposed storm drainage improvements are included on the utility plan Sheet 11 of the land use application.

I. Utility easements. Subdivisions and partitions shall establish utility easements to accommodate the required service providers as determined by the City Engineer. The developer of the subdivision shall make accommodation for cable television wire in all utility trenches and easements so that cable can fully serve the subdivision. **RESPONSE:** The applicant will establish utility easements as determined by the City Engineer and shown on the preliminary plat. All required easements will be recorded with the recording of the final plat.

- J. Supplemental provisions.
 - 1. Wetland and natural drainageways. Wetlands and natural drainageways shall be protected as required by Chapter 32 CDC, Water Resource Area Protection. Utilities may be routed through the protected corridor as a last resort, but impact mitigation is required.

RESPONSE: The proposed subdivision does not impact any wetlands. The site does contain the presence of a headwater to a small ephemeral stream on the southern edge of the property. As part of the submitted application materials, the applicant has provided a Phase I Environmental review for the property, as well as a wetland delineation report. An electronic copy of the wetland delineation report has been sent to Oregon Department of State Lands.

As part of the proposed development, the Applicant is proposing to route some utilities (i.e. stormwater and sewer) through the protected corridor and will provide impact mitigation as required by the City.

2. Willamette and Tualatin Greenways. The Willamette and Tualatin River Greenways shall be protected as required by Chapter 28 CDC, Willamette and Tualatin River Protection.

RESPONSE: No greenways exist on this site or have been identified for dedication on this property. This property is not adjacent to the Willamette or Tualatin River and, therefore, a River Greenway is not feasible on this site.

3. Street trees. Street trees are required as identified in the appropriate section of the municipal code and Chapter 54 CDC.

RESPONSE: There are no existing street trees along the sites frontage of Weatherhill Road. The applicant will install street trees as a component of the frontage improvements on Weatherhill Road, as well as along both sides of Satter Street with the extension of the street through the site.

4. Lighting. All subdivision street or alley lights shall meet West Linn Public Works Design Standards.

RESPONSE: The applicant proposes to install new light fixtures along both the sites Weatherhill Rd. frontage, as well as along Satter St. with the extension of the street through the site. All required street lights will provide adequate lighting per current City standards. A photometric plan has been provided for review.

5. Dedications and exactions. The City may require an applicant to dedicate land and/or construct a public improvement that provides a benefit to property or persons outside the property that is the subject of the application when the exaction is roughly proportional. No exaction shall be imposed unless supported by a determination that the exaction is roughly proportional to the impact of development.

RESPONSE: As mentioned previously, the applicant will be dedicating 13-feet of right-of-way along the sites Weatherhill Rd. frontage. Additionally, right-of-way will be dedicated for the extension of Satter St. through the site in accordance with city standards and specifications.

6. Underground utilities. All utilities, such as electrical, telephone, and television cable, that may at times be above ground or overhead shall be buried underground in the case of new development. The exception would be in those cases where the area is substantially built out and adjacent properties have above-ground utilities and where the development site's frontage is under 200 feet and the site is less than one acre. High voltage transmission lines, as classified by Portland General Electric or electric service provider, would also be exempted. Where adjacent future development is expected or imminent, conduits may be required at the direction of the City Engineer. All services shall be underground with the exception of standard above-grade equipment such as some meters, etc.

RESPONSE: The Applicant's proposal complies with the above criterion because all new utility services are proposed to be located underground as part of the subdivision. With the exception of standard above-grade equipment, all services will be located underground pursuant to city standards and specifications.

7. Density requirement. Density shall occur at 70 percent or more of the maximum density allowed by the underlying zoning. These provisions would not apply when density is transferred from Type I and II lands as defined in CDC 02.030. Development of Type I or II lands are exempt from these provisions. Land divisions of three lots or less would also be exempt.

RESPONSE: The R-7 zone permits a maximum density of 6.4 dwelling units per net acre. Net acre is defined as "the total gross acres less the public right-of-way and other acreage deductions, as applicable. The net acreage of this site after removal of dedicated right-of- way is 86,255 sq. ft. or 1.98 acres. At 6.4 dwelling units per net acre, the maximum number of dwelling units on this site is 12.32. This proposal is for a 12-lot subdivision. The proposed density for the site is within 70 percent of the maximum allowable density. The requirements of this section have been satisfied.

8. Mix requirement. The "mix" rule means that developers shall have no more than 15 percent of the R-2.1 and R-3 development as single-family residential. The intent is that the majority of the site shall be developed as medium high density multi-family housing.

RESPONSE: This property is zoned R-7 and, therefore, the use of the parcel as an entirely residential development is permitted.

9. Heritage trees/significant tree and tree cluster protection. All heritage trees, as defined in the municipal code, shall be saved. Diseased heritage trees, as determined by the City Arborist, may be removed at his/her direction. All non-heritage trees and clusters of trees (three or more trees with overlapping dripline; however, native oaks need not have an overlapping dripline) that are considered significant by virtue of their size, type, location, health, or numbers shall be saved pursuant to CDC 55.100(B)(2). Trees are defined per the municipal code as having a trunk six inches in diameter or 19 inches in circumference at a point five feet above the mean ground level at the base of the trunk.

RESPONSE: The applicant has inventoried all trees on site and has consulted with the City's arborist to determine which trees on site are significant. The applicant is proposing tree preservation consistent with these requirements, as detailed in the tree protection plan (Sheet 3). The trees identified as significant on this site will be retained with the development of the subdivision.

CHAPTER 92 REQUIRED IMPROVEMENTS FOR ALL DEVELOPMENT

The following improvements shall be installed at the expense of the developer and meet all City codes and standards:

A. Streets within subdivisions.

- All streets within a subdivision, including alleys, shall be graded for the full right-of-way width and improved to the City's permanent improvement standards and specifications which include sidewalks and bicycle lanes, unless the decision-making authority makes the following findings:
 - a. The right-of-way cannot be reasonably improved in a manner consistent with City road standards or City standards for the protection of wetlands and natural drainageways.
 - b. The right-of-way does not provide a link in a continuous pattern of connected local streets, or, if it does provide such a link, that an alternative street link already exists or the applicant has proposed an alternative street which provides the necessary connectivity, or the applicant has proven that there is no feasible location on the property for an alternative street providing the link.
- 2. When the decision-making authority makes these findings, the decision-making authority may impose any of the following conditions of approval:
 - a. A condition that the applicant initiate vacation proceedings for all or part of the right-of-way.
 - b. A condition that the applicant build a trail, bicycle path, or other appropriate way.

If the applicant initiates vacation proceedings pursuant to subsection (A)(2)(a) of this section, and the right-of-way cannot be vacated because of opposition from adjacent property owners, the City Council shall consider and decide whether to process a City-initiated street vacation pursuant to Chapter 271 ORS.

Construction staging area shall be established and approved by the City Engineer. Clearing, grubbing, and grading for a development shall be confined to areas that have been granted approval in the land use approval process only. Clearing, grubbing, and grading outside of land use approved areas can only be approved through a land use approval modification and/or an approved Building Department grading permit for survey purposes. Catch basins shall be installed and connected to pipe lines leading to storm sewers or drainageways.

RESPONSE: No vacation proceedings are being requested by the Applicant, nor are they being required by the City for the proposed 12-lot subdivision. All proposed streets within the subdivision, will be graded for the full right-of-way width and improved to the City's permanent improvement standards

and specifications which include sidewalks and bicycle lanes, unless the decision-making authority determines otherwise.

B. Extension of streets to subdivisions. The extension of subdivision streets to the intercepting paving line of existing streets with which subdivision streets intersect shall be graded for the full right-of-way width and improved to a minimum street structural section and width of 24 feet.

RESPONSE:

C. Local and minor collector streets within the rights-of-way abutting a subdivision shall be graded for the full right-of-way width and approved to the City's permanent improvement standards and specifications. The City Engineer shall review the need for street improvements and shall specify whether full street or partial street improvements shall be required. The City Engineer shall also specify the extent of storm drainage improvements required. The City Engineer shall be guided by the purpose of the City's systems development charge program in determining the extent of improvements which are the responsibility of the subdivider.

RESPONSE: There are not collector streets abutting the proposed subdivision, therefore, the above criterion does not apply to the Applicant's request.

D. Monuments. Upon completion of the first pavement lift of all street improvements, monuments shall be installed and/or reestablished at every street intersection and all points of curvature and points of tangency of street centerlines with an iron survey control rod. Elevation benchmarks shall be established at each street intersection monument with a cap (in a monument box) with elevations to a U.S. Geological Survey datum that exceeds a distance of 800 feet from an existing benchmark.

RESPONSE: All required monuments will be installed with the development of the subdivision consistent with the City Standards and Specification pursuant to the above criterion.

- E. <u>Storm detention and treatment.</u> For Type I, II and III lands (refer to definitions in Chapter <u>02</u> CDC), a registered civil engineer must prepare a storm detention and treatment plan, at a scale sufficient to evaluate all aspects of the proposal, and a statement that demonstrates:
 - The location and extent to which grading will take place indicating general contour lines, slope ratios, slope stabilization proposals, and location and height of retaining walls, if proposed.
 - 2. All proposed storm detention and treatment facilities comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards.
 - 3. There will be no adverse off-site impacts, including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream.
 - 4. There is sufficient factual data to support the conclusions of the plan.

5. Per CDC <u>99.035</u>, the Planning Director may require the information in subsections (E)(1), (2), (3) and (4) of this section for Type IV lands if the information is needed to properly evaluate the proposed site plan.

RESPONSE: The subject property does not contain any Type I, II, III and/or IV lands per the City's definitions in Chapter 02 of the CDC. As such, the above criteria do not apply to the Applicant's proposal.

- F. <u>Sanitary sewers</u>. Sanitary sewers shall be installed to City standards to serve the subdivision and to connect the subdivision to existing mains.
 - If the area outside the subdivision to be directly served by the sewer line has reached a
 state of development to justify sewer installation at the time, the Planning Commission
 may recommend to the City Council construction as an assessment project with such
 arrangement with the subdivider as is desirable to assure financing his or her share of the
 construction.
 - 2. If the installation is not made as an assessment project, the City may reimburse the subdivider an amount estimated to be a proportionate share of the cost for each connection made to the sewer by property owners outside of the subdivision for a period of 10 years from the time of installation of the sewers. The actual amount shall be determined by the City Administrator considering current construction costs.

RESPONSE: As mentioned previously in this narrative, the sanitary sewer lines will be installed to meet all City Standards and Specifications to serve the subdivision. As part of the submitted application materials, the Applicant has provided a detailed composite utility plan on Sheet 11 of the plan set that shows the line sizing and location for the proposed sewer lines.

G. Water system. Water lines with valves and fire hydrants providing service to each building site in the subdivision and connecting the subdivision to City mains shall be installed. Prior to starting building construction, the design shall take into account provisions for extension beyond the subdivision and to adequately grid the City system. Hydrant spacing is to be based on accessible area served according to the City Engineer's recommendations and City standards. If required water mains will directly serve property outside the subdivision, the City may reimburse the developer an amount estimated to be the proportionate share of the cost for each connection made to the water mains by property owners outside the subdivision for a period of 10 years from the time of installation of the mains. If oversizing of water mains is required to areas outside the subdivision as a general improvement, but to which no new connections can be identified, the City may reimburse the developer that proportionate share of the cost for oversizing. The actual amount and reimbursement method shall be as determined by the City Administrator considering current or actual construction costs.

RESPONSE: As mentioned previously in this narrative, the water lines will be installed to meet all City Standards and Specifications to serve the subdivision. As part of the submitted application materials, the Applicant has provided a detailed composite utility plan on Sheet 11 of the plan set that shows the line sizing and location for the proposed water lines. Prior to starting building construction, the Applicant will work with the City's Engineering and Fire Departments to assure the design for the water

system takes into account provisions for extension beyond the subdivision and to adequately grid the City system. Hydrant spacing will also be addressed at that time to make sure they are located in an accessible area pursuant to City Standards.

H. Sidewalks.

- Sidewalks shall be installed on both sides of a public street and in any special pedestrian way within the subdivision, except that in the case of primary or secondary arterials, or special type industrial districts, or special site conditions, the Planning Commission may approve a subdivision without sidewalks if alternate pedestrian routes are available. In the case of the double-frontage lots, provision of sidewalks along the frontage not used for access shall be the responsibility of the developer. Providing front and side yard sidewalks shall be the responsibility of the land owner at the time a request for a building permit is received. Additionally, deed restrictions and CC&Rs shall reflect that sidewalks are to be installed prior to occupancy and it is the responsibility of the lot or homeowner to provide the sidewalk, except as required above for double-frontage lots.
- 2. On local streets serving only single-family dwellings, sidewalks may be constructed during home construction, but a letter of credit shall be required from the developer to ensure construction of all missing sidewalk segments within four years of final plat approval pursuant to CDC 91.010(A)(2).
- 3. The sidewalks shall measure at least six feet in width and be separated from the curb by a six-foot minimum width planter strip. Reductions in widths to preserve trees or other topographic features, inadequate right-of-way, or constraints, may be permitted if approved by the City Engineer in consultation with the Planning Director.
- 4. Sidewalks should be buffered from the roadway on high volume arterials or collectors by landscape strip or berm of three and one-half-foot minimum width.
- 5. The City Engineer may allow the installation of sidewalks on one side of any street only if the City Engineer finds that the presence of any of the factors listed below justifies such waiver:
 - a. The street has, or is projected to have, very low volume traffic density;
 - b. The street is a dead-end street;
 - c. The housing along the street is very low density; or
 - d. The street contains exceptional topographic conditions such as steep slopes, unstable soils, or other similar conditions making the location of a sidewalk undesirable.

RESPONSE: The Applicant will be installing a sidewalk along the sites Weahterhill Rd. frontage, as well as along both sides of Satter Street with the extension of the street through the site. All proposed and required sidewalks will be installed pursuant to the City's design standards and specifications. Should the developer choose to install the sidewalks with the construction of the homes, then a letter of credit

will be provided to the City to ensure construction of all missing sidewalks within four years of the final plat approval.

I. <u>Bicycle routes</u>. If appropriate to the extension of a system of bicycle routes, existing or planned, the Planning Commission may require the installation of separate bicycle lanes within streets and separate bicycle paths.

RESPONSE: Per the City's Transportation System Plan (TSP) there are no bicycle routes identified, either existing or planned, for the subject property.

J. <u>Street name signs</u>. All street name signs and traffic control devices for the initial signing of the new development shall be installed by the City with sign and installation costs paid by the developer.

RESPONSE: All required street signs, whether street names or traffic control signs, will be installed pursuant to the City's Standards and Specifications as outlined in the above criterion. The Applicant is agreeable to paying the installation costs associated with the installation of the required signage.

K. <u>Dead-end street signs</u>. Signs indicating "future roadway" shall be installed at the end of all discontinued streets. Signs shall be installed by the City per City standards, with sign and installation costs paid by the developer.

RESPONSE: The Applicant is proposing the terminate Weatherhill Rd. in a "stubbed" street design. A barricade will be installed at the end of the street and any required signage will be installed consistent with the City's development codes.

L. <u>Signs indicating future use</u> shall be installed on land dedicated for public facilities (e.g., parks, water reservoir, fire halls, etc.). Sign and installation costs shall be paid by the developer.

RESPONSE: No public facilities are being proposed as part of this development request, therefore, the above criterion does not apply to the Applicant's proposal.

M. <u>Street lights</u>. Street lights shall be installed and shall be served from an underground source of supply. The street lighting shall meet IES lighting standards. The street lights shall be the shoe-box style light (flat lens) with a 30-foot bronze pole in residential (non-intersection) areas. The street light shall be the cobra head style (drop lens) with an approximate 50-foot (sized for intersection width) bronze pole. The developer shall submit to the City Engineer for approval of any alternate residential, commercial, and industrial lighting, and alternate lighting fixture design. The developer and/or homeowners association is required to pay for all expenses related to street light energy and maintenance costs until annexed into the City.

RESPONSE: All required street lights will be installed and will be served from an underground source of supply. All required street lighting will meet IES lighting standards and the street light will be the "shoebox" style light (i.e. flat lens).

N. <u>Utilities</u>. The developer shall make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities.

Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, shall be placed underground.

RESPONSE: Consistent with the above criterion, the Applicant's developer will make all necessary arrangements with the franchised utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, will be placed underground as required by the City's Community Development Code (CDC).

O. <u>Curb cuts and driveways</u>. Curb cuts and driveway installations are not required of the subdivider at the time of street construction, but, if installed, shall be according to City standards. Proper curb cuts and hard-surfaced driveways shall be required at the time buildings are constructed.

RESPONSE: All curb cuts and driveway installations will be installed at the time buildings are constructed on the lots. However, should the developer decide to install some curb cuts and driveways at the time of street construction, then, if installed, they will be installed according to City standards.

P. <u>Street trees</u>. Street trees shall be provided by the City Parks and Recreation Department in accordance with standards as adopted by the City in the Municipal Code. The fee charged the subdivider for providing and maintaining these trees shall be set by resolution of the City Council.

RESPONSE: The Applicant agrees to install all required street trees pursuant to the above criterion by working with the City's Parks and Recreation Department to obtain the necessary street trees. Additionally, the Applicant is agreeable to paying the fees set by resolution of the City Council for providing and maintain the requires street trees.

Q. <u>Joint mailbox facilities</u> shall be provided in all residential subdivisions, with each joint mailbox serving at least two, but no more than eight, dwelling units. Joint mailbox structures shall be placed in the street right-of-way adjacent to roadway curbs. Proposed locations of joint mailboxes shall be designated on a copy of the tentative plan of the subdivision, and shall be approved as part of the tentative plan approval. In addition, sketch plans for the joint mailbox structures to be used shall be submitted and approved by the City Engineer prior to final plat approval.

RESPONSE: The Applicant will work with the US Postal Service (USPS) to identify a strategic location for two (2) joint mailbox facilities to serve the proposed 12-lot subdivision. The joint mailbox facilities will be installed in the street right-of-way adjacent to the roadway curbs. As part of the tentative plan approval, the Applicant requests, as a condition of any final approval, that the required sketch plans for the joint mailbox structures to be used shall be submitted and approved by the City Engineer prior to final plat approval.

92.030 IMPROVEMENT PROCEDURES

In addition to other requirements, improvements installed by the developer, either as a requirement of these regulations or at the developer's own option, shall conform to the requirements of this title and

permanent improvement standards and specifications adopted by the City and shall be installed in accordance with the following procedure:

- A. Improvement work shall not be commenced until plans have been checked for adequacy and approved by the City. To the extent necessary for evaluation of the proposal, the improvement plans may be required before approval of the tentative plan of a subdivision or partition. Plans shall be prepared in accordance with the requirements of the City.
- B. Improvement work shall not be commenced until the City has been notified in advance, and if work has been discontinued for any reason, it shall not be resumed until the City has been notified.
- C. Improvements shall be constructed under the Engineer. The City may require changes in typical sections and details in the public interest if unusual conditions arise during construction to warrant the change.
- D. All underground utilities, sanitary sewers, and storm drains installed in streets by the subdivider or by any utility company shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed to a length obviating the necessity for disturbing the street improvements when service connections are made.
- E. A digital and mylar map showing all public improvements as built shall be filed with the City Engineer upon completion of the improvements.

RESPONSE: All requirements and improvements installed by the developer, either as a requirement of the City's CDC regulations or at the developer's own option, will conform to the requirements of this title and permanent improvement standards and specifications adopted by the City and will be installed in accordance with the above procedures. The Applicant is agreeable, as a condition of any final approval, that all improvements be installed in accordance with all City standards and specifications adopted by the City.

SUMMARY AND CONCLUSION

Based upon the application materials submitted herein, the Applicant respectfully requests approval from the City's Planning Department of this application for a 12-lot residential subdivision.

WEATHERHILL ROAD SUBDIVISION

12 LOT SUBDIVISION NW 1/4 SECTION 13, T. 3S, R. 1W, W.M. CITY OF WEST LINN, OREGON

GENERAL LEGEND LANDSCAPE HEDGE FLOW LINE

FENCE

EXISTING MAJOR CONTOUR LINE

EXISTING MINOR CONTOUR LINE

PROPOSED MAJOR CONTOUR LINE

PROPOSED MINOR CONTOUR LINE

SIGNIFICANT RESOURCE OVERLAY ZONE (SRE

— ss — ss — SANTTARY SEWER

— sd — sd — sd — STORM DRAIN LII

— g — g — GAS LINE

— w — w — WATER LINE

OVERHEAD UTILITIES LINE
UNDERGROUND UTILITIES LINE
COMMUNICATIONS LINE
ELECTRIC LINE

FIRE HYDRANT

AIR RELEASE

WATER BLOWOFF

WATER METER/SERVICE

WATER VAULT

IRRIGATION SPRINKLER HEAD

CULVERT / OUTFALL

STORM DRAIN MANHOLE

CATCH BASIN / AREA DRAIN

SANITARY SEWER MANHOLE
UTILITY MANHOLE
UTILITY CLEAN OUT
UTILITY VALVE
UTILITY POLE
UTILITY GUY POLE
UTILITY GUY WIRE

UTILITY/LIGHT POLE
LIGHT POLE
LIGHT POLE WITH ARM
LIGHT SIGNAL JUNCTION BOX
JUNCTION BOX
ELECTRIC METER/SERVICE

ELECTRIC PEDESTAL
ELECTRIC VAULT
TELEPHONE MANHOLE
COMMUNICATIONS PEDESTAL
COMMUNICATIONS VAULT

GAS METER/SERVICE
GAS PEDESTAL
DECIDOUS TREE
EVERGREEN TREE

MAILBOX
SIDEWALK TO BE INSTALLED AT TIME
OF STREET CONSTRUCTION

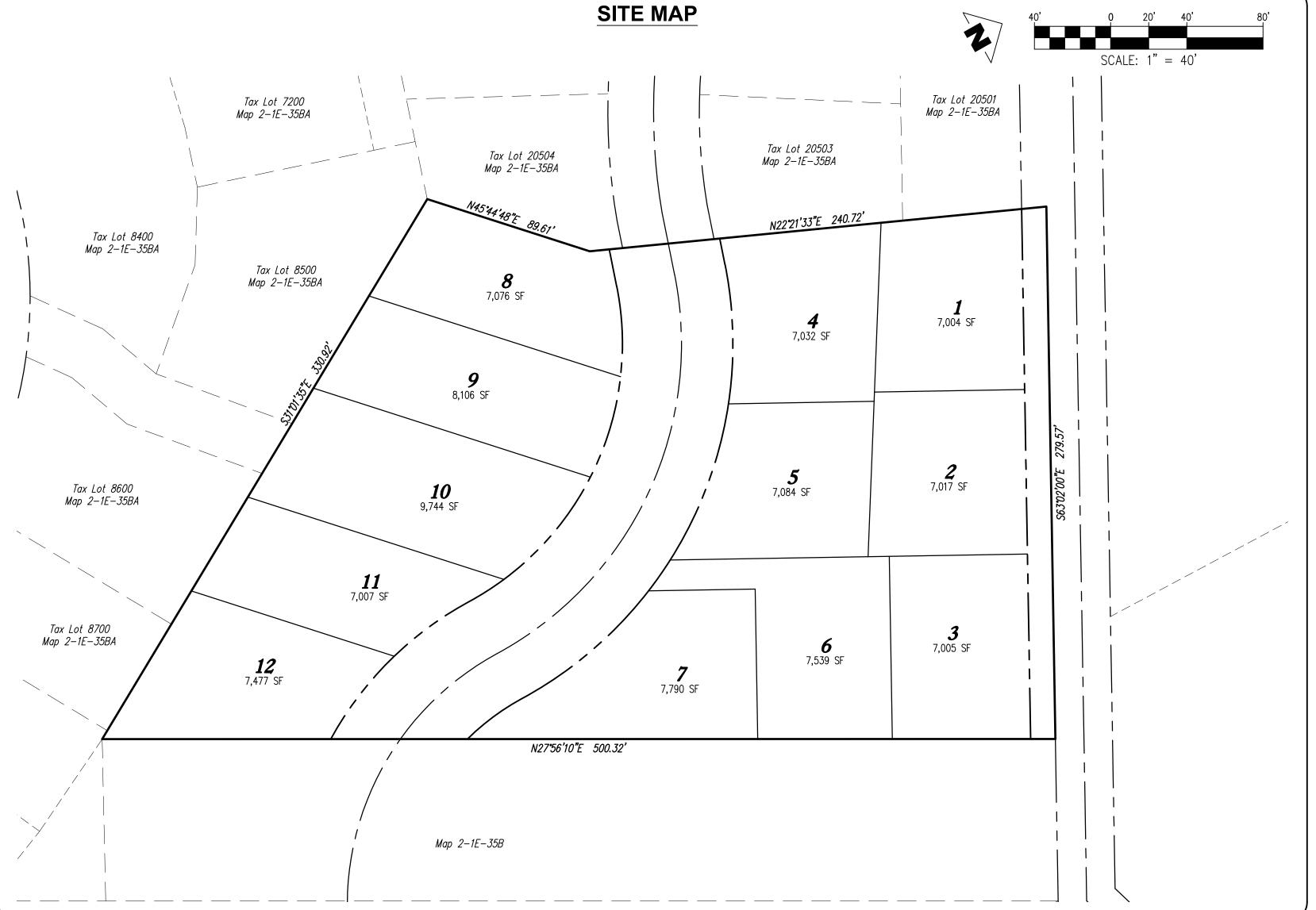
ENGINEER'S NOTE TO CONTRACTOR

SIGN POST

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS.

THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF



BENCHMARK INFORMATION

THE DATUM FOR THIS SURVEY IS BASED UPON OREGON REAL—TIME GNSS NETWORK (ORGN).

DATUM = NAVD 88

SITE DATA

AREA:	2.57 Ac.
ZONING:	R-7
TAX MAP:	T2SR1E35B
TAX LOT:	405
NO. OF LOTS:	12

NOTICE TO EXCAVATORS:

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

POTENTIAL UNDERGROUND FACILITY OWNERS

Dig | Safely.

Call the Oregon One-Call Center DIAL 811 or 1-800-332-2344

EMERGENCY TELEPHONE NUMBERS

NW NATURAL GAS
M-F 7am-6pm
AFTER HOURS

PGE

CENTURY LINK

503-226-4211 Ext.4313
503-226-4211

503-226-4211

503-226-4211

FRONTIER

503-464-7777

1-800-491-0118

1-800-921-8101

CITY OF WEST LINN PUBLIC WORKS 503-635-0238

PROJECT CONTACTS

APPLICANT:

ROD FREISEN
22870 WEATHERHILL, LLC
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(971) 235-3314
ROD.FRIESEN@FRONTIER.COM

WNER:

22870 WEATHERHILL, LLC PARTINERSHIP ADMINISTRATOR: ROD FREISEN (971) 235-3314

LAND USE, CIVIL ENGINEER

AND SURVEYOR:

EMERIO DESIGN, LLC
6445 SW FALLBROOK PL, SUITE 100
BEAVERTON, OR 97008
LAND USE CONTACT: STEVE MILLER
ENGINEER CONTACT: ERIC EVANS
SURVEYOR CONTACT: KING PHELPS
(503) 746-8812 (P)
(503) 639-9592 (F)

SITE SATER
FIRGREST DR

VICINITY MAP

DRAWING INDEX					
SHEET NUMBER	SHEET TITLE				
1	COVER SHEET				
2	EXISTING CONDITIONS, DEMOLITION, & PH 1 EROSION CONTROL PLAN				
3	TREE PRESERVATION PLAN				
4	TREE PRESERVATION DETAILS				
5	SLOPE ANALYSIS PLAN				
6	PRELIMINARY PLAT				
7	PRELIMINARY SITE PLAN				
8	SATTER STREET PLAN, PROFILE, AND STORM LINE				
9	WEATHERHILL ROAD PLAN, PROFILE, AND STORM LINE				
10	PHASE 2 GRADING & EROSION CONTROL PLAN				
11	COMPOSITE UTILITY PLAN				

** LOTS 4 THROUGH 12 TO BE CONSTRUCTED WITH FIRE SPRINKLERS UNLESS SATTER STREET IS CONNECTED THROUGH FROM THE EAST PRIOR TO HOME

| FE | NO. | DATE |

/21/19 PC Meeting 6

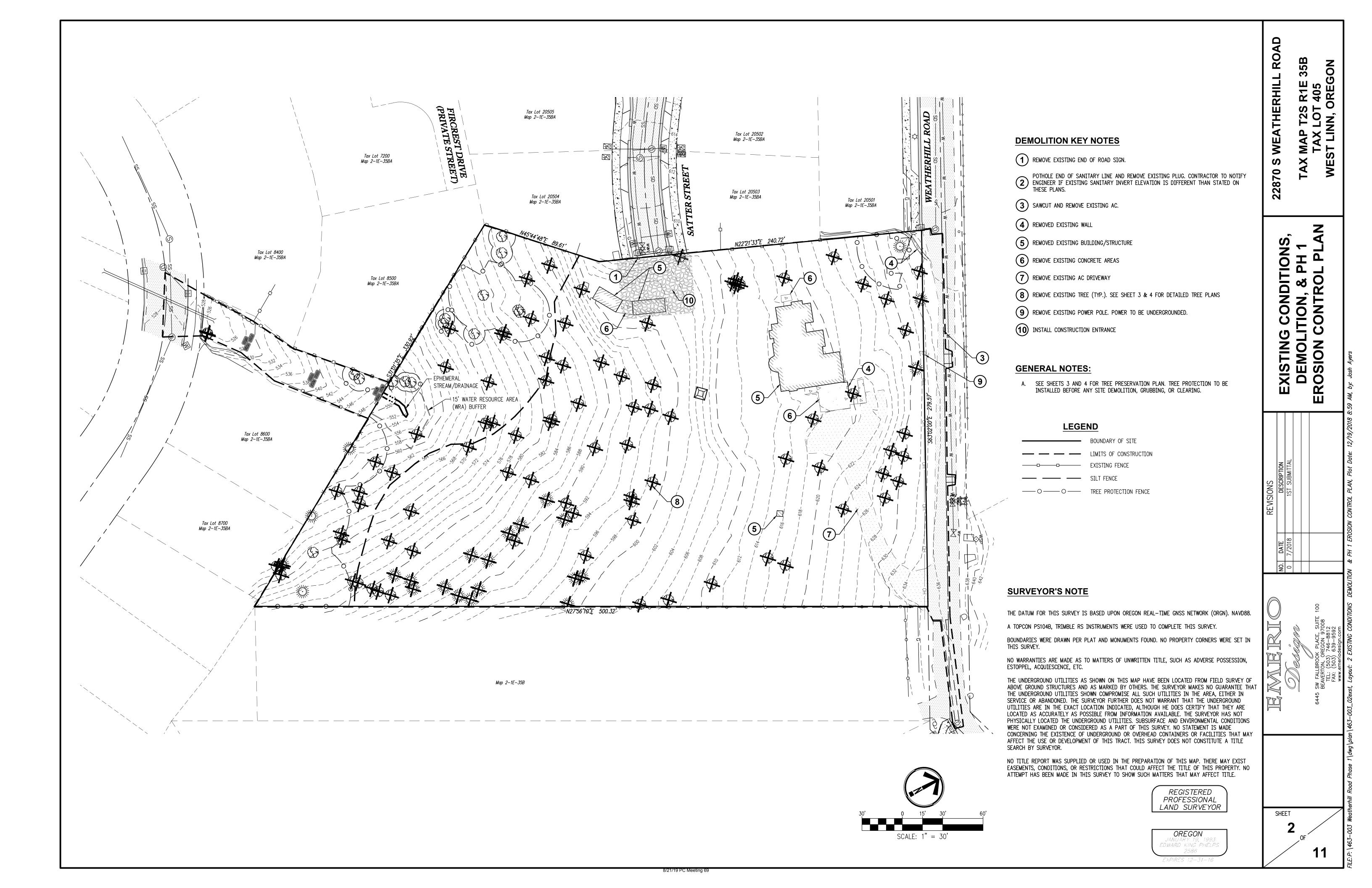
TAX MAP 12 TAX LO

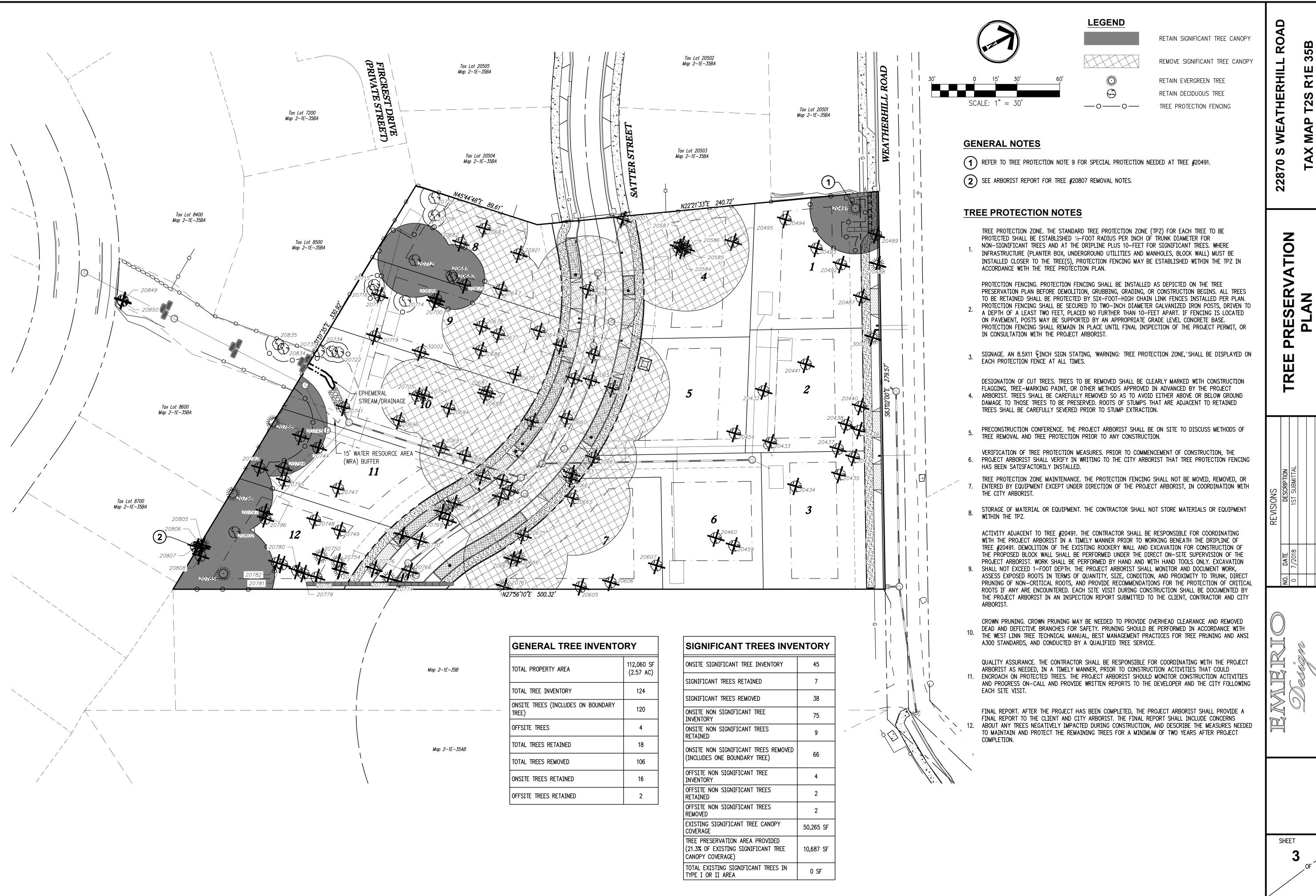
GON

COVER SHEE

22870

DATE DESCRIPTION
/2018 1ST SUBMITTAL





/19 PC Meeting 70

Morgan Holen

MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
							Storm damage, codominant stem failure, open		
20432	Dec	Coral Bark maple	Acer palmatum 'Sango-kaku'	3x5	12	F	wound	No	Remove
20433	Dec	English hawthorn	Crataegus monogyna	4x10	18	F	Invasive species, moderate structure, crown decay	No	Remove
20434	Dec	English hawthorn	Crataegus monogyna	7x8	25	G	Invasive species	No	Remove
20435	Dec	river birch	Betula nigra	23	30	F	Moderate structure, twig dieback	No	Remove
20436	Dec	river birch	Betula nigra	17	16	F	Moderate structure, twig dieback	No	Remove
20437		river birch	Betula nigra	16	0		Mostly dead	No	Remove
20438	Dec	river birch	Betula nigra	15	28	F	Moderate structure, twig dieback	No	Remove
20439	Dec	river birch	Betula nigra	14	16		Moderate structure, twig dieback	No	Remove
20440	Dec	river birch	Betula nigra	18	16	F	Moderate structure, twig dieback	No	Remove
20441	Dec	cherry	Prunus spp.	14	18	G	Well-maintained	No	Remove
20454	Dec	English hawthorn	Crataegus monogyna	4x8	18	F	Invasive species, moderate structure, crown decay	No	Remove
20459	Dec	English hawthorn	Crataegus monogyna	5,6,2x8	18	G	Invasive species	No	Remove
20460	Dec	English hawthorn	Crataegus monogyna	5,2x8	14	G	Invasive species	No	Remove
20487	Con	incense cedar	Calocedrus decurrens	22	12	G	Some crown asymmetry	No	Remove
20488	Con	Douglas-fir	Pseudotsuga menziesii	30	26	F	Topped	No	Remove
							Moderate structure, previously topped, some		
20489	Dec	bigleaf maple	Acer macrophyllum	13,21	26	F	trunk decay	No	Remove
20491	Con	Douglas-fir	Pseudotsuga menziesii	34	22	G	Spur leader, no major defects	Yes	Retain
20492	Dec	paper birch	Betula papyrifera	11	10	G		No	Remove
20493	Dec	paper birch	Betula papyrifera	2x10	16	G		No	Remove
20494	Dec	English hawthorn	Crataegus monogyna	5x10	20	G	Invasive species	No	Remove
20495	Dec	English hawthorn	Crataegus monogyna	3x12	20	G	Invasive species	No	Remove
20584	Dec	Oregon white oak	Quercus garryana	12,16	34	G	Dense group	Yes	Remove
20585	Dec	Oregon white oak	Quercus garryana	6	22	F	Dense group	Yes	Remove
20586	Dec	Oregon white oak	Quercus garryana	19	34	G	Dense group	Yes	Remove
20587	Dec	Oregon white oak	Quercus garryana	16	34	G	Dense group	Yes	Remove
20605	Dec	Scouler's willow	Salix scouleriana	2x12	16	F	Previous leader failure, dead and broken branches	No	Remove
20606	Dec	English hawthorn	Crataegus monogyna	14	13	F	Invasive species	No	Remove
							Invasive species, moderate structure, dead and		
20607	Dec	sweet cherry	Prunus avium	22	22	F	broken branches	No	Remove
20647	Dec	Oregon white oak	Quercus garryana	2x18	20	G	Oak grove	Yes	Remove
20648	Dec	Oregon white oak	Quercus garryana	14	16	F	Oak grove, few dead and broken branches	Yes	Remove
20649	Dec	Oregon white oak	Quercus garryana	12	15	G	Oak grove	Yes	Remove
				11,14,					
20650	Dec	Oregon white oak	Quercus garryana	16	20	G	Oak grove	Yes	Remove
20651	Dec	Oregon white oak	Quercus garryana	14,16	30	G	Oak grove	Yes	Remove
				8,3x14,			Oak grove, hornets nest, old steel brace		
20656	Dec	Oregon white oak	Quercus garryana	17	28	G	compartmentalized in trunk	Yes	Remove
20658	Dec	Oregon white oak	Quercus garryana	3x10	14	G	Oak grove	Yes	Remove
20659	Dec	Oregon white oak	Quercus garryana	14	20	G	Oak grove, one-sided to south	Yes	Remove
20660	Dec	Oregon white oak	Quercus garryana	8	16	G	Oak grove	Yes	Remove
				8,10,					
20661	Dec	Oregon white oak	Quercus garryana	14,15	20	G	Oak grove	Yes	Remove
				5,2x6,			Oak grove, very upright high live crown, small		
20662	Dec	Oregon white oak	Quercus garryana	11	12	F	diameter stems are completely dead	Yes	Remove
				5,6,					
20663	Dec	Oregon white oak	Quercus garryana	7,14,18	ı	F	Oak grove, moderate one-sided crown structure	Yes	Remove
				10,2x12,					
20665	Dec	Oregon white oak	Quercus garryana	18,20	30	G	Oak grove, few dead and broken branches	Yes	Remove
		Douglas-fir	Pseudotsuga menziesii	32			Codominant crown class, ivy up lower trunk		Remove

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MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
20667	Con	Douglas-fir	Pseudotsuga menziesii	28	24	G	Codominant crown class, ivy up lower trunk	Yes	Remove
20670	Dec	Oregon white oak	Quercus garryana	8,10,12	16	G	Oak grove	Yes	Remove
20671	Dec	Oregon white oak	Quercus garryana	4x12	18	G	Oak grove	Yes	Remove
20672	Dec	Oregon white oak	Quercus garryana	14	20	F	One-sided to west	Yes	Remove
							One-sided to north, few dead and broken		
20673	Dec	Oregon white oak	Quercus garryana	14	30	F	branches	Yes	Remove
							Codominant crown class, few dead and broken		
20674	Con	Douglas-fir	Pseudotsuga menziesii	36	24	G	branches	Yes	Remove
20675		apple	Malus spp.	8,10	20		Very poor structure, dieback, decay	No	Remove
		' '					Oak grove, one-sided to north, few dead and		
20677	Dec	Oregon white oak	Quercus garryana	14	14	F	broken branches	Yes	Remove
20678		Oregon white oak	Quercus garryana	8,9,14	18	G	Oak grove, few dead and broken branches	Yes	Remove
				-,-,-			Oak grove, few dead and broken branches, ivy up		
20679	Dec	Oregon white oak	Quercus garryana	12	12	F	lower trunk	Yes	Remove
20075	500	oregon winte out	quereus garryana			<u> </u>	Oak grove, few dead and broken branches, ivy up	105	Remove
20680	Dec	Oregon white oak	Quercus garryana	12	12	F	lower trunk	Yes	Retain
_0000	500	C. CBOIL WILLE OUR	Quereus garryana			- '-	Oak grove, few dead and broken branches, ivy up	1.03	
20681	Dec	Oregon white oak	Ouercus garryana	14	12	F	lower trunk	Vac	Retain
20682	_	Oregon white oak	Quercus garryana	7,2x10	16				Remove
20682			Quercus garryana	10,12,14	20	F	Oak grove, some ivy		Remove
	_	Oregon white oak	Quercus garryana				Oak grove, few dead and broken branches		
20686		Oregon white oak	Quercus garryana	6,8	10	F	Oak grove, few dead and broken branches	Yes	Remove
20687		Oregon white oak	Quercus garryana	6	10	F	Oak grove, few dead and broken branches		Remove
20688	Dec	Oregon white oak	Quercus garryana	10	10	F	Oak grove, few dead and broken branches	Yes	Remove
	_								
20689		Douglas-fir	Pseudotsuga menziesii	26		F	Codominant crown class, broken top, new leaders		Remove
20691		Oregon ash	Fraxinus latifolia	7	14	F	Moderate structure	No	Remove
20694	Dec	Oregon white oak	Quercus garryana	16,18	18	G	Oak grove	Yes	Remove
20696	Dec	Oregon white oak	Quercus garryana	2x14	12	P	Half dead	No	Remove
20699	Dec	Oregon white oak	Quercus garryana	10	5	P	Oak grove, suppressed	No	Remove
20700	Dec	Oregon white oak	Quercus garryana	14	12	Р	Oak grove, severe ivy infestation, small live crown	No	Remove
20704	Dec	Oregon white oak	Quercus garryana	2x14	16	G	Oak grove	Yes	Remove
20705	Dec	Oregon white oak	Quercus garryana	16	16	G	Oak grove	Yes	Remove
20709	Dec	madrone	Arbutus menziesii	16	14	F	Crown dieback, trunk decay	No	Retain
20712	Dec	Oregon white oak	Quercus garryana	18	16	G	Oak grove, ivy up lower trunk	Yes	Retain
20714	Dec	Scouler's willow	Salix scouleriana	4x8	12	F	Inaccessible	No	Retain
20715	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Retain
20716	Dec	Scouler's willow	Salix scouleriana	12	12	F	Inaccessible	No	Retain
20717	Dec	Scouler's willow	Salix scouleriana	10	12	F	Inaccessible	No	Remove
20719		Scouler's willow	Salix scouleriana	14		F	Inaccessible	No	Remove
20722	_	Scouler's willow	Salix scouleriana	14		F	Inaccessible	_	Retain
				<u> </u>			Moderate structure, additional codominant stem	Ť	
							failed in past and has advanced decay, remaining		
20728	Dec	bigleaf maple	Acer macrophyllum	3x20	24	F	stems are mostly one-sided to east	No	Retain
20734		Scouler's willow	Salix scouleriana	14		F	Inaccessible	 	Retain
20735		bigleaf maple	Acer macrophyllum	10			Inaccessible	No	Retain
20741		Scouler's willow	Salix scouleriana	14		 	Inaccessible	No	Remove
		bigleaf maple		7					Remove
20744	pec	vigleai maple	Acer macrophyllum	 	12	F	Poor structure	No	remove
20745		G	Cultivariant		_	_	History of branch failure, crown decay, trunk	١	
20745		Scouler's willow	Salix scouleriana	16		P	decay with hollow		Remove
20747		bigleaf maple	Acer macrophyllum	8		1	Poor structure	No	Remove
20748	_	English holly	llex aquifolium	8			Invasive species	No	Remove
20749		bigleaf maple	Acer macrophyllum	8			Poor structure	No	Remove
20750	Con	Douglas-fir	Pseudotsuga menziesii	18	14	F	Codominant crown class, old broken top	No	Remove

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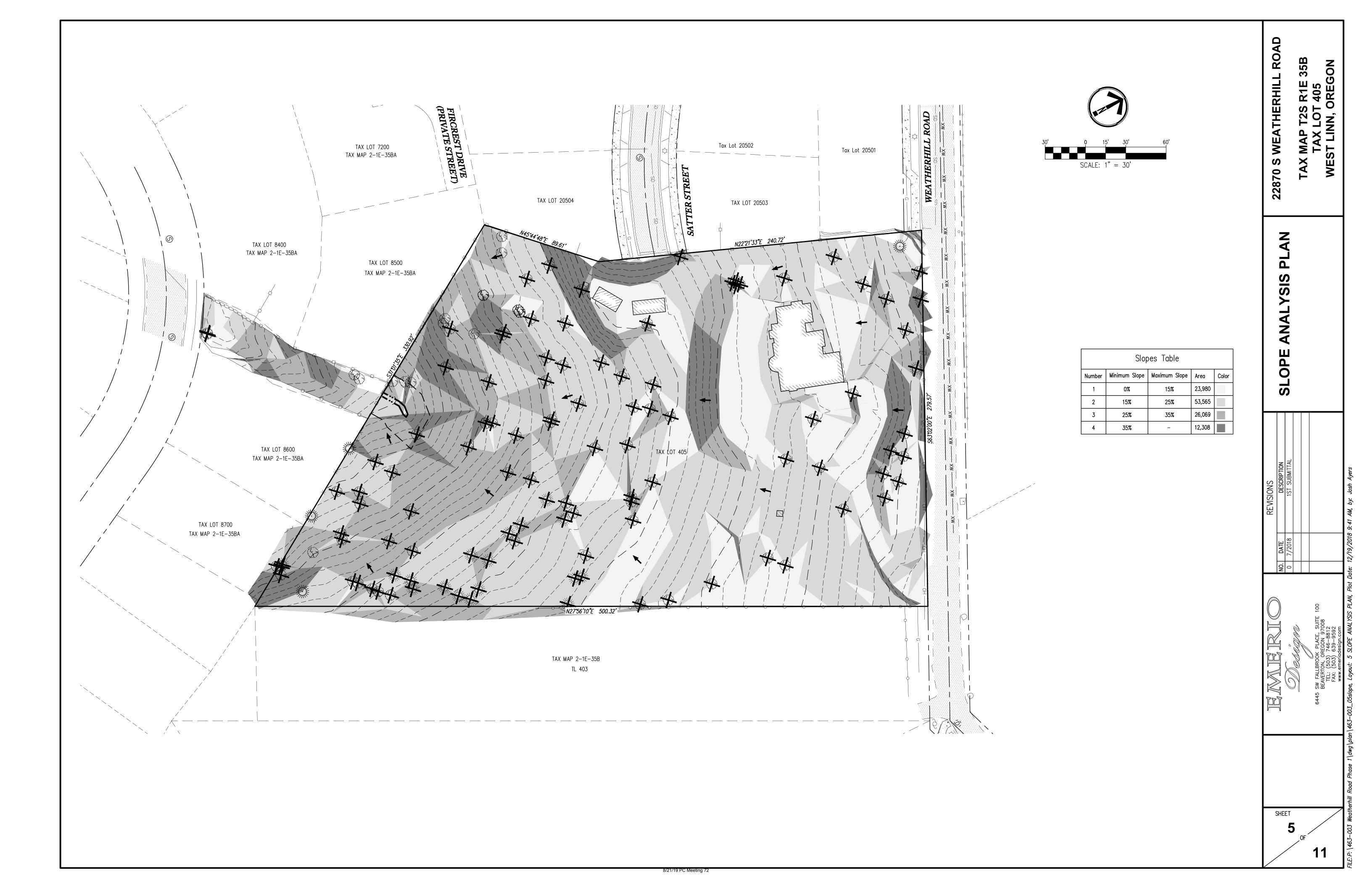
MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx

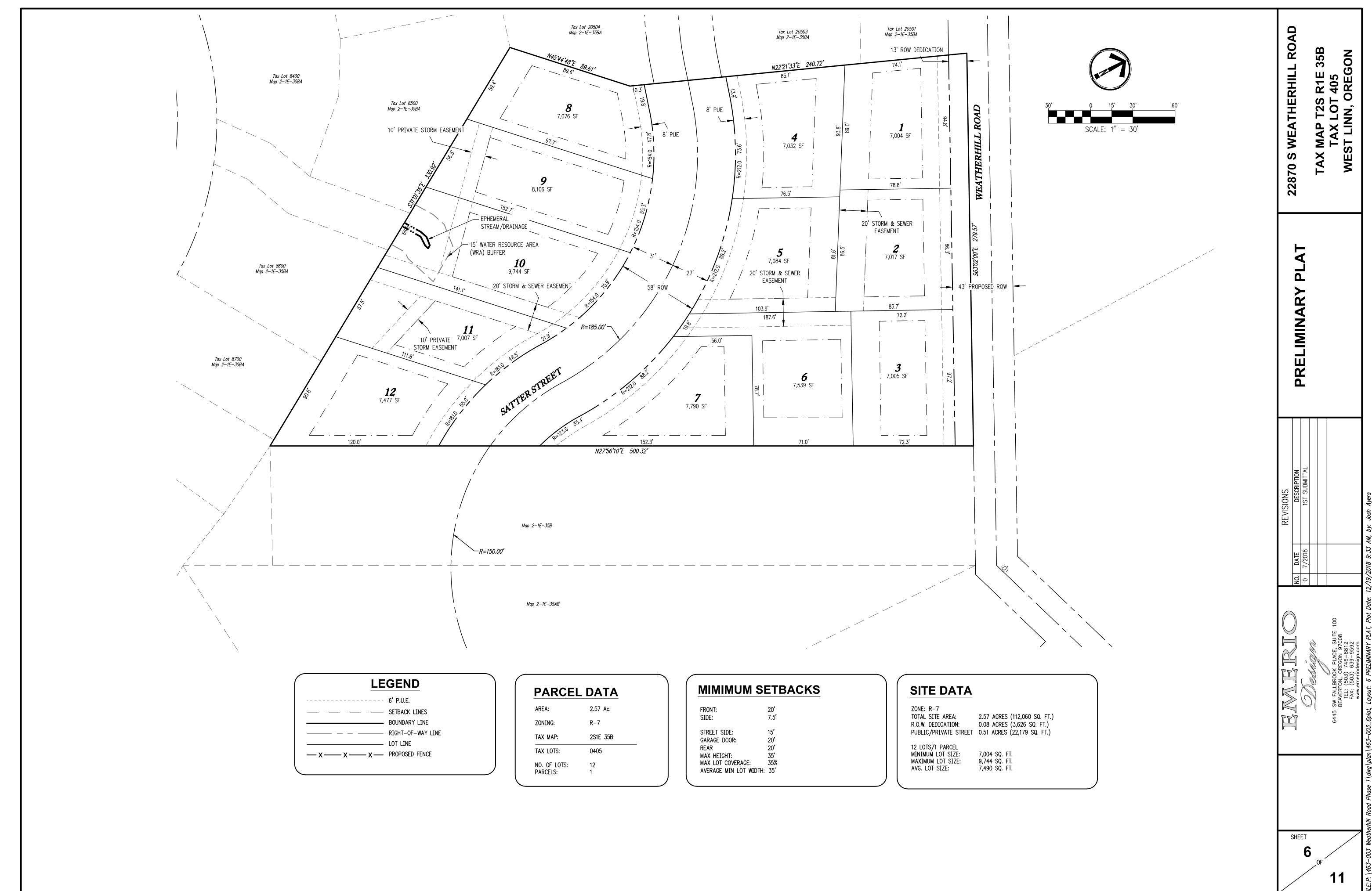
No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
0751	Dec	bigleaf maple	Acer macrophyllum	10	16	F	Poor structure	No	Remove
0753	Con	Douglas-fir	Pseudotsuga menziesii	16	14	F	Codominant crown class, ivy	No	Remove
0754	Con	Douglas-fir	Pseudotsuga menziesii	7	3	Р	Suppressed, mostly dead	No	Remove
0761	Con	Douglas-fir	Pseudotsuga menziesii	18	14	G	Ivy up trunk, codominant crown class	Yes	Remove
0766	Con	Douglas-fir	Pseudotsuga menziesii	12	10	F	Codominant crown class, some ivy	No	Remove
0767	Con	Douglas-fir	Pseudotsuga menziesii	18	14	F	Pistolbutt, sweep in upper trunk	No	Remove
0768	Con	Douglas-fir	Pseudotsuga menziesii	19	14	F	One-sided to south, sweep in upper trunk	No	Remove
							Codominant stems with seam, dead and broken		a.
20769	Dec	Oregon white oak	Quercus garryana	16,20	12	F	branches, crown decay, upright crown	No	Remove
20770	Con	Douglas-fir	Pseudotsuga menziesii	20	15	F	Old broken top, forked leaders, twig dieback	No	Remove
20771	Con	Douglas-fir	Pseudotsuga menziesii	16	14	F	Codominant crown class	No	Remove
0774	Con	Douglas-fir	Pseudotsuga menziesii	12	10	F	Codominant crown class, ivy up trunk	No	Remove
0775	Con	Douglas-fir	Pseudotsuga menziesii	16	8	F	Codominant crown class, ivy up trunk	No	Remove
0776	Con	Douglas-fir	Pseudotsuga menziesii	10	6	Р	Suppressed, extensive ivy	No	Remove
0779	Dec	bigleaf maple	Acer macrophyllum	8	16	F	Very poor structure	No	Remove
0780	Dec	bigleaf maple	Acer macrophyllum	2x6	10	F	Very poor structure	No	Remove
0781	Dec	bigleaf maple	Acer macrophyllum	10	10	F	Very poor structure	No	Remove
0782	Dec	bigleaf maple	Acer macrophyllum	8	10	F	Very poor structure	No	Remove
20785	Con	Douglas-fir	Pseudotsuga menziesii	47	26	G	Forked leaders	Yes	Retain
20788	Con	Douglas-fir	Pseudotsuga menziesii	36	28	G	Limited assessment	Yes	Retain
0793	Con	Scouler's willow	Salix scouleriana	14	8	Р	Multiple leader failures, vigorous sprouting	No	Remove
0794	Dec	bigleaf maple	Acer macrophyllum	9	16	F	Poor structure	No	Retain
0795	Dec	bigleaf maple	Acer macrophyllum	2x6	10	Р	Very poor structure	No	Remove
20796	Dec	bigleaf maple	Acer macrophyllum	8	12	F	Poor structure	No	Remove
0797	Dec	bigleaf maple	Acer macrophyllum	7	14	F	Poor structure	No	Remove
20798	Con	Douglas-fir	Pseudotsuga menziesii	23	18	G	Limited assessment	Yes	Retain
20802	Dec	bigleaf maple	Acer macrophyllum	16	18	G		No	Remove
20805	Con	Douglas-fir	Pseudotsuga menziesii	8	6	Р	Suppressed, growing into 20806	No	Remove
							Advanced trunk decay with hollow 0-3' north face,		
20806	Dec	bigleaf maple	Acer macrophyllum	15	16	Р	poor crown structure	No	Remove
							Boundary tree, very poor structure, not suitable		Remove with
							for retention with exposure from removal of		adjacent owner's
20807	Dec	bigleaf maple	Acer macrophyllum	8	14	Р	adjacent hazard tree 20806	No	consent
20808	Dec	madrone	Arbutus menziesii	15	18	Р	Crown difficult to assess but advanced basal decay	No	Remove
0834	Dec	Scouler's willow	Salix scouleriana	18	12	F	Off-site in utility easement, inaccessible	No	Retain
0835	Dec	Scouler's willow	Salix scouleriana	18	12	F	Off-site in utility easement, inaccessible	No	Retain
20849	Con	western redcedar	Thuja plicata	6	6	G	Off-site in utility easement, young tree	No	Remove
20850	Con	western redcedar	Thuja plicata	6	6	G	Off-site in utility easement, young tree	No	Remove
20900	Dec	bigleaf maple	Acer macrophyllum	8	12	Р	Very poor structure	No	Remove
20921	Dec	bigleaf maple	Acer macrophyllum	9,12	16	F	Poor structure, trunk decay	No	Remove
30001	Con	spruce	Picea spp.	8	8	G		No	Remove
30002	Dec	Oregon white oak	Quercus garryana	7,9,11	14	Р	Low vigor, dieback	No	Remove
	G-	D	0				Codominant crown class, few dead and broken	,	D
		Douglas-fir	Pseudotsuga menziesii	32	24	G	branches	ı Yes	Remove

*Cond is an arborist assigned rating to generally describe the condition of individual trees as follows- <u>Dead; Poor; Fair; Good; or Excellent condition</u>. Sig? asks whether or not individual trees are considered potentially significant, either Yes (likely significant) or No (not considered significant).

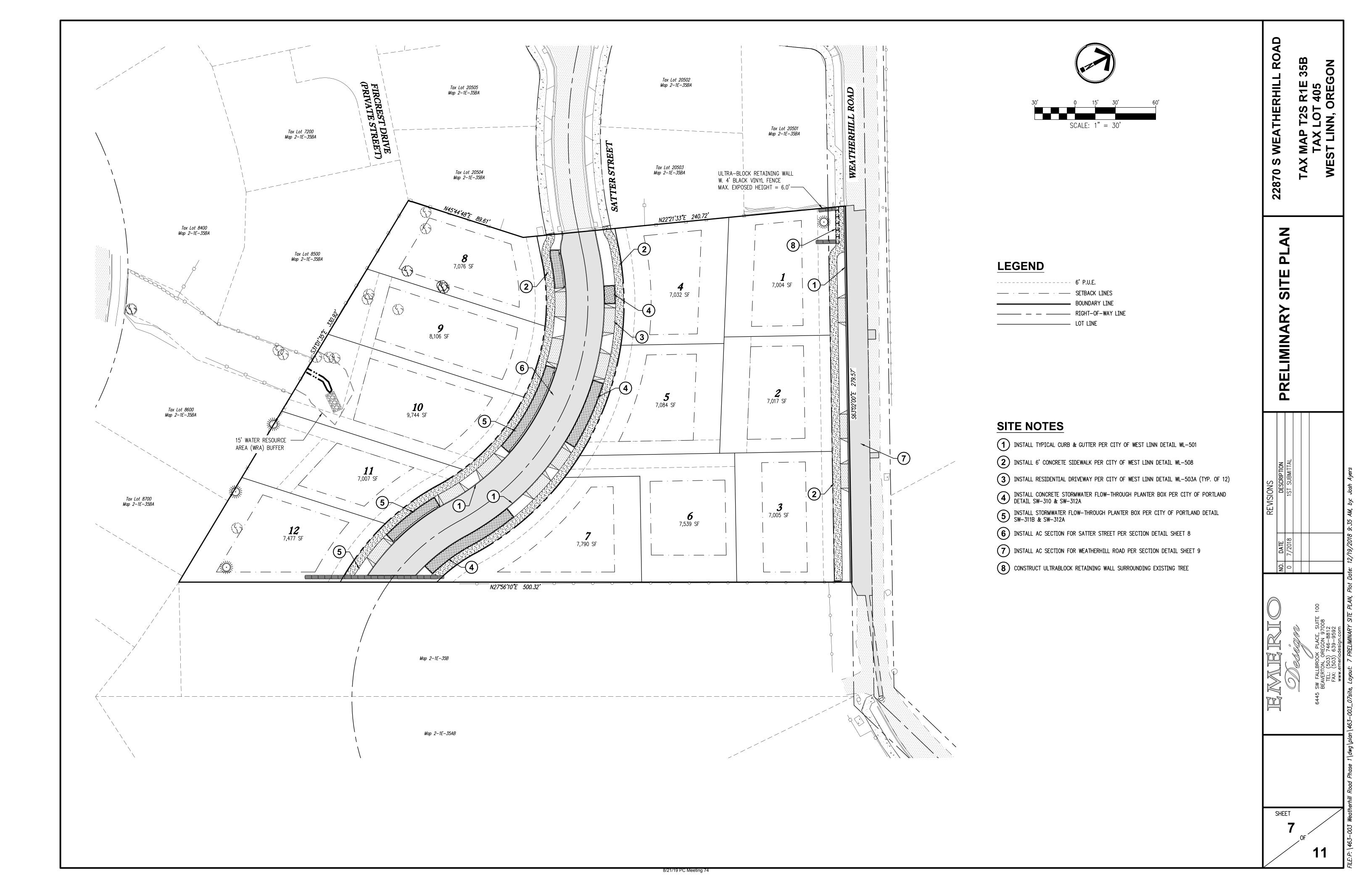
Morgan Holen & Associates, LLC

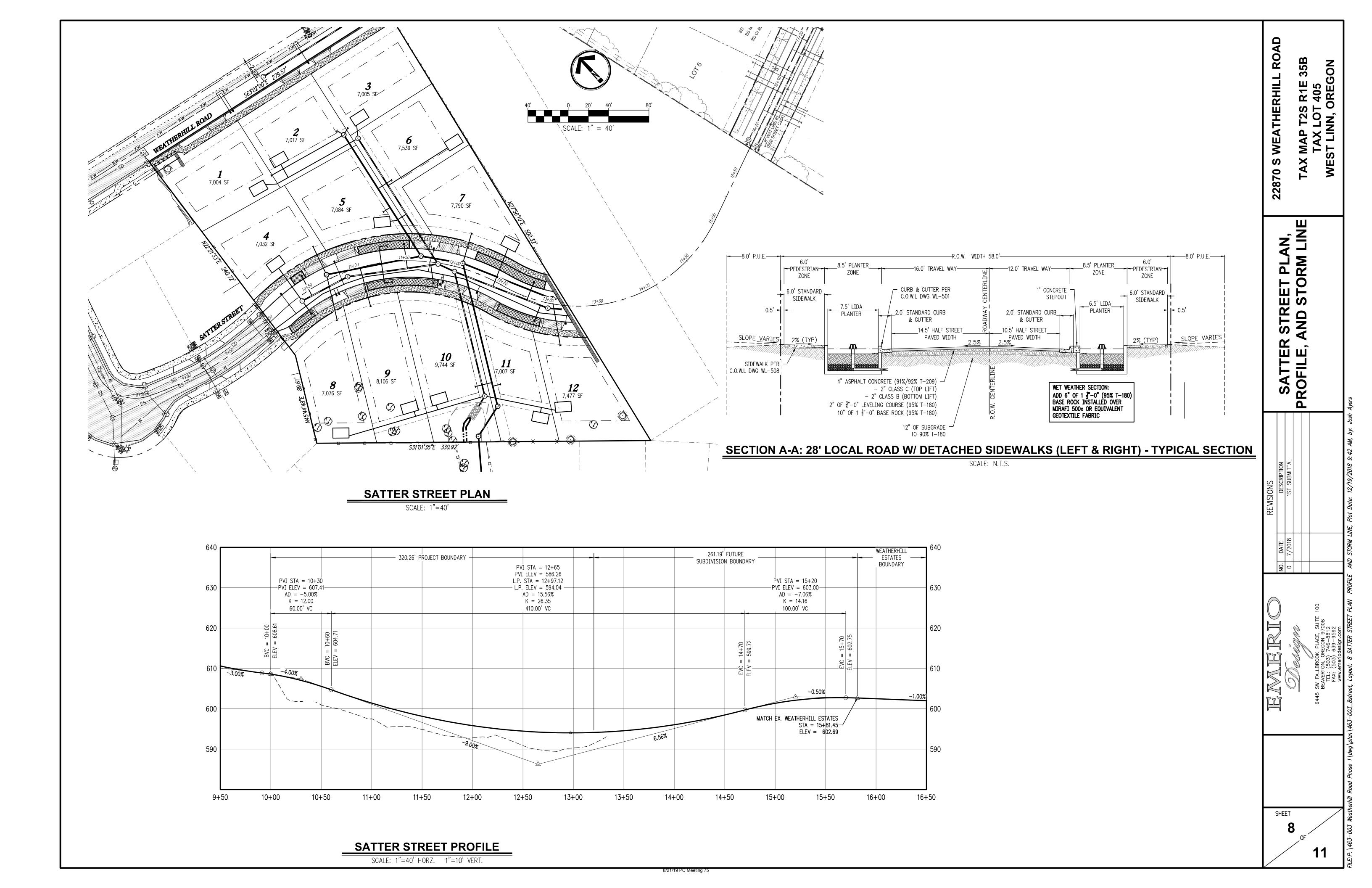
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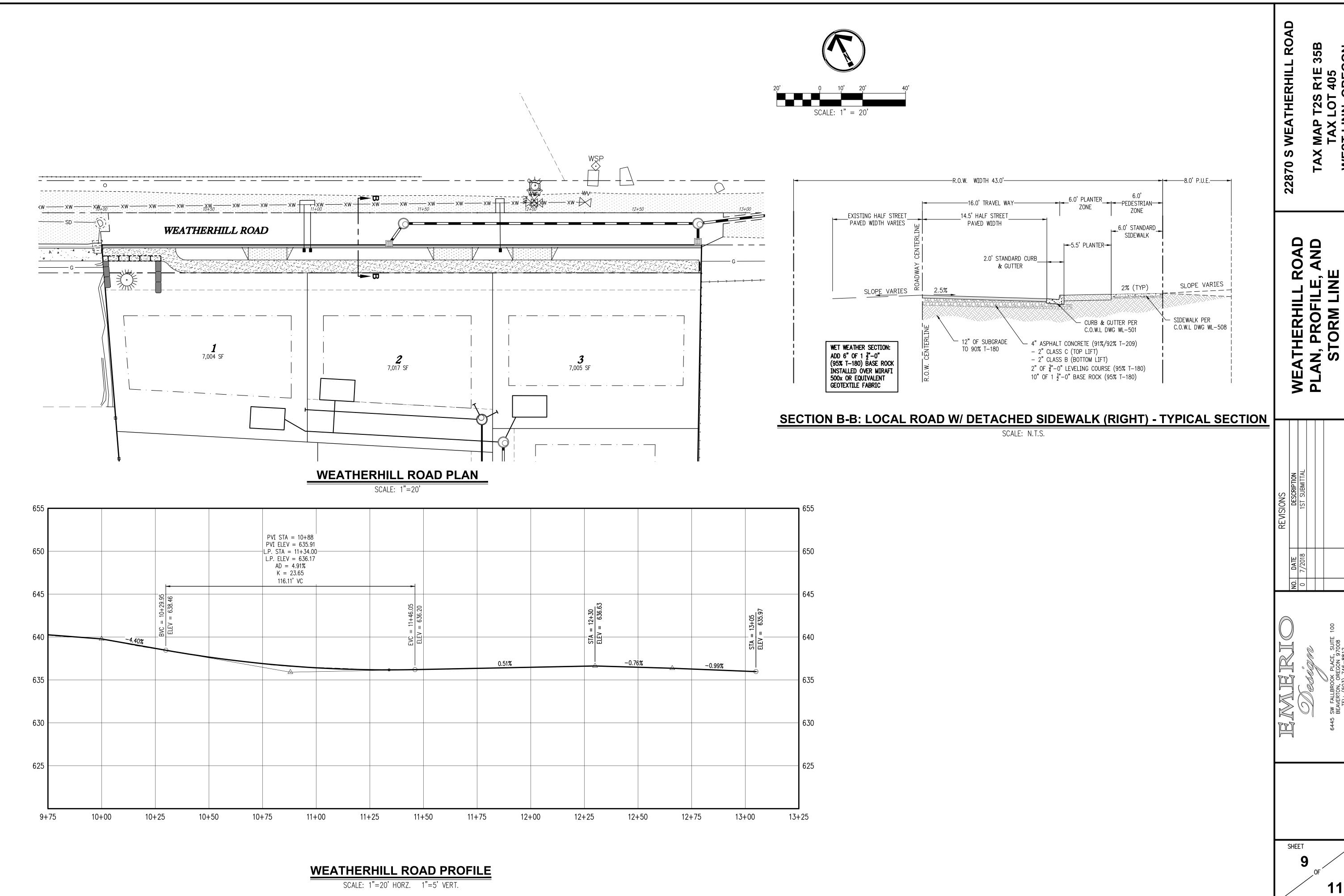


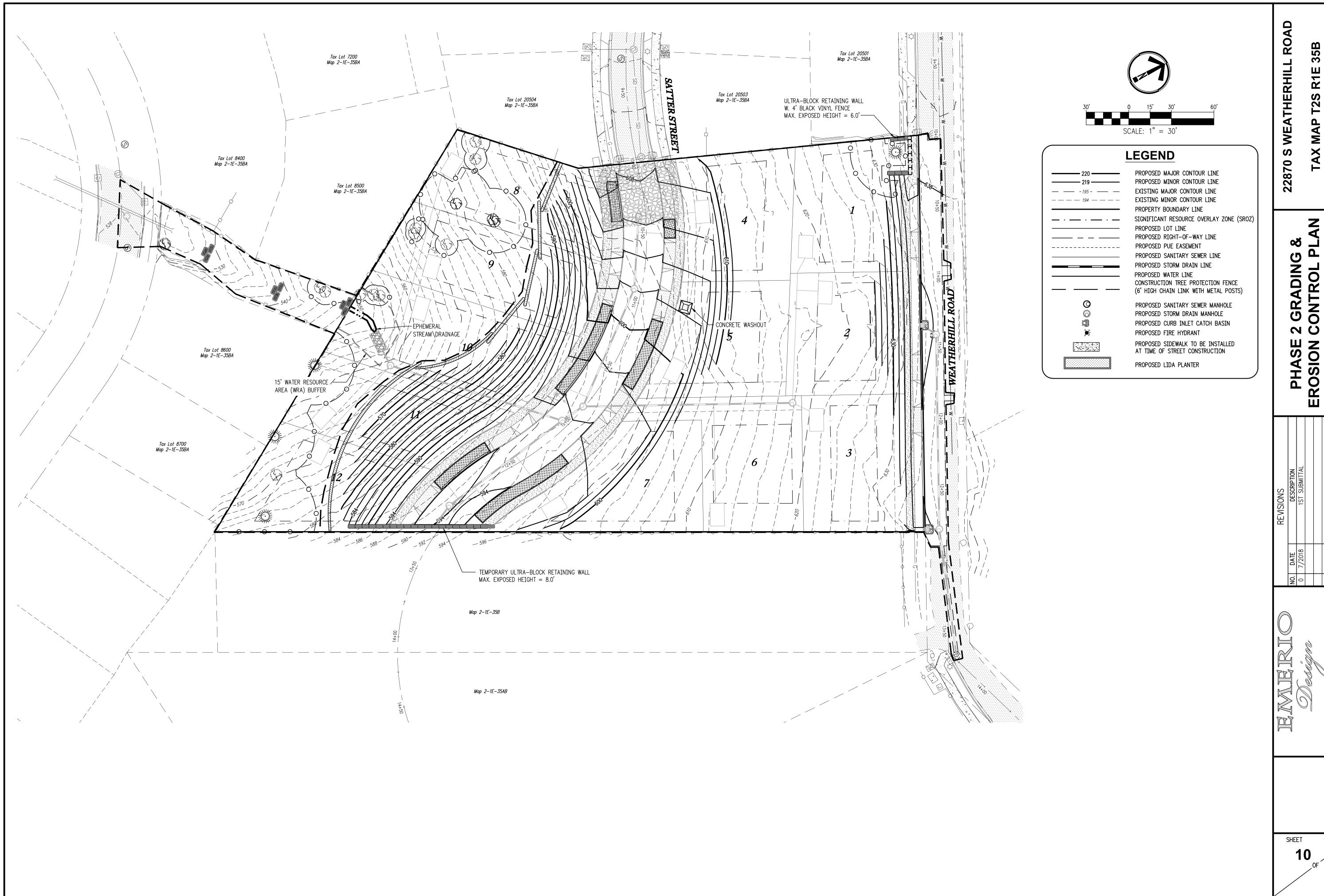


8/21/19 PC Meeting 73



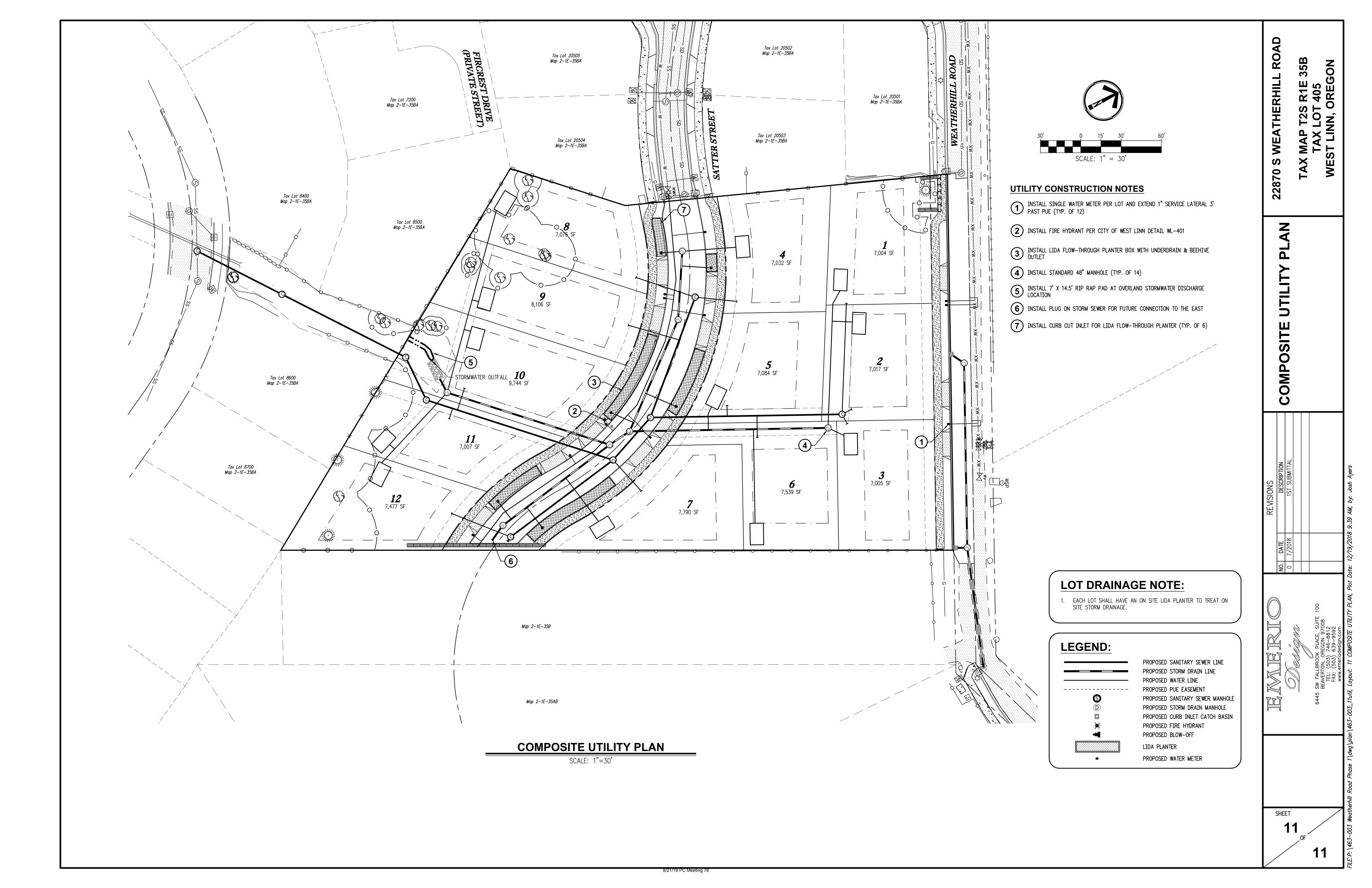






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GRADING & 0 0



City of West Linn

PRE-APPLICATION CONFERENCE MEETING

SUMMARY NOTES September 6, 2018

SUBJECT: Application for subdivision of 2.56 acre property (111,537 square foot) property

owned by David and Diana Dean at 22870 Weatherhill Road

FILE: PA-18-25

ATTENDEES: Applicants: Steve Miller & Eric Evans (Emerio Designs) Other Attendees: Ed Schwarz,

Roberta Schwarz, Steve & Margot Kelly, Bob Schultz and Jason Arn (TVFR). Staff:

Jennifer Arnold (Planning) and Erich Lais (Engineering)

The following is a summary of the meeting discussion provided to you from staff meeting notes. Additional information may be provided to address any "follow-up" items identified during the meeting. These comments are PRELIMINARY in nature. Please contact the Planning Department with any questions regarding approval criteria, submittal requirements, or any other planning-related items. Please note disclaimer statement below.

SITE INFORMATION:

Site Address: 22870 Weatherhill Road (21E35B tax lot 405)

Site Area: 2.56 acre (111,537 square feet)

Neighborhood: Savanna Oaks

Comp. Plan: Low density residential (West Linn)

Zoning: Single-Family Residential Detached and Attached (R-7)

Applicable code: CDC Chapter 12: (R-7 Zone)

CDC Chapter 32: Water Resource Area Protection

CDC Chapter 48: Access, Egress and Circulation

CDC Chapter 85: Land Division

CDC Chapter 92: Required Improvements

<u>PROJECT DETAILS</u>: This property, 22870 Weatherhill Road, was recently approved by City Council to annex into West Linn. The property is 111,537 square feet or approximately 2.56 acres. The property is also zoned R-7 which allows development of 7,000 square foot lots. The applicant is proposing 12 lots and continuing Satter Street through the property. Staff has recommended coordination with the neighboring property at 22864 Weatherhill for necessary easements, road connectivity, and tree protection.

<u>Engineering/TVFR Comments</u>: Contact Erich Lais at <u>elais@westlinnoregon.gov</u> for Engineering comments and Jason Arn at <u>Jason.arn@tvfr.com</u> for TVFR comments.

<u>Neighborhood/Public Concerns</u>: 1. Level of Service (Traffic) on Weatherhill Road and Satter Road; 2. The location of any ephemeral streams or wetlands on the property not to be disturbed; 3. Tree protection; 4. On-street parking on Satter.

PROCESS: The subdivision submittal requirements and approval criteria of CDC Chapter 85 apply. A stormwater report, geotechnical report, tree inventory are required. A traffic Impact Analysis may be required if this this project meets the criteria outlined in CDC Chapter 85, or the Public Works Director believes it's necessary. The applicant is required to apply for a Water Resource Area Protection (WAP) permit to define the stream and wetlands on the property. The subdivision application has a deposit fee of \$4,200 plus \$200 per lot. The WAP permit is \$2,600.

N/A is not an acceptable response to the approval criteria. The submittal requirements may be waived, but the applicant must first identify the specific submittal requirement and request, in letter form, that it be waived by the Planning Manager and must identify the specific grounds for that waiver.

A neighborhood meeting is required per CDC 99.038. Follow the requirements of that section explicitly. The site is within the Savanna Oaks neighborhood. Contact their president at SavannaOaksNA@westlinnoregon.gov.

Once the subdivision application and deposit/fee are submitted, the City has 30 days to determine if the application is complete or not. Once the submittal is deemed complete, the City has 120 days to exhaust all local review. The review includes providing notice per CDC Chapter 99 and scheduling a public hearing with the Planning Commission. Appeals of the Planning Commission's decision are heard by City Council and subsequently by the Land Use Board of Appeals.

Typical land use applications can take 6-12 months from beginning to end.

DISCLAIMER: This summary discussion covers issues identified to date. It does not imply that these are the only issues. The burden of proof is on the applicant to demonstrate that all approval criteria have been met. These notes are not intended as minutes of the meeting. These notes do not constitute an endorsement of the proposed application *or provide any assurance of potential outcomes*. Staff responses are based on limited material presented at this pre-application meeting. New issues, requirements, etc. could emerge as the application is developed. *A new pre-application conference would have to be scheduled after 18 months and these notes would no longer be valid. Any changes to the CDC standards may require a different design or submittal.*



CIVIL ENGINEERS, SURVEYORS & PLANNERS

September 11, 2018

Neighborhood Meeting

RE: Proposed Residential Subdivision

To Our Neighbors:

Emerio Design, LLC acts on behalf of the Schultz Development Group (SDG) regarding the planned subdivision of a property located at 22870 Weatherhill Road. The location of the property is shown on the attached map. The tax lot number for the property is 2S1E35B 405. The property is located inside the City of West Linn's boundaries and it is zoned R-7 for Single Family Dwellings. Prior to applying to the City of West Linn for subdivision review, we would like to take the opportunity to discuss the proposal in more detail with you. Before finalizing an application to the City's Planning Department for the proposed subdivision, we would like to take the opportunity to discuss this proposal with the members of the Savana Oaks and Willamette Neighborhood Associations and property owners residing within 500 feet of the property.

A meeting to discuss this project has been scheduled at the following time and location:

Informational Meeting
Tuesday, October 2nd at 7:00pm
TV&R Fire Station – Community Room
1860 Willamette Falls Drive
West Linn, OR 97068

The purpose of this meeting will be to provide a forum for surrounding property owners and residents to review the proposal and to identify issues so they can be given proper consideration. This meeting will provide the opportunity for the public to share with the project team any specific information about the property involved. The project team will try to answer questions related to how the project meets the relevant development standards consistent with West Linn's land use regulations.

Please note that this will be an informational meeting based on preliminary development plans and that these plans may change before the application is submitted to the City.

We look forward to discussing this proposal with you. Please feel free to contact us by emailing stevem@emeriodesign.com if you have any questions.

Sincerely, Steve Miller, Principal Planner Emerio Design, LLC

Steve Miller

From:

Steve Miller

Sent:

Tuesday, September 11, 2018 2:55 PM

To:

WillametteNA@westlinnoregon.gov

Subject:

Neighborhood meeting

Hi Mr. Mallory

We represent a client who is preparing to subdivide a property located on Weatherhill Rd. and have a neighborhood meeting scheduled with the Savana Oaks NA for October 2nd. I'm contacting you today because the boundary of the Willamette NA is within 500-feet of the property. I have a letter prepared to mail to you and your designee, but I need to get the name of your designee, as well as the mailing address for both you and the designee. We need to get the letters mailed out by tomorrow, so your help is greatly appreciated.

Kind Regards,

Steve



Steve Miller | Senior Planner/Project Manager

6445 SW Fallbrook Place, Suite 100, Beaverton, OR 97008 Ofc: 503.746.8812 Cell: 541.318.7487 | www.emeriodesign.com

Steve Miller

From:

Steve Miller

Sent:

Wednesday, September 12, 2018 1:45 PM

To:

'WillametteNA@westlinnoregon.gov'

Cc:

'Arnold, Jennifer'

Subject:

RE: Neighborhood meeting

Attachments:

Clackamas Co Assessor Map_03_2s1e35b.pdf; Willamette NA Notice Letter.docx

Importance:

High

Hello Mr. Mallory,

Since I was unable to receive your mailing address in time to send you the required certified mail notice for our upcoming Neighborhood meeting with the Savana Oaks NA, I am sending you the notice via email. Please forward a copy of the attached notice letter and Assessor map to your designee of choice as required by the City's code. We greatly appreciate your help with this matter and we look forward to seeing you at the upcoming neighborhood meeting on October 2nd. Should you have any questions, please don't hesitate contacting me at any time.

Best Regards,

Steve



Steve Miller | Senior Planner/Project Manager 6445 SW Fallbrook Place, Suite 100, Beaverton, OR 97008 Ofc: 503.746.8812 Cell: 541.318.7487 | www.emeriodesign.com

From: Steve Miller

Sent: Tuesday, September 11, 2018 2:55 PM To: WillametteNA@westlinnoregon.gov

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CIVIL ENGINEERS, SURVEYORS & PLANNERS

September 11, 2018

Willamette Neighborhood Association

Andrew Mallory, President

RE: 22870 Weatherhill Road – Proposed 12 Lot Residential Subdivision

Dear Mr. Mallory,

Emerio Design, LLC acts on behalf of the Schultz Development Group (SDG), regarding the planned subdivision of a property located at 22870 Weatherhill Road. The location of the property is shown on the attached map. The tax lot number for the property is 2S1E35B 405. The property is located inside the City of West Linn's boundaries and it is zoned R-7 for Single Family Dwellings.

Schultz Development Group is considering a subdivision of the 2.57 acre property in order to create twelve (12) new single-family residential lots. Each of the twelve proposed lots will meet or exceed 7,000 square feet, which is the minimum lot size within the R-7 zoning district.

Before finalizing an application to the City's Planning Department for the proposed subdivision, we would like to take the opportunity to discuss this proposal with the members of the Savana Oaks Neighborhood Association and property owners residing within 500 feet of the property.

The purpose of this meeting will be to provide a forum for surrounding property owners and residents to review the proposal and identify issues so they can be given proper consideration. These meetings are required so the public can share any specific information about the property with the project team. The project team will try to answer questions related to how the project meets the relevant development standards consistent with West Linn's land use regulations.

We would like to formally request a meeting with the Savana Oaks Neighborhood Association. As we discussed via email, we would like to be included on the agenda of the Savana Oaks Neighborhood Association's October 2nd meeting. This is the date we will use to send notification to residents located within the City's 500-foot notification boundary. A copy of this letter also will be sent to the Willamette Neighborhood Association by certified mail since the neighborhood boundary is within 500 feet of this property.

Please note that this will be an informational meeting based upon preliminary development plans and that these plans may change before the application is submitted to the City. If the proposed meeting

is acceptable, we would ask that you please respond to this letter with an email to stevem@emeriodesign.com or phone call to my cell 541-318-7487.

Steve Miller

Sincerely, Steve Miller Principal Planner Emerio Design, LLC



CIVIL ENGINEERS, SURVEYORS & PLANNERS

September 11, 2018

Savana Oaks Neighborhood Association

Ed Schwarz, President 2206 Tannler Drive West Linn, OR 97068

RE: 22870 Weatherhill Road – Proposed 12 Lot Residential Subdivision

Dear Mr. Schwarz,

Emerio Design, LLC acts on behalf of the Schultz Development Group (SDG), regarding the planned subdivision of a property located at 22870 Weatherhill Road. The location of the property is shown on the attached map. The tax lot number for the property is 2S1E35B 405. The property is located inside the City of West Linn's boundaries and it is zoned R-7 for Single Family Dwellings.

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Please note that this will be an informational meeting based upon preliminary development plans and that these plans may change before the application is submitted to the City. If the proposed meeting is acceptable, we would ask that you please respond to this letter with an email to stevem@emeriodesign.com or phone call to my cell 541-318-7487.

Sincerely, Steve Miller, Principal Planner Emerio Design, LLC



CIVIL ENGINEERS, SURVEYORS & PLANNERS

September 11, 2018

Savana Oaks Neighborhood Association

Roberta Schwarz, President Designee 2206 Tannler Drive West Linn, OR 97068

RE: 22870 Weatherhill Road – Proposed 12 Lot Residential Subdivision

Dear Mrs. Schwarz,

Emerio Design, LLC acts on behalf of the Schultz Development Group (SDG), regarding the planned subdivision of a property located at 22870 Weatherhill Road. The location of the property is shown on the attached map. The tax lot number for the property is 2S1E35B 405. The property is located inside the City of West Linn's boundaries and it is zoned R-7 for Single Family Dwellings.

Schultz Development Group is considering a subdivision of the 2.57 acre property in order to create twelve (12) new single-family residential lots. Each of the twelve proposed lots will meet or exceed 7,000 square feet, which is the minimum lot size within the R-7 zoning district.

Before finalizing an application to the City's Planning Department for the proposed subdivision, we would like to take the opportunity to discuss this proposal with the members of the Savana Oaks Neighborhood Association and property owners residing within 500 feet of the property.

The purpose of this meeting will be to provide a forum for surrounding property owners and residents to review the proposal and identify issues so they can be given proper consideration. These meetings are required so the public can share any specific information about the property with the project team. The project team will try to answer questions related to how the project meets the relevant development standards consistent with West Linn's land use regulations.

We would like to formally request a meeting with the Savana Oaks Neighborhood Association. As we discussed via email, we would like to be included on the agenda of the Savana Oaks Neighborhood Association's October 2nd meeting. This is the date we will use to send notification to residents located within the City's 500-foot notification boundary. A copy of this letter also will be sent to the Willamette Neighborhood Association by certified mail since the neighborhood boundary is within 500 feet of this property.

Please note that this will be an informational meeting based upon preliminary development plans and that these plans may change before the application is submitted to the City. If the proposed meeting is acceptable, we would ask that you please respond to this letter with an email to stevem@emeriodesign.com or phone call to my cell 541-318-7487.

Sincerely, Steve Miller, Principal Planner Emerio Design, LLC

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON E	
Complete items 1, 2, and 3.Print your name and address on the reverse so that we can return the card to you.	A Signature Roberty) X Fel Schwarz	☐ Agent ☐ Addressee
Attach this card to the back of the mailpiece, or on the front if space permits.	B. Register Printed Namel Co.	9-18-18
1. Article Addressed to: Savana Oaks NA	D. Is delivery address different from If YES, enter delivery address b	
Ed Schwarz, fresident 2204 Tanneler Dr.		
Westlinn, on 97068		
	3. Service Type Adult Signature	☐ Priority Mail Express® ☐ Registered Mail™
	☐ Adult Signature Restricted Delivery ☐ Certified Mail®	☐ Registered Mail Restricted Delivery ☐ Return Receipt for
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Complete items 1, 2, and 3.	A. Signature	CCCE AD Agent
Print your name and address on the reverse so that we can return the card to you.	X XOVELA OCH	Addressee
Attach this card to the back of the mailpiece, or on the front if space permits.	B. Received by (Printed Name)	C. Date of Delivery
1. Article Addressed to: Roberta Schwarz	D. Is delivery address different from If YES, enter delivery address	
2206 Tannler Dr.		2000-2000-20
west Linn, on 97068		
	3. Service Type	☐ Priority Mail Express®
	☐ Adult Signature ☐ Adult Signature Restricted Delivery ☐ Certified Mail®	☐ Registered Mail Restricted ☐ Registered Mail Restricted Delivery
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	PS Form 3800, July 2014	or 9	7668 See Reverse for Instructions	

Bobby Maslen Bobby Maslen Simpson Realty Group Lp 12205 SW Tualatin Rd Ste 240 12205 SW Tualatin Rd Ste 240 8110 East Union Ave Tualatin, OR 97062 Tualatin, OR 97062 Denver, CO 80237 Sequoia Heights Capital Partners Main Source Management LLC David Hardy LLC 841 SW Gaines St Unit 904 22915 S Weatherhill Rd 1101 Fifth Ave Ste 300 Portland, OR 97239 West Linn, OR 97068 San Rafael, CA 94901 Robert Bauer John Nilsen Main Source Management LLC 23000 S Bland Cir 23010 Bland Cir 841 SW Gaines St Unit 904 West Linn, OR 97068 West Linn, OR 97068 Portland, OR 97239 Main Source Management LLC Robert Bauer City Of West Linn 841 SW Gaines St Unit 904 22500 Salamo Rd #600 23000 S Bland Cir Portland, OR 97239 West Linn, OR 97068 West Linn, OR 97068 Edwin Winkler III Simpson Realty Group Lp David Landau 19363 Willamette Dr 8110 East Union Ave 23065 Bland Cir West Linn, OR 97068 Denver, CO 80237 West Linn, OR 97068 Musalo Robert Trustee Kling Daniel C Trustee Jay Hemmady 23056 Bland Cir 23060 Bland Cir 2115 Fircrest Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Jon Nichols Stacee Malcolm Jiang Yu 2125 Fircrest Dr 2135 Fircrest Dr 2150 Fircrest Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Tad Remington Thomas Corry David Huberty 2140 Fircrest Dr 2130 Fircrest Dr 2120 Fircrest Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 David Huberty Michael Jones Yang Zhuang 2120 Fircrest Dr 23025 Bland Cir 3491 Cascade Ter West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Amanda Hwang Steven Haney Theron Jensen

2215 Crestview Dr

West Linn, OR 97068

2211 Crestview Dr

West Linn, OR 97068

23043 Bland Cir

West Linn, OR 97068

Donald Gabel Michael Howard Erik Emerick 2225 Crestview Dr 2235 Crestview Dr 2245 Crestview Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Jeremy Rower Darren Karr Le Hong 2255 Crestview Dr 2160 Fircrest Dr 207 N Payne St West Linn. OR 97068 Alexandria, VA 22314 West Linn, OR 97068 David Quesnel Nathan Wolf Jie Zhang 3840 NW 118th PI 2295 Crestview Dr 2275 Crestview Dr West Linn, OR 97068 Portland, OR 97229 West Linn, OR 97068 Wade Radcliffe Brian Bell Charles Mathews III 2290 Crestview Dr 2305 Crestview Dr 2300 Crestview Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Edison Ghorbani-Elizeh Thomas Sobotta David Jacobs 2280 Crestview Dr 2270 Crestview Dr 2260 Crestview Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Chan John H Trustee David Ritter Lin Luo 2250 Crestview Dr 2220 Crestview Dr 23045 Bland Cir West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Richard Mreen Cory Huot Vikram Shevde 21915 SW Stafford Rd 23063 Bland Cir 23049 Bland Cir West Linn, OR 97068 Tualatin, OR 97062 West Linn, OR 97068 Posev Michael E Trustee Lorentz Bruun Terry Griffith 628 Marlin Ct 23069 Bland Cir 23083 Bland Cir Redwood City, CA 94065 West Linn, OR 97068 West Linn, OR 97068 Ann Hillson Troy Pendergraft Sean Driggers 23075 Bland Cir 23073 Bland Cir 2310 Crestview Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Rozita Walsh Abhishek Manohar City Of West Linn 22500 Salamo Rd #600 2320 Crestview Dr 2330 Crestview Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068

City Of West Linn City Of West Linn Tad Remington 22500 Salamo Rd #600 22500 Salamo Rd #600 2140 Fircrest Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 City Of West Linn Karin Schaffer Jennifer Pakula 22500 Salamo Rd #600 2512 Crestview Dr 2500 Crestview Dr West Linn, OR 97068 West Linn. OR 97068 West Linn, OR 97068 Main Source Management LLC Christopher Fry James Betty III 841 SW Gaines St Unit 904 2471 Crestview Dr 2483 Crestview Dr Portland, OR 97239 West Linn, OR 97068 West Linn, OR 97068 Charles Parker Robert Conlin C Briggs 2474 Crestview Dr 2498 Crestview Dr 2486 Crestview Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Klopfenstein Kurt Von Trustee Kuliti Shiferaw Susan Walter 23103 Bland Cir 2944 Sunbreak Ln 2956 Sunbreak Ln West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Willis Roc W Trustee Michael Leonard Mei Su 2443 Crest View Dr 2469 Crestview Dr 2455 Crestview Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Allan Klinck Parker Warren Jessica Reiland 2442 Crestview Dr 2454 Crest View Dr 2466 Crest View Dr West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 William Lorenz Daniel Floyd Bryan Robinson 2100 Satter St 2148 Satter St 2162 Satter St West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Matthew Craver James Gardner Cory Grant 2179 Satter St 2167 Satter St 2155 Satter St West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Jared Young **Daniel Schleef** Milette Oliveros 2149 Satter St 2137 Satter St 2113 Satter St West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 David Fogle Douglas Keller City Of West Linn 2125 Satter St 2101 Satter St 22500 Salamo Rd West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Thomas Horvath Jennie Snow Ankur Shah 2010 De Vries Way 2022 De Vries Way 2034 De Vries Way West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Christopher Thompson William Blount Stephen Kelly 2467 Satter St 2462 Satter St 2450 Satter St West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Ashley Lockridge Nicole Budden Jason Ferrell 2479 Satter St 2491 Satter St 2503 Satter St West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 David Drochner David Brodsky Dean McDonald 2515 Satter St 2510 Satter St 2498 Satter St West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Gennaro Iervolino Steven Hoffen Zhoudong Jia 2049 De Vries Way 6290 Haverhill Ct 2025 De Vries Way West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Erik Daniels Joshua Wright Brian Harrison 2213 De Vries Ln 2201 De Vries Ln 2225 De Vries Ln West Linn, OR 97068 West Linn, OR 97068 West Linn, OR 97068 Lin Luo **Matthew Pearce** David Phillips 1927 NW Jasmine Ln 22848 Weatherhill Rd 22852 Weatherhill Rd

West Linn, OR 97068

West Linn, OR 97068

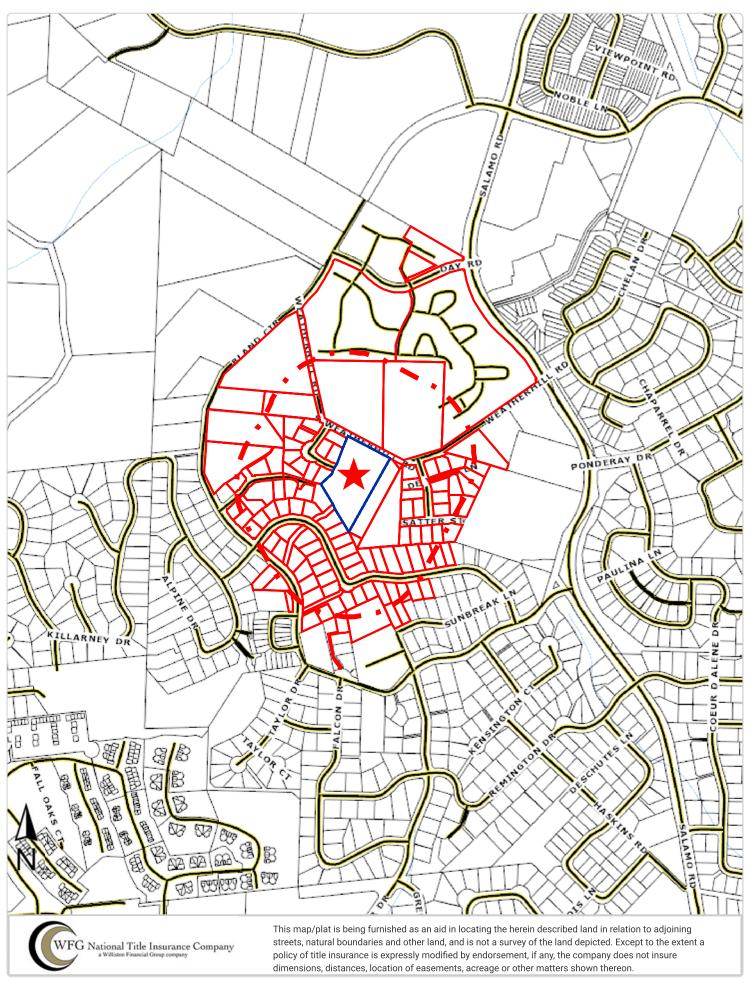
Yao Mai 22856 Weatherhill Rd West Linn, OR 97068

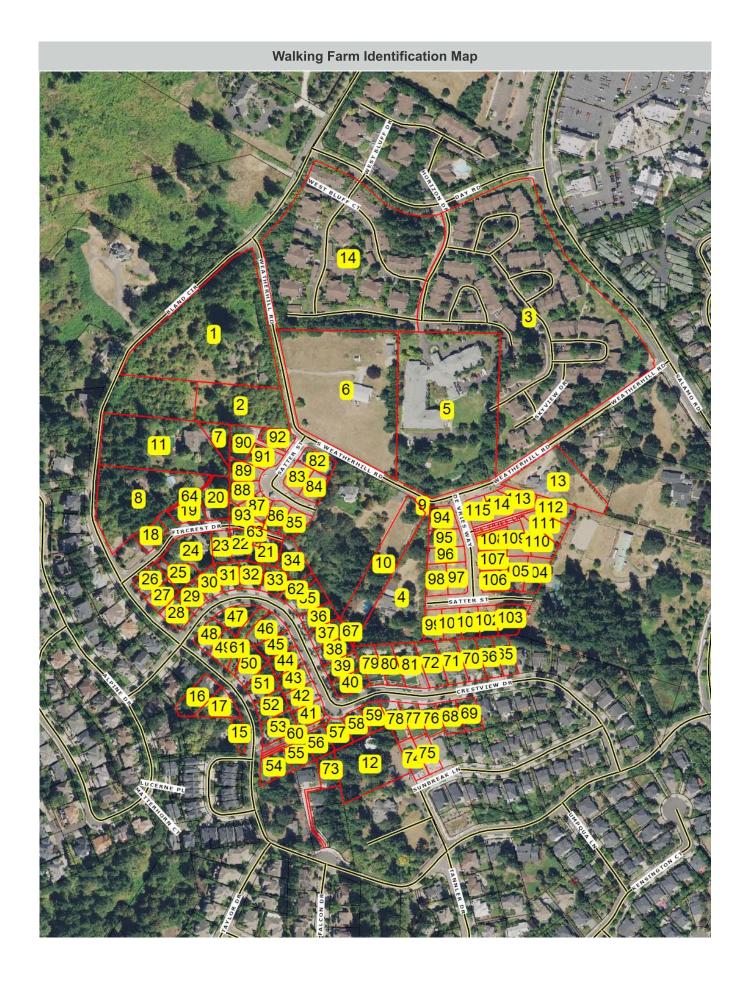
Portland, OR 97229











Farm Search Crite	ria		Average	es	
Parcel Type	Real Property,		Sale Price		3725,322.32
			Loan Amt	9	3468,310.94
			Sq Ft	3	3,490 SqFt
			Assessed	Total Value	6600,228.48
			Price/SqF	t: \$	\$220.70
	" 4				
L DY	# 1 Parcel #	00391702		Tax Account	21E26C 01500
	Site Address #	22910 Weathe	rhill Rd	Acres	3.54 Acres
是2000年	one Address "	West Linn OR		Adico	0.01710100
	Year Built	1925		Assessed Total Valu	e \$405,214.00
AS COURSE OF	Rec. Date	12/29/2004		Sale Price	,
00391702	Bedrooms	3		Bathrooms	1.00
	Total Rooms			Sq Ft	1,766 SqFt
	Owner	Maslen, Bobby	Lvnn	- 1	.,
		madion, Bobb)	_,		
	# 2				
	Parcel #	00391720		Tax Account	21E26C 01502
	Site Address #	West Linn OR	97068	Acres	1.03 Acres
	Year Built			Assessed Total Valu	e \$118,624.00
	Rec. Date	12/29/2004		Sale Price	
	Bedrooms			Bathrooms	
	Total Rooms			Sq Ft	
	Owner	Maslen, Bobby	' Lynn		
	,# 3				
	Parcel #	00391837		Tax Account	21E26D 01200
	Site Address #	22201 Skyviev	/ Dr	Acres	10.62 Acres
		West Linn OR	97068		
	Year Built			Assessed Total Valu	e \$16,403,365.00
	Rec. Date	6/22/2004		Sale Price	
00391837	Bedrooms			Bathrooms	
	Total Rooms			Sq Ft	1,008 SqFt
	Owner	Simpson Realt	y Group Lp	0	
	# 4				
	Parcel #	00405127		Tax Account	21E35AB08500
	Site Address #	22864 S Weat	nerhill Rd	Acres	1.38 Acres
		West Linn OR			-
	Year Built	1978		Assessed Total Valu	e \$713,303.00
	Rec. Date	7/9/2018		Sale Price	\$1,300,000.00
	Bedrooms	5		Bathrooms	3.00
	Total Rooms			Sq Ft	3,866 SqFt
	Owner	Main Source N	lanagemer	•	
	# <i>r</i>				
6	# 5	00405044		Tan Assessed	045055 00400
	Parcel #	00405341	D.	Tax Account	21E35B 00100
W. S. S. S. S.	Site Address #	23000 Horizon West Linn OR		Acres	4.48 Acres
	Year Built	West Littli OR	ə1 UUO	Assessed Total Valu	a \$0.301.102.00
	Rec. Date	5/12/2008		Sale Price	. , ,
00405341		J/ 12/2008			\$9,400,000.00
00400341	Bedrooms			Bathrooms	

Sequoia Heights Capital Partners LLC 8/21/19 PC Meeting 101

1,838 SqFt

Sq Ft

Owner

Total Rooms

4	# 6
A A A	Parcel #
	Site Addre
06.00	
	Year Built
The Paris of The	Rec. Date
00405350	Bedrooms

00405350 Parcel # Site Address # 22915 S Weatherhill Rd

West Linn OR 97068

1984 9/27/2013 3

00405378

8/24/2012

00405396

West Linn OR 97068

Bedrooms **Total Rooms**

Owner Hardy, David L **Tax Account** 21E35B 00101 Acres 3.75 Acres

Assessed Total Value

Sale Price

Bathrooms

3,960 SqFt Sq Ft

\$428,641.00

21E35B 00201

21E35B 00400

21E35B 00401

\$1,300,000.00

21E35B 00403

0.95 Acres

\$69,838.00

\$1,300,000.00

0.02 Acres

\$2,161.00

0.20 Acres

\$14,813.00

3.50

#7

Parcel # Site Address #

Year Built Rec. Date

Bedrooms Total Rooms **Tax Account**

Acres

Assessed Total Value

Sale Price **Bathrooms** Sq Ft

Owner Bauer, Robert L



#8 Parcel # Site Address #

23010 Bland Cir West Linn OR 97068 Year Built 1991

Rec. Date 4/5/1995 **Bedrooms** 4 **Total Rooms**

Owner Nilsen, John **Tax Account**

Acres 1.57 Acres

Assessed Total Value \$614,424.00 Sale Price \$380,000.00 **Bathrooms** 2.50

Sq Ft 3,267 SqFt

#9

Parcel # Site Address # Year Built

Bedrooms

Total Rooms

Rec. Date

7/9/2018

00405403

OR 97068

Tax Account Acres

Assessed Total Value Sale Price

Bathrooms Sq Ft

Owner Main Source Management LLC

10

Parcel # Site Address #

Year Built Rec. Date

Bedrooms Total Rooms

Owner

00405421

OR 97068

7/9/2018

Tax Account Acres

Assessed Total Value

Sale Price **Bathrooms**

Sq Ft

Main Source Management LLC

	# 11
	Parcel #
	Site Addre
APP LANGE	Year Built
	Rec. Date
00405430	Bodroome

Parcel # Site Address #

00405430 23000 Bland Cir West Linn OR 97068 **Tax Account** 21E35B 00404 Acres 1.72 Acres

Assessed Total Value

\$716,775.00

Rec. Date

8/24/2012

1981

Sale Price

Bathrooms

Sq Ft

Total Rooms

Bedrooms 5 **Bathrooms** Sq Ft

4.00 5,470 SqFt

Owner Bauer, Robert L

12

Parcel # Site Address #

Year Built

00405494 23120 Bland Cir West Linn OR 97068 **Tax Account** 21E35B 00504 Acres 1.01 Acres

Assessed Total Value Sale Price

Rec. Date **Bedrooms Total Rooms** \$841,930.00

City Of West Linn

#13

Owner

Parcel # Site Address # 01405599 22844 Weatherhill Rd **Tax Account** 21E35AB08600 Acres 0.92 Acres

West Linn OR 97068 Year Built 2015 9/16/2014 Rec. Date

Assessed Total Value Sale Price **Bathrooms**

\$758,395.00 \$318,000.00 4.50

Bedrooms Total Rooms

Sq Ft

6,913 SqFt

Owner Winkler, Edwin W III

Year Built

14

Parcel # 01696784 Site Address #

22880 West Bluff Dr Bldg Acres

21E26D 01001 0.46 Acres

West Linn OR 97068

Assessed Total Value

\$676,988.00

Rec. Date 6/22/2004 Sale Price **Bedrooms**

Bathrooms

Tax Account

Sq Ft

1,688 SqFt

Owner Simpson Realty Group Lp

15

Parcel # Site Address #

Total Rooms

01830674 West Linn OR 97068 **Tax Account** Acres

21E35BA00190

Year Built

Assessed Total Value

0.09 Acres \$11,814.00

Rec. Date **Bedrooms Total Rooms** 7/1/1998

Sale Price **Bathrooms** Sq Ft

Owner Landau, David

	# 16
	Parcel #
	Site Addre
	Year Built
	Rec. Date
01858341	Bedrooms

Parcel # Site Address #

23056 Bland Cir

01858341

01858350

West Linn OR 97068

2001

Rec. Date 11/15/2016

Bedrooms 5 **Total Rooms**

Owner Kling Daniel C Trustee **Tax Account** 21E35BA04400 Acres 0.27 Acres

\$444,385.00

\$503,701.00

\$531,000.00

\$501,744.00

2.50

Assessed Total Value

Sale Price

Bathrooms 5.00

Sq Ft 3,737 SqFt



17 Parcel

Site Address # 23060 Bland Cir West Linn OR 97068 Year Built 2002 Rec. Date 6/20/2005

Total Rooms

Owner Hemmady, Jay S **Tax Account** 21E35BA04500 Acres 0.22 Acres

Assessed Total Value \$501,500.00 Sale Price \$583,000.00

Bathrooms 4.00

Sq Ft 3,948 SqFt



18 Parcel # Site Address

01858591 2115 Fircrest Dr West Linn OR 97068 2000 Year Built

3/5/2007 Rec. Date **Bedrooms Total Rooms**

Owner Musalo Robert Trustee

01858608

8/15/2013

2001

4

2125 Fircrest Dr

West Linn OR 97068

Tax Account 21E35BA06900 Acres 0.16 Acres

Assessed Total Value

Sale Price

Bathrooms 2.50

Sq Ft 2,832 SqFt

19

Parcel # Site Address #

Year Built Rec. Date Bedrooms

Total Rooms

Owner Nichols, Jon R **Tax Account** 21E35BA07000 Acres 0.20 Acres

Assessed Total Value \$478,990.00

Bathrooms 2.50

Sq Ft 3,336 SqFt

20

Parcel #

Site Address #

Year Built Rec. Date Bedrooms

Total Rooms

Owner

01858617 2135 Fircrest Dr

West Linn OR 97068 2002

5/21/2012

Malcolm, Stacee Rae

Tax Account Acres

21E35BA07100 0.31 Acres

Assessed Total Value

Sale Price

Sale Price

Bathrooms

Sq Ft 4,014 SqFt

	# 21
	Parcel #
	Site Addre
	Year Built
AND SERVICE SE	Rec. Date
01858626	Bedrooms

21 Parcel # Site Address

West Linn OR 97068 Year Built 2001 Rec. Date 6/27/2001

4

01858626

01858635

01858644

01858653

2130 Fircrest Dr

2140 Fircrest Dr

2150 Fircrest Dr

Total Rooms

Owner Yu, Jiang **Tax Account** 21E35BA07200 Acres 0.20 Acres

Assessed Total Value \$488,961.00 Sale Price \$91,500.00 **Bathrooms** 3.50

Sq Ft 3,190 SqFt



22 Parcel # Site Address

West Linn OR 97068 Year Built 2001 Rec. Date 5/7/2008 **Bedrooms**

Owner Remington, Tad W **Tax Account** 21E35BA07300 Acres 0.18 Acres

Assessed Total Value \$647,505.00 Sale Price \$825,000.00 **Bathrooms** 3.50

Sq Ft 4,797 SqFt



23 Parcel # Site Address

Total Rooms

West Linn OR 97068 Year Built 2001 6/17/2005 Rec. Date Bedrooms 4 **Total Rooms**

Owner Corry, Thomas B **Tax Account** 21E35BA07400 Acres 0.17 Acres

Assessed Total Value \$676,950.00 Sale Price \$750,000.00 **Bathrooms** 3.50

Sq Ft 4,992 SqFt



24 Parcel

Total Rooms

Site Address # 2120 Fircrest Dr West Linn OR 97068

Year Built 1988 Rec. Date 9/28/2007 Bedrooms 4

Owner Huberty, David P **Tax Account** 21E35BA07500 Acres 0.41 Acres

Assessed Total Value \$720,967.00 Sale Price \$996,000.00 **Bathrooms** 4.00

Sq Ft 4,805 SqFt

25

Parcel # 01858662 Site Address # 2110 Fircrest Dr

West Linn OR 97068

Year Built Rec. Date 9/28/2007

Bedrooms **Total Rooms**

Owner Huberty, David P **Tax Account**

Acres 0.21 Acres

Assessed Total Value Sale Price

Bathrooms Sq Ft

21E35BA07600

	# 26
	Parcel #
TO II.	Site Addre
and the same of th	Year Built
	Rec. Date
01858671	Bedrooms

26 Parcel # Site Address

23025 Bland Cir West Linn OR 97068

01858671

1999 8/3/2017 3

01858680

Zhuang, Yang

01858699

Jones, Michael K

Tax Account 21E35BA07700 Acres 0.18 Acres

Bathrooms

Assessed Total Value \$383,118.00 Sale Price \$515,000.00

2,345 SqFt Sq Ft

2.50

27 Parcel # Site Address

Total Rooms

Owner

23035 Bland Cir West Linn OR 97068 Year Built 1999 Rec. Date 5/1/2002 **Bedrooms** 3 **Total Rooms**

Tax Account 21E35BA07800 Acres 0.16 Acres

Assessed Total Value \$429,082.00 Sale Price \$359,000.00 **Bathrooms** 2.50 2,833 SqFt

Sq Ft



28 Parcel

Owner

Site Address # 23043 Bland Cir West Linn OR 97068 Year Built 2001 2/28/2013 Rec. Date

4

Hwang, Amanda Y

Tax Account 21E35BA07900 Acres 0.17 Acres

Assessed Total Value \$474,493.00 Sale Price \$432,000.00 **Bathrooms** 2.50

3,375 SqFt

21E35BA08000

0.16 Acres



29 Parcel # Site Address

Total Rooms

Owner

Year Built Rec. Date Bedrooms **Total Rooms**

Owner

01858706 2211 Crestview Dr West Linn OR 97068

2003 12/8/2014 4

Haney, Steven J

Assessed Total Value Sale Price

Sq Ft

Acres

Tax Account

\$380,543.00 \$507,000.00 **Bathrooms** 3.00 2,893 SqFt

Sq Ft



30 Parcel # Site Address

Year Built Rec. Date Bedrooms **Total Rooms**

Owner

01858715 2215 Crestview Dr West Linn OR 97068 1999

6/8/2012 3

Jensen, Theron K

Tax Account 21E35BA08100 Acres 0.16 Acres

Assessed Total Value \$380,119.00 Sale Price \$322,000.00 **Bathrooms** 2.00 Sq Ft 2,249 SqFt

N /A 2	# 31
	Parcel #
	Site Addre
	Year Built
	Rec. Date
01858724	Bedrooms

31 Parcel # Site Address

2225 Crestview Dr West Linn OR 97068

Gabel, Donald W

01858733

Emerick, Erik E

01858742

01858724

2002 4/30/2004

4

Assessed Total Value Sale Price **Bathrooms** Sq Ft

Tax Account

Acres

\$428,650.00

0.17 Acres

21E35BA08200

\$415,000.00 2.50

3,334 SqFt



32 Parcel # Site Address

Total Rooms

Owner

2235 Crestview Dr West Linn OR 97068 Year Built 2002 Rec. Date 5/20/2013 **Bedrooms Total Rooms**

Assessed Total Value Sale Price **Bathrooms** Sq Ft

Tax Account

Tax Account

Acres

0.18 Acres \$464,451.00 \$490,000.00

21E35BA08400

0.20 Acres

21E35BA08300

3.00 3,922 SqFt

33 Parcel # Site Address

Total Rooms

Owner

Owner

2245 Crestview Dr West Linn OR 97068 Year Built 2002 12/17/2015 Rec. Date **Bedrooms**

Acres **Assessed Total Value** Sale Price **Bathrooms** Sq Ft

\$428,797.00 \$510,000.00 2.50 3,466 SqFt



34 Parcel # Site Address

01858751 2160 Fircrest Dr West Linn OR 97068 Year Built 2001 Rec. Date 11/24/2010 Bedrooms

4

Hong, Le

Howard, Michael J

Assessed Total Value Sale Price **Bathrooms** Sq Ft

Tax Account

Acres

0.27 Acres \$590,062.00

\$490,000.00

21E35BA08500

3.50 3,914 SqFt



35 Parcel # Site Address

Total Rooms

Owner

Year Built Rec. Date Bedrooms **Total Rooms**

Owner

01858760 2255 Crestview Dr West Linn OR 97068 2002

5/2/2006

Rower, Jeremy A

Tax Account 21E35BA08600 Acres 0.23 Acres

Assessed Total Value \$458,948.00 Sale Price \$600,000.00 **Bathrooms** 3.00 Sq Ft 3,922 SqFt

	# 36
	Parcel #
	Site Addres
	1
	Year Built
	Rec. Date
01858779	Bedrooms

01858779 2265 Crestview Dr

West Linn OR 97068 2002

8/16/2005 4

Assessed Total Value Sale Price **Bathrooms**

Tax Account

Acres

0.18 Acres

21E35BA08700

\$429,806.00 \$523,848.00 2.50

Sq Ft 3,484 SqFt



37 Parcel # Site Address

Total Rooms

Owner

01858788 2275 Crestview Dr West Linn OR 97068 2002

Quesnel, David A

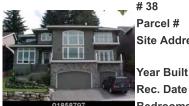
Karr, Darren

Tax Account 21E35BA08800 Acres 0.18 Acres

Year Built Rec. Date 6/30/2003 **Bedrooms Total Rooms**

\$447,317.00 **Assessed Total Value** Sale Price \$433,900.00 **Bathrooms** 3.00

Sq Ft 3,866 SqFt



38 Parcel # Site Address

Owner

01858797 2285 Crestview Dr 2002 Year Built

West Linn OR 97068 5/15/2014

Bedrooms 3 **Total Rooms**

Tax Account 21E35BA08900 Acres 0.18 Acres

Assessed Total Value \$533,439.00 Sale Price **Bathrooms**

\$638,000.00 3.50

Sq Ft 4,265 SqFt

39 Parcel

Owner

01858804 Site Address # 2295 Crestview Dr West Linn OR 97068

Year Built Rec. Date Bedrooms

Total Rooms

Owner

2002 4/30/2013 3

Wolf, Nathan

Zhang, Jie

Assessed Total Value

Tax Account

Tax Account

Acres

Acres

0.18 Acres \$448,064.00

21E35BA09000

Sale Price \$490,000.00 **Bathrooms** 2.50

Sq Ft 3,379 SqFt



40 Parcel # Site Address

Year Built Rec. Date Bedrooms **Total Rooms**

Owner

01858813 2305 Crestview Dr West Linn OR 97068

Mathews, Charles W III

2000 10/31/2001 **Assessed Total Value** Sale Price **Bathrooms**

21E35BA09100 0.18 Acres

\$482,591.00 \$455,000.00 2.50 3,486 SqFt Sq Ft

	# 41
	Parcel #
	Site Addre
	Year Built
	Rec. Date
01858822	Bedrooms

2300 Crestview Dr

West Linn OR 97068

Radcliffe, Wade

01858831

01858840

2000 6/6/2000 4

01858822

Assessed Total Value Sale Price **Bathrooms**

Tax Account

Acres

\$478,904.00 \$82,000.00

3.00

0.17 Acres

21E35BA09200

Sq Ft 3,646 SqFt



42 Parcel # Site Address

Total Rooms

Owner

2290 Crestview Dr West Linn OR 97068 Year Built 2000 Rec. Date 1/29/2001 **Bedrooms**

Total Rooms Owner Bell, Brian N **Tax Account** 21E35BA09300 Acres 0.18 Acres

\$442,142.00 **Assessed Total Value** Sale Price \$317,000.00 **Bathrooms** 2.50

Sq Ft 3,291 SqFt



43 Parcel # Site Address

2280 Crestview Dr West Linn OR 97068 2000 Year Built 9/6/2001 Rec. Date Bedrooms 5

Total Rooms Owner Ghorbani-Elizeh, Edison

Tax Account 21E35BA09400 Acres 0.18 Acres

Assessed Total Value \$519,108.00 Sale Price \$449,100.00 **Bathrooms** 3.50 Sq Ft 3,896 SqFt

01858859

4/12/2012

2001

2270 Crestview Dr

West Linn OR 97068



44 Parcel # Site Address

Year Built Rec. Date **Bedrooms Total Rooms**

Owner

6 Sobotta, Thomas J **Tax Account** 21E35BA09500 0.17 Acres **Acres**

Assessed Total Value \$568,233.00 Sale Price \$457,000.00 **Bathrooms** 4.50 Sq Ft 3,921 SqFt



45 Parcel # Site Address

Year Built Rec. Date **Bedrooms Total Rooms** Owner

01858868 2260 Crestview Dr West Linn OR 97068 2001

7/9/2014

Assessed Total Value Sale Price **Bathrooms**

Tax Account

Acres

Sq Ft

\$532,017.00 \$650,000.00 4.00 4,052 SqFt

21E35BA09600

0.18 Acres

Jacobs, David Alan

	# 46
×6,00	Parcel #
	Site Addre
E E	Year Built
	Rec. Date
01858877	Bedrooms

2250 Crestview Dr West Linn OR 97068

01858877

01858886

01858895

01858902

2220 Crestview Dr

2001 9/28/2001 3

Bedrooms Total Rooms

Owner Chan John H Trustee **Tax Account** 21E35BA09700 Acres 0.22 Acres

Assessed Total Value \$395,018.00 Sale Price \$85,000.00 **Bathrooms** 2.50

Sq Ft 2,933 SqFt



47 Parcel # Site Address

West Linn OR 97068 Year Built 2002 Rec. Date 8/1/2014 **Bedrooms Total Rooms**

Owner Luo, Lin **Tax Account** 21E35BA09800 Acres 0.22 Acres

Assessed Total Value \$570,798.00 Sale Price \$729,500.00 **Bathrooms** 4.00

Sq Ft 4,521 SqFt



48 Parcel # Site Address

23045 Bland Cir West Linn OR 97068

Year Built 2001 7/10/2007 Rec. Date **Bedrooms**

Total Rooms

Owner Ritter, David **Tax Account** 21E35BA09900 Acres 0.16 Acres

Assessed Total Value \$422,833.00 Sale Price \$548,500.00

Bathrooms 2.50

Sq Ft 3,055 SqFt



49 Parcel

Site Address # 23049 Bland Cir West Linn OR 97068

4

Year Built 2000 6/11/2015

Rec. Date Bedrooms

Total Rooms

Owner Mreen, Richard **Tax Account** 21E35BA10000 Acres 0.18 Acres

\$447,788.00

Assessed Total Value

Sale Price

Bathrooms 2.50

Sq Ft 2,786 SqFt

50 Parcel

01858911 Site Address # 23055 Bland Cir West Linn OR 97068

2001 Year Built Rec. Date 1/11/2002 Bedrooms

Total Rooms

Owner Huot, Cory L **Tax Account** 21E35BA10100 Acres 0.23 Acres

Assessed Total Value \$444,797.00 Sale Price \$379,594.00 **Bathrooms** 2.50

Sq Ft 3,069 SqFt

	# 51
	Parc
- LU B	Site
	Year
	Rec.
01858920	Bedi

West Linn OR 97068 Year Built 1999 Rec. Date 6/11/2014

01858920

01858939

23067 Bland Cir

23063 Bland Cir

Bedrooms **Total Rooms**

Owner Shevde, Vikram **Tax Account** 21E35BA10200 Acres 0.22 Acres

Assessed Total Value \$492,332.00 Sale Price \$489,900.00 **Bathrooms** 2.50

Sq Ft 3,003 SqFt



52 Parcel # Site Address

West Linn OR 97068 Year Built 1999 Rec. Date 9/5/2012 **Bedrooms Total Rooms**

Owner Posey Michael E Trustee

Tax Account 21E35BA10300 Acres 0.20 Acres

Assessed Total Value \$415,686.00 Sale Price

Bathrooms 2.50 Sq Ft 2,608 SqFt

53 Parcel # Site Address

Year Built Rec. Date Bedrooms

Total Rooms

01858948 **Tax Account** 21E35BA10400 23069 Bland Cir Acres 0.23 Acres West Linn OR 97068

1999 \$418,486.00 **Assessed Total Value** 11/15/2001 Sale Price \$328,000.00 **Bathrooms** 2.50 Sq Ft 2,519 SqFt

Owner Bruun, Lorentz S



54 Parcel # Site Address

Year Built Rec. Date **Bedrooms**

Total Rooms

Griffith, Terry L

Tax Account 21E35BA10500 Acres 0.21 Acres

Assessed Total Value \$409,351.00 Sale Price \$350,000.00 **Bathrooms** 1.00 Sq Ft 2,664 SqFt

Owner



55 Parcel # Site Address

Year Built Rec. Date Bedrooms **Total Rooms**

Owner

01858966 23075 Bland Cir West Linn OR 97068 2002

1/31/2003

01858957

6/25/2003

1999

23083 Bland Cir

West Linn OR 97068

Hillson, Ann M

Tax Account 21E35BA10600 Acres 0.18 Acres

Assessed Total Value \$415,457.00 Sale Price \$346,170.00 **Bathrooms** 2.00 Sq Ft 3,278 SqFt

# 56	
Parc	
Site .	i
	ĺ
Year	Ī
Rec.	
01858975 Red	Ī

23073 Bland Cir

01858975

West Linn OR 97068

Year Built 2002 Rec. Date 2/27/2004 **Bedrooms**

5

Total Rooms Owner Pendergraft, Troy Allen **Tax Account** 21E35BA10700 Acres 0.22 Acres

Assessed Total Value Sale Price

\$482,725.00 \$427,000.00

Bathrooms 3.00 3,956 SqFt Sq Ft



57

Parcel # Site Address #

2310 Crestview Dr West Linn OR 97068

01858984

01858993

5/20/2015

01859000

12/23/2016

5

Year Built 2002 Rec. Date 5/31/2012 **Bedrooms**

Total Rooms

Owner Driggers, Sean **Tax Account** 21E35BA10800 Acres 0.17 Acres

Assessed Total Value \$471,227.00 Sale Price \$559,000.00

Bathrooms 4.00

Sq Ft 5,256 SqFt



58

Parcel #

Site Address # 2320 Crestview Dr West Linn OR 97068 2006

Year Built Rec. Date **Bedrooms**

Total Rooms

Owner Walsh, Rozita **Tax Account** 21E35BA10900 Acres 0.16 Acres

Assessed Total Value Sale Price

Bathrooms Sq Ft

\$446,784.00 \$549,950.00 3.50

3,714 SqFt



59

Parcel # Site Address #

2330 Crestview Dr West Linn OR 97068 2006

Year Built Rec. Date Bedrooms

Total Rooms

Owner Manohar, Abhishek A

3

Tax Account 21E35BA11000 Acres 0.16 Acres

Assessed Total Value

Sale Price

Bathrooms 1.50 Sq Ft

3,517 SqFt

\$429,896.00

21E35BA11100

0.12 Acres

\$2,957.00

60

Parcel # Site Address #

Year Built Rec. Date

Owner

Bedrooms Total Rooms

01859019

West Linn OR 97068

City Of West Linn

5/1/1998

Assessed Total Value Sale Price

Tax Account

Bathrooms

Sq Ft

Acres

	# 61			
	Parcel #	01859028	Tax Account	21E35BA11200
	Site Address #	West Linn OR 97068	Acres	0.18 Acres
	Year Built		Assessed Total Value	\$3,378.00
	Rec. Date	5/1/1998	Sale Price	ψο,οι σ.σο
	Bedrooms	3/1/1330	Bathrooms	
	Total Rooms	Oit. Of M+1 :	Sq Ft	
	Owner	City Of West Linn		
	# 62			
	Parcel #	01859037	Tax Account	21E35BA11300
	Site Address #	West Linn OR 97068	Acres	0.10 Acres
	Year Built	AAGSE FIIII OU SI 000	Assessed Total Value	\$2,897.00
				φ∠,031.00
	Rec. Date		Sale Price	
	Bedrooms		Bathrooms	
	Total Rooms		Sq Ft	
	Owner	City Of West Linn		
	# 63			
	# 63 Parcel #	01859046	Tax Account	21E35BA11400
				0.14 Acres
	Site Address #	West Linn OR 97068	Acres	U. 14 ACIES
	Year Built	<i>E101</i> 0000	Assessed Total Value	#005 000 00
	Rec. Date	5/8/2008	Sale Price	\$825,000.00
	Bedrooms		Bathrooms	
	Total Rooms		Sq Ft	
	Owner	Remington, Tad W		
	# 64			
	# 04 Parcel #	01859055	Tax Account	21E35BA11500
	Site Address #	West Linn OR 97068	Acres	0.04 Acres
	Year Built	AAGSE FIIII OU SI 000	Assessed Total Value	
		5/1/1998		\$2,752.00
	Rec. Date	5/ I/ I996	Sale Price	
	Bedrooms		Bathrooms	
	Total Rooms	a n cas	Sq Ft	
	Owner	City Of West Linn		
	.# 65			
The state of	Parcel #	05001417	Tax Account	21E35AB01500
	Site Address #	2512 Crestview Dr	Acres	0.17 Acres
	111111111111111111111111111111111111111	West Linn OR 97068		
: 17 19.19	Year Built	2000	Assessed Total Value	\$395,889.00
- Level	Rec. Date	3/26/2014	Sale Price	¥555,550.00
05001417 R01	Bedrooms	5	Bathrooms	2.50
00001411 NOT		J		
	Total Rooms Owner	Schaffer, Karin L	Sq Ft	2,747 SqFt
	OWITEI	Schaller, Natili L		
	# 66			
	Parcel #	05001418	Tax Account	21E35AB01600
	Site Address #	2500 Crestview Dr	Acres	0.20 Acres
	3107133100011	West Linn OR 97068	. 10100	5.25 / 15.55
1	Year Built	2001	Assessed Total Value	\$406,641.00
	Rec. Date	10/5/2001	Sale Price	\$340,353.00
05901110	200			
05001418	Bedrooms	5	Bathrooms	2.50

Pakula, Jennifer L 8/21/19 PC Meeting 113

Sq Ft

2,722 SqFt

Total Rooms

Owner

	π 01			
	Parcel #	05002551	Tax Account	21E35B 00493
	Site Address #	West Linn OR 97068	Acres	0.06 Acres
		West Lilli OK 97000		
	Year Built		Assessed Total Value	\$341.00
	Rec. Date	7/9/2018	Sale Price	\$1,300,000.00
	Bedrooms		Bathrooms	
	Total Rooms		Sq Ft	
	Owner	Main Source Managemen	t LLC	
	# 68			
	Parcel #	05007663	Tax Account	21E35AB04400
	Site Address #	2471 Crestview Dr	Acres	0.18 Acres
	Site Address #	West Linn OR 97068	Acres	0.10 Acres
	Voor Duilé		Accessed Total Value	¢655 400 00
N. P. C.	Year Built	2004	Assessed Total Value	\$655,490.00
	Rec. Date	12/15/2017	Sale Price	\$785,000.00
05007663	Bedrooms	6	Bathrooms	4.50
	Total Rooms		Sq Ft	4,447 SqFt
	Owner	Fry, Christopher M		
23.00	# 69			
	Parcel #	05007664	Tax Account	21E35AB04500
THE E	Site Address #	2483 Crestview Dr	Acres	0.18 Acres
	FI	West Linn OR 97068		
	Year Built	2004	Assessed Total Value	\$635,504.00
	Rec. Date	7/6/2015	Sale Price	\$685,000.00
05007664	■ Bedrooms	6	Bathrooms	4.00
	Total Rooms		Sq Ft	4,244 SqFt
	Owner	Betty, James C III		
	# 70			
	Parcel #	05007666	Tax Account	21E35AB04700
	Site Address #	2498 Crestview Dr	Acres	0.23 Acres
		West Linn OR 97068		
	Year Built	2004	Assessed Total Value	\$574,337.00
	Rec. Date	7/6/2009	Sale Price	\$583,000.00
05007666	Bedrooms	4	Bathrooms	2.50
	Total Rooms		Sq Ft	3,227 SqFt
	Owner	Conlin, Robert S	-4	-,
		,		
	# 71			
	Parcel #	05007667	Tax Account	21E35AB04800
	Site Address #	2486 Crestview Dr	Acres	0.26 Acres
	Olto Addition #	West Linn OR 97068	, 10100	5.20 / 10100
	Year Built	2004	Assessed Total Value	\$565,648.00
4 1 4				
TOTAL STATE OF THE	Rec. Date	6/1/2004	Sale Price	\$572,949.00
0500/667	Bedrooms	5	Bathrooms	2.50
	Total Rooms		Sq Ft	3,426 SqFt
	0	Darker Charles II		

67

Parker, Charles H

Owner

•
was tomp a state of
05007668

72
Parcel # 05007668 Tax Account 21E35AB04900
Site Address # 2474 Crestview Dr Acres 0.26 Acres
West Linn OR 97068

Voar Built 2004 Assessed Total Value \$551,517.00

 Year Built
 2004
 Assessed Total Value
 \$551,517.00

 Rec. Date
 8/12/2009
 Sale Price
 \$610,000.00

 Bedrooms
 5
 Bathrooms
 2.50

 Total Rooms
 Sq Ft
 3,425 SqFt

Owner Briggs, C C

#73 Parcel # 05025447 **Tax Account** 21E35BA20400 Site Address # 23103 Bland Cir Acres 0.23 Acres West Linn OR 97068 Year Built 2014 **Assessed Total Value** \$438,710.00 Rec. Date 1/28/2015 Sale Price \$465,000.00 **Bedrooms Bathrooms** 2.50 **Total Rooms** Sq Ft 2,634 SqFt

Owner Klopfenstein Kurt Von Trustee

#74 Parcel # 05026280 21E35AB05300 **Tax Account** Site Address # 2944 Sunbreak Ln Acres 0.18 Acres West Linn OR 97068 Year Built 2016 **Assessed Total Value** \$570,224.00 4/20/2017 Rec. Date Sale Price \$795,000.00 **Bedrooms** 3 **Bathrooms** 2.50 **Total Rooms** Sq Ft 4,048 SqFt

Owner Shiferaw, Kuliti

#75 Parcel # **Tax Account** 05026281 21E35AB05400 Site Address # 2956 Sunbreak Ln Acres 0.16 Acres West Linn OR 97068 Year Built 2016 **Assessed Total Value** \$442,281.00 Rec. Date 4/21/2017 Sale Price \$784,000.00 **Bedrooms** 3 **Bathrooms** 2.50 **Total Rooms** Sq Ft 3,424 SqFt Owner Walter, Susan R

#76 Parcel # 05026283 **Tax Account** 21E35AB05600 Site Address # 2469 Crestview Dr Acres 0.16 Acres West Linn OR 97068 2015 Year Built **Assessed Total Value** \$712,830.00 Rec. Date 4/5/2018 Sale Price \$1,030,000.00 **Bedrooms Bathrooms** 4.50 **Total Rooms** 4,607 SqFt Sq Ft Owner Leonard, Michael J

# 77			
Parcel #	05026284	Tax Account	21E35AB05700
Site Address #	2455 Crestview Dr West Linn OR 97068	Acres	0.17 Acres
Year Built	2014	Assessed Total Value	\$624,067.00
Rec. Date	6/1/2017	Sale Price	\$920,100.00
Bedrooms	5	Bathrooms	3.50
Total Rooms		Sq Ft	4,120 SqFt
Owner	Willis Roc W Trustee		
# 78			
Parcel #	05026285	Tax Account	21E35AB05800
Site Address #	2443 Crest View Dr	Acres	0.20 Acres
Olic Addices #	West Linn OR 97068	Acies	0.20 / 10103
Year Built	2016	Assessed Total Value	\$617,391.00
Rec. Date	12/5/2016	Sale Price	\$850,000.00
Bedrooms	5	Bathrooms	3.50
Total Rooms		Sq Ft	4,078 SqFt
Owner	Su, Mei		
# 79			
Parcel #	05026286	Tax Account	21E35AB05900
Site Address #	2442 Crest View Dr West Linn OR 97068	Acres	0.22 Acres
Year Built	2015	Assessed Total Value	\$543,683.00
Rec. Date	4/2/2018	Sale Price	\$764,900.00
Bedrooms	3	Bathrooms	2.50
Total Rooms		Sq Ft	3,140 SqFt
Owner	Warren, Parker & Merec		•
# 80			
Parcel #	05026287	Tax Account	21E35AB06000
Site Address #	2454 Crest View Dr West Linn OR 97068	Acres	0.21 Acres
Year Built	2015	Assessed Total Value	\$559,268.00
Rec. Date	2/3/2016	Sale Price	\$782,710.00
Bedrooms	4	Bathrooms	2.50
Bedrooms Total Rooms	4	Bathrooms Sq Ft	2.50 3,417 SqFt
	4 Reiland, Jessica A		
Total Rooms Owner			
Total Rooms Owner # 81	Reiland, Jessica A	Sq Ft	3,417 SqFt
Total Rooms Owner			
Total Rooms Owner # 81 Parcel # Site Address #	Reiland, Jessica A 05026288 2466 Crest View Dr	Sq Ft Tax Account	3,417 SqFt 21E35AB06100 0.30 Acres
Total Rooms Owner # 81 Parcel # Site Address # Year Built	Reiland, Jessica A 05026288 2466 Crest View Dr West Linn OR 97068 2015	Sq Ft Tax Account Acres	3,417 SqFt 21E35AB06100
Total Rooms Owner # 81 Parcel # Site Address #	Reiland, Jessica A 05026288 2466 Crest View Dr West Linn OR 97068	Tax Account Acres Assessed Total Value	3,417 SqFt 21E35AB06100 0.30 Acres \$558,911.00
Total Rooms Owner # 81 Parcel # Site Address # Year Built Rec. Date	05026288 2466 Crest View Dr West Linn OR 97068 2015 6/3/2016	Tax Account Acres Assessed Total Value Sale Price	3,417 SqFt 21E35AB06100 0.30 Acres

# 82			
Parcel #	05029759	Tax Account	21E35BA20501
Site Address #	2100 Satter St West Linn OR 97068	Acres	0.18 Acres
Year Built	2016	Assessed Total Value	\$585,401.00
Rec. Date	2/1/2016	Sale Price	ψουσ,πο 1.00
Bedrooms		Bathrooms	3.50
	5		
Total Rooms	I MATHE O	Sq Ft	4,694 SqFt
Owner	Lorenz, William C		
# 83			
Parcel #	05029760	Tax Account	21E35BA20502
Site Address #	2148 Satter St	Acres	0.16 Acres
, , , , , , , , , , - ,	West Linn OR 97068		
Year Built		Assessed Total Value	\$174,942.00
Rec. Date	9/18/2017	Sale Price	\$699,995.00
Bedrooms	4	Bathrooms	3.50
Total Rooms	•	Sq Ft	3,716 SqFt
Owner	Floyd, Daniel	oq i t	5,7 TO 541 C
O WITCH	r loyu, Darliel		
# 84			
Parcel #	05029761	Tax Account	21E35BA20503
Site Address #	2162 Satter St West Linn OR 97068	Acres	0.16 Acres
Year Built		Assessed Total Value	\$174,942.00
Rec. Date	7/7/2017	Sale Price	\$731,380.00
Bedrooms	4	Bathrooms	3.50
Total Rooms	4	Sq Ft	3,716 SqFt
Owner	Dobinson Pryon	3 4 Ft	3,1 10 34Ft
Owner	Robinson, Bryan		
# 85			
Parcel #	05029762	Tax Account	21E35BA20504
Site Address #	2179 Satter St West Linn OR 97068	Acres	0.16 Acres
Year Built		Assessed Total Value	\$187,880.00
Rec. Date	8/18/2017	Sale Price	\$689,995.00
Bedrooms	6	Bathrooms	4.00
Total Rooms	Ŭ	Sq Ft	3,290 SqFt
Owner	Craver, Matthew R	541 (5,200 Oqi t
# 86			
# 86 Parcel #	05029763	Tax Account	21E35BA20505
	05029763 2167 Satter St West Linn OR 97068	Tax Account Acres	21E35BA20505 0.16 Acres
Parcel #	2167 Satter St		
Parcel # Site Address #	2167 Satter St West Linn OR 97068	Acres	0.16 Acres
Parcel # Site Address # Year Built	2167 Satter St West Linn OR 97068 2016	Acres Assessed Total Value	0.16 Acres \$432,784.00
Parcel # Site Address # Year Built Rec. Date	2167 Satter St West Linn OR 97068 2016 6/16/2017	Acres Assessed Total Value Sale Price	0.16 Acres \$432,784.00 \$789,900.00

# 87			
Parcel #	05029764	Tax Account	21E35BA20506
Site Address #	2155 Satter St West Linn OR 97068	Acres	0.16 Acres
Year Built	2016	Assessed Total Value	\$543,753.00
Rec. Date	9/19/2017	Sale Price	\$726,000.00
Bedrooms	5	Bathrooms	3.50
Total Rooms	5	Sq Ft	
	Crant Cary Marag	SqFi	3,396 SqFt
Owner	Grant, Cory Marog		
# 88			
Parcel #	05029765	Tax Account	21E35BA20507
Site Address #	2149 Satter St	Acres	0.16 Acres
One riddiese ii	West Linn OR 97068	710100	0.10710100
Year Built		Assessed Total Value	\$187,880.00
Rec. Date	8/17/2017	Sale Price	\$696,495.00
Bedrooms	6	Bathrooms	4.00
Total Rooms		Sq Ft	3,254 SqFt
Owner	Young, Jared M	Oqit	0,204 Oqi t
Owner	fourig, Jared W		
# 89			
Parcel #	05029766	Tax Account	21E35BA20508
Site Address #	2137 Satter St	Acres	0.17 Acres
Site Address #	West Linn OR 97068	Acres	U.II ACIES
Year Built	2016	Assessed Total Value	\$344,975.00
Rec. Date	2/15/2018	Sale Price	\$712,000.00
Bedrooms	4	Bathrooms	3.50
Total Rooms		Sq Ft	3,305 SqFt
Owner	Schleef, Daniel J & Tara I		.,
	<i>,</i>		
# 90			
Parcel #	05029767	Tax Account	21E35BA20509
Site Address #	2113 Satter St	Acres	0.29 Acres
Va an Built	West Linn OR 97068	Assessed Total Vol	ФБ47-Б40-00
Year Built	2016	Assessed Total Value	\$517,519.00
Rec. Date	12/2/2016	Sale Price	\$794,900.00
Bedrooms	4	Bathrooms	3.50
Total Rooms		Sq Ft	3,224 SqFt
Owner	Oliveros, Milette Balbin		
# 91			
Parcel #	05029768	Tax Account	21E35BA20510
Site Address #	2125 Satter St West Linn OR 97068	Acres	0.17 Acres
Year Built	2016	Assessed Total Value	\$468,011.00
Rec. Date	7/16/2015	Sale Price	
			\$259,000.00
Bedrooms	3	Bathrooms	3.50
Total Rooms	Faula David 184	Sq Ft	2,923 SqFt
Owner	Fogle, David M		

# 92			
Parcel #	05029769	Tax Account	21E35BA20511
Site Address #	2101 Satter St	Acres	0.16 Acres
	West Linn OR 97068		
Year Built	2015	Assessed Total Value	\$480,733.00
Rec. Date	8/19/2016	Sale Price	\$689,900.00
Bedrooms	4	Bathrooms	3.00
Total Rooms	7	Sq Ft	2,907 SqFt
	Kallan Davidas	34 Ft	2,907 SqFt
Owner	Keller, Douglas		
# 93			
Parcel #	05029770	Tax Account	21E35BA20512
Site Address #	2145 Fircrest Dr	Acres	0.13 Acres
	West Linn OR 97068		
Year Built		Assessed Total Value	\$22,582.00
Rec. Date	6/30/2015	Sale Price	
Bedrooms		Bathrooms	
Total Rooms		Sq Ft	
Owner	City Of West Linn	-4.4	
OWITEI	Oity Of West Liftin		
# 94			
Parcel #	05031187	Tax Account	21E35AB06300
Site Address #	2010 De Vries Way	Acres	0.17 Acres
	West Linn OR 97068		
Year Built		Assessed Total Value	\$162,478.00
Rec. Date	3/28/2018	Sale Price	\$629,995.00
Bedrooms	6	Bathrooms	4.00
Total Rooms		Sq Ft	3,017 SqFt
Owner	Horvath, Thomas P & Pat		,
# 95			
Parcel #	05031188	Tax Account	21E35AB06400
Site Address #			0.17 Acres
Site Address #	2022 De Vries Way West Linn OR 97068	Acres	U.II AUICS
Year Built	**************************************	Assessed Total Value	\$158,699.00
	11/0/2017		
Rec. Date	11/9/2017	Sale Price	\$619,995.00
Bedrooms	6	Bathrooms	4.00
Total Rooms		Sq Ft	2,979 SqFt
Owner	Snow, Jennie		
# 96			
Parcel #	05031189	Tax Account	21E35AB06500
Site Address #	2034 De Vries Way	Acres	0.17 Acres
	West Linn OR 97068		
Year Built		Assessed Total Value	\$158,699.00
Rec. Date	9/29/2017	Sale Price	\$649,995.00
Bedrooms	5	Bathrooms	3.00
Total Rooms	•	Sq Ft	3,338 SqFt
	Shah Ankur	oqit	0,000 Oqi t
Owner	Shah, Ankur		

# 97			
Parcel #	05031190	Tax Account	21E35AB06600
Site Addres	s # 2462 Satter St West Linn OR 97068	Acres	0.18 Acres
Year Built		Assessed Total Value	\$162,478.00
Rec. Date	3/19/2018	Sale Price	\$650,000.00
Bedrooms	5	Bathrooms	3.00
Total Rooms	s	Sq Ft	3,338 SqFt
Owner	Thompson, Christopher	-	
# 98			
Parcel #	05031191	Tax Account	21E35AB06700
Site Addres	s # 2450 Satter St West Linn OR 97068	Acres	0.19 Acres
Year Built		Assessed Total Value	\$166,257.00
Rec. Date	5/31/2018	Sale Price	\$649,995.00
Bedrooms	5	Bathrooms	3.00
Total Rooms	s	Sq Ft	3,338 SqFt
Owner	Blount, William L & Chri	-	
# 99			
Parcel #	05031192	Tax Account	21E35AB06800
Site Addres		Acres	0.16 Acres
one Address	West Linn OR 97068	Adics	0.10710103
Year Built		Assessed Total Value	\$158,699.00
Rec. Date	11/17/2017	Sale Price	\$729,995.00
Bedrooms	5	Bathrooms	3.50
Total Rooms	s	Sq Ft	3,962 SqFt
Owner	Kelly, Stephen D		
# 100			
Parcel #	05031193	Tax Account	21E35AB06900
Site Addres	s # 2479 Satter St West Linn OR 97068	Acres	0.16 Acres
Year Built		Assessed Total Value	\$158,699.00
Rec. Date	12/27/2017	Sale Price	\$765,690.00
Bedrooms	4	Bathrooms	3.50
Total Rooms		Sq Ft	3,889 SqFt
Owner	Lockridge, Ashley E	•	•
# 101			
Parcel #	05031194	Tax Account	21E35AB07000
Site Addres		Acres	0.16 Acres
Year Built		Assessed Total Value	\$158,699.00
Rec. Date	2/27/2018	Sale Price	\$689,995.00
Bedrooms	4	Bathrooms	3.50
Total Rooms		Sq Ft	3,756 SqFt
Owner	Budden, Nicole E	- 1	7
- Willion	24440H, 1410010 E		

# 102			
Parcel #	05031195	Tax Account	21E35AB07100
Site Address #	2503 Satter St	Acres	0.16 Acres
Ollo Addiess #	West Linn OR 97068	, 10103	0.107.0103
Year Built	5	Assessed Total Value	\$158,699.00
Rec. Date	6/25/2018	Sale Price	\$640,000.00
Bedrooms	6	Bathrooms	
	O		4.00
Total Rooms	E 11	Sq Ft	3,097 SqFt
Owner	Ferrell, Jason & Ngim-Un	ig-Ferrell	
"			
# 103			
Parcel #	05031196	Tax Account	21E35AB07200
Site Address #	2515 Satter St	Acres	0.23 Acres
	West Linn OR 97068		
Year Built		Assessed Total Value	\$178,537.00
Rec. Date	5/24/2018	Sale Price	\$741,105.00
Bedrooms	5	Bathrooms	3.50
Total Rooms		Sq Ft	4,006 SqFt
Owner	Drochner, David R	54.1	1,000 041 1
- WIIGI	Diodilioi, David IX		
# 104			
	05021107	Toy Account	21525107200
Parcel #	05031197	Tax Account	21E35AB07300
Site Address #	2510 Satter St West Linn OR 97068	Acres	0.20 Acres
Year Built		Assessed Total Value	\$166,257.00
Rec. Date	6/26/2018	Sale Price	\$685,500.00
Bedrooms	5	Bathrooms	3.50
Total Rooms		Sq Ft	3,635 SqFt
Owner	Brodsky, David & Elena	1 -	,
# 105			
# 105 Parcel #	05031198	Tax Account	21E35AB07400
Parcel #			
	05031198 2498 Satter St West Linn OR 97068	Tax Account Acres	21E35AB07400 0.17 Acres
Parcel # Site Address #	2498 Satter St	Acres	0.17 Acres
Parcel # Site Address # Year Built	2498 Satter St West Linn OR 97068	Acres Assessed Total Value	0.17 Acres \$162,478.00
Parcel # Site Address # Year Built Rec. Date	2498 Satter St West Linn OR 97068 5/10/2018	Acres Assessed Total Value Sale Price	0.17 Acres \$162,478.00 \$579,995.00
Parcel # Site Address # Year Built Rec. Date Bedrooms	2498 Satter St West Linn OR 97068	Acres Assessed Total Value Sale Price Bathrooms	0.17 Acres \$162,478.00 \$579,995.00 2.50
Parcel # Site Address # Year Built Rec. Date Bedrooms Total Rooms	2498 Satter St West Linn OR 97068 5/10/2018 4	Acres Assessed Total Value Sale Price Bathrooms Sq Ft	0.17 Acres \$162,478.00 \$579,995.00
Parcel # Site Address # Year Built Rec. Date Bedrooms	2498 Satter St West Linn OR 97068 5/10/2018	Acres Assessed Total Value Sale Price Bathrooms Sq Ft	0.17 Acres \$162,478.00 \$579,995.00 2.50
Parcel # Site Address # Year Built Rec. Date Bedrooms Total Rooms Owner	2498 Satter St West Linn OR 97068 5/10/2018 4	Acres Assessed Total Value Sale Price Bathrooms Sq Ft	0.17 Acres \$162,478.00 \$579,995.00 2.50
Parcel # Site Address # Year Built Rec. Date Bedrooms Total Rooms Owner	2498 Satter St West Linn OR 97068 5/10/2018 4 McDonald, Dean R & Jan	Acres Assessed Total Value Sale Price Bathrooms Sq Ft	0.17 Acres \$162,478.00 \$579,995.00 2.50 2,289 SqFt
Parcel # Site Address # Year Built Rec. Date Bedrooms Total Rooms Owner # 106 Parcel #	2498 Satter St West Linn OR 97068 5/10/2018 4 McDonald, Dean R & Jan 05031199	Acres Assessed Total Value Sale Price Bathrooms Sq Ft net K Tax Account	0.17 Acres \$162,478.00 \$579,995.00 2.50 2,289 SqFt
Parcel # Site Address # Year Built Rec. Date Bedrooms Total Rooms Owner	2498 Satter St West Linn OR 97068 5/10/2018 4 McDonald, Dean R & Jan	Acres Assessed Total Value Sale Price Bathrooms Sq Ft	0.17 Acres \$162,478.00 \$579,995.00 2.50 2,289 SqFt
Parcel # Site Address # Year Built Rec. Date Bedrooms Total Rooms Owner # 106 Parcel #	2498 Satter St West Linn OR 97068 5/10/2018 4 McDonald, Dean R & Jan 05031199 2049 De Vries Way	Acres Assessed Total Value Sale Price Bathrooms Sq Ft net K Tax Account	0.17 Acres \$162,478.00 \$579,995.00 2.50 2,289 SqFt
Parcel # Site Address # Year Built Rec. Date Bedrooms Total Rooms Owner # 106 Parcel # Site Address #	2498 Satter St West Linn OR 97068 5/10/2018 4 McDonald, Dean R & Jan 05031199 2049 De Vries Way	Acres Assessed Total Value Sale Price Bathrooms Sq Ft net K Tax Account Acres	0.17 Acres \$162,478.00 \$579,995.00 2.50 2,289 SqFt 21E35AB07500 0.17 Acres
Parcel # Site Address # Year Built Rec. Date Bedrooms Total Rooms Owner # 106 Parcel # Site Address # Year Built	2498 Satter St West Linn OR 97068 5/10/2018 4 McDonald, Dean R & Jan 05031199 2049 De Vries Way West Linn OR 97068	Acres Assessed Total Value Sale Price Bathrooms Sq Ft net K Tax Account Acres Assessed Total Value	0.17 Acres \$162,478.00 \$579,995.00 2.50 2,289 SqFt 21E35AB07500 0.17 Acres \$158,699.00
Parcel # Site Address # Year Built Rec. Date Bedrooms Total Rooms Owner # 106 Parcel # Site Address # Year Built Rec. Date	2498 Satter St West Linn OR 97068 5/10/2018 4 McDonald, Dean R & Jan 05031199 2049 De Vries Way West Linn OR 97068	Acres Assessed Total Value Sale Price Bathrooms Sq Ft net K Tax Account Acres Assessed Total Value Sale Price	0.17 Acres \$162,478.00 \$579,995.00 2.50 2,289 SqFt 21E35AB07500 0.17 Acres \$158,699.00

# 107			
Parcel #	05031200	Tax Account	21E35AB07600
Site Address #	2037 De Vries Way	Acres	0.16 Acres
0110 / 10101 000 //	West Linn OR 97068	710.00	0170710100
Year Built		Assessed Total Value	\$158,699.00
Rec. Date	4/30/2018	Sale Price	, ,
Bedrooms	4	Bathrooms	3.50
Total Rooms	•	Sq Ft	3,619 SqFt
Owner	Ionyolina Connara O Darl	•	5,0 18 541 t
Owner	Iervolino, Gennaro & Bart)aia	
# 108			
	05021201	Tax Account	215254007700
Parcel #	05031201		21E35AB07700
Site Address #	2025 De Vries Way	Acres	0.16 Acres
V	West Linn OR 97068		0.17.4.4.10.00
Year Built		Assessed Total Value	\$174,443.00
Rec. Date	5/4/2018	Sale Price	\$637,995.00
Bedrooms	6	Bathrooms	4.00
Total Rooms		Sq Ft	3,017 SqFt
Owner	Hoffen, Steven		
# 109			
Parcel #	05031202	Tax Account	21E35AB07800
Site Address #	2201 De Vries Ln	Acres	0.21 Acres
	West Linn OR 97068		
Year Built		Assessed Total Value	\$174,443.00
Rec. Date	5/1/2018	Sale Price	\$639,995.00
Bedrooms	5	Bathrooms	3.50
Total Rooms	-	Sq Ft	3,148 SqFt
Owner	Daniels, Erik D & Julie M	-4	5,110 541 (
311101	Samolo, Elik D & Julie W		
# 110			
Parcel #	05031203	Tax Account	21E35AB07900
Site Address #	2213 De Vries Ln	Acres	0.26 Acres
, , , , , , , , , , , , , ,	West Linn OR 97068		,
Year Built		Assessed Total Value	\$187,668.00
Rec. Date	3/30/2018	Sale Price	\$719,995.00
Bedrooms	4	Bathrooms	3.50
Dedicing	¬	Datilioonis	
		Sa Et	
Total Rooms	Wright Joshua D & Linco	Sq Ft	3,962 SqFt
	Wright, Joshua D & Linse		3,902 SqFt
Total Rooms Owner	Wright, Joshua D & Linse		3,962 Sqrt
Total Rooms Owner # 111		у В	
Total Rooms Owner # 111 Parcel #	05031204	y B Tax Account	21E35AB08000
Total Rooms Owner # 111		у В	
Total Rooms Owner # 111 Parcel # Site Address #	05031204 2225 De Vries Ln	y B Tax Account	21E35AB08000 0.23 Acres
Total Rooms Owner # 111 Parcel # Site Address # Year Built	05031204 2225 De Vries Ln West Linn OR 97068	Tax Account Acres Assessed Total Value	21E35AB08000 0.23 Acres \$162,478.00
Total Rooms Owner # 111 Parcel # Site Address # Year Built Rec. Date	05031204 2225 De Vries Ln West Linn OR 97068 11/30/2017	Tax Account Acres Assessed Total Value Sale Price	21E35AB08000 0.23 Acres \$162,478.00 \$778,140.00
Total Rooms Owner # 111 Parcel # Site Address # Year Built Rec. Date Bedrooms	05031204 2225 De Vries Ln West Linn OR 97068	Tax Account Acres Assessed Total Value Sale Price Bathrooms	21E35AB08000 0.23 Acres \$162,478.00 \$778,140.00 3.50
Total Rooms Owner # 111 Parcel # Site Address # Year Built Rec. Date	05031204 2225 De Vries Ln West Linn OR 97068 11/30/2017	Tax Account Acres Assessed Total Value Sale Price	21E35AB08000 0.23 Acres \$162,478.00 \$778,140.00

# 112			
<i>" · · · -</i>			
Parcel #	05031205	Tax Account	21E35AB08100
Site Address #	2237 De Vries Ln	Acres	0.25 Acres
	West Linn OR 97068		
Year Built		Assessed Total Value	\$169,090.00
Rec. Date	5/22/2018	Sale Price	\$699,995.00
Bedrooms	4	Bathrooms	3.50
Total Rooms		Sq Ft	3,652 SqFt
Owner	Luo, Lin		
# 113			
Parcel #	05031206	Tax Account	21E35AB08200
Site Address #	22848 Weatherhill Rd West Linn OR 97068	Acres	0.18 Acres
Year Built		Assessed Total Value	\$162,478.00
Rec. Date	2/26/2018	Sale Price	•
Bedrooms	6	Bathrooms	4.00
Total Rooms	-	Sq Ft	2,962 SqFt
Owner	Pearce, Matthew G & Ni	-	2,002 041 (
# 114			
Parcel #	05031207	Tax Account	21E35AB08300
Site Address #	22852 Weatherhill Rd West Linn OR 97068	Acres	0.16 Acres
Year Built		Assessed Total Value	\$174,443.00
		Assessed Total Value	
Rec Date	8/30/2017	Sale Price	•
Rec. Date	8/30/2017 5	Sale Price	\$754,995.00
Bedrooms	8/30/2017 5	Bathrooms	\$754,995.00 3.50
Bedrooms Total Rooms	5		\$754,995.00
Bedrooms		Bathrooms	\$754,995.00 3.50
Bedrooms Total Rooms	5	Bathrooms	\$754,995.00 3.50
Bedrooms Total Rooms Owner	5	Bathrooms	\$754,995.00 3.50
Bedrooms Total Rooms Owner # 115	5 Phillips, David A	Bathrooms Sq Ft	\$754,995.00 3.50 3,933 SqFt
Bedrooms Total Rooms Owner # 115 Parcel #	5 Phillips, David A 05031208	Bathrooms Sq Ft Tax Account	\$754,995.00 3.50 3,933 SqFt 21E35AB08400
Bedrooms Total Rooms Owner # 115 Parcel #	5 Phillips, David A 05031208 22856 Weatherhill Rd	Bathrooms Sq Ft Tax Account	\$754,995.00 3.50 3,933 SqFt 21E35AB08400 0.16 Acres
Bedrooms Total Rooms Owner # 115 Parcel # Site Address #	5 Phillips, David A 05031208 22856 Weatherhill Rd West Linn OR 97068	Bathrooms Sq Ft Tax Account Acres	\$754,995.00 3.50 3,933 SqFt 21E35AB08400 0.16 Acres \$174,443.00
Bedrooms Total Rooms Owner # 115 Parcel # Site Address # Year Built Rec. Date	5 Phillips, David A 05031208 22856 Weatherhill Rd West Linn OR 97068 6/28/2018	Bathrooms Sq Ft Tax Account Acres Assessed Total Value Sale Price	\$754,995.00 3.50 3,933 SqFt 21E35AB08400 0.16 Acres \$174,443.00 \$774,100.00
Bedrooms Total Rooms Owner # 115 Parcel # Site Address #	5 Phillips, David A 05031208 22856 Weatherhill Rd West Linn OR 97068	Bathrooms Sq Ft Tax Account Acres Assessed Total Value	\$754,995.00 3.50 3,933 SqFt 21E35AB08400 0.16 Acres \$174,443.00

Savanna Oaks Neighborhood Association Meeting					
	October 2, 2018				
Last Name	First Name	SONA	Email (Optional)	Signature	
Achcar	Henry	Y	link2sonny@aol.com		
Achcar	Susanne	Y	link2sonny@aol.com		
Andrich	Angela	Y			
Ahmed	Ahsan	Y	ahsahmed@gmail.com		
Bansal	Rishi	Y	bansal.rishi@gmail.com	1,770 m	
Belles	Eryn	Y	erynbelles@gmail.com		
Belles	RJ	Y	erynbelles@gmail.com	기존성 내가 가는 가게 가지를 하는데 되었다.	
Black	Bernard	Y	bernardkblack@yahoo.com		
Black	Brenda	Y		9	
Blankenmeister	Linda	Y	Iblankenmeister17@gmail.com	08	
Blankenmeister	Paul	Y	pblankenmeister@gmail.com / h	N W	
Blount	Christy	Y	christyblount5@gmail.com () CALA	- XX	
Blount	William	Y	billblount1000@gmail.com	nd AA	
riles	Micah	Y	1.0000	7 7	
riles	Jolynn	Y	jolynnjb@yahoo.com	: 이 사는 요리 요리를 하는 것이 없다.	
uccino	Anthony	Y	buccinolaw@comcast.net		
arini	Frank	Y	landf@alaskan.com	From H Can	
Carini	Lori	Y	lacnw15@comcast.net	,	
arr	Beth	Y	carrba@comcast.net	함께 가는 아니라 하는 것이 없는데 없다면 없다면 없다.	
ecil	Pete	Y	picecil@aol.com		
Chaplen	John	Y	guattrodude@comcast.net	(1941-19 _ 1941, Silve of Physical Silve	
Chappuis	Ken	Y	chappuiskg@gmail.com	A SALE DE BASE	
Dawson	Sheri	Y	macslou@gmail.com	그러워 얼마면 계대적 내려 있다. 하는데 하는데	
Dean	David	Y	dean3fish@aol.com		
Eustaquio	Darwin	Y	darwineustaguio@gmail.com	15일 - 그리 5등 2일 이 - 그림니겠다	
ustaquio	Jennifer	Y	jennifer.ann.eustaquio@gmail.com		
eltman	Valerie	Y	valerie.feltman@yahoo.com	그렇게 되는 강국의 보는 그리고 그렇게 다.	
lad	Rian	Y	rianflad@gmail.com		
razier	Ann	Y	annfrazier41@comcast.net	"다"면 그 그렇게 하다는 얼마 없어요	
razier	Bill	Y	billcfrazier@corncast.net		
Sayle	Patricia	Y	u_namaste@yahoo.com	어림에 보다면 다른 아이에 얼마다.	
Grage	Kenny	Y	kennygrage@gmail.com		
Grein	Tom	Y	mrsilicon@gmail.com	1,01,	
lardie	Ruth	Y	ruthieann6905@yahoo.com	Huch Planter	
latch	Dana	Y	dana@danahatch.com	The transfer	
lillier	Alan	Y	alanhillier@comcast.net	2001107	
lolden	Charles	Y	elkiehfuss@hotmail.com		
lolden	Elizabeth	Y	elkiehfuss@hotmail.com	01	
forvath	Patty	Y	pattyhorvath@comcast.net	Statly Strouth Ix	

October 2, 2018				
Last Name	First Name	SONA	Email (Optional)	Signature
Horvath	Tom	Y		orgradute
liams	Carl	Y	ilamsc@yahoo.com	
Kelly	Margot	Y	mkkelly70@aol.com ####	Marciet , Kall. S
Kelly	Steve	Y	SK365 OLOL. COR	and the state of
Kerridge	Laurie	Y	laurie@lauriekerridge.com	of age humps
Cleiner	Brian	Y	The state of the s	/)
Colstad	Linda	Y	LindaCKolstad@aol.com	
Colstad	Toby	Y	tkolstad@aol.com	The state of the s
aird.	Dale	Y	ddlairdyb@gmail.com	and the second of the second o
.eonard	Michael	Y	mleonard7@gmail.com	Carlo anno esta esta e
.i	Ming	Y	Guoling.Zhang@hotmail.com	Table of the second of the second of
//aestretti	Jim	Y	c.j.maestretti@gmail.com	restrict to the contract of th
/laestretti	Jodi	Y		THE RESERVE THE PROPERTY OF A STREET
Mathews	Bobbie	Y	robarmat@aol.com	AUSTAN THE SAME OF THE STATE OF THE SAME OF
Mathews	Charles	Y	cwmiii@comcast.net	and the control of the first of the control of the
lattecheck	MaryAnn	Y	maematt51@gmail.com	21172 1711-1.1
1cGuire	Patrick	Y	patnorthwest@outlook.com	The state of the s
1cGuire	Gerry	Y	1	- total to
1cKinley	Evan	Y	mckinlee@wlhs.wlwv.k12.or.us	Finding and an extensive management
/lisley	Mary Cay	Y	marycaymisley@gmail.com	tanah mentingan beraman mentinga
lguyen	Shelly	Y	shelly cook28@yahoo.com	The Principle of the State of the Control of the State of the Control of the Cont
erry	Brenda	Υ	aperryb3@gmail.com	gan Nagar kanasan salah alam da kacama
erry	Tony	Y	aperryb3@gmail.com	
etersen	Richard	Y	rpeter50@yahoo.com	North Design
ickett	Ed	Y	eellp@comcast.net	
ickett	Linda	Y		
ryor	Ken	Y	paragon399@yahoo.com	
ryor	Sherry	Y	peacefulheart@msn.com	. The state of the second
eiland	Paul	Y	position (comonicom	
emington	Tad	Υ	tadwr@hotmail.com	and the straight of the same o
ushton	Stephen	Υ	snmirush@gmail.com	Col no
ushton	Pat	Y	pirsrush@comcast.net	July L
utten	Michael	Υ	michaelrutten@comcast.net	7 1 Delle
akelik	Richard	Y	pacaguy@mac.com	chail britter
akelik	Marge	Y	F	교육들이 이 이번 그리면 생각 그리는 모양하셨다.
chultz	Vicki	Y	vckyschltz@yahoo.com	I have a supplied to the second second
chwarz	Ed	Y	ed.schwarz@gmail.com	50/1
chwarz	Roberta	Ý	roberta.schwarz@comcast.net	as comery
elby	Carmela	Ý	carmelaleone@live.com	Koverty Wichwar

	Savann	a Oaks I	Neighborhood Association Me	eeting	7
			October 2, 2018		
Last Name	First Name	SONA	Email (Optional)	Signature	
Sheridan	Bill	Y	sheridanbn@msn.com	Arranga Kan Gada se	
Sheridan	Nancy	Y			
Shettler	Chris	Y	thump727@gmail.com		
Shettler Shortall	Kim	Y Y	kshettler39@gmail.com		
Sloop	Mary	Y	shortallme@gmail.com		
Sloop	David	Y	drudave@comcast.net		
Solheim	Dru	Y	drudave@comcast.net		
Solheim	Dorthy	Y	hadron Company and a second se		
Udell	Allen	Y	allensolheim@hotmail.com	날까 그렇게 쓰는 반으게 많던 번째 가	
Vanderpool	Tamara	Y	barbara.udell@pobox.com		
Van Hoon	Maria	Ţ	tamvan@msn.com	, 보기에 이렇게 뭐가 되다. 하는데	
von Kloptenstein	Kurt	V	lobaronessa@yahoo.com		
Warren	Meredith	×	orca.campy@gmail.com pandmwarren@gmail.com		
Wideman	Stephen	· ·	sp8wideman@gmail.com		
Winsper	Paul	Ý	Spowide manazaman.com	pal. Dukit Ugitar 네티션, 크라틴	
Zhang	Guoling	Ý	Guoling.Zhang@hotmail.com		
Micole Nicole	11 12	04/15 /1/4	eat (0-1,08+5	Gridgelleenter museo Budde	SONA WIW Yes *
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X JASON	FERREW	IL_	MA 0221/19 RG Meetines 1260 Y4HOO. C	on III	NO (ES)

Name	(nail	Signature	SONA
(presenter) Steve Miller	Steven @ emeriodesgn.com	Sturlen	TNO
Doe Lockeralge	LOCKRIDGE OHSU. EDU MICHEL. ROMANINO DEMAIL	18-	20
SONATO Michel Romanino	MICHEL. ROMANINO WEMAIL	con 1	/(e) 7
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PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Prepared For:

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Property Identification:
RESIDENTIAL DWELLING
22870 S WEATHERHILL RD
WEST LINN, OR 97068

Prepared By:

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Date Issued: Friday, August 3, 2018 Alpha Project Number: 18-22248



TABLE OF CONTENTS

	UTIVE SUMMARY	
1.0	INTRODUCTION	
1.1		
1.2		
1.3		
1.4		
_	1.4.1 Data Gaps	
_	1.4.2 Data Failure	
1.5		
1.6		
1.7		
2.0	SITE DESCRIPTION	
2.1		
2.2		
2.3		
2.4		
2.5		
2.6 2.7		
_	2.7.1 Topography	
_	2.7.2 Solis/Geology	
3.0	USER PROVIDED INFORMATION	
3.1		
3.2		
3.3		
3.4		
3.5		
3.6		
3.7	•	
3.8		
4.0	HISTORICAL USE INFORMATION	
4.1		
4.2		
4.3		
4.4		_
4.5		
4.6		
5.0	RECORDS REVIEW	
5.1		
_	5.1.1 Federal and State Regulatory Review	
5.2	3 ,	
_	5.2.1 Fire Officials	
	5.2.2 Building Department	
_	5.2.3 Other Agencies	
5.3	_	
5.4		
6.0	SITE RECONNAISSANCE	
6.1	METHODOLOGY AND LIMITING CONDITIONS	28

ii



6.2	BUILDING AND GENERAL SITE CHARACTERISTICS	28
6.2.	.1 Exterior Observations	28
6.2.	.2 Interior Observations	28
6.2.	.3 Solid Waste Disposal	28
6.2.	.4 Surface Water Drainage	28
6.2.	.5 Wells and Cisterns	29
6.2.	.6 Wastewater	29
6.2.	.7 Additional Site Observations	29
6.3	POTENTIAL ENVIRONMENTAL CONDITIONS	29
6.3.	.1 Hazardous Materials and Petroleum Products Used or Stored at the Site	29
6.3.	.2 Evidence of Releases	29
6.3.	.3 Polychlorinated Biphenyls (PCBs)	29
6.3.	.4 Landfills	30
6.3.	.5 Pits, Ponds, Lagoons, Sumps, and Catch Basins	30
6.3.	.6 Onsite ASTs and USTs	30
6.3.	.7 Radiological Hazards	30
6.3.	.8 Additional Hazard Observations	30
7.0 II	NTERVIEWS	31
7.1	Interview with Owner	31
7.2	Interview with Site Manager	31
7.3	Interview with Occupants	31
7.4	Interview with Local Government Officials	31
7.5	Interviews with Others	31
8.0 E	VALUATION	32
8.0 E 8.1	FINDINGS	
	FINDINGS	32
8.1	FINDINGS	32 32
8.1 <i>8.1</i> .	FINDINGS	32 32 32
8.1 <i>8.1.</i> <i>8.1.</i>	FINDINGS	32 32 32
8.1 8.1. 8.1. 8.1.	FINDINGS	32 32 32 32
8.1 8.1. 8.1. 8.1.	FINDINGS	32 32 32 32 32
8.1 8.1. 8.1. 8.1. 8.1.	FINDINGS	32 32 32 32 32
8.1 8.1. 8.1. 8.1. 8.1. 8.1.	FINDINGS	32 32 32 32 32 33
8.1 8.1. 8.1. 8.1. 8.1. 8.1.	FINDINGS	32 32 32 32 33 33
8.1 8.1. 8.1. 8.1. 8.1. 8.2 8.3	FINDINGS	
8.1 8.1. 8.1. 8.1. 8.1. 8.1. 8.2 8.3 8.4	FINDINGS	
8.1 8.1. 8.1. 8.1. 8.1. 8.1. 8.2 8.3 8.4 8.5	FINDINGS	
8.1 8.1. 8.1. 8.1. 8.1. 8.2 8.3 8.4 8.5 8.6	FINDINGS	
8.1 8.1. 8.1. 8.1. 8.1. 8.2 8.3 8.4 8.5 8.6 8.6.	FINDINGS	
8.1 8.1. 8.1. 8.1. 8.1. 8.2 8.3 8.4 8.5 8.6 8.6.	FINDINGS	
8.1 8.1. 8.1. 8.1. 8.1. 8.2 8.3 8.4 8.5 8.6 8.6.	FINDINGS	
8.1 8.1. 8.1. 8.1. 8.1. 8.2 8.3 8.4 8.5 8.6 8.6. 9.0 N	FINDINGS	
8.1 8.1 8.1 8.1 8.1 8.2 8.3 8.4 8.5 8.6 8.6 9.0 N 9.1 9.2	FINDINGS	
8.1 8.1 8.1 8.1 8.1 8.2 8.3 8.4 8.5 8.6 8.6 8.6 9.0 N 9.1 9.2 9.3 9.4	FINDINGS	32 32 32 32 32 33 33 33 33 33 33 33 33 3
8.1 8.1 8.1 8.1 8.1 8.2 8.3 8.4 8.5 8.6 8.6 8.6 9.0 N 9.1 9.2 9.3 9.4	FINDINGS1 Data Gaps	
8.1 8.1. 8.1. 8.1. 8.1. 8.2 8.3 8.4 8.5 8.6 8.6. 9.0 N 9.1 9.2 9.3 9.4	FINDINGS1 Data Gaps	

iii



TABLE OF FIGURES

TABLE 1: SIGNIFICANT ELEMENTS OF INVESTIGATION	6
TABLE 2: USER PROVIDED INFORMATION	10
TABLE 3: SITE OCCUPANTS	11
TABLE 4: PROPERTY UTILITIES	11
TABLE 5: FEDERAL ENVIRONMENTAL LISTS	20
TABLE 6: STATE & TRIBAL ENVIRONMENTAL LISTS	21
TABLE 7: LOCAL & PROPRIETARY RECORDS	21

APPENDICES

APPENDIX A: SITE PHOTOGRAPHS

APPENDIX B: HISTORICAL RESEARCH DOCUMENTATION

EXHIBIT B-1: AERIAL PHOTOGRAPHS EXHIBIT B-2: FIRE INSURANCE MAPS EXHIBIT B-3: CITY DIRECTORIES EXHIBIT B-4: TITLE SEARCH RECORDS

APPENDIX C: REGULATORY RECORDS DOCUMENTATION

EXHIBIT C-1: MAPPED DATABASE REPORT EXHIBIT C-2: GENERAL PUBLIC RECORDS

APPENDIX D: CLIENT PROVIDED DOCUMENTATION

APPENDIX E: LABORATORY REPORTS

APPENDIX F: OTHER SUPPORTING DOCUMENTATION

APPENDIX G: QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS



EXECUTIVE SUMMARY

Alpha Environmental Services, Inc. (Alpha) has performed a Phase I Environmental Site Assessment (ESA) in general accordance with the scope of work and limitations accepted by 22870 Weatherhill LLC for the Residential Dwelling located at 22870 S Weatherhill Rd, West Linn, OR 97068 (the Property).

The Phase I ESA is designed to provide 22870 Weatherhill LLC with an assessment concerning environmental conditions (limited to those issues identified in the report) as they exist at the Property. This assessment was conducted utilizing generally accepted ESA industry standards in accordance with the All Appropriate Inquiry (AAI) process, American Society for Testing and Materials (ASTM) E 1527-13, Standard Practice for Environmental Site Assessments: Phase I ESA Process, and Alpha's contracted scope of work for the Phase I ESA.

Property Overview

The Property consists of an irregular-shaped parcel approximately 2.56 acres in size. The Property is designed and used for residential purposes. Currently, the Property is developed with two structures – a dwelling and a shed building. The dwelling was constructed in 1986, according to county records. The site offers one tenant space for residential purposes.

Access to the Property is provided from S Weatherhill Road. Manicured landscaping surrounds the Property. No other structures or significant surface features were noted on the Property at the time of the reconnaissance.

The Property is flat and is at an approximate elevation of 597 feet above mean sea level. Based upon topographic map interpretation and site observations, the presumed groundwater flow beneath the site is inferred to be in a southwesterly direction.

Historic Property Usage

The Property was vacant land in 1936. According to Clackamas County records, a dwelling was constructed in 1986. Between 1981 and 1994, a shed was constructed on the Property. The Property has remained largely unchanged since this time.

Adjoining Sites

The Property is situated within an urban area in West Linn, Oregon. The Property is bound to the northwest, south and west by residential sites, to the northeast by an assisted care facility and to the east by vacant land. The surrounding area is composed mainly of residential sites with some commercial sites beyond.

Records Review

According to the regulatory database report from Environmental Data Resources, Inc. (EDR) and based on one or more of the following: distance from the Property, being located in a presumed downgradient/crossgradient groundwater direction relative to the Property, type of media impacted, and/or status reported by the regulatory agency, the offsite properties identified within the prescribed search radii represent a low environmental risk to the Property.

Based on the observations made and information obtained during the course of this assessment, no past or present use of the Property appears to represent a significant environmental concern.



Conclusions

Alpha performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-13 of the 22870 S Weatherhill Rd, West Linn, OR 97068. Any exceptions to or deletions from this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the Property.

Recommendations

Based on the information available at the time of this assessment, Alpha does not recommend further investigation of the Property at this time.

Significant Elements of Investigation

The following table summarizes the significant elements of this investigation.

TABLE I: SIGNIFICANT ELEMENTS OF INVESTIGATION	Onsite	Offsite Adjoining
Issues Identified in Standard Environmental Record Sources	no	Yes
Fire Department underground storage tank (UST) permits	no	no
Aboveground storage tanks (ASTs) and USTs	no	no
Historic use of concern (drycleaners, auto repair facility, etc.)	no	no
Hazardous Materials and/or Petroleum Products	no	no
Unlabeled containers and/or drums	no	no
Evidence of Release (staining, etc.)	no	no
Polychlorinated Biphenyls (PCBs)	no	no
Landfills	no	no
Pits, ponds, lagoons, sumps, catch basins	no	no
Oil & Gas Wells	no	no
Radiological Hazards	no	no
Asbestos Containing Materials (ACM)	n/a	n/a
Radon	not tested	n/a
Lead-Based Paint	n/a	n/a
Other	n/a	n/a

n/a = not applicable



1.0 INTRODUCTION

Alpha Environmental Services, Inc. (Alpha) was retained by 22870 Weatherhill LLC to conduct a Phase I Environmental Site Assessment (ESA) of the Residential Dwelling located at 22870 S Weatherhill Rd, West Linn, OR 97068 (the Property). The protocol used for this assessment is in general conformance with the American Society for Testing and Materials (ASTM) Practice E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (American Society for Testing and Materials, 2013) and Alpha's scope of work for Phase I Environmental Site Assessments (ESAs).

On Wednesday, August 1, 2018, Casey Ward, a representative of Alpha, conducted a site reconnaissance to assess the possible presence of petroleum products and hazardous materials at the Property. Alpha's investigation included review of aerial photographs, reconnaissance of adjoining properties, background research, and review of available local, state, and federal regulatory records regarding the presence of petroleum products and/or hazardous materials at the Property and in the vicinity.

1.1 Purpose

The purpose of this Phase I ESA was to identify existing or potential recognized environmental conditions (RECs) as defined by ASTM E 1527-13 (American Society for Testing and Materials, 2013) as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment".

Alpha understands that the findings of this assessment will be used by 22870 Weatherhill LLC to evaluate a pending financial transaction in connection with the Property.

1.2 Scope of Services

The scope of work for this ESA is in accordance with 22870 Weatherhill LLC Phase I ESA protocol and is in general accordance with the requirements of ASTM Standard E 1527-13. Alpha warrants that the findings and conclusions contained herein were accomplished in accordance with the methodologies set forth in the scope of work. These methodologies are described as representing good commercial and customary practice for conducting a Phase I ESA of a property for the purpose of identifying RECs.

Please be advised that pursuant to the All Appropriate Inquiries (AAI) rules (40 CFR 312.20) and in conformance with the ASTM E 1327-13 Standard (American Society for Testing and Materials, 2013), Section 4.6; this report and its statements are valid for 180 days after the date of issuance. After 180 days and before one year of the date of issuance, a report update may be performed; after one year, a new full Phase 1 ESA is required for the Property.

No other warranties are implied or expressed.



1.3 Assumptions

There is a possibility that even with the proper application of these methodologies there may exist on the Property conditions that could not be identified within the scope of the assessment or that were not reasonably identifiable from the available information. Alpha believes that the information obtained from the record review and the interviews concerning the Property is reliable. However, Alpha cannot and does not warrant or guarantee that the information provided by these other sources is accurate or complete. The methodologies of this assessment are not intended to produce all-inclusive or comprehensive results, but rather to provide 22870 Weatherhill LLC with information relating to the Property.

1.4 Limitations and Exceptions

The findings and conclusions contain all of the limitations inherent in these methodologies that are referred to in ASTM E 1527-13. Specific limitations and exceptions to this ESA are set forth below:

1.4.1 Data Gaps

A data gap is defined in ASTM E 1527-13 as "a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information."

No significant data gaps were encountered during this Phase I ESA.

1.4.2 Data Failure

A data failure is defined in ASTM E 1527-13 as "a failure to achieve the historical research objectives . . . even after reviewing the standard historical sources . . . that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap."

No significant data failures were encountered during this Phase I ESA.

1.5 User Responsibilities

As outlined in ASTM E 1527-13, it is the responsibility of 22870 Weatherhill LLC (the User) to provide the following pieces of information:

- Environmental clean-up liens and Activity Use Limitations (AULs): The User must search for environmental clean-up liens and AULs which include institutional controls (ICs) and engineering controls (ECs).
- Specialized knowledge: The User must consider specialized knowledge about the Property to identify conditions indicative of releases or threatened releases. The User should provide this information to Alpha prior to the site reconnaissance.
- Reasons for Significantly Lower Purchase Price: The User shall consider the relationship of purchase price to fair market value of Property. The User should inform Alpha if the User believes the purchase price of the Property is lower than fair market value due to contamination.



Commonly Known or Reasonably Ascertainable Information: Commonly known or reasonably ascertainable information within the local community about the Property must be taken into account by the User. If the User is aware of any such information that is material to RECs in connection with the Property, the User should communicate such information to Alpha.

1.6 Special Terms and Conditions

The scope of work performed is governed by Alpha's proposal dated Friday, July 27, 2018 and authorized by 22870 Weatherhill LLC on Tuesday, July 31, 2018.

The conclusions and findings set forth in this report are strictly limited in time and scope to the date of the evaluations. The conclusions presented in the report are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed-upon services or the time and budgeting restraints imposed by 22870 Weatherhill LLC. No subsurface exploratory drilling or sampling was done under the scope of this work. Unless specifically stated otherwise in the report, no chemical analyses have been performed during the course of this Phase I ESA.

Some of the information provided in this report is based upon personal interviews and research of available documents, records, and maps held by the appropriate government and private agencies. This is subject to the limitations of historical documentation, availability, and accuracy of pertinent records and the personal recollections of those persons contacted.

1.7 Use Reliance

All reports, both verbal and written, are for the benefit of Rod Friesen and 22870 Weatherhill LLC. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of Alpha.

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, this report, and Alpha's *General Terms and Conditions for Professional Services Agreement*.

Continued viability of this report is subject to Section 4.6 of ASTM E 1527-13. If the ESA will be used by a different User other than the original User for whom the ESA was prepared, the third party must also satisfy the User's responsibilities in Section 4 and Section 6 of ASTM E 1527-13.



2.0 SITE DESCRIPTION

2.1 User Provided Information

Pursuant to ASTM E 1527-13, Alpha requested the following site information from 22870 Weatherhill LLC (User of this report) and from the site contact.

TABLE 2: USER PROVIDED INFORMATION	PROVIDED BY USER	NOT PROVIDED BY USER	DISCUSSED BELOW	DOES NOT APPLY
2.1.1 Environmental Pre- Survey Questionnaire		X		
2.1.2 Title Records		X		
2.1.3 Environmental Liens or Activity and Use Limitation		X		
2.1.4 Specialized Knowledge		X		
2.1.5 Valuation Reduction for Environmental Issues				X
2.1.6 Identification of Key Site Manager		X		
2.1.7 Reason for Performing Phase 1 ESA	YES, SEE SECTION 1.1			
2.1.8 Prior Environmental Reports		X		

2.2 Location and Legal Description

The address of the Property is 22870 S Weatherhill Rd, West Linn, OR 97068. The Property is located in a residential area of Clackamas County. According to the tax assessor, the assessor's parcel number of the Property is 00405449 and the Property has been owned by David and Diana Dean since 1991.

2.3 Property and Vicinity General Characteristics

The Property consists of an irregular-shaped parcel approximately 2.56 acres in size. The Property is designed and used for residential purposes. Currently, the Property is developed with two structures – a dwelling and a shed building. The dwelling was constructed in 1986, according to county records. The site offers one tenant space for residential purposes.

Access to the Property is provided from S Weatherhill Road. Manicured landscaping surrounds the Property. No other structures or significant surface features were noted on the Property at the time of the reconnaissance.



2.4 Current Use of the Property

Based on the information reviewed during the preparation of this report and the observations made during the reconnaissance of the Property, the tenant spaces are currently occupied by the tenants and activities identified in the table below:

TABLE 3: SITE OCCUPANTS		
Unit	Tenant	Operation
22870 S	Residential	Residential.
Weatherhill Road		

2.5 Description of Property Utilities

The following table includes utilities currently at the Property.

TABLE 4: PROPERTY UTILITIES	Provider/Source	Comments
Electric	Portland General Electric	
Gas	Northwest Natural Gas	
Water	Well	
Solid Waste Disposal	West Linn Refuse and Recycling	
Sewer	Septic	
Storm Water	None	
Heat	Natural Gas	
Hot Water	Unknown	
Cooling	Electric	

2.6 Current Use of Adjoining Sites

Adjoining sites are those that share a common property line with the Property, or would share a property line if they were not separated by an easement or public thoroughfare. During the vicinity reconnaissance, Alpha observed the following land use on sites adjoining the Property:

North: Residential to the northwest and assisted living facility to the northeast.

South: Residential sites.

East: Vacant land.

West: Residential sites.



2.7 Physical Setting

2.7.1 Topography

The United States Geological Survey (USGS), Canby, Quadrangle 7.5-minute series topographic map (United State Geological Service, 1985) was reviewed for this ESA. According to the contour lines on the topographic map, the Property is located at approximately 597 above mean sea level (MSL). The contour lines in the area of the Property indicate the area is sloping moderately to the southwest.

2.7.2 Soils/Geology

Based on the soil survey maps published by the United States Department of Agriculture (USDA) Soil Conservation Service (United States Department of Agriculture, 1977), the Property is mapped as Saum silt loam, which is characterized with moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

The Property is situated within the Willamette Valley, which is a portion of the Puget Trough physiographic sub province of the Pacific Mountain System geological province of the State of Oregon. This area consists of fluviolacustrine sedimentary deposits. Underlying the area is unconsolidated silt, sand, gravel and clay. Generally, this specific area consists of fine grained material, but gravel layers may also be found there to some extent. The thickness of these deposits is generally less than 100 feet; locally, it may be as great as 150 feet (Walker, et al., 1991).

2.7.3 Hydrology

According to the Well Log online database (Oregon Water Resources Department) and data from the USGS Estimated Depth to Groundwater Interactive Map (United States Geological Service), static groundwater is located approximately 276 feet below surface grade (bsg).

The flow of groundwater typically imitates the surface topography and ordinarily flows from higher to lower elevations. The near surface flow may be influenced by stratigraphy, water bodies, rainfall, underground utilities and other subsurface features. Based on the general topography of the Property and vicinity, groundwater is anticipated to flow to the southwest.

The nearest surface water in the vicinity of the Property is Tanner Creek, which lies approximately ½ mile to the east of the Property. According to Bob Scaultz, who provided site access for the site visit, water drainage from off-site runs across the southern portion of the Property through a drainage bed. Mr. Scaultz stated this was surface water runoff from nearby sites which runs through the Property, 15 feet north of the southern property line. This does not appear to present a significant environmental concern to the Property. No other onsite water wells, springs, settling ponds, lagoons, surface impoundments or wetlands were observed during the Property reconnaissance.



According to the U.S. Environmental Protection Agency Office of Water, the Property does not overlie a sole source aquifer.



3.0 USER PROVIDED INFORMATION

3.1 Title Records

The User did not provide Alpha with copies of recorded land title records for the Property.

3.2 Environmental Liens or Activity and Use Limitations (AULs)

It is the User's responsibility to search title records for environmental clean-up liens and Activity and Use Limitations (AULs) that are filed or recorded against the Property. These include both legal (institutional) controls and physical (engineering) controls filed in the land title office.

According to the user of this report, no environmentally related liens or Activity Use Limitations (AULs) have been recorded against the Property.

3.3 Specialized Knowledge

No significant specialized knowledge was provided by the User for this assessment.

3.4 Commonly Known or Reasonably Ascertainable Information

Alpha inquired of the User regarding ascertainable information regarding environmental conditions associated with the property. Knowledge of commonly known or reasonably ascertainable information related to environmental conditions was not reported by the User.

3.5 Valuation Reduction for Environmental Issues

No environmental issues were encountered during this review that would be likely to cause a valuation reduction. No valuation reduction was reported by the User.

3.6 Owner, Property Manager, and Occupant Information

No information was obtained that is relevant here.

3.7 Reason for Performing Phase I

Alpha understands that the findings of this study will be used by User to evaluate a pending financial transaction in connection with the Property.

This report may additionally be utilized by the User to qualify for Landowner Liability Protections (LLPs) under the "Brownfield Amendments" to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

3.8 Other

No other relevant User provided information was used for this review.



4.0 HISTORICAL USE INFORMATION

4.1 Historical Information Use Summary

The Property was vacant land in 1936. According to Clackamas County records, a dwelling was constructed in 1986. Between 1981 and 1994, a shed was constructed on the Property. The Property has remained largely unchanged since this time.

4.2 Aerial Photographs

Available aerial photographs dated 1936, 1948, 1952, 1955, 1960, 1970, 1975, 1981, 1994, 2000, 2006, 2009, 2012 and 2016 from EDR were reviewed for this ESA. Copies of selected photographs are included in <u>Appendix B, Exhibit B-1</u> of this report. The photographs are discussed below:

Date: 1936

	Description
Property	The Property appears to be vacant land.
North	The sites to the north appears to be a field possibly occupied by an orchard. A
	dwelling occupied the site to the northeast.
South	The sites to the south appear to be vacant land.
East	The site to the east appears to be vacant land.
West	The sites to the west appear to be vacant land.

Date: 1948

	Description
Property	No significant change from 1936 photo.
North	No significant change from 1936 photo.
South	An orchard appears to occupy a portion of the sites to the south.
East	No significant change from 1936 photo.
West	No significant change from 1936 photo.

Date: 1952

	Description
Property	No significant change from 1948 photo.
North	No significant change from 1948 photo.
South	No significant change from 1948 photo.
East	No significant change from 1948 photo.
West	No significant change from 1948 photo.



Date: 1955

	Description
Property	No significant change from 1952 photo.
North	No significant change from 1952 photo.
South	No significant change from 1952 photo.
East	No significant change from 1952 photo.
West	No significant change from 1952 photo.

Date: 1960

	Description
Property	No significant change from 1955 photo.
North	No significant change from 1955 photo.
South	No significant change from 1955 photo.
East	No significant change from 1955 photo.
West	No significant change from 1955 photo.

Date: 1970

	Description
Property	No significant change from 1960 photo.
North	The orchard to the north has been removed. The site to the northwest appears to be vacant land and the site to the northeast is occupied by three buildings appearing to be residential in nature.
South	No significant change from 1960 photo.
East	No significant change from 1960 photo.
West	No significant change from 1960 photo.

Date: 1975

	Description
Property	No significant change from 1970 photo.
North	No significant change from 1970 photo.
South	No significant change from 1970 photo.
East	No significant change from 1970 photo.
West	No significant change from 1970 photo.

Date: 1981

	Description
Property	No significant change from 1975 photo.



	Description			
North	No significant change from 1975 photo.			
South	No significant change from 1975 photo.			
East	No significant change from 1975 photo.			
West	No significant change from 1975 photo.			

Date: 1994

	Description				
Property	A dwelling and shed building have been constructed on the Property.				
North	A dwelling has been constructed to the northwest.				
South	No significant change from 1981 photo.				
East	A building has been constructed to the east, possibly a barn.				
West	A building was constructed to the west appearing to be a dwelling.				

Date: 2000

	Description
Property	No significant change from 1994 photo.
North	The three buildings to the northeast have been removed and a larger commercial
	building has been constructed, consistent with the assisted care facility which
	currently occupies the site.
South	No significant change from 1994 photo.
East	No significant change from 1994 photo.
West	No significant change from 1994 photo.

Date: 2006

	Description				
Property	No significant change from 2000 photo.				
North	No significant change from 2000 photo.				
South	Four dwellings have been constructed to the south.				
East	No significant change from 2000 photo.				
West	No significant change from 2000 photo.				

Date: 2009

	Description			
Property	No significant change from 2006 photo.			
North	No significant change from 2006 photo.			
South	No significant change from 2006 photo.			



	Description		
East	No significant change from 2006 photo.		
West	No significant change from 2006 photo.		

Date: 2012

	Description				
Property	No significant change from 2009 photo.				
North	No significant change from 2009 photo.				
South	No significant change from 2009 photo.				
East	No significant change from 2009 photo.				
West	No significant change from 2009 photo.				

Date: 2016

	Description					
Property	No significant change from 2012 photo.					
North	No significant change from 2012 photo.					
South	No significant change from 2012 photo.					
East	No significant change from 2012 photo.					
West	The dwelling to the west has been razed and a development appears to be under					
	construction.					

4.3 Fire Insurance Maps

Due to the location of the Property falling outside of the historical city limits, Sanborn Fire Insurance maps were not available for the area.

4.4 City Directories

Historical City directories published by Polk and Cole were provided by EDR and reviewed for past names and business that were listed for the Property and adjoining properties. Copies are included in Exhibit B-3. The findings are presented in the following tables:

Property: 22870 S Weatherhill Road

Year	Listing
2005	Residential
2010	Residential
2014	Residential



North:

Year	Listing				
2005	22915 S Weatherhill Rd - Residential				
2010	22915 S Weatherhill Rd - Residential				
2014	22915 S Weatherhill Rd - Residential				

South: No Listings

East: No Address – No Listings

West: No Listings

4.5 Chain of Title

A 50-year chain-of-title was not requested for this study. Historical use of the Property was researched using other standard historical sources.

4.6 Additional Environmental Record Sources

No additional environmental record sources were accessed for this report.



5.0 RECORDS REVIEW

5.1 Standard Environmental Record Sources

5.1.1 Federal and State Regulatory Review

Information from standard federal and state environmental record sources was provided through EDR (Environmental Data Resources, 2018). Data from governmental agency lists are updated and integrated into one database, which is updated as these data are released. This integrated database also contains postal service data in order to enhance address matching. Records from one government source are compared to records from another to clarify any address ambiguities. The demographic and geographic information available provides assistance in identifying and managing risk. The accuracy of the geocoded locations is approximately \pm 300 feet.

In some cases, location information supplied by the regulatory agencies is insufficient to allow the database companies to geocode facility locations. These facilities are listed under the unmappable section within the EDR report. A review of the unmappable facilities indicated that several of these facilities are within the ASTM minimum search distance from the Property. These facilities are discussed under the appropriate database heading below.

Regulatory information from the database sources regarding possible RECs, within the ASTM search criteria and minimum search distance from the Property, was reviewed. Specific facilities are discussed below if determined likely that a potential REC has resulted at the Property from the listed facilities. Please refer to Appendix C, Exhibit C-1 for a complete listing.

TABLE 5: FEDERAL ENVIRONMENTAL LISTS

Federal Records	AMSD*	Property	Adjoining	<1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	> 1/2 mile
Federal National Priority List (NPL)	1.0	0	0	0	0	0	0
Federal Delisted NPL List	0.5	0	0	0	0	0	
Federal CERCLIS List	0.5	0	0	0	0	0	
Federal CERCLIS NFRAP List	0.5	0	0	0	0	0	
Federal RCRA CORRACT List	1.0	0	0	0	0	0	0
Federal RCRA Non- CORRACT TSD List	0.5	0	0	0	0	0	
Federal RCRA Generators	Property & adjoining	0	0				



Federal Records	AMSD*	Property	Adjoining	<1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	> 1/2 mile
Federal IC/EC Registries	Property	0					
Federal ERNS Sites	Property	0					

TABLE 6: STATE & TRIBAL ENVIRONMENTAL LISTS

State & Tribal Records	AMSD*	Property	Adjoining	<1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	> 1/2 mile
State and Tribal Equivalent CERCLIS	0.5	0	0	0	0	0	
Solid Waste/Landfill Facility (SWF) List	0.5	0	0	0	0	0	
Leaking Underground Storage Tank (LUST)	0.5	0	1	0	0	3	
Underground Storage Tank (UST) List	Property & adjoining	0	0				
State and Tribal IC/EC Registries	Property	0					
Voluntary Cleanup Program (VCP) Sites	0.5	0	0	0	0	0	
Brownfields	0.5	0	0	0	0	0	

TABLE 7: LOCAL & PROPRIETARY RECORDS

Local & Proprietary Records	AMSD*	Property	Adjoining	<1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	> 1/2 mile
Local Lists of Landfill/Solid Waste Disposal Sites	0.5	0	0	0	0	0	
Local Lists of Hazardous Waste/Contaminated Sites	0.5	0	0	0	0	0	
Local Land Records	Property	0					
Records of Emergency Release Reports	Property	0					
Other Ascertainable Records	Property	0					



Local & Proprietary Records	AMSD*	Property	Adjoining	<1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	> 1/2 mile
EDR High Risk Historical Records	0.5	0	0	0	0	0	

*AMSD: Approximate Minimum Search Distance, in miles, pursuant to ASTM E 1527-13

Federal Listings

Federal NPL

The National Priorities List (NPL) is the Environmental Protection Agency (EPA) database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program.

The Property is not listed as an NPL facility. No NPL sites are located within one mile of the Property.

Federal Delisted NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 Code of Federal Regulations (CFR) 300.425(e), sites may be deleted where no further response is appropriate.

The Property is not listed as a Delisted NPL site. No Delisted NPL sites are located within one-half mile of the Property.

Federal CERCLIS List

The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) list is a compilation of sites that the EPA has investigated or is currently investigating for a release, or threatened release, of hazardous substances.

The Property is not listed as a CERCLIS facility. No CERCLIS sites are listed within one-half mile of the Property.

Federal CERCLIS NFRAP Sites List

The CERCLIS No Further Remedial Action Planned (NFRAP) List is a compilation of sites that the EPA has investigated and has determined that the facility does not pose a threat to human health or the environment, under the CERCLA framework.

The Property is not listed as a CERCLIS NFRAP facility. No CERCLIS NFRAP facilities are listed within one-half mile of the Property.



Federal Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACT) Treatment, Storage and Disposal (TSD) Facilities List

The EPA Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Treatment, Storage and Disposal (TSD) database is a compilation by the EPA of reporting facilities that treat, store or dispose of hazardous waste. The Corrective Action (CORRACT) database is the EPA's list of treatment storage or disposal facilities subject to corrective action under RCRA.

The Property is not listed as a RCRA CORRACT TSD facility. No RCRA CORRACT TSD facilities are listed within one mile of the Property.

Federal Resource Conservation and Recovery Act (RCRA) Non-CORRACT TSD Facilities List

The RCRA TSD database is a compilation by the EPA of reporting facilities that treat, store or dispose of hazardous waste.

The Property is not listed as a RCRA Non-CORRACT TSD facility. No RCRA Non-CORRACT TSD sites are listed within one-half mile of the Property.

Federal RCRA Generator List

The RCRA program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Generators database is a compilation by the EPA of reporting facilities that generate hazardous waste.

The Property is not listed as a RCRA Generator facility. No RCRA Generator facilities are listed on the adjoining sites.

Federal Institutional Control/Engineering Control (IC/EC) Registries

Any Federal institutional controls (IC) and/or engineering controls (EC) imposed on the Property would have been listed in one of the above-referenced registries.

Since the Property is not listed on any of the above-referenced registries, there is a low potential for Federal IC/EC controls to have been imposed on the Property.

Federal Emergency Response Notification System (ERNS)

The Emergency Response Notification System (ERNS) is a national database used to collect information or reported release of oil or hazardous substances.

No ERNS sites were listed on the Property.



State Listings

State and Tribal CERCLIS-Equivalent List

The Oregon Department of Environmental Quality (DEQ) maintains a State and Tribal CERCLIS-equivalent lists that use the DEQ Confirmed Release List (CRL) and Environmental Cleanup Site Information (ECSI) database to compile a list of sites under investigation that could be actually or potentially contaminated and presenting a possible threat to human health and the environment.

The Property is not listed as a CRL facility. No CRL sites are listed within one-half mile of the Property.

The Property is not listed as an ECSI facility. No ECSI sites are listed within one-half mile of the Property.

Solid Waste/Landfill Facilities (SWF) List

A database of Solid Waste/Landfill Facilities (SWF) list is prepared by Oregon DEQ.

The Property is not listed as an SWF facility. No SWF facilities are listed within one-half mile of the Property.

State and Tribal Leaking Underground Storage Tank (LUST) List

The Oregon DEQ compiles a list of leaking underground storage tanks (LUSTs) of petroleum products and hazardous substances. The US EPA Region 10 maintains an inventory of Indian Land LUSTs currently under federal administration.

The Property is not listed as a LUST facility. Four LUST sites are listed within one-half mile of the Property. Three of these sites are located greater than 1/8 mile from the subject Property and due to the intervening distance, present a low environmental risk to the Property. The remaining site is discussed below:

• HEATING OIL TANK, 22882 WEATHERHILL ROAD (LUST 03-99-0644). This site is located adjacent the subject Property to the northwest in the presumed crossgradient groundwater flow direction. A leaking underground storage tank was discovered in 1999 during the tank decommissioning. Only soil contamination was reported and a soil matrix cleanup was performed. A closure letter was issued by the Oregon DEQ in 2013 and the file has been closed indicating cleanup efforts are complete. Due to the soil only reported contamination, soil matrix cleanup performed and DEQ issued closure letter, this site presents a low environmental risk to the Property.

State and Tribal Registered Underground Storage Tank (UST) List

The Oregon DEQ compiles a list of registered UST locations. The US EPA Region 10 maintains an inventory of Indian Land USTs currently under federal administration.



The Property is not listed as a registered UST facility. No registered UST facilities are listed for adjoining sites.

State and Tribal Institutional Controls/Engineering Controls (IC/EC) Registries

Any State or Tribal ICs and ECs imposed on the Property would have likely been listed in one of the above-referenced registries.

Since the Property is not listed on any of the above-referenced registries, there is a low potential for state or tribal IC/EC have been imposed on the Property.

State and Tribal Voluntary Cleanup Program (VCP) Sites

The Oregon DEQ maintains a list of responsible parties who have entered into an agreement with the DEQ to voluntarily address contamination associated with their property.

The Property is not listed as a VCP site. No VCP sites were listed within one-half mile of the Property.

Brownfields

The Oregon DEQ maintains a list of Brownfields sites as part of its Environmental Cleanup Site Information (ECSI) System.

The Property is not listed as a Brownfield site. No State or Tribal Brownfields sites were listed within one-half mile of the Property.

EDR Additional Environmental Records

Local Lists of Landfill/Solid Waste Disposal Sites

EDR reviews multiple data sources to determine if Landfill/Solid Waste Disposal Sites are located within one-half mile of the Property. No sites were listed in the database search.

Local Lists of Hazardous Waste/Contaminated Sites

EDR reviews multiple data sources to determine if Hazardous Waste/Contaminated Sites are located within prescribed search distances of the Property. No sites were listed in the database search.

Local Land Records

EDR reviews a Lien data source to determine if a lien against the Property exists. No record was listed in the database search.

Records of Emergency Release Reports

EDR reviews multiple data sources to determine if an Emergency Release has occurred on the Property. No record was listed in the database search.



Other Ascertainable Records

EDR reviews multiple data sources for Other Ascertainable Records of potential hazards in the vicinity of the Property. No sites were listed in the database search within the prescribed search distances.

EDR High Risk Historical Records

EDR maintains exclusive records for manufactured gas plants, historical gas stations and historical dry cleaners. No sites were listed within one-half mile of the Property.

5.2 Local Regulatory Review

5.2.1 Fire Officials

Records from the Tualatin Valley Fire and Rescue Fire Marshal were requested for evidence indicating the presence of underground storage tanks and for the use of hazardous materials. The Fire Marshal did not respond in time to be included in this report.

5.2.2 Building Department

Records from the City of West Linn, Building Department, were reviewed for evidence indicating the developmental history of the subject Property, and for the presence of documentation relative to underground storage tanks. No relevant records were found during this process.

Records from Clackamas County, Building Department, were requested for evidence indicating the developmental history of the subject Property, and for the presence of documentation relative to underground storage tanks. The Department did not respond in time to be included in this report.

5.2.3 Other Agencies

No other agencies were contacted for this review.

5.3 Regulatory Agency File and Records Review

In accordance with ASTM E1527-13, if the Property or any of the adjoining sites is identified on one or more of the standard environmental record sources listed above, pertinent regulatory files and/or records associated with the listings should be reviewed. The environmental professional may alternatively review files/records from an alternate source (onsite records, user provided records, records form local government agencies, interviews with regulatory officials or other knowledgeable individuals) regarding information about the environmental conditions that resulted in the standard environmental record source listing.

Based on the available online records from the DEQ, the reported closure status and cleanup efforts performed, it is the Alpha's opinion that an agency file review was not warranted for the adjacent site to the northwest.



5.4 Vapor Encroachment Assessment

A limited vapor encroachment assessment was conducted in general accordance with ASTM E 2600–10, Standard Guide for Vapor Encroachment Screening (VES) on Property Involved in Real Estate Transactions (ASTM International, 2013). The purpose of the Tier 1 screen was to collect information to determine if a vapor encroachment condition (VEC) exists at the subject Property. This assessment was based on information collected in conjunction with the Phase I ESA, including existing/planned use of the site, type of structures located on the site, surrounding property description, user information, historical and physical records review, regulatory database review, manmade or natural conduits, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. The assessment did not include regulatory file reviews or subsurface investigations to evaluate soil, soil gas, or groundwater quality.

Alpha's review of the regulatory records identified a potential facility of concern within 100 feet of the site (22882 Weatherhill Rd), which is located crossgradient of the site. Documented impacts have not been identified on the site in association with this facility, and the potential for on-site vapor impacts originating from this facility appear low.

Based on the physical setting of the site, the current use of the site and the findings from the historical and regulatory records review, potential vapor encroachment issues were deemed not likely to exist at the Property at this time.



6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

The site reconnaissance was conducted by Casey Ward, of Alpha on Wednesday, August 1, 2018. The weather conditions at the time of the site reconnaissance were sunny and 76 degrees Fahrenheit. Mr. Bob Scaultz provided site access. The visual reconnaissance consisted of observing the boundaries of the property and systematically traversing the site to provide an overlapping field of view, wherever possible. The periphery of the on-site structures was observed. Permission to enter the interior of the dwelling was not granted. Photographs of pertinent site features identified during the site reconnaissance are included in Appendix A.

6.2 Building and General Site Characteristics

The Property consists of an irregular-shaped parcel approximately 2.56 acres in size. The Property is designed and used for residential purposes. Currently, the Property is developed with two structures – a dwelling and a shed building. The dwelling was constructed in 1986, according to county records. The site offers one tenant space for residential purposes.

Access to the Property is provided from S Weatherhill Road. Manicured landscaping surrounds the Property. No other structures or significant surface features were noted on the Property at the time of the reconnaissance.

6.2.1 Exterior Observations

The exterior of the dwelling is constructed with composite shingle roofing and wooden siding. The dwelling is constructed with a concrete foundation.

6.2.2 Interior Observations

The interior of the dwelling was not entered as permission was not granted. Due to the developmental history of the Property and the current and former usage of the Property, this is not a significant data gap.

6.2.3 Solid Waste Disposal

Solid waste on the Property is collected in garbage cans and collected by West Linn Refuse and Recycling Inc. No indication of potentially hazardous material disposal was noted during Alpha's reconnaissance.

6.2.4 Surface Water Drainage

Surface water from the roof of the dwelling collects in downspouts which run underground, the outlet of which are unknown. The surface water from the remaining portion of the Property is naturally absorbed into the soil.

According to Bob Scaultz, water drainage from off-site runs across the southern portion of the Property through a drainage bed. Mr. Scaultz stated this was surface water runoff from nearby



sites which runs through the Property, 15 feet north of the southern property line. This does not appear to present a significant environmental concern to the Property.

6.2.5 Wells and Cisterns

No aboveground evidence of wells or cisterns was observed during the site reconnaissance.

6.2.6 Wastewater

No indications of industrial wastewater disposal or treatment facilities were observed during the onsite reconnaissance.

6.2.7 Additional Site Observations

No additional relevant general site characteristics were observed.

6.3 Potential Environmental Conditions

6.3.1 Hazardous Materials and Petroleum Products Used or Stored at the Site

No evidence of the use of hazardous materials or wastes was observed on the Property.

6.3.1.1 Unlabeled Containers and Drums

No unlabeled containers or drums were observed during the Site reconnaissance.

6.3.1.2 Disposal Locations of Regulated/ Hazardous Waste

No obvious indications of hazardous waste generation, storage or disposal were observed on the Property or were indicated during interviews.

6.3.2 Evidence of Releases

No obvious indications of hazardous material or petroleum product releases, such as stained or corroded areas or stressed vegetation, were observed during the site reconnaissance or reported during interviews.

6.3.3 Polychlorinated Biphenyls (PCBs)

Older transformers and other electrical equipment could contain polychlorinated biphenyls (PCBs) at a level that subjects them to regulation by the U.S. EPA. PCBs in electrical equipment are controlled by EPA regulations 40 CFR, Part 761. Under the regulations, there are three categories into which electrical equipment can be classified:

- Less than 50 parts per million (ppm) of PCBs "Non-PCB" transformer
- 50-500 ppm "PCB-Contaminated" electrical equipment
- Greater than 500 ppm "*PCB*" transformer

Alpha observed one pole-mounted electrical transformer on the northwestern property line. The transformer was not labeled as to its PCB status. No leakage, staining or damage was



noted during the site visit and therefore, this transformer presents a low environmental risk to the Property. No other electrical equipment expected to contain PCBs was observed on the Property during Alpha's reconnaissance.

6.3.4 Landfills

No evidence of onsite landfilling was observed or reported during the site reconnaissance.

6.3.5 Pits, Ponds, Lagoons, Sumps, and Catch Basins

No evidence of onsite pits, ponds, or lagoons was observed or reported during the site reconnaissance. No evidence of sumps or catch basins, other than used for stormwater removal, was observed or reported during the site reconnaissance.

6.3.6 Onsite ASTs and USTs

No evidence of aboveground or underground storage tanks was observed during the site reconnaissance or reported during interviews.

6.3.7 Radiological Hazards

No radiological substances or equipment was observed or reported stored on the subject site.

6.3.8 Additional Hazard Observations

No additional hazards were observed on the Property.



7.0 INTERVIEWS

Interviews were conducted with the following individuals. Findings from these interviews are discussed in the following section of the report.

7.1 Interview with Owner

No interview was conducted with the owner.

7.2 Interview with Site Manager

• No interview was conducted with the site manager.

7.3 Interview with Occupants

No interviews were conducted with occupants.

7.4 Interview with Local Government Officials

No interviews were conducted with local government officials.

7.5 Interviews with Others

No other interviews were conducted.



8.0 EVALUATION

8.1 Findings

8.1.1 Data Gaps

No significant data gaps were encountered during this Phase I ESA. The following minor data gaps were encountered:

- The interior of the dwelling was not entered as permission was not granted. Due to the developmental history of the Property and the current and former usage of the Property, this is not a significant data gap.
- Historical information on the Property was not available dating back to 1940 in every 5-year increment. Due to the developmental history of the Property, this is not a significant data gap.
- Interview with the Property owner and site manager were not conducted due to the time constraints of the project to meet client's timeline. This is not a significant data gap due to the current and former use of the Property and the developmental history.

8.1.2 Onsite Environmental Conditions

No onsite recognized environmental conditions (RECs) were identified during the course of this assessment.

8.1.3 Offsite Environmental Conditions

The assessment identified no offsite recognized environmental conditions (RECs) that were considered likely to significantly impact the Property.

8.1.4 Controlled Recognized Environmental Conditions (CRECs)

A controlled recognized environmental condition (CREC) is an environmental condition resulting from a past release of any hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by the regulatory authority) with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (property use restrictions, activity and use limitations, institutional controls or engineering controls). A condition considered to be a CREC will be listed in the Conclusions Section of the report.

No CRECs were identified in connection with the Property during the course of this assessment.

8.1.5 Historical Recognized Environmental Conditions (HRECs)

A historical recognized environmental condition (HREC) is an environmental condition where a past release of any hazardous substances or petroleum products has occurred in



connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory agency, without subjection the property to any required controls (property use restrictions, activity and use limitations, institutional controls or engineering controls).

No HRECs were identified in connection with the Property during the course of this assessment.

8.1.6 De Minimis Environmental Conditions

De minimis environmental conditions are those that generally do not present a threat to human health or to the environment and that generally would not be subject of an enforcement action if brought to the attention of appropriate governmental agencies.

No de minimis environmental conditions were identified in connection with the Property during the course of this assessment.

8.2 Opinion

The following are Alpha's opinions regarding the Environmental Conditions detailed in the preceding Findings Section pursuant to the ASTM E 1527-13 Standard:

No Environmental Conditions were noted in the Findings Section above that would warrant an opinion in this section.

8.3 Conclusions

Alpha has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of 22870 S Weatherhill Rd, West Linn, OR 97068. Any exceptions to or deletions from this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of RECs in connection with the Property.

8.4 Recommendations

Based on the information available at the time of this assessment, Alpha does not recommend further investigation of the Property at this time.

8.5 Deviations

This Phase I ESA substantially complies with the scope of services and ASTM E 1527-13, as amended, except for exceptions and/or limiting conditions as discussed in Section 1.4.

8.6 Signatures of Environmental Professionals

8.6.1 Qualification of Environmental Professionals

I declare that, to the best of my professional knowledge and belief, I meet the definition of environmental professional as defined in 3.12.10 of 40 CFR 312 and I have the specific



qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject Property.

8.6.2 All Appropriate Inquiries Conformance

I have developed and performed the all appropriate inquiries (AAI) in conformance with the standards and practices set forth in 40 CFR Part 312.

Rodolfo Gomez Project Director



9.0 NON-SCOPE CONSIDERATIONS

Non-scope considerations are environmental issues or conditions at the Property that are outside the scope of ASTM E 1527-13 and are not required for AAI as defined by this practice. The non-scope considerations listed below are provided for interested parties who may wish to assess them in connection with the Property.

Whether or not a User elects to inquire into non-scope considerations in connection with this practice or any other environmental site assessment, assessment of such non-scope considerations is not required for All Appropriate Inquiry (AAI) as defined by this practice.

9.1 Asbestos-Containing Materials (ACM)

An asbestos evaluation was not required by the scope of services.

9.2 Lead-Based Paint

A lead-based paint survey was not included in the scope of work for this assessment.

9.3 Radon

The EPA has prepared a map to assist Federal, State, and local organizations to target their resources and to implement radon-resistant building codes (United States Environmental Protection Agency). The map divides the country into three radon zones, Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA action limit of 4.0 picoCuries per Liter (pCi/L), Zone 2 with concentrations between 2.0 and 4.0 pCi/L and Zone 3 with concentrations below 2.0 pCi/L. It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site-specific testing in order to determine radon levels at a specific location. However, the map does give an indication of the propensity of radon gas accumulation in structures. Review of the EPA Map of Radon Zones places the Property in Zone 2, where average predicted radon levels are between 2.0 and 4.0 pCi/L.

9.4 Lead in Drinking Water

The Property is connected to the city water supply provided by the West Linn Water Bureau. According to the EPA website (United States Environmental Protection Agency), the drinking water supplied to the site complies with state and federal standards, including those for lead and copper. Water sampling was not conducted at the site to verify water quality.

35



10.0 REFERENCES

10.1 Reports, Plans, and Other Documents Reviewed:

American Society for Testing and Materials Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process [Report]. - [s.l.]: ASTM International, 2013. - E 1527-13.

ASTM International Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions [Report]. - West Conshohocken: ASTM International, 2013.

Environmental Data Resources Commercial Office Building: 5605 NE Elam Young Parkway Hillsboro, OR 97124 [Report]. - Shelton CT: [s.n.], 2018.

Oregon Water Resources Department Online Well Log Search and Groundwater level Data [Online]. - 2017. - http://www.oregon.gov/OWRD/pages/index.aspx.

United State Geological Service Canby, OR 7.5 minute series Topographic Map. - 1985.

United States Department of Agriculture Soil Survey Map for Portland, Oregon. - 1977.

United States Environmental Protection Agency EPA Map of Radon Zones [Online] // EPA United States Environmental Protection Agency. - 2017. - http://www.epa.gov/radon/zonemap.html.

United States Environmental Protection Agency Local Drinking Water Information [Online] // US EPA. - 2017. - http://water.epa.gov/drink/local/index.cfm.

United States Geological Service Estimated Depth to Ground Water and Configuration of the Water Table in the Portland, Oregon Area [Online] // USGS. - 2017. - http://pubs.usgs.gov/sir/2008/5059/.

Walker G. W. and MacLeod N. S. Geological Map of Oregon [Book]. - [s.l.]: United State Geological Survey, 1991.

10.2 Agencies Contacted:

City of West Linn

Building Department

Tualatin Valley Fire and Rescue Fire Marshal

County of Clackamas

Assessor's Office

State of Oregon



Department of Environmental Quality (DEQ)



11.0 LIST OF ACRONYMS

AAI All Appropriate Inquiry

ACM Asbestos Containing Material

AMSD Approximate Minimum Search Distance

AST Aboveground Storage Tank

ASTM American Society for Testing and Materials

AUL Activity and Use Limitation

bsg below surface grade

CERCLA Comprehensive Environmental Response, Compensation and Liability Act

CERCLIS Comprehensive Environmental Response, Compensation and Liability

Information System

CFR Code of Federal Regulations
CORRACT RCRA Corrective Action

DEQ Department of Environmental Quality (Oregon)

DOE Department of Ecology (Washington)

ECSI Environmental Site Cleanup Information (DEQ)

EDR Environmental Data Resources, Inc.

EC Engineering Control

EPA Environmental Protection Agency

ERNS Emergency Response Notification System

ESA Environmental Site Assessment

FEMA Federal Emergency Management Agency

HREC Historical Recognized Environmental Conditions

IC Institutional Control

LUST Leaking Underground Storage Tank

MSL mean sea level

NCP National Oil and Hazardous Substance Pollution Contingency Plan

NFA No Further Action

NFRAP No Further Remedial Action Planned

NLR No Longer Regulated

NPDES National Pollution Discharge Elimination System

NPL National Priorities List

OSHA Occupational Safety and Health Administration

PACM Presumed Asbestos Containing Material

PCB Polychlorinated Biphenyls

pCi/L picocuries per liter ppb parts per billion ppm parts per million



ACRONYMS (continued)

RBC risk-based concentration **RBDM** risk-based decision making

RCRA Resource Conservation & Recovery Act of 1976

RCRIS Resource Conservation & Recovery Act Information System Sites

REC Recognized Environmental Condition SCL State and Tribal CERCLIS Equivalent List

SPL State Priorities List SWL Solid Waste Landfill

TSD Treatment Storage and Disposal

United States Department of Agriculture **USDA**

USGS United States Geological Survey UST Underground Storage Tank **VCP** Voluntary Cleanup Program VEC Vapor Encroachment Condition VES Vapor Encroachment Screening

WRD Oregon Water Resources Department

NOTE: Some acronyms may not be found in this report.



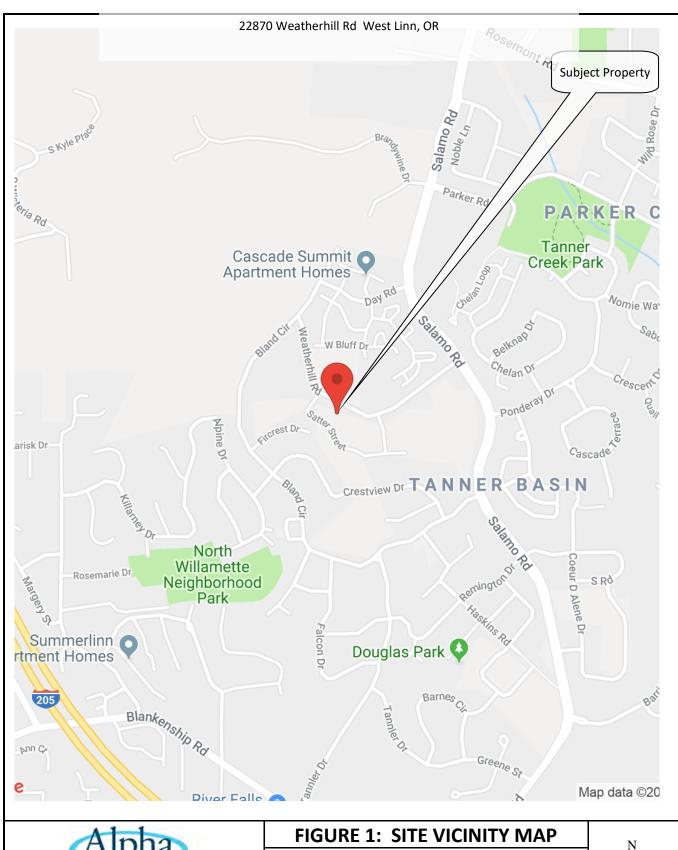
FIGURES

Site Vicinity Map

Topographic Map

Site Plan

Groundwater Flow Map





Site Name: Residential Dwelling Project Number: 18-22248 (Drawing NOT TO SCALE)



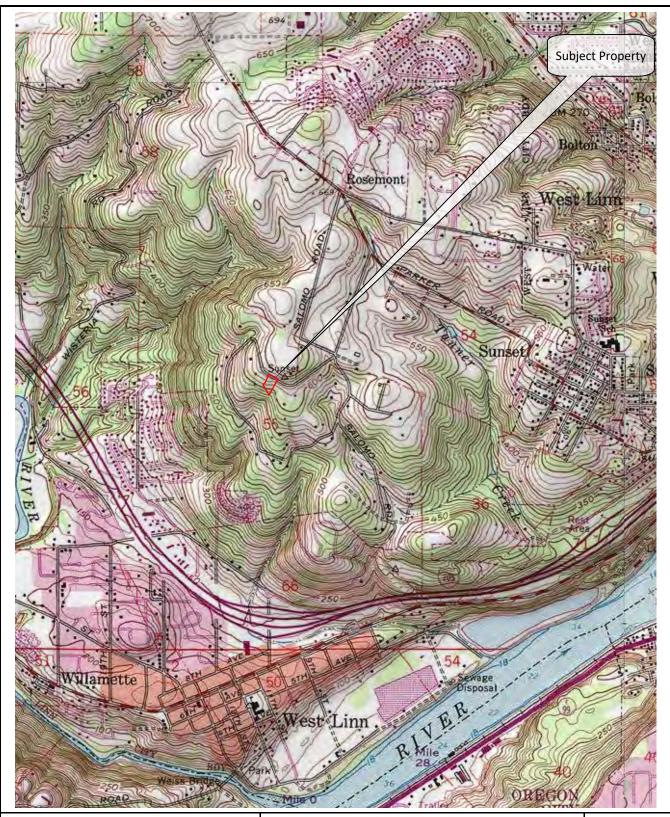




FIGURE 2: TOPOGRAPHIC MAP

Site Name: Residential Dwelling Project Number: 18-22248

Source: U.S.G.S. 7.5 Minute Topographic Map

Canby, OR, Quadrangle, 1985





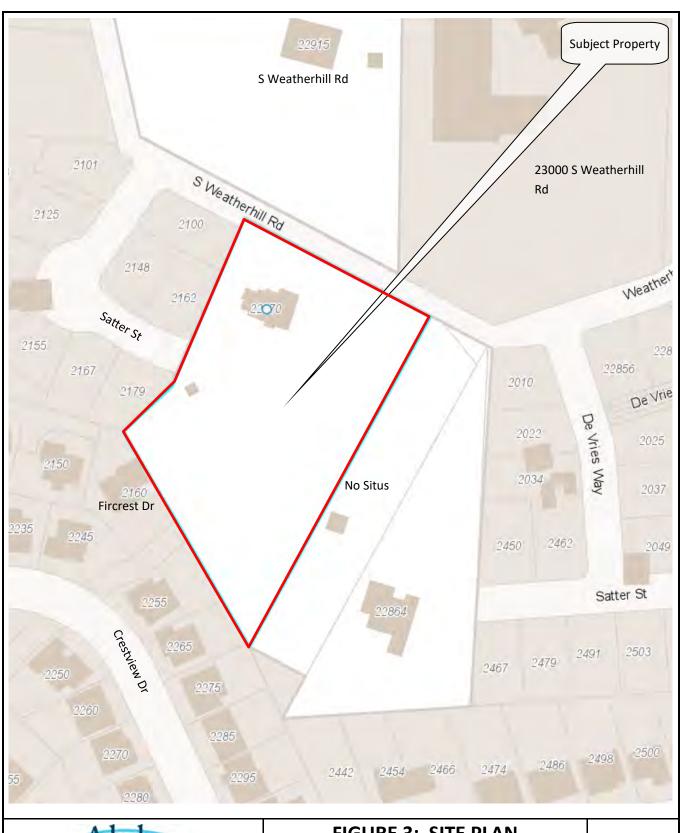




FIGURE 3: SITE PLAN

Site Name: Residential Dwelling Project Number: 18-22248 (Drawing NOT TO SCALE)



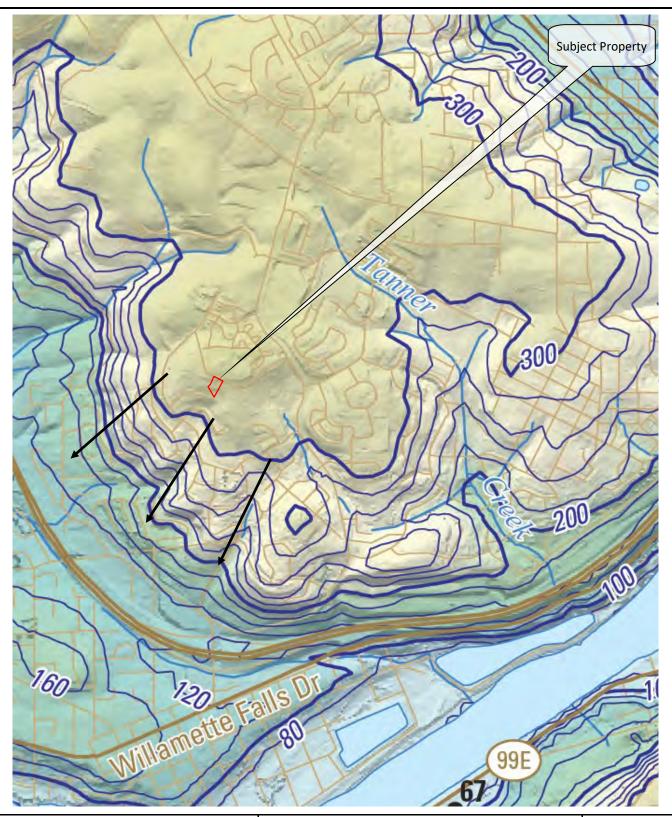




FIGURE 4: GROUNDWATER FLOW

Site Name: Residential Dwelling
Project Number: 18-22248
(Drawing NOT TO SCALE)

U.S.G.S. Scientific Investigations Report 2008, Estimated Water Table Elevation-Plate 2





APPENDIX A: SITE PHOTOGRAPHS





Subject Property, Dwelling



Subject Property, Driveway





Subject Property



Subject Property, Dwelling





Subject Property, Back



Subject Property, Dwelling





Interior of Shed



Interior of Shed





Subject Property



Subject Property





Adjacent Site, North



Adjacent Site, East





Adjacent Site, South, Typical



Adjacent Site, West, Typical



APPENDIX B: HISTORICAL RESEARCH DOCUMENTATION



EXHIBIT B-1: AERIAL PHOTOGRAPHS

Residential Dwelling

22870 S Weatherhill Road West Linn, OR 97068

Inquiry Number: 5378964.8

August 01, 2018

The EDR Aerial Photo Decade Package



EDR Aerial Photo Decade Package

08/01/18

Site Name: Client Name:

Residential Dwelling 22870 S Weatherhill Road West Linn, OR 97068 EDR Inquiry # 5378964.8 Alpha Environmental Services 11080 SW Allen Blvd Suite 100 Beaverton, OR 97005-0000 Contact: Casey Ward



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	Source
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
2000	1"=500'	Acquisition Date: July 29, 2000	USGS/DOQQ
1994	1"=500'	Flight Date: June 20, 1994	USGS
1981	1"=500'	Flight Date: July 26, 1981	USDA
1975	1"=500'	Flight Date: September 13, 1975	USGS
1970	1"=500'	Flight Date: July 06, 1970	USGS
1960	1"=500'	Flight Date: July 17, 1960	USGS
1955	1"=500'	Flight Date: August 17, 1955	USGS
1952	1"=500'	Flight Date: July 13, 1952	USGS
1948	1"=500'	Flight Date: July 13, 1948	USDA
1936	1"=500'	Flight Date: May 12, 1936	ACOE

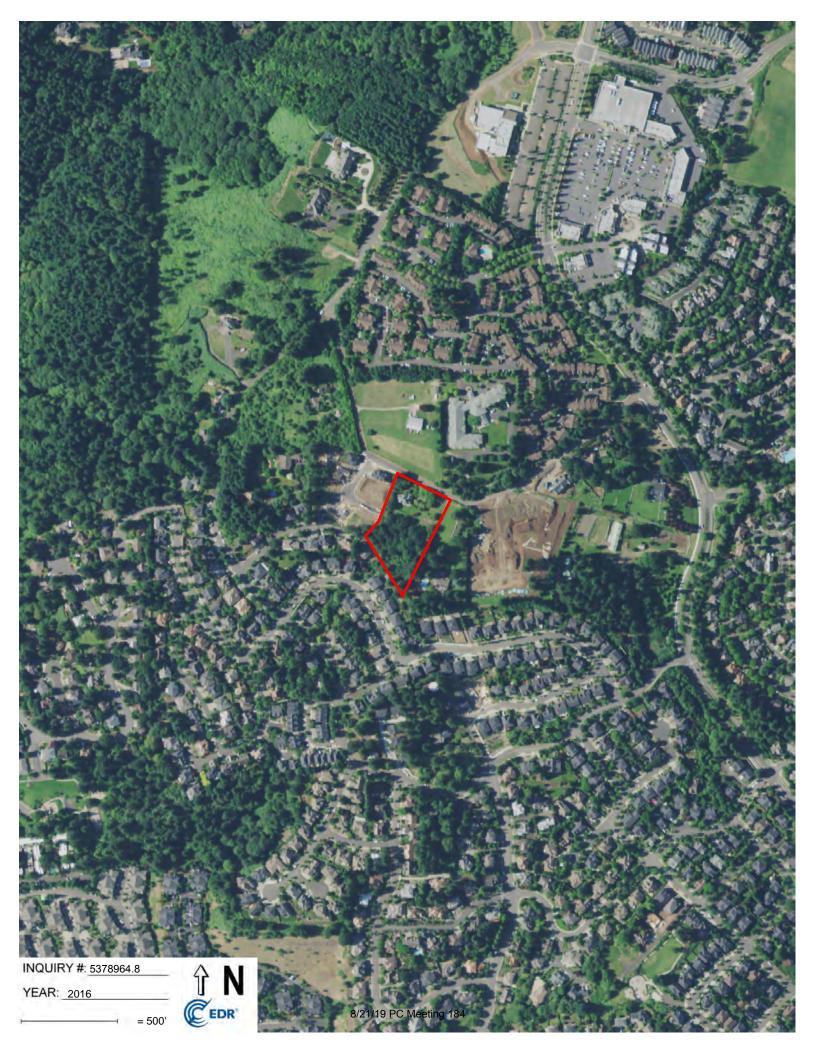
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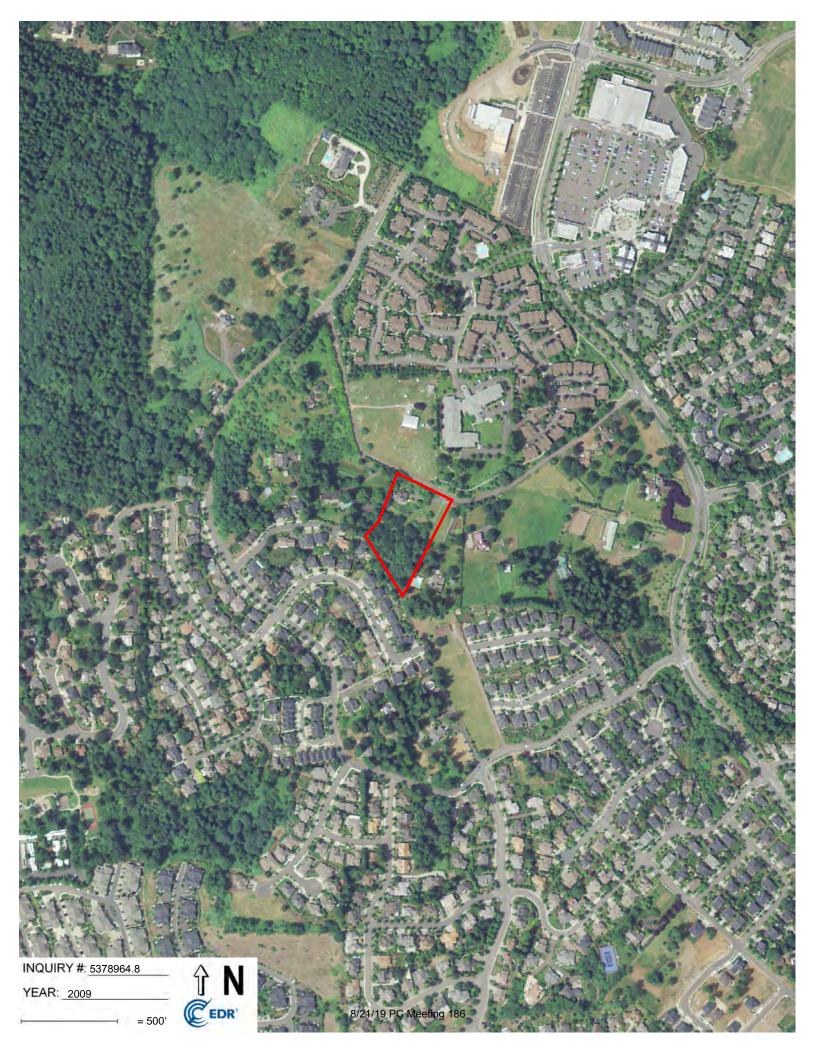
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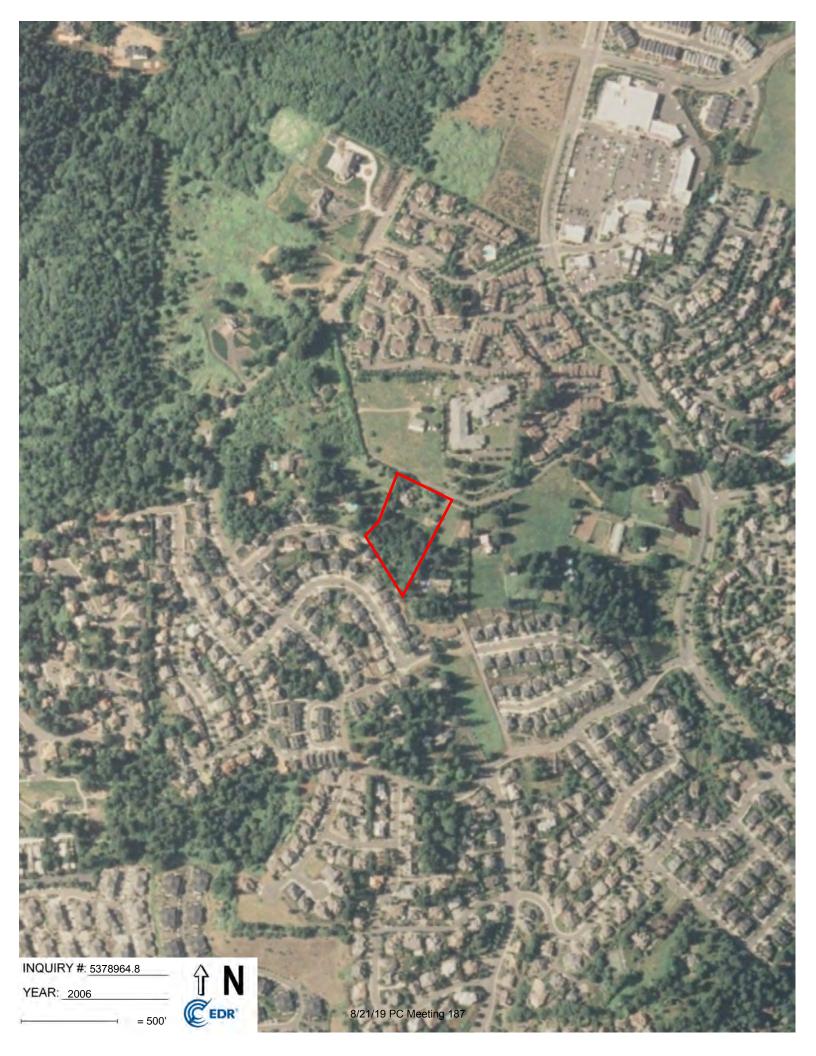
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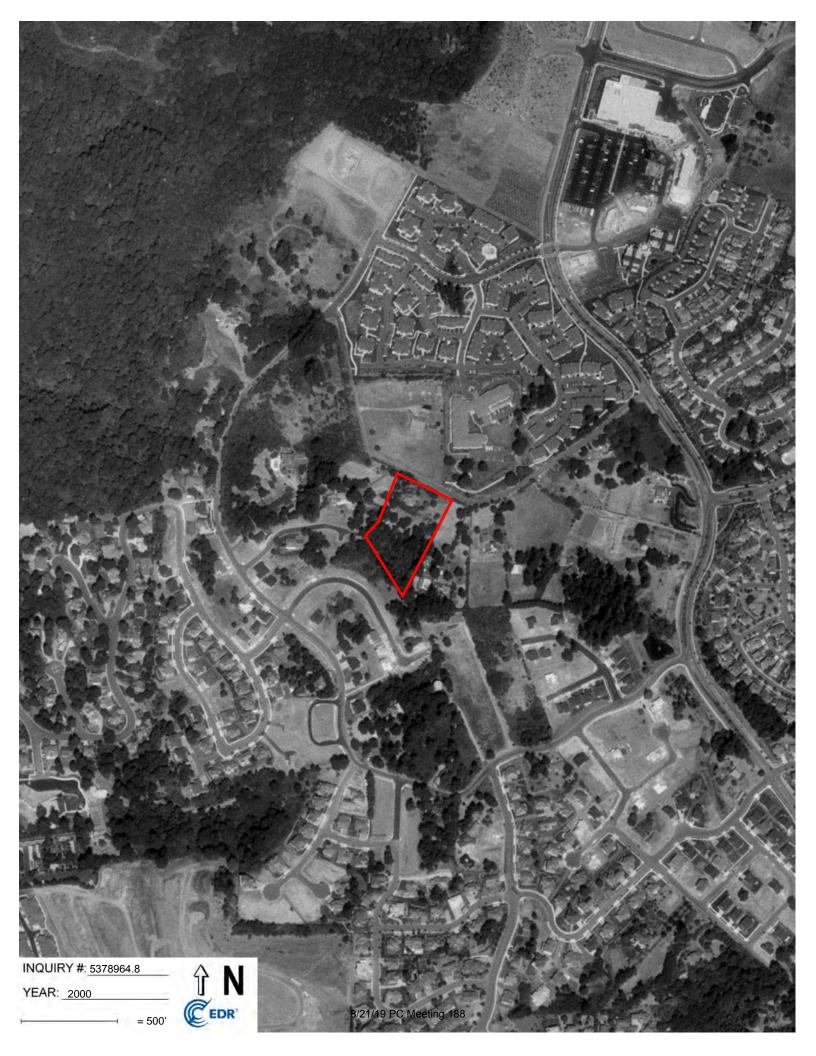






















EXHIBIT B-2: FIRE INSURANCE MAPS

Sanborn Maps are not available due to the Property falling outside the map coverage area.

Residential Dwelling 22870 S Weatherhill Road West Linn, OR 97068

Inquiry Number: 5378964.3

August 01, 2018

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor Shelton, CT 06484 Toll Free: 800.352.0050 www.edrnet.com

Certified Sanborn® Map Report

08/01/18

Site Name:

Client Name:

Residential Dwelling 22870 S Weatherhill Road West Linn, OR 97068 EDR Inquiry # 5378964.3 Alpha Environmental Services 11080 SW Allen Blvd Suite 100 Beaverton, OR 97005-0000 Contact: Casey Ward EDR

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Alpha Environmental Services were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # F68E-45B1-98DB

PO# 18-22248

Project Residential Dwelling

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: F68E-45B1-98DB

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

Library of Congress

University Publications of America

EDR Private Collection

The Sanborn Library LLC Since 1866™

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Alpha Environmental Services (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

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EXHIBIT B-3: CITY DIRECTORIES

Residential Dwelling

22870 S Weatherhill Road West Linn, OR 97068

Inquiry Number: 5378964.5

August 02, 2018

The EDR-City Directory Image Report



TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.



RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	Target Street	Cross Street	<u>Source</u>
2014			EDR Digital Archive
2010	$\overline{\checkmark}$		EDR Digital Archive
2005			EDR Digital Archive
2000	$\overline{\checkmark}$		EDR Digital Archive
1995			EDR Digital Archive
1992			EDR Digital Archive
1987			Polk's City Directory
1984			Polk's City Directory
1979			Polk's City Directory
1974			Polk's City Directory
1969			Polk's City Directory
1964			Polk's City Directory

FINDINGS

TARGET PROPERTY STREET

22870 S Weatherhill Road West Linn, OR 97068

<u>Year</u>	CD Image	<u>Source</u>	
S WEATH	ERHILL RD		
2014	-	EDR Digital Archive	Street not listed in Source
2010	pg A2	EDR Digital Archive	
2005	pg A4	EDR Digital Archive	
2000	pg A5	EDR Digital Archive	
1995	-	EDR Digital Archive	Street not listed in Source
1992	-	EDR Digital Archive	Street not listed in Source
1987	-	Polk's City Directory	Street not listed in Source
1984	-	Polk's City Directory	Street not listed in Source
1979	-	Polk's City Directory	Street not listed in Source
1974	-	Polk's City Directory	Street not listed in Source
1969	-	Polk's City Directory	Street not listed in Source
1964	-	Polk's City Directory	Street not listed in Source
WEATHE	DUIL DD		
WEATHER	KHILL KU		
2014	pg A1	EDR Digital Archive	
2010	pg A3	EDR Digital Archive	
2005	-	EDR Digital Archive	Street not listed in Source
2000	-	EDR Digital Archive	Street not listed in Source
1995	-	EDR Digital Archive	Street not listed in Source
1992	-	EDR Digital Archive	Street not listed in Source
1987	-	Polk's City Directory	Street not listed in Source
1984	-	Polk's City Directory	Street not listed in Source
1979	-	Polk's City Directory	Street not listed in Source
1974	-	Polk's City Directory	Street not listed in Source
1969	-	Polk's City Directory	Street not listed in Source
1964	-	Polk's City Directory	Street not listed in Source

5378964-5 Page 2

FINDINGS

CROSS STREETS

<u>Year</u>	CD Image	Source	
SATTER ST			
2014	-	EDR Digital Archive	Street not listed in Source
2010	-	EDR Digital Archive	Street not listed in Source
2005	-	EDR Digital Archive	Street not listed in Source
2000	-	EDR Digital Archive	Street not listed in Source
1995	-	EDR Digital Archive	Street not listed in Source
1992	-	EDR Digital Archive	Street not listed in Source
1987	-	Polk's City Directory	Street not listed in Source
1984	-	Polk's City Directory	Street not listed in Source
1979	-	Polk's City Directory	Street not listed in Source
1974	-	Polk's City Directory	Street not listed in Source
1969	-	Polk's City Directory	Street not listed in Source
1964	-	Polk's City Directory	Street not listed in Source

5378964-5 Page 3

City Directory Images

Target Street Cross Street Source

- EDR Digital Archive

WEATHERHILL RD 2014

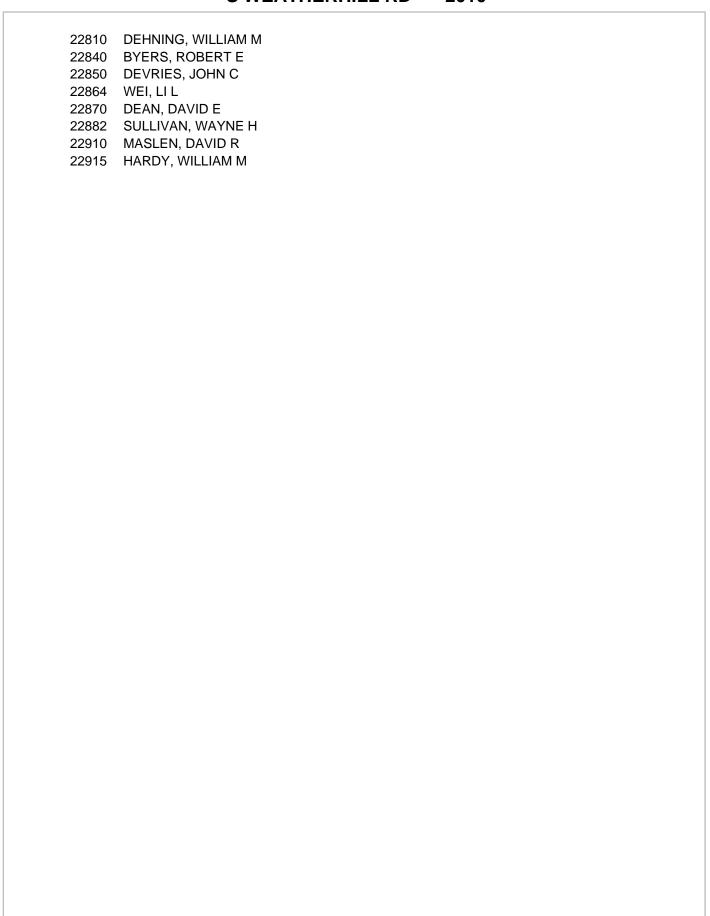
22810 DEHNING, WILLIAM M
22840 SEAVEY, DALE L
22850 DEVRIES, JOHN C
KINDERMUSIK WITH MISS JINI
22864 WEI, LI L
22870 DEAN, DAVID E
22882 LOMBARDO, PHIL
22910 STILES, CHRISTOPHER M
22915 HARDY, DAVID L

8/21/19 PC Meeting 208 5378964.5 Page: A1

Target Street Cross Street Source

→ EDR Digital Archive

S WEATHERHILL RD 2010



8/21/19 PC Meeting 209 5378964.5 Page: A2

Target Street

Cross Street

SourceEDR Digital Archive

WEATHERHILL RD 2010

22850	KINDERMUSIK WITH MISS JINI

8/21/19 PC Meeting 210 5378964.5 Page: A3

Target Street Cross Street Source

→ EDR Digital Archive

S WEATHERHILL RD 2005

	3 WEATHERHILL RD	2005
22840 22850 22864	PADGETT, JEAN J DEVRIES, JOHN C INBERG, RONALD L	
22870	DEAN, DAVID E RICHARDS, SCOTT C MASLEN, JOHN R	
22915	HARDY, WILLIAM M	

8/21/19 PC Meeting 211 5378964.5 Page: A4

Target Street

Cross Street

<u>Source</u> EDR Digital Archive

S WEATHERHILL RD 2000

22840	DAVIS, PETER J

8/21/19 PC Meeting 212

5378964.5 Page: A5



EXHIBIT B-4: TITLE SEARCH RECORDS

Not Applicable to This Report



APPENDIX C: REGULATORY RECORDS DOCUMENTATION



EXHIBIT C-1: MAPPED DATABASE REPORT

The Mapped Database Report is only included in the electronic version of this report.

Residential Dwelling 22870 S Weatherhill Road West Linn, OR 97068

Inquiry Number: 5378964.2s

August 01, 2018

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor Shelton, CT 06484 Toll Free: 800.352.0050 www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map.	2
Detail Map.	
Map Findings Summary.	4
Map Findings.	
Orphan Summary	9
Government Records Searched/Data Currency Tracking.	GR-1
GEOCHECK ADDENDUM	
Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map.	A-5
Physical Setting Source Map	A-15
Physical Setting Source Map Findings.	A-17
Physical Setting Source Records Searched	PSGR-1

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A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

22870 S WEATHERHILL ROAD WEST LINN, OR 97068

COORDINATES

Latitude (North): 45.3591540 - 45° 21' 32.95" Longitude (West): 122.6515010 - 122° 39' 5.40"

Universal Tranverse Mercator: Zone 10 UTM X (Meters): 527295.8 UTM Y (Meters): 5022690.5

Elevation: 600 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 6067204 CANBY, OR

Version Date: 2014

North Map: 6067228 LAKE OSWEGO, OR

Version Date: 2014

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140630 Source: USDA

MAPPED SITES SUMMARY

Target Property Address: 22870 S WEATHERHILL ROAD WEST LINN, OR 97068

Click on Map ID to see full detail.

MAF)			RELATIVE	DIST (ft. & mi.)
ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	ELEVATION	DIRECTION (
1	HEATING OIL TANK	22882 WEATHERHILL RD	LUST	Higher	93, 0.018, NNW
2	DAYS FARM INC	3131 S ROSS ROAD	LUST	Lower	1327, 0.251, East
3	HEATING OIL TANK	3484 CHELAN DR	LUST	Higher	1424, 0.270, ENE
4	HEATING OIL TANK	3300 FOX RUN	LUST	Lower	1898, 0.359, SE

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list	
NPL	Proposed National Priority List Sites
Federal Delisted NPL site lis	st
Delisted NPL	National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY	Federal Facility Site Information listing
SEMS	Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE	Superfund	Enterprise	Management	System	Archive

Federal RCRA CORRACTS facilities list

CORRACTS Correct	ctive	Action	Report
------------------	-------	--------	--------

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF RC	RCRA - Treatment,	Storage and Disposal
--------------	-------------------	----------------------

Federal RCRA generators list

RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS	Land Use Control Information System
US ENG CONTROLS	Engineering Controls Sites List

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

ECSI..... Environmental Cleanup Site Information System

CRL..... Confirmed Release List and Inventory

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Facilities List

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing UST...... Underground Storage Tank Database

AST_____ Aboveground Storage Tanks

INDIAN UST...... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Recorded at ESCI Sites INST CONTROL..... Institutional Controls Recorded at ESCI Sites

State and tribal voluntary cleanup sites

..... Voluntary Cleanup Program Sites INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Projects

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY...... Recycling Facility Location Listing HIST LF..... Old Closed SW Disposal Sites

INDIAN ODI...... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI_____Open Dump Inventory
IHS OPEN DUMPS_____Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

AOCONCERN...... Columbia Slough

US HIST CDL..... Delisted National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System

SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR...... RCRA - Non Generators / No Longer Regulated

SCRD DRYCLEANERS...... State Coalition for Remediation of Drycleaners Listing

US FIN ASSUR..... Financial Assurance Information

EPA WATCH LIST..... EPA WATCH LIST

TRIS...... Toxic Chemical Release Inventory System

SSTS..... Section 7 Tracking Systems

RAATS......RCRA Administrative Action Tracking System

ICIS...... Integrated Compliance Information System

FTTS......FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide

Act)/TSCA (Toxic Substances Control Act)

COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List

PCB TRANSFORMER...... PCB Transformer Registration Database

RADINFO...... Radiation Information Database

HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing

DOT OPS...... Incident and Accident Data

CONSENT..... Superfund (CERCLA) Consent Decrees

INDIAN RESERV.....Indian Reservations

FUSRAP..... Formerly Utilized Sites Remedial Action Program

UMTRA..... Uranium Mill Tailings Sites

LEAD SMELTERS..... Lead Smelter Sites

US AIRS..... Aerometric Information Retrieval System Facility Subsystem

US MINES...... Mines Master Index File ABANDONED MINES..... Abandoned Mines

FINDS...... Facility Index System/Facility Registry System

ECHO_____ Enforcement & Compliance History Information

UXO...... Unexploded Ordnance Sites

DOCKET HWC..... Hazardous Waste Compliance Docket Listing

FUELS PROGRAM..... EPA Fuels Program Registered Listing

AIRS...... Oregon Title V Facility Listing COAL ASH..... Coal Ash Disposal Sites Listing

DRYCLEANERS______ Drycleaning Facilities
Enforcement Action Listing

Financial Assurance Information Listing HSIS...... Hazardous Substance Information Survey

MANIFEST..... Manifest Information

NPDES...... Wastewater Permits Database

UIC...... Underground Injection Control Program Database

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	Recovered Government Archive State Hazardous Waste Facilities List
RGA LF	Recovered Government Archive Solid Waste Facilities List
RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in **bold italics** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST Database List.

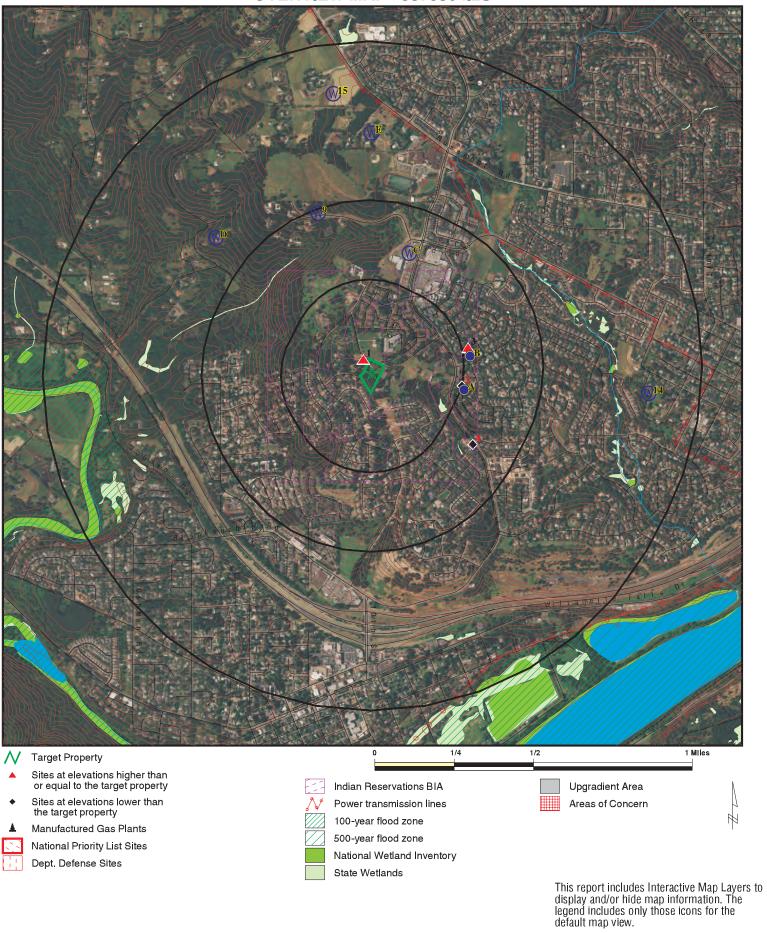
A review of the LUST list, as provided by EDR, and dated 04/03/2018 has revealed that there are 4

LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HEATING OIL TANK Facility ID: 03-99-0644 Cleanup Complete: 07/24/2013	22882 WEATHERHILL RD	NNW 0 - 1/8 (0.018 mi.)	1	8
HEATING OIL TANK Facility ID: 03-05-2143 Cleanup Complete: 03/16/2006	3484 CHELAN DR	ENE 1/4 - 1/2 (0.270 mi.)	3	8
Lower Elevation	Address	Direction / Distance	Map ID	Page
DAYS FARM INC Facility ID: 03-92-0250	3131 S ROSS ROAD	E 1/4 - 1/2 (0.251 mi.)	2	8
Cleanup Complete: 07/08/1996				

There were no unmapped sites in this report.

OVERVIEW MAP - 5378964.2S



SITE NAME: Residential Dwelling ADDRESS: 22870 S Weatherhill Road

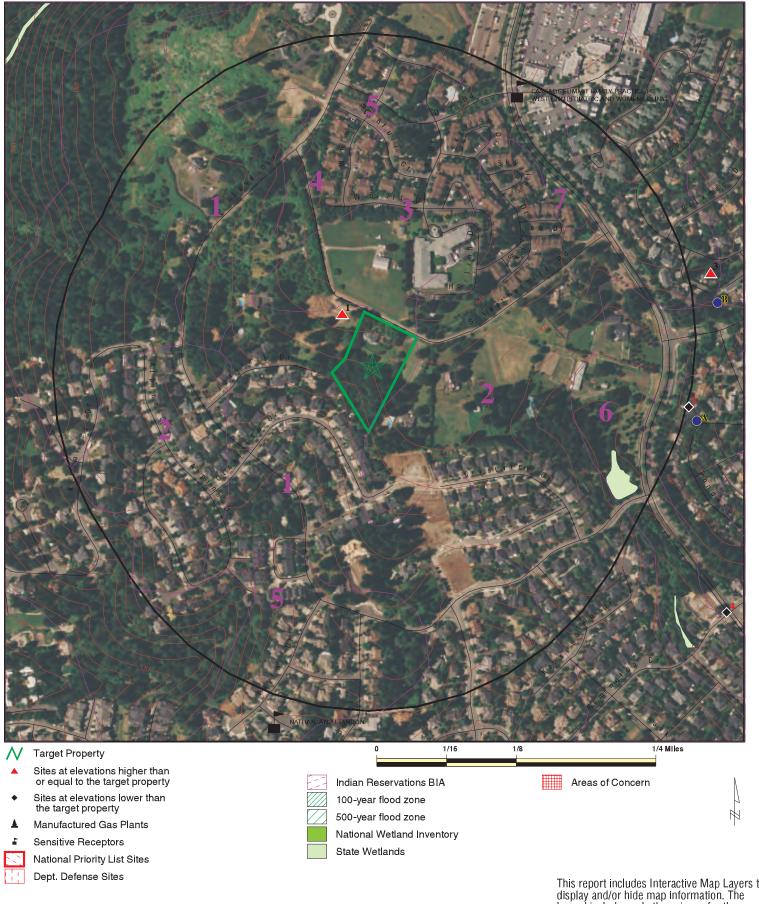
West Linn OR 97068 LAT/LONG: 45.359154 / 122.651501 CLIENT: CONTACT: Alpha Environmental Services Casey Ward

NEGENGIEDEN #: DATE: 5378964.2s

8/21/19 PC

August 01, 2018 11:28 am

DETAIL MAP - 5378964.2S



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

Residential Dwelling 22870 S Weatherhill Road SITE NAME: ADDRESS:

West Linn OR 97068 LAT/LONG: 45.359154 / 122.651501 CLIENT: CONTACT: Alpha Environmental Services Casey Ward

NEGENGIEDY#: DATE: 5378964.2s 8/21/19 PC

August 01, 2018 11:31 am

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted	
STANDARD ENVIRONMEN	TAL RECORDS								
Federal NPL site list									
NPL Proposed NPL NPL LIENS	1.000 1.000 0.001		0 0 0	0 0 NR	0 0 NR	0 0 NR	NR NR NR	0 0 0	
Federal Delisted NPL sit	te list								
Delisted NPL	1.000		0	0	0	0	NR	0	
Federal CERCLIS list									
FEDERAL FACILITY SEMS	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0	
Federal CERCLIS NFRA	P site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0	
Federal RCRA CORRAC	TS facilities lis	st							
CORRACTS	1.000		0	0	0	0	NR	0	
Federal RCRA non-CORRACTS TSD facilities list									
RCRA-TSDF	0.500		0	0	0	NR	NR	0	
Federal RCRA generator	rs list								
RCRA-LQG RCRA-SQG RCRA-CESQG	0.250 0.250 0.250		0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 0	
Federal institutional controls / engineering controls registries									
LUCIS US ENG CONTROLS US INST CONTROL	0.500 0.500 0.500		0 0 0	0 0 0	0 0 0	NR NR NR	NR NR NR	0 0 0	
Federal ERNS list									
ERNS	0.001		0	NR	NR	NR	NR	0	
State- and tribal - equiva	alent CERCLIS								
ECSI CRL	1.000 1.000		0 0	0 0	0 0	0 0	NR NR	0 0	
State and tribal landfill and/or solid waste disposal site lists									
SWF/LF	0.500		0	0	0	NR	NR	0	
State and tribal leaking storage tank lists									
LUST INDIAN LUST	0.500 0.500		1 0	0 0	3 0	NR NR	NR NR	4 0	
State and tribal registered storage tank lists									
FEMA UST	0.250		0	0	NR	NR	NR	0	

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	<u>1/2 - 1</u>	> 1	Total Plotted	
UST AST INDIAN UST	0.250 0.250 0.250		0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 0	
State and tribal institution control / engineering con		s							
ENG CONTROLS INST CONTROL	0.500 0.500		0 0	0 0	0	NR NR	NR NR	0 0	
State and tribal voluntary	cleanup site	es .							
VCP INDIAN VCP	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0	
State and tribal Brownfie	lds sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0	
ADDITIONAL ENVIRONMENTAL RECORDS									
Local Brownfield lists									
US BROWNFIELDS	0.500		0	0	0	NR	NR	0	
Local Lists of Landfill / S Waste Disposal Sites									
SWRCY HIST LF INDIAN ODI DEBRIS REGION 9 ODI IHS OPEN DUMPS	0.500 0.500 0.500 0.500 0.500 0.500		0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	NR NR NR NR NR	NR NR NR NR NR	0 0 0 0 0	
Local Lists of Hazardous waste / Contaminated Sites									
AOCONCERN US HIST CDL CDL US CDL	1.000 0.001 0.001 0.001		0 0 0 0	0 NR NR NR	0 NR NR NR	0 NR NR NR	NR NR NR NR	0 0 0 0	
Local Land Records									
LIENS 2	0.001		0	NR	NR	NR	NR	0	
Records of Emergency Release Reports									
HMIRS SPILLS OR HAZMAT SPILLS 90	0.001 0.001 0.001 0.001		0 0 0 0	NR NR NR NR	NR NR NR NR	NR NR NR NR	NR NR NR NR	0 0 0 0	
Other Ascertainable Records									
RCRA NonGen / NLR FUDS DOD	0.250 1.000 1.000		0 0 0	0 0 0	NR 0 0	NR 0 0	NR NR NR	0 0 0	

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	<u>1/2 - 1</u>	> 1	Total Plotted
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		Õ	0	NR	NR	NR	0
TSCA	0.001		Ŏ	NŘ	NR	NR	NR	Ö
TRIS	0.001		Ō	NR	NR	NR	NR	Ō
SSTS	0.001		Ö	NR	NR	NR	NR	Ö
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS DOT OPS	0.001 0.001		0 0	NR NR	NR NR	NR NR	NR NR	0 0
CONSENT	1.000		0	0	0	0	NR NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		Ö	NR	NR	NR	NR	0
US MINES	0.250		Ö	0	NR	NR	NR	Ö
ABANDONED MINES	0.001		Ö	NR	NR	NR	NR	Ö
FINDS	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Enforcement	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HSIS	0.001		0	NR	NR	NR	NR	0
MANIFEST	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR RECOVERED GO	VERNMENT ARCHIV	<u>ES</u>						
Exclusive Recovere	ed Govt. Archives							
RGA HWS	0.001		0	NR	NR	NR	NR	0
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals		0	1	0	3	0	0	4

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID MAP FINDINGS

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

HEATING OIL TANK LUST S113906883

N/A

NNW 22882 WEATHERHILL RD WEST LINN, OR 97068 < 1/8

0.018 mi. 93 ft.

Relative: LUST:

Higher North Western Region Region:

03-99-0644 Facility ID: Actual: Cleanup Received Date: 06/18/1999 631 ft. Cleanup Start Date: 06/16/1999

Cleanup Complete Date: 07/24/2013

Decode for Region: **North West Region**

LUST S100496628 **DAYS FARM INC** N/A

3131 S ROSS ROAD **East** 1/4-1/2 WEST LINN, OR 97068

0.251 mi. 1327 ft.

LUST: Relative:

Lower Region: North Western Region

Facility ID: 03-92-0250 Actual: Cleanup Received Date: 09/01/1992 585 ft.

Cleanup Start Date: 08/21/1992 Cleanup Complete Date: 07/08/1996

Decode for Region: **North West Region**

LUST S107465609 3 **HEATING OIL TANK** N/A

ENE 3484 CHELAN DR 1/4-1/2 WEST LINN, OR 97068

0.270 mi. 1424 ft.

Relative: LUST:

Higher Region: North Western Region

Facility ID: 03-05-2143 Actual: Cleanup Received Date: 10/04/2005 618 ft. Cleanup Start Date: 10/07/2005

Cleanup Complete Date: 03/16/2006 Decode for Region: **North West Region**

HEATING OIL TANK LUST S103838874 N/A

SE **3300 FOX RUN** 1/4-1/2 WEST LINN, OR 97068

0.359 mi. 1898 ft.

Relative: LUST:

Lower Region: North Western Region

Facility ID: 03-93-5077 Actual: Cleanup Received Date: 04/30/1993 500 ft. 05/01/1993 Cleanup Start Date: Cleanup Complete Date: 05/09/1995

Decode for Region: **North West Region** Count: 0 records. ORPHAN SUMMARY

City EDR ID Site Name Site Address Zip Database(s)

NO SITES FOUND

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 05/13/2018 Source: EPA
Date Data Arrived at EDR: 05/30/2018 Telephone: N/A

Number of Days to Update: 23 Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources

EPA's Environmental Photographic Interpretation Center (EPIC)

Telephone: 202-564-7333

EPA Region 1 EPA Region 6

Telephone 617-918-1143 Telephone: 214-655-6659

EPA Region 3 EPA Region 7

Telephone 215-814-5418 Telephone: 913-551-7247

EPA Region 4 EPA Region 8

Telephone 404-562-8033 Telephone: 303-312-6774

EPA Region 5 EPA Region 9

Telephone 312-886-6686 Telephone: 415-947-4246

EPA Region 10

Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 05/13/2018 Source: EPA
Date Data Arrived at EDR: 05/30/2018 Telephone: N/A

Number of Days to Update: 23 Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991 Date Data Arrived at EDR: 02/02/1994 Date Made Active in Reports: 03/30/1994

Number of Days to Update: 56

Source: EPA Telephone: 202-564-4267

Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 05/13/2018 Date Data Arrived at EDR: 05/30/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 23

Source: EPA Telephone: N/A

Last EDR Contact: 07/06/2018

Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016 Date Data Arrived at EDR: 01/05/2017 Date Made Active in Reports: 04/07/2017

Number of Days to Update: 92

Source: Environmental Protection Agency

Telephone: 703-603-8704 Last EDR Contact: 07/06/2018

Next Scheduled EDR Contact: 10/15/2018 Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 05/18/2018 Date Data Arrived at EDR: 05/30/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 23

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 07/06/2018

Next Scheduled EDR Contact: 10/29/2018 Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 05/18/2018 Date Data Arrived at EDR: 05/30/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 23

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 07/06/2018

Next Scheduled EDR Contact: 10/29/2018 Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/2018 Date Data Arrived at EDR: 03/28/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 86

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 10/08/2018 Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/01/2018 Date Data Arrived at EDR: 03/28/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 86

Source: Environmental Protection Agency

Telephone: (206) 553-1200 Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018 Date Data Arrived at EDR: 03/28/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 86

Source: Environmental Protection Agency

Telephone: (206) 553-1200 Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 10/08/2018 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/01/2018 Date Data Arrived at EDR: 03/28/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 86

Source: Environmental Protection Agency

Telephone: (206) 553-1200 Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018 Date Data Arrived at EDR: 03/28/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 86

Source: Environmental Protection Agency

Telephone: (206) 553-1200 Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 10/08/2018 Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/14/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: Department of the Navy Telephone: 843-820-7326 Last EDR Contact: 05/09/2018

Next Scheduled EDR Contact: 08/27/2018 Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2018 Date Data Arrived at EDR: 02/27/2018 Date Made Active in Reports: 05/11/2018

Number of Days to Update: 73

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 05/29/2018

Next Scheduled EDR Contact: 09/10/2018 Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2018 Date Data Arrived at EDR: 02/27/2018 Date Made Active in Reports: 05/11/2018

Number of Days to Update: 73

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 05/29/2018

Next Scheduled EDR Contact: 09/10/2018

Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous

substances.

Date of Government Version: 03/19/2018 Date Data Arrived at EDR: 03/27/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 73

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180 Last EDR Contact: 06/27/2018

Next Scheduled EDR Contact: 10/08/2018 Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ECSI: Environmental Cleanup Site Information System

Sites that are or may be contaminated and may require cleanup.

Date of Government Version: 07/01/2018 Date Data Arrived at EDR: 07/05/2018 Date Made Active in Reports: 07/23/2018

Number of Days to Update: 18

Source: Department of Environmental Quality

Telephone: 503-229-6629 Last EDR Contact: 07/05/2018

Next Scheduled EDR Contact: 10/15/2018 Data Release Frequency: Quarterly

CRL: Confirmed Release List and Inventory All facilities with a confirmed release.

Date of Government Version: 05/01/2018 Date Data Arrived at EDR: 05/17/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 22

Source: Department of Environmental Quality

Telephone: 503-229-6170 Last EDR Contact: 05/17/2018

Next Scheduled EDR Contact: 08/27/2018 Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/25/2018 Date Data Arrived at EDR: 05/01/2018 Date Made Active in Reports: 06/07/2018

Number of Days to Update: 37

Source: Department of Environmental Quality

Telephone: 503-229-6299 Last EDR Contact: 07/12/2018

Next Scheduled EDR Contact: 10/29/2018 Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 04/03/2018 Date Data Arrived at EDR: 05/17/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 22

Source: Department of Environmental Quality

Telephone: 503-229-5790 Last EDR Contact: 05/17/2018

Next Scheduled EDR Contact: 08/27/2018 Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/12/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA, Region 5 Telephone: 312-886-7439 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/12/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/10/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: Environmental Protection Agency

Telephone: 415-972-3372 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/25/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/24/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/01/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 4 Telephone: 404-562-8677 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017 Date Data Arrived at EDR: 05/30/2017 Date Made Active in Reports: 10/13/2017

Number of Days to Update: 136

Source: FEMA

Telephone: 202-646-5797 Last EDR Contact: 07/11/2018

Next Scheduled EDR Contact: 10/22/2018 Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 04/02/2018 Date Data Arrived at EDR: 05/17/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 22

Source: Department of Environmental Quality

Telephone: 503-229-5815 Last EDR Contact: 05/17/2018

Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

AST: Aboveground Storage Tanks

Aboveground storage tank locations reported to the Office of State Fire Marshal.

Date of Government Version: 09/05/2017 Date Data Arrived at EDR: 11/16/2017 Date Made Active in Reports: 01/09/2018

Number of Days to Update: 54

Source: Office of State Fire Marshal Telephone: 503-378-3473 Last EDR Contact: 05/03/2018

Next Scheduled EDR Contact: 08/13/2018 Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/24/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/25/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/01/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 6 Telephone: 214-665-7591 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/12/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/08/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/13/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/10/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/12/2018 Date Data Arrived at EDR: 05/18/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 63

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Recorded at ESCI Sites

Engineering controls are physical measures selected or approved by the Director for the purpose of preventing or minimizing exposure to hazardous substances. Engineering controls may include, but are not limited to, fencing, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

Date of Government Version: 07/01/2018 Date Data Arrived at EDR: 07/05/2018 Date Made Active in Reports: 07/23/2018

Number of Days to Update: 18

Source: Department of Environmental Quality

Telephone: 503-229-5193 Last EDR Contact: 07/05/2018

Next Scheduled EDR Contact: 10/15/2018 Data Release Frequency: Quarterly

INST CONTROL: Institutional Controls Recorded at ESCI Sites

An institutional control is a legal or administrative tool or action taken to reduce the potential for exposure to hazardous substances. Institutional controls may include, but are not limited to, use restrictions, environmental monitoring requirements, and site access and security measures.

Date of Government Version: 07/01/2018 Date Data Arrived at EDR: 07/05/2018 Date Made Active in Reports: 07/23/2018

Number of Days to Update: 18

Source: Department of Environmental Quality

Telephone: 503-229-5193 Last EDR Contact: 07/05/2018

Next Scheduled EDR Contact: 10/15/2018 Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015 Date Data Arrived at EDR: 09/29/2015 Date Made Active in Reports: 02/18/2016

Number of Days to Update: 142

Source: EPA, Region 1 Telephone: 617-918-1102 Last EDR Contact: 06/22/2018

Next Scheduled EDR Contact: 10/08/2018 Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Date Data Arrived at EDR: 04/22/2008 Date Made Active in Reports: 05/19/2008

Number of Days to Update: 27

Source: EPA, Region 7 Telephone: 913-551-7365 Last EDR Contact: 04/20/2009

Next Scheduled EDR Contact: 07/20/2009 Data Release Frequency: Varies

VCS: Voluntary Cleanup Program Sites

Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

Date of Government Version: 06/29/2018 Date Data Arrived at EDR: 07/03/2018 Date Made Active in Reports: 07/23/2018

Number of Days to Update: 20

Source: DEQ

Telephone: 503-229-5256 Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 10/15/2018 Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Projects

Brownfields investigations and/or cleanups that have been conducted in Oregon.

Date of Government Version: 05/01/2018 Date Data Arrived at EDR: 05/17/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 22

Source: Department of Environmental Quality

Telephone: 503-229-6801 Last EDR Contact: 05/17/2018

Next Scheduled EDR Contact: 08/27/2018 Data Release Frequency: Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/19/2018 Date Data Arrived at EDR: 03/21/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 79

Source: Environmental Protection Agency

Telephone: 202-566-2777 Last EDR Contact: 06/20/2018

Next Scheduled EDR Contact: 10/01/2018 Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Facility Location Listing A listing of recycling facility locations.

Date of Government Version: 05/29/2018 Date Data Arrived at EDR: 05/31/2018 Date Made Active in Reports: 07/23/2018 Number of Days to Update: 53 Source: Department of Environmental Quality

Telephone: 503-229-5353 Last EDR Contact: 05/31/2018

Next Scheduled EDR Contact: 09/10/2018 Data Release Frequency: Quarterly

HIST LF: Old Closed SW Disposal Sites

A list of solid waste disposal sites that have been closed for a long while.

Date of Government Version: 04/01/2000 Date Data Arrived at EDR: 07/08/2003 Date Made Active in Reports: 07/18/2003

Number of Days to Update: 10

Source: Department of Environmental Quality

Telephone: 503-229-5409 Last EDR Contact: 07/08/2003 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 52

Source: Environmental Protection Agency

Telephone: 703-308-8245 Last EDR Contact: 07/30/2018

Next Scheduled EDR Contact: 11/12/2018 Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004

Number of Days to Update: 39

Source: Environmental Protection Agency

Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009 Date Data Arrived at EDR: 05/07/2009 Date Made Active in Reports: 09/21/2009

Number of Days to Update: 137

Source: EPA, Region 9 Telephone: 415-947-4219 Last EDR Contact: 07/17/2018

Next Scheduled EDR Contact: 11/05/2018

Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014 Date Data Arrived at EDR: 08/06/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service

Telephone: 301-443-1452 Last EDR Contact: 05/04/2018

Next Scheduled EDR Contact: 08/13/2018 Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/22/2018 Date Data Arrived at EDR: 03/01/2018 Date Made Active in Reports: 05/11/2018

Number of Days to Update: 71

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 05/30/2018

Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

AOC MU: East Multnomah County Area

Approximate extent of TSA VOC plume February, 2002

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2002
Date Made Active in Reports: 10/22/2002

Number of Days to Update: 15

Source: City of Portland Environmental Services

Telephone: 503-823-5310 Last EDR Contact: 03/13/2007 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

AOC COL: Columbia Slough

Columbia Slough waterway boundaries.

Date of Government Version: 08/10/2005 Date Data Arrived at EDR: 05/17/2006 Date Made Active in Reports: 06/16/2006

Number of Days to Update: 30

Source: City of Portland Environmental Services

Telephone: 503-823-5310 Last EDR Contact: 03/13/2007 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

CDL: Uninhabitable Drug Lab Properties

The properties listed on these county pages have been declared by a law enforcement agency to be unfit for use due to meth lab and/or storage activities. The properties are considered uninhabitable until cleaned up by a state certified decontamination contractor and a certificate of fitness is issued by the Oregon Health Division.

Date of Government Version: 05/03/2018 Date Data Arrived at EDR: 05/03/2018 Date Made Active in Reports: 05/09/2018

Number of Days to Update: 6

Source: Department of Consumer & Business Services

Telephone: 503-378-4133 Last EDR Contact: 05/03/2018

Next Scheduled EDR Contact: 08/20/2018 Data Release Frequency: Quarterly

CDL 2: Clandestine Drug Lab Site Listing

A listing of clandestine drug lab site locations included in the Incident database.

Date of Government Version: 04/01/2018 Date Data Arrived at EDR: 05/03/2018 Date Made Active in Reports: 06/07/2018

Number of Days to Update: 35

Source: Oregon State Police Telephone: 503-373-1540 Last EDR Contact: 05/03/2018

Next Scheduled EDR Contact: 08/13/2018 Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/22/2018 Date Data Arrived at EDR: 03/01/2018 Date Made Active in Reports: 05/11/2018

Number of Days to Update: 71

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 05/30/2018

Next Scheduled EDR Contact: 09/10/2018 Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 05/13/2018 Date Data Arrived at EDR: 05/30/2018 Date Made Active in Reports: 06/29/2018

Number of Days to Update: 30

Source: Environmental Protection Agency

Telephone: 202-564-6023 Last EDR Contact: 07/06/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018 Date Data Arrived at EDR: 03/27/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 73

Source: U.S. Department of Transportation

Telephone: 202-366-4555 Last EDR Contact: 03/27/2018

Next Scheduled EDR Contact: 07/09/2018 Data Release Frequency: Quarterly

SPILLS: Spill Data

Oil and hazardous material spills reported to the Environmental Response Program.

Date of Government Version: 04/03/2018 Date Data Arrived at EDR: 04/06/2018 Date Made Active in Reports: 05/15/2018

Number of Days to Update: 39

Source: Department of Environmental Quality

Telephone: 503-229-5815 Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 10/15/2018 Data Release Frequency: Semi-Annually

HAZMAT: Hazmat/Incidents

Hazardous material incidents reported to the State Fire Marshal by emergency responders. The hazardous material may or may not have been released.

Date of Government Version: 04/01/2018 Date Data Arrived at EDR: 05/03/2018 Date Made Active in Reports: 06/07/2018

Number of Days to Update: 35

Source: State Fire Marshal's Office Telephone: 503-373-1540 Last EDR Contact: 05/03/2018

Next Scheduled EDR Contact: 08/13/2018 Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS 90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 05/01/2006 Date Data Arrived at EDR: 01/03/2013 Date Made Active in Reports: 02/22/2013

Number of Days to Update: 50

Source: FirstSearch Telephone: N/A

Last EDR Contact: 01/03/2013 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018 Date Data Arrived at EDR: 03/28/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 86

Source: Environmental Protection Agency Telephone: (206) 553-1200

Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 10/08/2018 Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015 Date Data Arrived at EDR: 07/08/2015 Date Made Active in Reports: 10/13/2015

Number of Days to Update: 97

Source: U.S. Army Corps of Engineers

Telephone: 202-528-4285 Last EDR Contact: 05/25/2018

Next Scheduled EDR Contact: 09/03/2018 Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 11/10/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 62

Source: USGS

Telephone: 888-275-8747 Last EDR Contact: 07/11/2018

Next Scheduled EDR Contact: 10/22/2018 Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 02/06/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 339

Source: U.S. Geological Survey Telephone: 888-275-8747 Last EDR Contact: 07/13/2018

Next Scheduled EDR Contact: 10/22/2018

Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017 Date Data Arrived at EDR: 02/03/2017 Date Made Active in Reports: 04/07/2017

Number of Days to Update: 63

Source: Environmental Protection Agency

Telephone: 615-532-8599 Last EDR Contact: 05/15/2018

Next Scheduled EDR Contact: 08/27/2018 Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/01/2018 Date Data Arrived at EDR: 03/27/2018 Date Made Active in Reports: 06/22/2018

Number of Days to Update: 87

Source: Environmental Protection Agency

Telephone: 202-566-1917 Last EDR Contact: 06/27/2018

Next Scheduled EDR Contact: 10/08/2018 Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013 Date Data Arrived at EDR: 03/21/2014 Date Made Active in Reports: 06/17/2014

Number of Days to Update: 88

Source: Environmental Protection Agency

Telephone: 617-520-3000 Last EDR Contact: 05/07/2018

Next Scheduled EDR Contact: 08/20/2018 Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017 Date Data Arrived at EDR: 05/08/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 73

Source: Environmental Protection Agency

Telephone: 703-308-4044 Last EDR Contact: 05/08/2018

Next Scheduled EDR Contact: 08/20/2018 Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016 Date Data Arrived at EDR: 06/21/2017 Date Made Active in Reports: 01/05/2018

Number of Days to Update: 198

Source: EPA

Telephone: 202-260-5521 Last EDR Contact: 06/22/2018

Next Scheduled EDR Contact: 10/01/2018 Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016 Date Data Arrived at EDR: 01/10/2018 Date Made Active in Reports: 01/12/2018

Number of Days to Update: 2

Source: EPA

Telephone: 202-566-0250 Last EDR Contact: 05/25/2018

Next Scheduled EDR Contact: 09/03/2018 Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 12/10/2010 Date Made Active in Reports: 02/25/2011

Number of Days to Update: 77

Source: EPA

Telephone: 202-564-4203 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 05/13/2018 Date Data Arrived at EDR: 05/30/2018 Date Made Active in Reports: 06/29/2018

Number of Days to Update: 30

Source: EPA

Telephone: 703-416-0223 Last EDR Contact: 07/06/2018

Next Scheduled EDR Contact: 10/15/2018 Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017 Date Data Arrived at EDR: 11/17/2017 Date Made Active in Reports: 12/08/2017

Number of Days to Update: 21

Source: Environmental Protection Agency

Telephone: 202-564-8600 Last EDR Contact: 07/20/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995 Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995

Number of Days to Update: 35

Source: EPA

Telephone: 202-564-4104 Last EDR Contact: 06/02/2008

Next Scheduled EDR Contact: 09/01/2008 Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013 Date Data Arrived at EDR: 10/17/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 3

Source: EPA

Telephone: 202-564-6023 Last EDR Contact: 07/06/2018

Next Scheduled EDR Contact: 08/20/2018 Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017 Date Data Arrived at EDR: 06/09/2017 Date Made Active in Reports: 10/13/2017

Number of Days to Update: 126

Source: EPA

Telephone: 202-566-0500 Last EDR Contact: 07/13/2018

Next Scheduled EDR Contact: 10/22/2018 Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016 Date Data Arrived at EDR: 11/23/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 79

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 07/09/2018

Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667 Last EDR Contact: 08/18/2017

Next Scheduled EDR Contact: 12/04/2017 Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA

Telephone: 202-566-1667 Last EDR Contact: 08/18/2017

Next Scheduled EDR Contact: 12/04/2017 Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016 Date Data Arrived at EDR: 09/08/2016 Date Made Active in Reports: 10/21/2016

Number of Days to Update: 43

Source: Nuclear Regulatory Commission Telephone: 301-415-7169

Last EDR Contact: 07/23/2018

Next Scheduled EDR Contact: 11/05/2018 Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 08/07/2009 Date Made Active in Reports: 10/22/2009

Number of Days to Update: 76

Source: Department of Energy Telephone: 202-586-8719 Last EDR Contact: 06/07/2018

Next Scheduled EDR Contact: 09/17/2018 Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014 Date Data Arrived at EDR: 09/10/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: N/A

Last EDR Contact: 06/04/2018

Next Scheduled EDR Contact: 09/17/2018 Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017 Date Data Arrived at EDR: 11/30/2017 Date Made Active in Reports: 12/15/2017

Number of Days to Update: 15

Source: Environmental Protection Agency

Telephone: 202-566-0517 Last EDR Contact: 07/27/2018

Next Scheduled EDR Contact: 11/05/2018

Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/03/2018 Date Data Arrived at EDR: 04/05/2018 Date Made Active in Reports: 06/29/2018

Number of Days to Update: 85

Source: Environmental Protection Agency

Telephone: 202-343-9775 Last EDR Contact: 07/05/2018

Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2007

Next Scheduled EDR Contact: 03/17/2008

Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2008

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012 Date Data Arrived at EDR: 08/07/2012 Date Made Active in Reports: 09/18/2012

Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety

Telephone: 202-366-4595 Last EDR Contact: 05/03/2018

Next Scheduled EDR Contact: 08/13/2018 Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2018 Date Data Arrived at EDR: 04/16/2018 Date Made Active in Reports: 06/29/2018

Number of Days to Update: 74

Source: Department of Justice, Consent Decree Library

Telephone: Varies

Last EDR Contact: 07/09/2018

Next Scheduled EDR Contact: 10/01/2018

Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015 Date Data Arrived at EDR: 02/22/2017 Date Made Active in Reports: 09/28/2017

Number of Days to Update: 218

Source: EPA/NTIS Telephone: 800-424-9346 Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 09/03/2018 Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 07/14/2015 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 546

Source: USGS

Telephone: 202-208-3710 Last EDR Contact: 07/11/2018

Next Scheduled EDR Contact: 10/22/2018 Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016 Date Data Arrived at EDR: 12/27/2016 Date Made Active in Reports: 02/17/2017

Number of Days to Update: 52

Source: Department of Energy Telephone: 202-586-3559 Last EDR Contact: 05/07/2018

Next Scheduled EDR Contact: 08/20/2018 Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017 Date Data Arrived at EDR: 10/11/2017 Date Made Active in Reports: 11/03/2017

Number of Days to Update: 23

Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 05/18/2018

Next Scheduled EDR Contact: 09/03/2018 Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 05/13/2018 Date Data Arrived at EDR: 05/30/2018 Date Made Active in Reports: 06/29/2018

Number of Days to Update: 30

Source: Environmental Protection Agency

Telephone: 703-603-8787 Last EDR Contact: 07/06/2018

Next Scheduled EDR Contact: 10/15/2018 Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001 Date Data Arrived at EDR: 10/27/2010 Date Made Active in Reports: 12/02/2010

Number of Days to Update: 36

Source: American Journal of Public Health

Telephone: 703-305-6451 Last EDR Contact: 12/02/2009 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 100

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 09/26/2017

Next Scheduled EDR Contact: 01/08/2018 Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

> Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 100

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 09/26/2017

Next Scheduled EDR Contact: 01/08/2018 Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/03/2018 Date Data Arrived at EDR: 05/31/2018 Date Made Active in Reports: 06/29/2018

Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration

Telephone: 303-231-5959 Last EDR Contact: 05/31/2018

Next Scheduled EDR Contact: 09/10/2018 Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005 Date Data Arrived at EDR: 02/29/2008 Date Made Active in Reports: 04/18/2008

Number of Days to Update: 49

Source: USGS

Telephone: 703-648-7709 Last EDR Contact: 05/30/2018

Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011 Date Data Arrived at EDR: 06/08/2011 Date Made Active in Reports: 09/13/2011

Number of Days to Update: 97

Source: USGS

Telephone: 703-648-7709 Last EDR Contact: 05/30/2018

Next Scheduled EDR Contact: 09/10/2018 Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/08/2018 Date Data Arrived at EDR: 03/13/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 87

Source: Department of Interior Telephone: 202-208-2609 Last EDR Contact: 06/20/2018

Next Scheduled EDR Contact: 09/24/2018 Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/21/2018 Date Data Arrived at EDR: 02/23/2018 Date Made Active in Reports: 03/23/2018

Number of Days to Update: 28

Source: EPA

Telephone: (206) 553-1200 Last EDR Contact: 06/06/2018

Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 02/25/2018 Date Data Arrived at EDR: 03/17/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 83

Source: Environmental Protection Agency

Telephone: 202-564-2280 Last EDR Contact: 06/06/2018

Next Scheduled EDR Contact: 09/17/2018 Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2016 Date Data Arrived at EDR: 10/31/2017 Date Made Active in Reports: 01/12/2018

Number of Days to Update: 73

Source: Department of Defense Telephone: 703-704-1564 Last EDR Contact: 07/13/2018

Next Scheduled EDR Contact: 10/29/2018 Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 01/04/2018 Date Data Arrived at EDR: 01/19/2018 Date Made Active in Reports: 04/13/2018

Number of Days to Update: 84

Source: Environmental Protection Agency

Telephone: 202-564-0527 Last EDR Contact: 06/01/2018

Next Scheduled EDR Contact: 09/10/2018 Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels

Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/20/2018 Date Data Arrived at EDR: 02/21/2018 Date Made Active in Reports: 03/23/2018

Number of Days to Update: 30

Source: EPA
Telephone: 800-

Telephone: 800-385-6164 Last EDR Contact: 05/23/2018

Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

AIRS: Oregon Title V Facility Listing

A listing of Title V facility source and emissions information.

Date of Government Version: 05/10/2018 Date Data Arrived at EDR: 05/15/2018 Date Made Active in Reports: 06/08/2018

Number of Days to Update: 24

Source: Department of Environmental Quality

Telephone: 503-229-6459 Last EDR Contact: 06/28/2018

Next Scheduled EDR Contact: 04/17/2047 Data Release Frequency: Annually

COAL ASH: Coal Ash Disposal Sites Listing A listing of coal ash disposal sites.

Date of Government Version: 12/31/2017 Date Data Arrived at EDR: 03/16/2018 Date Made Active in Reports: 05/15/2018

Number of Days to Update: 60

Source: Department of Environmental Quality

Telephone: 541-298-7255 Last EDR Contact: 06/01/2018

Next Scheduled EDR Contact: 09/17/2018 Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Facilities

A listing of registered drycleaning facilities in Oregon.

Date of Government Version: 05/01/2018 Date Data Arrived at EDR: 05/04/2018 Date Made Active in Reports: 06/07/2018

Number of Days to Update: 34

Source: Department of Environmental Quality

Telephone: 503-229-6783 Last EDR Contact: 07/25/2018

Next Scheduled EDR Contact: 11/12/2018 Data Release Frequency: Annually

ENF: Enforcement Action Listing Enforcement actions

> Date of Government Version: 06/19/2018 Date Data Arrived at EDR: 06/21/2018 Date Made Active in Reports: 07/23/2018

Number of Days to Update: 32

Source: Department of Environmental Quality

Telephone: 503-229-5696 Last EDR Contact: 06/21/2018

Next Scheduled EDR Contact: 10/01/2018 Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing Financial assurance information for hazardous waste facilities.

Date of Government Version: 05/21/2018 Date Data Arrived at EDR: 06/21/2018 Date Made Active in Reports: 07/23/2018

Number of Days to Update: 32

Source: Department of Environmental Quality

Telephone: 541-633-2011 Last EDR Contact: 06/01/2018

Next Scheduled EDR Contact: 09/17/2018 Data Release Frequency: Semi-Annually

Financial Assurance 2: Financial Assurance Information Listing

Financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/30/2018 Date Data Arrived at EDR: 06/08/2018 Date Made Active in Reports: 07/23/2018

Number of Days to Update: 45

Source: Department of Environmental Quality

Telephone: 503-229-5521 Last EDR Contact: 05/18/2018

Next Scheduled EDR Contact: 09/03/2018 Data Release Frequency: Semi-Annually

HSIS: Hazardous Substance Information Survey

Companies in Oregon submitting the Hazardous Substance Information Survey and either reporting or not reporting hazardous substances.

Date of Government Version: 05/03/2018 Date Data Arrived at EDR: 05/03/2018 Date Made Active in Reports: 06/07/2018

Number of Days to Update: 35

Source: State Fire Marshal's Office Telephone: 503-373-1540 Last EDR Contact: 05/03/2018

Next Scheduled EDR Contact: 08/13/2018 Data Release Frequency: Semi-Annually

OR MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016 Date Data Arrived at EDR: 06/02/2017 Date Made Active in Reports: 10/11/2017

Number of Days to Update: 131

Source: Department of Environmental Quality

Telephone: N/A

Last EDR Contact: 05/04/2018

Next Scheduled EDR Contact: 08/20/2018 Data Release Frequency: Annually

NPDES: Wastewater Permits Database
A listing of permitted wastewater facilities.

Date of Government Version: 06/12/2018 Date Data Arrived at EDR: 06/15/2018 Date Made Active in Reports: 07/23/2018

Number of Days to Update: 38

Source: Department of Environmental Quality

Telephone: 503-229-5657 Last EDR Contact: 05/04/2018

Next Scheduled EDR Contact: 08/20/2018 Data Release Frequency: Varies

UIC: Underground Injection Control Program Database

DEQ's Underground Injection Control Program is authorized by the Environmental Protection Agency (EPA) to regulate all underground injection in Oregon to protect groundwater resources.

Date of Government Version: 06/21/2018 Date Data Arrived at EDR: 06/26/2018 Date Made Active in Reports: 07/23/2018

Number of Days to Update: 27

Source: Department of Environmental Quality

Telephone: 503-229-5945 Last EDR Contact: 06/20/2018

Next Scheduled EDR Contact: 10/08/2018 Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Quality

Telephone: N/A

Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environmental Quality

Telephone: N/A

Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/27/2013
Number of Days to Update: 179

Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

Source: Department of Environmental Quality

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 04/30/2018 Date Data Arrived at EDR: 05/03/2018 Date Made Active in Reports: 06/07/2018

Number of Days to Update: 35

Source: Department of Environmental Conservation

Telephone: 518-402-8651 Last EDR Contact: 05/03/2018

Next Scheduled EDR Contact: 08/13/2018 Data Release Frequency: Quarterly

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017 Date Data Arrived at EDR: 06/15/2018 Date Made Active in Reports: 07/09/2018

Number of Days to Update: 24

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 06/11/2018

Next Scheduled EDR Contact: 09/24/2018 Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary

and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Listings Source: Employment Department Telephone: 503-947-1420

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data Source: Oregon Geospatial Enterprise Office

Telephone: 503-378-2166

Current USGS 7.5 Minute Topographic Map Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK®-PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

RESIDENTIAL DWELLING 22870 S WEATHERHILL ROAD WEST LINN, OR 97068

TARGET PROPERTY COORDINATES

Latitude (North): 45.359154 - 45° 21' 32.95" Longitude (West): 122.651501 - 122° 39' 5.40"

Universal Tranverse Mercator: Zone 10 UTM X (Meters): 527295.8 UTM Y (Meters): 5022690.5

Elevation: 600 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 6067204 CANBY, OR

Version Date: 2014

North Map: 6067228 LAKE OSWEGO, OR

Version Date: 2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

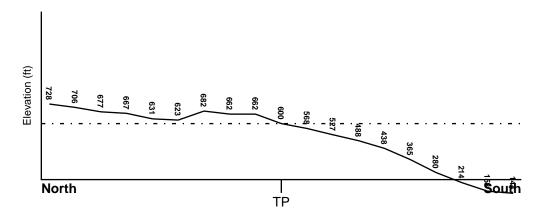
TOPOGRAPHIC INFORMATION

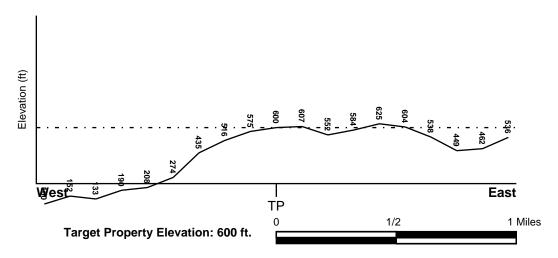
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property FEMA Source Type

41047C0075G FEMA FIRM Flood data

Additional Panels in search area: FEMA Source Type

Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property Data Coverage

CANBY YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

 MAP ID
 FROM TP
 GROUNDWATER FLOW

 Not Reported
 GROUNDWATER FLOW

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

GEOLOGIC AGE IDENTIFICATION

Era: Cenozoic Category: Volcanic Rocks

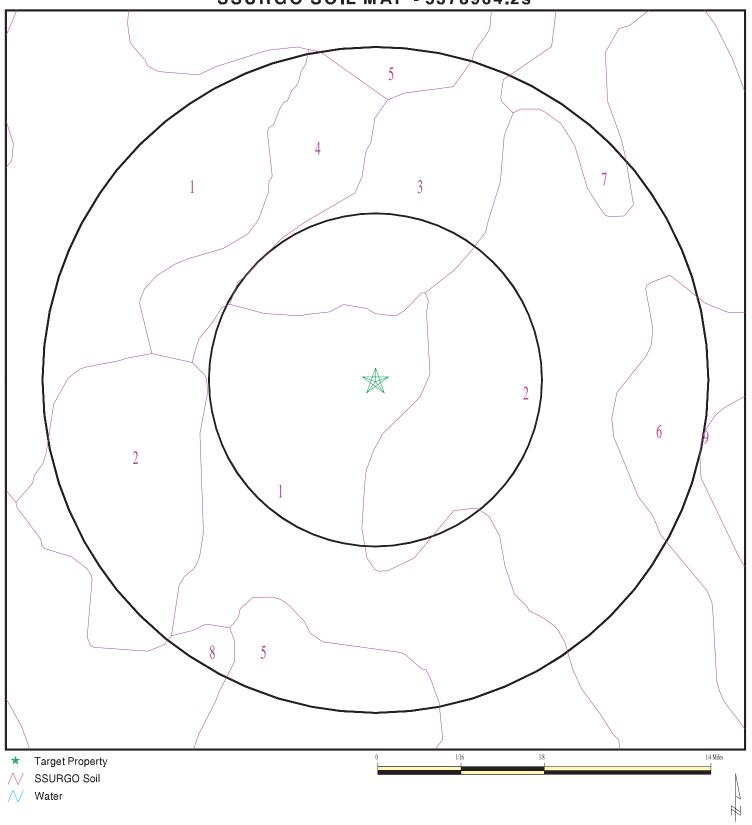
System: Tertiary

Series: Miocene volcanic rocks

Code: Tmv (decoded above as Era, System & Series)

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5378964.2s



SITE NAME: Residential Dwelling ADDRESS: 22870 S Weatherhill Road

West Linn OR 97068 45.359154 / 122.651501 LAT/LONG:

CLIENT: Alpha Environmental Services CONTACT: Casey Ward MANGEN #: 5378964.2s DATE: August 01, 2018 11:32 am

8/21/19 PC

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Saum

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 127 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information										
	Воц	ındary		Classi	fication	Saturated hydraulic					
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Oon Roadion				
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6				
2	7 inches	25 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6				
3	25 inches	50 inches	gravelly silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.6				

	Soil Layer Information										
	Boundary Classification Saturated hydraulic										
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)				
4	4 50 inches 53 inches unweathered Not reported Not reported Max: Max: Min: bedrock										

Soil Map ID: 2

Soil Component Name: Nekia

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 99 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information											
	Bou	ndary		Classi	fication	Saturated hydraulic						
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec						
1	0 inches	18 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.1					
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 5.5 Min: 4.5					
3	38 inches	42 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:					

Soil Map ID: 3

Soil Component Name: Saum

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 127 inches

Depth to Watertable Min: > 0 inches

			Soil Layer	Information			
	Вои	ındary	Soil Texture Class	Classi	fication	Saturated hydraulic	
Layer	Upper	Lower		AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
2	7 inches	25 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
3	25 inches	50 inches	gravelly silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.6
4	50 inches	53 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name: Jory

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

			Soil Layer	r Information			
	Bou	ındary		Classi	fication	Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	12 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 4.5
2	12 inches	59 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 5.5 Min: 4.5

Soil Map ID: 5

Soil Component Name: Nekia

Soil Surface Texture: silty clay loam

Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse Hydrologic Group:

textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 99 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information											
	Bou	ındary	Soil Texture Class A	Classi	fication	Saturated hydraulic					
Layer	Upper	Lower		AASHTO Group	Unified Soil	conductivity micro m/sec	COII INCACTION				
1	0 inches	18 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.1				
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 5.5 Min: 4.5				
3	38 inches	42 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:				

Soil Map ID: 6

Soil Component Name: Delena

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high

water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 23 inches

	Soil Layer Information											
	Boundary			Classi	fication	Saturated hydraulic						
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)					
1	0 inches	11 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 5.6					

			Soil Layer	Information			
	Bou	ındary		Classi	fication	Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
2	11 inches	25 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 6.5 Min: 5.6
3	25 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 7.3 Min: 6.1

Soil Map ID: 7

Soil Component Name: Borges

Soil Surface Texture: silty clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high

water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 8 inches

	Soil Layer Information											
	Boundary			Classif	fication	Saturated hydraulic						
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)					
1	0 inches	18 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.1					

	Soil Layer Information										
	Bou	ındary	Soil Texture Class	Classi	fication	Saturated hydraulic					
Layer	Upper	Lower		AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)				
2	18 inches	44 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 6 Min: 5.6				
3	44 inches	59 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 6 Min: 5.6				

Soil Map ID: 8

Soil Component Name: Saum

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 127 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information											
	Boundary			Classi	Classification							
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	hydraulic conductivity micro m/sec	Soil Reaction (pH)					
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6					

	Soil Layer Information										
	Bou	ındary	Soil Texture Class	Classi	fication	Saturated hydraulic					
Layer	Upper	Lower		AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)				
2	7 inches	25 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6				
3	25 inches	50 inches	gravelly silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.6				
4	50 inches	53 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:				

Soil Map ID: 9

Soil Component Name: Cornelius

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 99 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)
1	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
2	16 inches	33 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
3	33 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 5.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE SEARCH DISTANCE (miles)

Federal USGS 1.000

Federal FRDS PWS Nearest PWS within 0.001 miles

State Database 1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	FROM TP
	USGS40000992799	1/4 - 1/2 Mile East
A3	USGS40000992797	1/4 - 1/2 Mile ESE
B5	USGS40000992805	1/4 - 1/2 Mile East

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID WELL ID FROM TP

No PWS System Found

rio i ivo oyotom i ounu

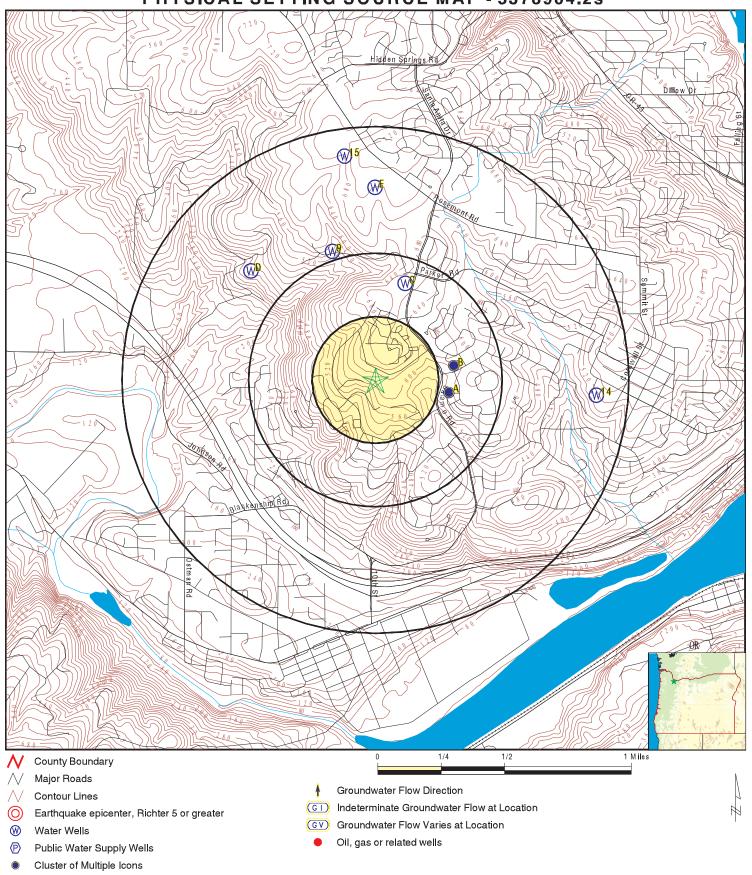
Note: PWS System location is not always the same as well location.

GEOCHECK[®] - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP
A2	ORW500000006952	1/4 - 1/2 Mile East
A4	ORW50000006949	1/4 - 1/2 Mile ESE
B6	ORW50000001235	1/4 - 1/2 Mile East
C7	ORI500000045823	1/4 - 1/2 Mile NNE
C8	ORW50000012066	1/4 - 1/2 Mile NNE
9	ORI500000037935	1/2 - 1 Mile NNW
D10	ORI500000039759	1/2 - 1 Mile NW
D11	ORI500000037981	1/2 - 1 Mile NW
E12	ORI500000052991	1/2 - 1 Mile North
E13	ORI500000053335	1/2 - 1 Mile North
14	ORI500000053334	1/2 - 1 Mile East
15	ORW50000007760	1/2 - 1 Mile North

PHYSICAL SETTING SOURCE MAP - 5378964.2s



SITE NAME: Residential Dwelling ADDRESS: 22870 S Weatherhill Road

West Linn OR 97068 LAT/LONG: 45.359154 / 122.651501 CLIENT: Alpha Enviro CONTACT: Casey Ward Alpha Environmental Services

MN 2369 Ward MN 266 129 4 #: 5378964.2s DATE: August 01, 2 8/21/19 PC

August 01, 2018 11:31 am

Map ID Direction Distance

Elevation Database EDR ID Number

East **FED USGS** USGS40000992799

1/4 - 1/2 Mile Lower

> Org. Identifier: **USGS-OR**

USGS Oregon Water Science Center Formal name:

USGS-452131122384001 Monloc Identifier:

02S/01E-35AAC1 Monloc name:

Well Monloc type:

Monloc desc: Not Reported

Huc code: 17090007 Drainagearea value: Not Reported Not Reported Contrib drainagearea: Not Reported Drainagearea Units: Contrib drainagearea units: Not Reported 45.3585814 Latitude: Longitude: -122.6455343 Sourcemap scale: 24000 Horiz Acc measure: Horiz Acc measure units: seconds

Interpolated from map Horiz Collection method:

NAD83 Horiz coord refsys: Vert measure val: 585 feet 5 Vert measure units: Vertacc measure val:

Vert accmeasure units:

Vertcollection method: Interpolated from topographic map

NGVD29 US Vert coord refsys: Countrycode:

Aquifername: Not Reported Formation type: Not Reported

Not Reported Aquifer type:

19880817 Construction date: Welldepth: 547 Welldepth units: ft Wellholedepth: 560

Wellholedepth units:

Ground-water levels, Number of Measurements: 0

A2 East **OR WELLS** ORW500000006952

1/4 - 1/2 Mile Lower

Lsdelev:

7057 Fid: 6951 Objectid: CLAC 3869 Logid: Lstupdate: 09/21/2005 KARL WOZNIAK Establby: Xysource: 1:24,000 MAP Horizerr: 250 Sourceorg: OWRD Sourceowrd: **GWATER** Waypoint: Not Reported

Welltag: 0

Sownum: 0 Obswell: Not Reported

Recwell: 9 Obsflagall:

45.3585834479 Latitude: Longitude: -122.64553321 Site id: ORW500000006952

585

FED USGS USGS40000992797 1/4 - 1/2 Mile Lower

> TC5378964.2s Page A-17 8/21/19 PC Meeting 275

Org. Identifier: USGS-OR

Formal name: USGS Oregon Water Science Center

Monloc Identifier: USGS-452130122384001

Monloc name: 02S/01E-35AAC2

Monloc type: Well

Monloc desc: Not Reported

Huc code: 17090007 Drainagearea value: Not Reported Drainagearea Units: Not Reported Contrib drainagearea: Not Reported Contrib drainagearea units: Not Reported 45.3583008 Latitude: -122.6455343 24000 Longitude: Sourcemap scale: Horiz Acc measure: Horiz Acc measure units: seconds

Horiz Collection method: Interpolated from map

Horiz coord refsys: NAD83 Vert measure val: 580 Vert measure units: 580

Vert accmeasure units: feet

Vertcollection method: Interpolated from topographic map

Vert coord refsys: NGVD29 Countrycode: US

Aquifername: Not Reported Formation type: Not Reported Aquifer type: Not Reported

Construction date: 19910318 Welldepth: 0
Welldepth units: ft Wellholedepth: 690

Wellholedepth units: ft

Ground-water levels, Number of Measurements: 0

A4
ESE OR WELLS ORW50000006949

1/4 - 1/2 Mile Lower

> Fid: 6948 Objectid: 7054 CLAC 2954 09/21/2005 Logid: Lstupdate: Establby: KARL WOZNIAK 1:24,000 MAP Xysource: Horizerr: 250 Sourceorg: **OWRD** Sourceowrd: **GWATER** Waypoint: Not Reported

Welltag: 0

Sownum: 0 Obswell:

Recwell: 9 Obsflagall: Not Reported

Lsdelev: 580

Latitude: 45.3583001179
Longitude: -122.64553321
Site id: ORW500000006949

1/4 - 1/2 Mile Lower

Org. Identifier: USGS-OR

Formal name: USGS Oregon Water Science Center

Monloc Identifier: USGS-452136122383801

Monloc name: 02S/01E-35AAB

Monloc type: Well

Monloc desc: Not Reported

Huc code:17090007Drainagearea value:Not ReportedDrainagearea Units:Not ReportedContrib drainagearea:Not ReportedContrib drainagearea units:Not ReportedLatitude:45.3599758Longitude:-122.645151Sourcemap scale:24000

TC5378964.2s Page A-18

Horiz Acc measure: Horiz Acc measure units: seconds

Horiz Collection method: Interpolated from map

Horiz coord refsys: NAD83 Vert measure val: 605 Vert measure units: feet Vertacc measure val: 5

Vert accmeasure units: feet

Vertcollection method: Interpolated from topographic map

Vert coord refsys: NGVD29 Countrycode: US

Aquifername: Not Reported Not Reported Formation type: Not Reported Aquifer type:

19720428 709 Construction date: Welldepth: Welldepth units: ft Wellholedepth: 709

Wellholedepth units: ft

Ground-water levels, Number of Measurements: 1

Feet below Feet to Date Surface Sealevel

1976-03-12 144.7

ORW50000001235 **East OR WELLS**

1/4 - 1/2 Mile Lower

> Fid: 1234 Objectid: 1236 CLAC 3407 01/01/1990 Logid: Lstupdate: KARL WOZNIAK Xysource: UNKNOWN Establby: Horizerr: 1000 Sourceorg: **OWRD** Waypoint: Not Reported

USGS WILLGW Sourceowrd:

Welltag: 0 Sownum: 0

Obswell: Recwell: 9 Obsflagall: Not Reported

Lsdelev: 605

Latitude: 45.3599752847 Longitude: -122.645150198 ORW50000001235 Site id:

NNE OR WELLS ORI500000045823

1/4 - 1/2 Mile Higher

> Fid: 45822 Well inspe:

Physical I: Not Reported Inspection: 2008-02-29 00:00:00.000

Startcard: 196286 WI county: Not Reported WI nbr: Not Reported Startcar00: Not Reported Well tag n: Not Reported No log: Not Reported Property o: Not Reported Inspecti00: Not Reported Special st: Title: Not Reported Witnesses: Inspecti01: Not Reported Not Reported

WILLAMETTE CHRISTIAN CHURCH Name owner:

Street: Not Reported Not Reported City:

State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	Not Reported	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	Not Reported
Rough log :	Not Reported	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	Not Reported
Protective:	Not Reported	Well locke:	Not Reported
Consultant:	Not Reported	Water in v:	Not Reported
Seal test :	Not Reported	Samples ta:	Not Reported
Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated:	Not Reported	Access por:	Not Reported
Access p00:	Not Reported	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	Not Reported	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	Not Reported		
Work new:	1	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	0	Work exist:	0
Work other:	Not Reported	Drill rota:	Not Reported
Drill ro00:	Not Reported	Drill cabl:	Not Reported
Drill ca00:	Not Reported	Drill reve:	Not Reported
Drill re00:	Not Reported	Drill auge:	Not Reported
Drill push:	Not Reported	Drill hand:	Not Reported
Drill holl:	Not Reported	Drill soni:	Not Reported
Drill othe:	Not Reported	Use domest:	Not Reported
Use irriga:	Not Reported	Use commun:	Not Reported
Use indust:	Not Reported	Use livest:	Not Reported
Use dewate:	Not Reported	Use monito:	Not Reported
Use therma:	Not Reported	Use inject:	Not Reported
Use piezom:	Not Reported	Use observ:	Not Reported
Use recove:	Not Reported	Use other:	Not Reported
Bentonite :	Not Reported	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	Not Reported	Bonded lic:	688
Unbonded I:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	CLAC 2
Tax lot:	1700	Township:	
Township c:	S E	Range:	1
Range char: Qtr40:	NW	Sctn: Qtr160:	26 SE
Latitude d:	45.36469000		-122.64933000
		Longitude : Year const:	
Gps horizo: Date const:	8.00000000 Not Reported	Date con00:	2008 Not Reported
Deficienci:	U	Previous i:	Not Reported
	JJ		-
Inspected : Wm region:	NW	Inspecte00:	113341
Well tag a:	WELL BEING DRILLED - NO AT	TACHED ID	
Well tag01:	Not Reported	Depth:	Not Reported
Static wat:	Not Reported	Status of :	DIP
Location r:	Not Reported	Site visit:	Not Reported
Location 1.	Not Izebolied	OILC VISIL.	Not Ivehoused

Type of lo: W Casing cap: Not Reported Pictures t: 0 Street of: Not Reported

Street o00: 3153 S BRANDYWINE DR Last updt: 2010-04-01 00:00:00.000

Last upd00: 2009-06-01 06:51:00.000 WRD\migrate Rec creati:

Rec crea00: OWRD\migrate Latitude: 45.36469 Loongitude: -122.64933 ORI500000045823 Site id:

C8 NNE **OR WELLS** ORW50000012066

1/4 - 1/2 Mile Higher

1/2 - 1 Mile Lower

Fid: 12065 Objectid: 12204 Logid: CLAC 64598 Lstupdate: 10/26/2009 Establby: Xysource: SITE VISIT & DOQ JOSH HACKETT

Horizerr: 250 Sourceorg: **OWRD** Sourceowrd: **GWATER** Waypoint: Not Reported Welltag: 91963

Sownum: 0 Obswell:

Recwell: 9 Obsflagall:

Not Reported 665 Lsdelev:

Latitude: 45.3646553349 Longitude: -122.648832993 ORW500000012066 Site id:

NNW **OR WELLS** ORI500000037935

Fid: 37934 Well inspe:

Physical I: Inspection: 2005-03-16 00:00:00.000 Not Reported

Startcard: CLAC 171831 WI county: 60825 Not Reported WI nbr: Startcar00: Well tag n: Not Reported No log: Not Reported Property o: Not Reported Inspecti00: Not Reported Title: Not Reported Not Reported

Special st: Inspecti01: Not Reported Witnesses: MARTIN CLARK CONSTRUCTION INC. Name owner: Street: Not Reported City: Not Reported

State: Not Reported Zip: Not Reported Phone home: Not Reported Phone comp: Not Reported Not Reported Distance t: Not Reported Gps on wel: Bearing to: Not Reported Drilling m: Not Reported Use of wel: Not Reported Drilling00: Not Reported Not Reported Rough log: Well tag r: Not Reported Not Reported Monitori00: Monitoring: Not Reported Protective: Not Reported Well locke: Not Reported Consultant: Not Reported Water in v: Not Reported Seal test: Not Reported Samples ta: Not Reported

Casing dia: Not Reported Csg above: Not Reported Csq gauge: Not Reported Borehole d: Not Reported Dedicated: Not Reported Access por: Not Reported Access p00: Not Reported Measuring: Not Reported Not Reported Not Reported Measurin00: Depth belo: Depth be00: Not Reported Tape hold: Not Reported Tape missi: Not Reported Tape cut: Not Reported Water leve: Not Reported Water le00: Not Reported Cascading: Not Reported Not Reported Pump type: Pump hp: Not Reported Not Reported Pump make: Flowmeter: Not Reported Flowmete00: Not Reported Flowmete01: Not Reported Flowmete02: Not Reported Associated: Not Reported Nbr of hou: Not Reported Deficiency: Not Reported

Inspectio2: Not Reported

 Work new:
 1
 Work deepe:
 0

 Work conve:
 0
 Work alter:
 0

 Work aband:
 0
 Work exist:
 0

Work other: Not Reported Drill rota: Not Reported Drill ro00: Not Reported Drill cabl: Not Reported Drill ca00: Not Reported Not Reported Drill reve: Drill re00: Not Reported Drill auge: Not Reported Drill push: Not Reported Drill hand: Not Reported Drill holl: Not Reported Drill soni: Not Reported Drill othe: Not Reported Not Reported Use domest: Use irriga: Not Reported Use commun: Not Reported Use indust: Not Reported Use livest: Not Reported Not Reported Not Reported Use dewate: Use monito: Use therma: Not Reported Use inject: Not Reported Use piezom: Not Reported Use observ: Not Reported Not Reported Use recove: Use other: Not Reported Bentonite: Not Reported Conductivi: Not Reported Conducti00: Not Reported Measuremen: Not Reported

Well tag00: 71450 Bonded lic: 688 Unbonded I: Not Reported Bonded dri: Not

Not Reported Unbonded d: Not Reported County cod: CLAC Tax lot: 2600 Township: 2 Township c: S Range: 1 Range char: Ε Sctn: 26 Qtr40: NE Qtr160: SW

 Latitude d:
 45.36650000
 Longitude :
 -122.65498000

 Gps horizo:
 13.30000000
 Year const:
 2005

Date const:

Not Reported

Deficienci:

U

Previous i:

2005

Not Reported

0

Inspected: KAW Wm region: NW

Well tag a: HOSE CLAMP

Well tag01: Not Reported Depth: Not Reported Static wat: Not Reported Status of : CMP

Location r: Not Reported Site visit: Not Reported

Type of lo: W Casing cap: SS

Pictures t: 0 Street of: 3003 S BRANDYWIN

Street o00: 3003 S BRANDYWINE DR, WEST LINN

Last updt: 2005-03-31 10:53:26.000

Last upd00: wilckeka Rec creati: 2009-06-01 06:51:00.000

Inspecte00:

Rec crea00: OWRD\migrate
Latitude: 45.3665
Loongitude: -122.65498
Site id: ORI500000037935

114307

Map ID Direction Distance

Database EDR ID Number Elevation

NW 1/2 - 1 Mile

D10

OR WELLS ORI500000039759

Lower

Fid: 39758 Well inspe: 0

2005-11-16 00:00:00.000 Physical I: Not Reported Inspection:

WI county: Startcard: CLAC 171833

Startcar00: WI nbr: 60821 Not Reported Not Reported Not Reported Well tag n: No log: Property o: Not Reported Inspecti00: Not Reported Special st: 0 Title: Not Reported Not Reported Not Reported Inspecti01: Witnesses:

Name owner: MARTIN CLARK CONSTRUCTION INC.

Street: Not Reported City: Not Reported State: Not Reported Zip: Not Reported Not Reported Not Reported Phone home: Phone comp: Gps on wel: Not Reported Distance t: Not Reported Not Reported Not Reported Bearing to: Drilling m: Use of wel: Not Reported Drilling00: Not Reported Rough log: Not Reported Well tag r: Not Reported Monitoring: Not Reported Monitori00: Not Reported Protective: Not Reported Well locke: Not Reported Consultant: Not Reported Water in v: Not Reported Seal test: Not Reported Samples ta:

Not Reported Not Reported Not Reported Casing dia: Csg above: Csg gauge: Not Reported Borehole d: Not Reported Dedicated: Not Reported Access por: Not Reported Access p00: Not Reported Not Reported Measuring: Measurin00: Not Reported Depth belo: Not Reported Depth be00: Not Reported Tape hold: Not Reported Tape missi: Not Reported Tape cut: Not Reported Water leve: Not Reported Water le00: Not Reported Cascading: Not Reported Pump type: Not Reported

Pump make: Not Reported Pump hp: Not Reported Not Reported Flowmeter: Not Reported Flowmete00: Flowmete01: Not Reported Flowmete02: Not Reported

Not Reported Associated: Nbr of hou: Not Reported

Deficiency: Not Reported Not Reported Inspecti02:

Use piezom:

Work new: Work deepe: 0 1

Work conve: 0 Work alter: 0 Work aband: Work exist:

Work other: Not Reported Drill rota: Not Reported Not Reported Drill ro00: Drill cabl: Not Reported Not Reported Not Reported Drill ca00: Drill reve: Drill re00: Not Reported Drill auge: Not Reported Drill push: Not Reported Drill hand: Not Reported Drill holl: Not Reported Drill soni: Not Reported Drill othe: Not Reported Use domest: Not Reported

Use irriga: Not Reported Use commun: Not Reported Use indust: Not Reported Use livest: Not Reported Use dewate: Not Reported Use monito: Not Reported Use therma: Not Reported Use inject: Not Reported

Not Reported

Not Reported

Use observ:

Use other: Not Reported Use recove: Not Reported Bentonite: Not Reported Conductivi: Not Reported Conducti00: Not Reported Measuremen: Not Reported Well tag00: 71451 Bonded lic: 688

Unbonded I:Not ReportedBonded dri:Not ReportedUnbonded d:Not ReportedCounty cod:CLACTax lot:300Township:2Township c:SRange:1

 Township c:
 S
 Range:
 1

 Range char:
 E
 Sctn:
 27

 Qtr40:
 NE
 Qtr160:
 SE

Latitude d: 45.36516000 Longitude : -122.66160000

Gps horizo: Not Reported Year const: 2005

Date const:Not ReportedDate con00:Not ReportedDeficienci:UPrevious i:1Inspected:J JInspecte00:113341

Inspected: J J Inspecte00: 1 Wm region: NW

Well tag a: BANDED TO CASING

Well tag01: Not Reported Depth: Not Reported Static wat: Not Reported Status of : CMP

Location r: Not Reported Site visit: Not Reported

Type of lo: W Casing cap: SS

Pictures t: 0 Street of : 22110 S WISTERIA

Street o00: 22110 WISTERIA RD, WEST LINN

Last updt: 2005-12-08 12:52:22.000

Last upd00: jefferjw Rec creati: 2009-06-01 06:51:00.000

Rec crea00: OWRD\migrate
Latitude: 45.36516
Loongitude: -122.6616

Lower

Site id: ORI500000039759

D11 NW OR WELLS ORI500000037981 1/2 - 1 Mile

Fid: 37980 Well inspe: 0

Physical I: Not Reported Inspection: 2005-03-02 00:00:00.000

Startcard: 171833 WI county: CLAC WI nbr: 60821 Startcar00: Not Reported Well tag n: Not Reported No log: Not Reported Property o: Not Reported Inspecti00: Not Reported

Special st: 0 Title: Not Reported Inspection: Not Reported Inspection: Not Reported Witnesses: Not Reported

Name owner: MARTIN CLARK CONSTRUCTION INC. Street: Not Reported City: Not Reported Not Reported State: Zip: Not Reported Phone home: Not Reported Not Reported Phone comp: Gps on wel: Not Reported Distance t: Not Reported Bearing to: Not Reported Drilling m: Not Reported Use of wel: Not Reported Drilling00: Not Reported Not Reported Rough log: Well tag r: Not Reported

Monitoring: Not Reported Monitori00: Not Reported Protective: Not Reported Well locke: Not Reported Consultant: Not Reported Water in v: Not Reported Seal test: Not Reported Samples ta: Not Reported

Not Reported Casing dia: Not Reported Csg above: Csq gauge: Not Reported Borehole d: Not Reported Dedicated: Not Reported Access por: Not Reported Access p00: Not Reported Measuring: Not Reported Not Reported Not Reported Measurin00: Depth belo: Depth be00: Not Reported Tape hold: Not Reported Tape missi: Not Reported Tape cut: Not Reported Water leve: Not Reported Water le00: Not Reported Cascading: Not Reported Not Reported Pump type: Pump hp: Not Reported Not Reported Pump make: Flowmeter: Not Reported Flowmete00: Not Reported Flowmete01: Not Reported Flowmete02: Not Reported Associated: Not Reported Nbr of hou: Not Reported Deficiency: Not Reported

Inspectio2: Not Reported

 Work new:
 1
 Work deepe:
 0

 Work conve:
 0
 Work alter:
 0

 Work aband:
 0
 Work exist:
 0

Work other: Not Reported Drill rota: Not Reported Drill ro00: Not Reported Drill cabl: Not Reported Drill ca00: Not Reported Not Reported Drill reve: Drill re00: Not Reported Drill auge: Not Reported Drill push: Not Reported Drill hand: Not Reported Drill holl: Not Reported Drill soni: Not Reported Drill othe: Not Reported Not Reported Use domest: Use irriga: Not Reported Use commun: Not Reported Use indust: Not Reported Use livest: Not Reported Not Reported Not Reported Use dewate: Use monito: Use therma: Not Reported Use inject: Not Reported Use piezom: Not Reported Use observ: Not Reported Not Reported Use recove: Use other: Not Reported Bentonite: Not Reported Conductivi: Not Reported Conducti00: Not Reported Measuremen: Not Reported

Well tag00: 71451 Bonded lic: 688

Unbonded I: Not Reported Bonded dri: Not Reported Unbonded d: Not Reported County cod: CLAC Tax lot: 300 Township: 2 Township c: S Range: 1 Range char: Ε Sctn: 27 Qtr40: NE Qtr160: SE

Latitude d: 45.36561000 Longitude : -122.66158000

Gps horizo:15.30000000Year const:2005Date const:Not ReportedDate con00:Not Reported

Deficienci: U Previous i: 0
Inspected: KAW Inspecte00: 114307

Wm region: NW

Well tag a: HOSE CLAMP

Well tag01: Not Reported Depth: Not Reported Static wat: 319.25 Status of : CMP

Location r: Not Reported Site visit: Not Reported

Type of lo: W Casing cap: SS

Pictures t: 0 Street of : 22110 S WISTERIA

Street o00: 22110 WISTERIA RD, WEST LINN

Last updt: 2005-03-31 13:20:08.000

Last upd00: wilckeka Rec creati: 2009-06-01 06:51:00.000

Rec crea00: OWRD\migrate
Latitude: 45.36561
Loongitude: -122.66158
Site id: ORI500000037981

Map ID Direction Distance

Elevation Database EDR ID Number

North 1/2 - 1 Mile

E12

OR WELLS ORI500000052991

Higher Fid:

Work new:

Fid: 52990 Well inspe: 0

Physical I: Not Reported Inspection: 2013-03-25 00:00:00.000

Startcard :209286WI county :Not ReportedWI nbr:Not ReportedStartcar00:Not ReportedWell tag n:11085No log:0Property o:Not ReportedInspectio0:CMP

Special st: 0 Title: WIN
Inspectio1: NEW Witnesses: Not Reported

Name owner: DELAHUNT HOMES

PORTL Street: PO BO City: OR Zip: 97208 State: Phone home: Not Reported Phone comp: Not Reported Gps on wel: Distance t: Not Reported Bearing to: Not Reported Drilling m: Not Reported

Use of wel: Not Reported Drilling00: 0

Rough log: 0 Well tag r: Not Reported

Not Reported Monitoring: Monitori00: 0 Protective: Well locke: 0 0 Consultant: 0 Water in v: 0 PP Seal test: Samples ta: 0 Casing dia: 6.00 Csg above: 1.94

Csg gauge: 0.250 Borehole d: Not Reported

Dedicated: 0 Access por: 0
Access p00: Not Reported Measuring: 1.94

Measurin00: 1 Depth belo: Not Reported

Depth be00: Not Reported Tape hold: 0.00
Tape missi: 0.00 Tape cut: Not Reported

Water leve: Not Reported Water le00: Not Reported

Cascading: 0 Pump type: NON

Pump make:Not ReportedPump hp:Not ReportedFlowmeter:Not ReportedFlowmete00:Not ReportedFlowmete01:Not ReportedFlowmete02:Not Reported

Associated: Not Reported Nbr of hou: Not Reported Deficiency: Not Reported

Inspectio2: Not Reported

1

0 0 Work conve: Work alter: Work aband: 0 Work exist: 0 Work other: Not Reported Drill rota: 0 Drill ro00: 0 Drill cabl: 0

Drill ca00: 0 Drill reve: 0 Drill re00: 0 Drill auge: 0 Drill push: 0 Drill hand: 0 0 Drill holl: 0 Drill soni:

Not Reported Drill othe: Use domest: 1 Use irriga: 0 Use commun: 0 Use indust: 0 0 Use livest: Use dewate: 0 Use monito: 0 Use therma: 0 Use inject: 0 Use piezom: 0 Use observ: 0

0

Work deepe:

Use recove: Use other: Not Reported 0 Bentonite: 0 Conductivi: Not Reported Conducti00: Not Reported Measuremen: Not Reported Not Reported Well tag00: Bonded lic: 1592

Not Reported Unbonded I: Bonded dri: Not Reported CLAC Unbonded d: Not Reported County cod: Township: Tax lot: 104 2 Township c: S Range: 1 Ε 26 Range char: Sctn: Qtr40: NW SE Qtr160:

Latitude d: 45.37016000 -122.65152000 Longitude: Gps horizo: Not Reported Year const: Not Reported Date const: 2013-Date con00: Not Reported Deficienci: U Previous i: 0 Inspected: Not Reported Inspecte00: 118099

Wm region: Not Reported Inspecteou: 118099
Well tag a: Steel Band

Well tag01: DRL Depth: Not Reported Static wat: Not Reported Status of : CMP

Location r: Not Reported Site visit: Not Reported
Type of lo: W Casing cap: WLP

Pictures t: 0 Casing cap: WLP

Street of: Not Reported

Street oo: Not Reported

Last updt: 2014-01-09 09:11:57.160
Last upd00: plahnjm Rec creati: 2013-03-27 08:54:02.623

Rec crea00: plahnjm
Latitude: 45.37016

E13
North OR WELLS ORI500000053335

1/2 - 1 Mile
Higher

Fid: 53334 Well inspe: 0

-122.65152

ORI500000052991

Loongitude:

Site id:

 Fid:
 53334
 Well inspe:
 0

 Physical I:
 Not Reported
 Inspection:
 2013-06-04 00:00:00.000

Startcard : 209286 WI county : CLAC WI nbr: 69617 Startcar00: Not Reported

Well tag n: 11085 No log: 0 CMP Property o: Not Reported Inspecti00: Special st: Title: **WMR** 0 Inspecti01: NEW Witnesses: Not Reported

Name owner: DELAHUNT HOMES

 Street:
 1152
 City:
 WEST

 State:
 OR
 Zip:
 97068

 Phone home:
 Not Reported
 Phone comp:
 Not Reported

 Gps on wel:
 1
 Distance t:
 Not Reported

Gps on wel: 1 Distance t: Not Reported
Bearing to: Not Reported Drilling m: Not Reported

Use of wel: Not Reported Drilling00: 0
Rough log: 0 Well tag r: Not Reported

 Monitoring:
 Not Reported
 Monitori00:
 0

 Protective:
 0
 Well locke:
 0

 Consultant:
 0
 Water in v:
 0

 Seal test:
 PP
 Samples ta:
 0

1.90

6.00

Last updt:

Last upd00:

Rec crea00:

Loongitude:

Latitude:

Site id:

Casing dia: Csg above: Csg gauge: Not Reported Borehole d: 10.00 Dedicated: Access por: 0 Access p00: Not Reported Measuring: 1.90 Measurin00: 0 Depth belo: Not Reported Depth be00: Not Reported Tape hold: 0.00 Tape missi: 0.00 Tape cut: Not Reported Water leve: Not Reported Water le00: Not Reported Cascading: Pump type: Not Reported Pump make: Not Reported Pump hp: Not Reported Flowmeter: Not Reported Flowmete00: Not Reported Flowmete01: Not Reported Flowmete02: Not Reported Associated: Not Reported Nbr of hou: Not Reported Deficiency: Not Reported Not Reported Inspecti02: 0 Work new: Work deepe: Work conve: 0 Work alter: 0 Work aband: Work exist: 0 0 Work other: Not Reported Drill rota: 1 Drill ro00: Drill cabl: 0 Drill ca00: 0 Drill reve: 0 Drill re00: 0 Drill auge: 0 0 Drill push: 0 Drill hand: 0 0 Drill holl: Drill soni: Drill othe: Not Reported Use domest: 1 Use irriga: 0 Use commun: 0 0 Use indust: 0 Use livest: 0 0 Use dewate: Use monito: Use therma: 0 Use inject: 0 Use piezom: 0 Use observ: 0 Use recove: 0 Use other: Not Reported Not Reported Bentonite: 0 Conductivi: Not Reported Not Reported Conducti00: Measuremen: Well tag00: 110857 Bonded lic: 1592 Unbonded I: Not Reported Bonded dri: STEVE Unbonded d: Not Reported County cod: CLAC Not Reported Tax lot: Township: 2 Township c: S Range: 1 Range char: Ε Sctn: 26 Qtr160: Qtr40: SE NW 45.37016000 Latitude d: Longitude: -122.65154000 Gps horizo: Not Reported Year const: Not Reported Date const: 2013-Date con00: 2013-Deficienci: U Previous i: Inspected: Not Reported Inspecte00: 122818 Wm region: NW Well tag a: Band Well tag01: DRL Not Reported Depth: Static wat: Not Reported Status of: CMP Location r: Not Reported Site visit: Not Reported W Type of lo: Casing cap: PTL 1152 S ROSEMONT Pictures t: O Street of: Street o00: Not Reported

2013-06-06 08:36:05.323

Rec creati:

2013-06-06 08:38:05.180

constajw

constajw

45.37016

-122.65154

ORI500000053335

Map ID Direction Distance

Elevation Database EDR ID Number

East 1/2 - 1 Mile

14

OR WELLS ORI500000053334

1/2 - 1 Mile Lower

Fid: 53333 Well inspe: 0

Physical I: Not Reported Inspection: 2013-06-04 00:00:00.000

Startcard: CLAC 208221 WI county: 69447 WI nbr: Startcar00: Not Reported Well tag n: 11085 No log: Property o: Not Reported Inspecti00: CMP Special st: 0 Title: **WMR**

Inspection: NEW Witnesses: Not Reported

Name owner: PACIFIC LIFESTYLE HOMES

Street: 11875 City: **VANCO** WA Zip: 98682 State: Phone home: Not Reported Phone comp: Not Reported Gps on wel: Distance t: Not Reported Bearing to: Not Reported Drilling m: Not Reported

Use of wel: Not Reported Drilling00: 0

Rough log: 0 Well tag r: Not Reported

Not Reported Monitoring: Monitori00: 0 Protective: Well locke: 0 0 Consultant: 0 Water in v: 0 PP 0 Seal test: Samples ta: Casing dia: 6.00 Csg above: 1.50 Csg gauge: Not Reported Borehole d: 10.00 0

Dedicated: 0 Access por: 0
Access p00: Not Reported Measuring: 1.50

Measurin00: 0 Depth belo: Not Reported

Depth be00: Not Reported Tape hold: 0.00
Tape missi: 0.00 Tape cut: Not Reported

Water leve: Not Reported Water le00: Not Reported Cascading: 0 Pump type: Not Reported Pump make: Not Reported Pump hp: Not Reported Flowmeter: Not Reported Flowmete0: Not Reported

Flowmeter: Not Reported Flowmete00: Not Reported Flowmete01: Not Reported Flowmete02: Not Reported Associated: Not Reported Nbr of hou: Not Reported

Deficiency: Not Reported Inspectio2: Not Reported

Work new: 1 Work deepe:

0 0 Work conve: Work alter: Work aband: 0 Work exist: 0 Work other: Not Reported Drill rota: 1 Drill ro00: 0 Drill cabl: 0 0 Drill reve: 0

 Drill ca00:
 0
 Drill reve:
 0

 Drill re00:
 0
 Drill auge:
 0

 Drill push:
 0
 Drill hand:
 0

 Drill holl:
 0
 Drill soni:
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GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

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Qtr40: NE Latitude d: 45.35828000 Gps horizo: Not Reported Date const: 2013-Deficienci: U

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36 Sctn: NW Qtr160: Longitude: -122.63359000

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15 North 1/2 - 1 Mile Higher

> Fid: 7759 Objectid: CLAC 53765 Lstupdate: Logid: Establby: SABRINA WHITE Xysource: Horizerr: 250 Sourceorg:

Sourceowrd: **GWATER** 25565 Welltag: Sownum: 0

Recwell: 9 Lsdelev:

Latitude: 45.3719452903 -122.653996921 Longitude: Site id: ORW500000007760

ORW500000007760 **OR WELLS**

7866 12/23/2005 APPL MAP **OWRD** Waypoint: Not Reported

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Obsflagall: Not Reported

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: OR Radon

Radon Test Results

Zipcode	Num Tests	Maximum	Minimum	Average	# > 4 pCi/L
97068	30	25.5	0.1	4.5	11

Federal EPA Radon Zone for CLACKAMAS County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data Source: Oregon Geospatial Enterprise Office

Telephone: 503-378-2166

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data

Source: Department of Water Resources

Telephone: 503-986-0843

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations

Source: Department of Geology and Mineral Industries

Telephone: 971-673-1540

A listing of oil and gas well locations in the state.

RADON

State Database: OR Radon Source: Oregon Health Services Telephone: 503-731-4272 Radon Levels in Orgeon

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency

(USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor

radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared

in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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EXHIBIT C-2: GENERAL PUBLIC RECORDS

Not Applicable to This Report



APPENDIX D: CLIENT PROVIDED DOCUMENTATION

Not Applicable to This Document



APPENDIX E: LABORATORY REPORTS

Not Applicable to This Document



APPENDIX F: OTHER SUPPORTING DOCUMENTATION

Not Applicable to This Document



APPENDIX G: (UALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS
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Rodolfo Gómez

Staff Engineer

Education: Mechanical and Electrical Engineering Degree, University of

Veracruz, Xalapa, Mexico 1990

Relevant Training/Licensing: 2012-13 AHERA Asbestos Building Inspector

2010 State of Oregon Lead Risk Assessor

2010 State of Oregon Licensed Well Driller Trainee

Years of Experience: 15

Summary of Experience

Mr. Gomez has seven years of experience as an environmental professional with Alpha. He also possesses an extensive professional background as an engineer that includes training and experiencing in health and safety as well as environmental issues.

Mr. Gomez performs Phase I Environmental Site Assessments, asbestos and lead surveys, hazardous material identification and reporting, and storm water and drywell monitoring of commercial and residential properties. Mr. Gomez has also been involved in management and oversight of underground storage tank cleanup and decommissioning; installation of new aboveground storage tanks; and installation of vapor mitigation systems for Alpha. In addition, Mr. Gomez is licensed as a Lead Based Paint Risk Assessor with the State of Oregon, and as an AHERA Asbestos Building Inspector.

Prior to working with Alpha, Mr. Gomez was previously a Project Coordinator in the ship repair business for J. Ray McDermott, an international manufacturing and repair company, in large scale ship repair, ship conversion and off shore platform module fabrication. Mr. Gomez is currently a member of the Project Management Institute (PMI) and is up to date with the PMI Project Management practices

Mr. Gomez has also extensive managerial experience in the industrial field working for Vallourec Mannesmann Oil & Gas, a French-German seamless steel pipe production company, where he occupied positions as Buyer, Quality Superintendent and Chief of Methods (Engineering) Department in the company's Veracruz Pipe Threading Plant.

Areas of professional expertise also include Quality Assurance/Quality Control (ISO 9000 2000 & ISO 14000 Standards); Total Quality Management strategies implementation; Strategic Planning; Industrial Safety; Testing of Materials and Technical Documents translation Spanish-English-Spanish.



Real-World Geotechnical Solutions Investigation • Design • Construction Support

November 9, 2018 Project No. 18-5056

Eric Evans
Emerio Design
6445 SW Fallbrook Place, Suite 100
Beaverton, Oregon 97008
Via email: eric@emeriodesign.com

SUBJECT: GEOTECHNICAL REPORT

WEATHERHILL ROAD SUBDIVISION 22870 WEATHERHILL ROAD WEST LINN, OREGON

This report presents the results of a geotechnical engineering study conducted by GeoPacific Engineering, Inc. (GeoPacific) for the above-referenced project. The purpose of our investigation was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for site development. This geotechnical study was performed in accordance with GeoPacific Proposal No. P-6734, dated October 2, 2018, and your subsequent authorization of our proposal and *General Conditions for Geotechnical Services*.

SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The subject site is located on the south side of Weatherhill Road in West Linn, Clackamas County, Oregon (Figure 1). The property is approximately 2.6 acres in size and topography is gently to moderately sloping to the south at grades of approximately 5 to 30 percent. The site is currently occupied by one home and one outbuilding. Vegetation consists primarily of short grasses and dense to sparse trees.

It is our understanding that proposed development includes 13 lots for single family homes, construction of approximately 350 lineal feet of new streets, and associated underground utilities (Figure 2). The existing structures will be removed. A grading plan has not been provided for our review; however, we anticipate maximum cuts and fills will be on the order of 15 feet or less and may incorporate retaining walls.

REGIONAL AND LOCAL GEOLOGIC SETTING

The subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins.

The site is located on a south facing slope at elevations of approximately 575 to 635 feet above sea level. The subject site is underlain by the Miocene aged (about 14.5 to 16.5 million years ago) Columbia River Basalt Formation, which are a thick sequence of lava flows which form the crystalline basement of the Tualatin Valley (Beeson et al., 1989; Gannett and Caldwell, 1998). The basalts are composed of dense, finely crystalline rock that is commonly fractured along blocky and columnar vertical joints. Individual basalt flow units typically range from 25 to 125 feet thick and interflow zones are typically vesicular, scoriaceous, brecciated, and sometimes include sedimentary rocks.

REGIONAL SEISMIC SETTING

At least three major fault zones capable of generating damaging earthquakes are thought to exist in the vicinity of the subject site. These include the Portland Hills Fault Zone, the Gales Creek-Newberg-Mt. Angel Structural Zone, and the Cascadia Subduction Zone.

Portland Hills Fault Zone

The Portland Hills Fault Zone is a series of NW-trending faults that include the central Portland Hills Fault, the western Oatfield Fault, and the eastern East Bank Fault. These faults occur in a northwest-trending zone that varies in width between 3.5 and 5.0 miles. The combined three faults vertically displace the Columbia River Basalt by 1,130 feet and appear to control thickness changes in late Pleistocene (approx. 780,000 years) sediment (Madin, 1990). The Portland Hills Fault occurs along the Willamette River at the base of the Portland Hills, and is about 4.4 miles northeast of the site. The East Bank Fault is oriented roughly parallel to the Portland Hills Fault, on the east bank of the Willamette River, and is located approximately 8.6 miles northwest of the site. The Oatfield Fault occurs along the western side of the Portland Hills, and is about 3.6 miles northeast of the site. The Oatfield Fault is considered to be potentially seismogenic (Wong, et al., 2000). Madin and Mabey (1996) indicate the Portland Hills Fault Zone has experienced Late Quaternary (last 780,000 years) fault movement; however, movement has not been detected in the last 20,000 years. The accuracy of the fault mapping is stated to be within 500 meters (Wong, et al., 2000). No historical seismicity is correlated with the mapped portion of the Portland Hills Fault Zone, but in 1991 a M3.5 earthquake occurred on a NW-trending shear plane located 1.3 miles east of the fault (Yelin, 1992). Although there is no definitive evidence of recent activity, the Portland Hills Fault Zone is assumed to be potentially active (Geomatrix Consultants, 1995).

Gales Creek-Newberg-Mt. Angel Structural Zone

The Gales Creek-Newberg-Mt. Angel Structural Zone is a 50-mile-long zone of discontinuous, NW-trending faults that lies about 15.8 miles southwest of the subject site. These faults are recognized in the subsurface by vertical separation of the Columbia River Basalt and offset seismic reflectors in the overlying basin sediment (Yeats et al., 1996; Werner et al., 1992). A geologic reconnaissance and photogeologic analysis study conducted for the Scoggins Dam site in the Tualatin Basin revealed no evidence of deformed geomorphic surfaces along the structural zone (Unruh et al., 1994). No seismicity has been recorded on the Gales Creek Fault or Newberg Fault (the fault closest to the subject site); however, these faults are considered to be potentially active because they may connect with the seismically active Mount Angel Fault and the rupture plane of the 1993 M5.6 Scotts Mills earthquake (Werner et al. 1992; Geomatrix Consultants, 1995).

Cascadia Subduction Zone

The Cascadia Subduction Zone is a 680-mile-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continent at a rate of 4 cm per year (Goldfinger et al., 1996). A growing body of geologic evidence suggests that prehistoric subduction zone earthquakes have occurred (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). This evidence includes: (1) buried tidal marshes recording episodic, sudden subsidence along the coast of northern California, Oregon, and Washington, (2) burial of subsided tidal marshes by tsunami wave deposits, (3) paleoliquefaction features, and (4) geodetic uplift patterns on the Oregon coast. Radiocarbon dates on buried tidal marshes indicate a recurrence interval for major subduction zone earthquakes of 250 to 650 years with the last event occurring 300 years ago (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). The inferred seismogenic portion of the plate interface lies roughly along the Oregon coast at depths of between 20 and 40 miles.

SUBSURFACE CONDITIONS

Our site-specific exploration for this report was conducted on October 17, 2018. A total of 3 exploratory test pits were excavated with a backhoe to depths of 2.75 to 5 feet at the approximate locations indicated on Figure 2. It should be noted that test pit locations were located in the field by pacing or taping distances from apparent property corners and other site features shown on the plans provided. As such, the locations of the explorations should be considered approximate.

A GeoPacific Engineering Geologist continuously monitored the field exploration program and logged the test pits. Soils observed in the explorations were classified in general accordance with the Unified Soil Classification System (USCS). Rock hardness was classified in accordance with Table 1, modified from the ODOT Rock Hardness Classification Chart. During exploration, our geologist also noted geotechnical conditions such as soil consistency, moisture and groundwater conditions. Logs of test pits are attached to this report. The following report sections are based on the exploration program and summarize subsurface conditions encountered at the site.

Table 1. Rock Hardness Classification Chart

ODOT Rock Hardness Rating	Field Criteria	Unconfined Compressive Strength	Typical Equipment Needed For Excavation
Extremely Soft (R0)			Small excavator
Very Soft (R1)	Scratched by thumbnail, crumbled by rock hammer	100-1,000 psi	Small excavator
Soft (R2)	Not scratched by thumbnail, indented by rock hammer	1,000-4,000 psi	Medium excavator (slow digging with small excavator)
Medium Hard (R3)	Scratched or fractured by rock hammer	4,000-8,000 psi	Medium to large excavator (slow to very slow digging), typically requires chipping with hydraulic hammer or mass excavation)
Hard (R4)	Scratched or fractured w/ difficulty	8,000-16,000 psi	Slow chipping with hydraulic hammer and/or blasting
Very Hard (R5)	Not scratched or fractured after many blows, hammer rebounds	>16,000 psi	Blasting

Undocumented Fill: Undocumented fill was not encountered in our explorations. Our reconnaissance indicates that approximately 3 feet of undocumented fill may be present in the vicinity of the existing driveway and up to 10 feet of fill may be present to the south of the existing house and in the vicinity of the existing barn, as delineated on Figure 2. Explorations were not conducted in these areas due to access restraints. We anticipate other areas of fill may be present in the vicinity of the existing home and adjacent to Weatherhill Road.

Topsoil Horizon: Directly underlying the ground surface in test pits TP-1 through TP-3 was a topsoil horizon consisting of light brown, low to moderately organic silt (OL-ML). The topsoil horizon was generally loose, contained many fine roots, and extended to a depth of 9 to 12 inches.

Residual Soil: Underlying the topsoil horizon in test pits TP-1 through TP-3 was clayey silt (ML) to silty clay (CL) residual soil resulting from in-place weathering of the underlying Columbia River Basalt Formation. The light reddish brown silty clay to clayey silt contained trace weathered basalt fragments and was generally characterized by a very stiff consistency. In test pits, the residual soil extended to a depth of 2 to 4 feet.

Columbia River Basalt Formation: Underlying the residual soil in test pits TP-1 through TP-3 was weathered basalt belonging to the Columbia River Basalt Formation. Generally, the gray basalt was extremely soft (R0) to soft (R2) with trace light reddish brown silty clay to clayey silt matrix. Practical refusal was encountered on medium hard (R3) basalt at a depth of 2.75 to 5

feet in explorations all explorations. A larger machine would likely be able to excavate deeper depths. Table 2 presents the depths at which rock was first encountered in test pits and the depth at which practical refusal was achieved with a medium sized backhoe equipped with rock teeth.

Table 2. Depth of Basalt Bedrock Encountered in Explorations

Test Pit	Depth Rock First Encountered (feet)	Depth of Practical Refusal on Medium Hard (R3) Basalt (feet)	
TP-1	2	3	
TP-2	4 5		
TP-3	2	2.75	

Soil Moisture and Groundwater

On October 17, 2018, neither static groundwater nor groundwater seepage was encountered in test pits excavated to a maximum depth of 5 feet below the ground surface. Regional groundwater mapping indicates that static groundwater is present at a depth of approximately 260 to 280 feet below the ground surface (Snyder, 2008). Experience has shown that temporary storm related perched groundwater within the near surface soils often occur over fine-grained native deposits such as those beneath the site during the wet season and particularly in mottled soils such as were identified in the test pits. It is anticipated that groundwater conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors.

INFILTRATION TESTING

Infiltration testing was not performed due to encountering basalt bedrock. GeoPacific does not recommend infiltrating into bedrock due to limited storage volume.

CONCLUSIONS AND RECOMMENDATIONS

Our investigation indicates that the proposed development is geotechnically feasible, provided that the recommendations of this report are incorporated into the design and sufficient geotechnical monitoring is incorporated into the construction phases of the project. In our opinion, the greatest geotechnical issue for project completion is the depth of the bedrock beneath the site. Weathered basalt bedrock was encountered throughout the site and basalt was first encountered at depths of 2 to 4 feet. Practical refusal was encountered on medium hard (R3) basalt at depths of 2.75 to 5 feet. A larger excavator may be able to achieve greater depths; however, difficult excavating conditions should be expected.

Site Preparation

Areas of proposed buildings, new streets, and areas to receive fill should be cleared of vegetation and any organic and inorganic debris. Existing buried structures, should be demolished and any cavities structurally backfilled. Inorganic debris and organic materials from clearing should be removed from the site. Existing fill and any organic-rich topsoil should then be stripped from construction areas of the site or where engineered fill is to be placed. Fill was not encountered in our explorations; however, our reconnaissance indicates that fill is likely present in the vicinity of the existing home, driveway, and barn and potentially along Weatherhill Road.

Organic-rich topsoil should then be stripped from native soil areas of the site. The estimated depth range necessary for removal of topsoil in cut and fill areas is approximately 6 to 9 inches, respectively. The final depth of soil removal will be determined on the basis of a site inspection after the stripping/excavation has been performed. Stripped topsoil should preferably be removed from the site due to the high density of the proposed development. Any remaining topsoil should be stockpiled only in designated areas and stripping operations should be observed and documented by the geotechnical engineer or his representative.

Any remaining undocumented fills and subsurface structures (tile drains, basements, driveway and landscaping fill, old utility lines, septic leach fields, etc.) should be removed and the excavations backfilled with engineered fill.

Once stripping of a particular area is approved, the area must be ripped or tilled to a depth of 12 inches, moisture conditioned, root-picked, and compacted in-place prior to the placement of engineered fill or crushed aggregate base for pavement. Exposed subgrade soils should be evaluated by the geotechnical engineer. For large areas, this evaluation is normally performed by proof-rolling the exposed subgrade with a fully loaded scraper or dump truck. For smaller areas where access is restricted, the subgrade should be evaluated by probing the soil with a steel probe. Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition, over-excavated and replaced with engineered fill (as described below), or stabilized with rock prior to placement of engineered fill. The depth of overexcavation, if required, should be evaluated by the geotechnical engineer at the time of construction.

Engineered Fill

All grading for the proposed development should be performed as engineered grading in accordance with the applicable building code at time of construction with the exceptions and additions noted herein. Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Imported fill material must be approved by the geotechnical engineer prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

Engineered fill should be compacted in horizontal lifts not exceeding 8 inches using standard compaction equipment. We recommend that engineered fill be compacted to at least 95% of the maximum dry density determined by ASTM D698 (Standard Proctor) or equivalent. Field density testing should conform to ASTM D2922 and D3017, or D1556. All engineered fill should be observed and tested by the project geotechnical engineer or his representative. Typically,

one density test is performed for at least every 2 vertical feet of fill placed or every 500 yd³, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency.

Site earthwork will be impacted by soil moisture and shallow groundwater conditions. Earthwork in wet weather would likely require extensive use of cement or lime treatment, or other special measures, at a considerable additional cost compared to earthwork performed under dryweather conditions.

Keyways and Benching For Engineered Fill on Slopes

Engineered fill to be placed in sloping areas inclining steeper than 20% grade should be constructed on a keyway and benches in accordance with the typical design shown in Figure 3. Keyways should have a minimum depth of 2 feet and minimum width of 10 feet. Additional removals of potentially unstable soils may be required depending on conditions observed during construction. Both benches and keyways should be roughly horizontal in the down slope direction, but may slope up to 20% grade along topographic contour. Keyways sloping more than 20% grade along topographic contour should be benched.

The keyway should include a subdrain consisting of a minimum 3-inch diameter, ADS Heavy Duty grade (or equivalent), perforated plastic pipe enveloped in a minimum of 3 cubic feet per lineal foot of 2"-½", open-graded gravel drain rock wrapped with geotextile filter fabric (Mirafi 140N or equivalent). GeoPacific should inspect keyways, subdrains and benching prior to fill placement. Areas of potential seepage observed during construction may require a rock blanket drain in the keyway bottom.

We recommend that permanent fill and cut slopes be constructed no steeper than 2H:1V (50% grade). Fill slopes should be overbuilt a minimum of 3 feet horizontally beyond finish grade and then trimmed back to finish grade as shown on Figure 3 in order to achieve a well compacted slope face.

Excavating Conditions and Utility Trenches

We anticipate that on-site soils can be excavated using conventional heavy equipment such as scrapers and trackhoes. Weathered basalt bedrock was encountered in test pits throughout the site at depths of 2 to 4 feet and practical refusal was encountered on medium hard (R3) basalt at depths of 2.75 to 5 feet. A larger excavator may be able to achieve greater depths.

All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926), or be shored. The existing native soil is classified as Type B Soil and temporary excavation side slope inclinations as steep as 1H:1V may be assumed for planning purposes. This cut slope inclination is applicable to excavations above groundwater seepage zones only. Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions.

Saturated soils and groundwater may be encountered in utility trenches, particularly during the wet season. We anticipate that dewatering systems consisting of ditches, sumps and pumps would be adequate for control of perched groundwater. Regardless of the dewatering system

used, it should be installed and operated such that in-place soils are prevented from being removed along with the groundwater.

Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

PVC pipe should be installed in accordance with the procedures specified in ASTM D2321. We recommend that trench backfill be compacted to at least 95% of the maximum dry density obtained by Modified Proctor ASTM D1557 or equivalent. Initial backfill lift thickness for a ¾"-0 crushed aggregate base may need to be as great as 4 feet to reduce the risk of flattening underlying flexible pipe. Subsequent lift thickness should not exceed 1 foot. If imported granular fill material is used, then the lifts for large vibrating plate-compaction equipment (e.g. hoe compactor attachments) may be up to 2 feet, provided that proper compaction is being achieved and each lift is tested. Use of large vibrating compaction equipment should be carefully monitored near existing structures and improvements due to the potential for vibration-induced damage.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, one density test is taken for every 4 vertical feet of backfill on each 200-lineal-foot section of trench.

Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion except in areas of moderately sloping topography. In our opinion, the primary concern regarding erosion potential will occur during construction, in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw wattles and silt fences. If used, these erosion control devices should be in place and remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

Wet Weather Earthwork

Soils underlying the site are likely to be moisture sensitive and may be difficult to handle or traverse with construction equipment during periods of wet weather. Earthwork is typically most economical when performed under dry weather conditions. Earthwork performed during the wet-weather season will probably require expensive measures such as cement treatment or imported granular material to compact fill to the recommended engineering specifications. If earthwork is to be performed or fill is to be placed in wet weather or under wet conditions when soil moisture content is difficult to control, the following recommendations should be incorporated into the contract specifications:

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soils should be followed promptly by the placement and compaction of clean engineered fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance. Under some circumstances, it may be necessary to excavate soils with a backhoe to minimize subgrade disturbance caused by equipment traffic;
- > The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water;
- Material used as engineered fill should consist of clean, granular soil containing less than 5 percent fines. The fines should be non-plastic. Alternatively, cement treatment of on-site soils may be performed to facilitate wet weather placement;
- ➤ The ground surface within the construction area should be sealed by a smooth drum vibratory roller, or equivalent, and under no circumstances should be left uncompacted and exposed to moisture. Soils which become too wet for compaction should be removed and replaced with clean granular materials;
- Excavation and placement of fill should be observed by the geotechnical engineer to verify that all unsuitable materials are removed and suitable compaction and site drainage is achieved; and
- Geotextile silt fences, straw wattles, and fiber rolls should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, GeoPacific should be contacted to provide additional recommendations and field monitoring.

Pavement Design

For design purposes, we used an estimated resilient modulus of 9,000 for compacted native soil. Table 3 presents our recommended minimum pavement section for dry weather construction.

Table 3. Recommended Minimum Dry-Weather Pavement Section

Material Layer	Light-duty Public Streets	Private Driveways	Compaction Standard
Asphaltic Concrete (AC)	3 in.	2.5 in.	92% of Rice Density AASHTO T-209
Crushed Aggregate Base 3/4"- 0 (leveling course)	2 in.	2 in.	95% of Modified Proctor AASHTO T-180
Crushed Aggregate Base 1½"-0	8 in.	6 in.	95% of Modified Proctor AASHTO T-180
Subgrade	12 in.	12 in.	95% of Standard Proctor AASHTO T-99 or equivalent

Any pockets of organic debris or loose fill encountered during ripping or tilling should be removed and replaced with engineered fill (see *Site Preparation* Section). In order to verify subgrade strength, we recommend proof-rolling directly on subgrade with a loaded dump truck

during dry weather and on top of base course in wet weather. Soft areas that pump, rut, or weave should be stabilized prior to paving. If pavement areas are to be constructed during wet weather, the subgrade and construction plan should be reviewed by the project geotechnical engineer at the time of construction so that condition-specific recommendations can be provided. The moisture sensitive subgrade soils make the site a difficult wet weather construction project.

During placement of pavement section materials, density testing should be performed to verify compliance with project specifications. Generally, one subgrade, one base course, and one asphalt compaction test is performed for every 100 to 200 linear feet of paving.

Spread Foundations

The proposed residential structures may be supported on shallow foundations bearing on competent undisturbed, native soils and/or engineered fill, appropriately designed and constructed as recommended in this report. Foundation design, construction, and setback requirements should conform to the applicable building code at the time of construction. For maximization of bearing strength and protection against frost heave, spread footings should be embedded at a minimum depth of 12 inches below exterior grade. The recommended minimum widths for continuous footings supporting wood-framed walls without masonry are 12 inches for single-story, 15 inches for two-story, and 18 inches for three-story structures. Minimum foundation reinforcement should consist of a No. 4 bar at the tops of stem walls, and a No. 4 bar at the bottom of footings. Concrete slab-on-grade reinforcement should consist of No. 4 bars placed on 24-inch centers in a grid pattern.

The anticipated allowable soil bearing pressure is 1,500 lbs/ft² for footings bearing on competent, native soil and/or engineered fill. A maximum chimney and column load of 30 kips is recommended for the site. The recommended maximum allowable bearing pressure may be increased by 1/3 for short-term transient conditions such as wind and seismic loading. For heavier loads, the geotechnical engineer should be consulted. The coefficient of friction between on-site soil and poured-in-place concrete may be taken as 0.40, which includes no factor of safety. The maximum anticipated total and differential footing movements (generally from soil expansion and/or settlement) are 1 inch and ¾ inch over a span of 20 feet, respectively. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied. Excavations near structural footings should not extend within a 1H:1V plane projected downward from the bottom edge of footings.

Footing excavations should penetrate through topsoil and any loose soil to competent subgrade that is suitable for bearing support. All footing excavations should be trimmed neat, and all loose or softened soil should be removed from the excavation bottom prior to placing reinforcing steel bars. Due to the moisture sensitivity of on-site native soils, foundations constructed during the wet weather season may require overexcavation of footings and backfill with compacted, crushed aggregate.

Our recommendations are for house construction incorporating raised wood floors and conventional spread footing foundations. If living space of the structures will incorporate basements, a geotechnical engineer should be consulted to make additional recommendations for retaining walls, water-proofing, underslab drainage and wall subdrains. After site development, a Final Soil Engineer's Report should either confirm or modify the above recommendations.

Permanent Below-Grade Walls

Lateral earth pressures against below-grade retaining walls will depend upon the inclination of any adjacent slopes, type of backfill, degree of wall restraint, method of backfill placement, degree of backfill compaction, drainage provisions, and magnitude and location of any adjacent surcharge loads. At-rest soil pressure is exerted on a retaining wall when it is restrained against rotation. In contrast, active soil pressure will be exerted on a wall if its top is allowed to rotate or yield a distance of roughly 0.001 times its height or greater.

If the subject retaining walls will be free to rotate at the top, they should be designed for an active earth pressure equivalent to that generated by a fluid weighing 35 pcf for level backfill against the wall. For restrained wall, an at-rest equivalent fluid pressure of 55 pcf should be used in design, again assuming level backfill against the wall. These values assume that drainage provisions are incorporated, free draining gravel backfill is used, and hydrostatic pressures are not allowed to develop against the wall.

During a seismic event, lateral earth pressures acting on below-grade structural walls will increase by an incremental amount that corresponds to the earthquake loading. Based on the Mononobe-Okabe equation and peak horizontal accelerations appropriate for the site location, seismic loading should be modeled using the active or at-rest earth pressures recommended above, plus an incremental rectangular-shaped seismic load of magnitude 6.5H, where H is the total height of the wall.

We assume relatively level ground surface below the base of the walls. As such, we recommend passive earth pressure of 320 pcf for use in design, assuming wall footings are cast against competent native soils or engineered fill. If the ground surface slopes down and away from the base of any of the walls, a lower passive earth pressure should be used and GeoPacific should be contacted for additional recommendations.

A coefficient of friction of 0.42 may be assumed along the interface between the base of the wall footing and subgrade soils. The recommended coefficient of friction and passive earth pressure values do not include a safety factor, and an appropriate safety factor should be included in design. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

The above recommendations for lateral earth pressures assume that the backfill behind the subsurface walls will consist of properly compacted structural fill, and no adjacent surcharge loading. If the walls will be subjected to the influence of surcharge loading within a horizontal distance equal to or less than the height of the wall, the walls should be designed for the additional horizontal pressure. For uniform surcharge pressures, a uniformly distributed lateral pressure of 0.3 times the surcharge pressure should be added. Traffic surcharges may be estimated using an additional vertical load of 250 psf (2 feet of additional fill), in accordance with local practice.

The recommended equivalent fluid densities assume a free-draining condition behind the walls so that hydrostatic pressures do not build-up. This can be accomplished by placing a 12 to 18-inch wide zone of sand and gravel containing less than 5 percent passing the No. 200 sieve against the walls. A 3-inch minimum diameter perforated, plastic drain pipe should be installed at the base of the walls and connected to a suitable discharge point to remove water in this zone of sand and gravel. The drain pipe should be wrapped in filter fabric (Mirafi 140N or other as approved by the geotechnical engineer) to minimize clogging.

Wall drains are recommended to prevent detrimental effects of surface water runoff on foundations – not to dewater groundwater. Drains should not be expected to eliminate all potential sources of water entering a basement or beneath a slab-on-grade. An adequate grade to a low point outlet drain in the crawlspace is required by code. Underslab drains are sometimes added beneath the slab when placed over soils of low permeability and shallow, perched groundwater.

Water collected from the wall drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. Down spouts and roof drains should not be connected to the wall drains in order to reduce the potential for clogging. The drains should include clean-outs to allow periodic maintenance and inspection. Grades around the proposed structure should be sloped such that surface water drains away from the building.

GeoPacific should be contacted during construction to verify subgrade strength in wall keyway excavations, to verify that backslope soils are in accordance with our assumptions, and to take density tests on the wall backfill materials.

Structures should be located a horizontal distance of at least 1.5H away from the back of the retaining wall, where H is the total height of the wall. GeoPacific should be contacted for additional foundation recommendations where structures are located closer than 1.5H to the top of any wall.

Seismic Design

The Oregon Department of Geology and Mineral Industries (Dogami), Oregon HazVu: 2018 Statewide GeoHazards Viewer indicates that the site is in an area where *very strong* ground shaking is anticipated during an earthquake. Structures should be designed to resist earthquake loading in accordance with the methodology described in the 2015 International Building Code (IBC) with applicable Oregon Structural Specialty Code (OSSC) revisions (current 2014). We recommend Site Class C be used for design per the OSSC, Table 1613.5.2 and as defined in ASCE 7, Chapter 20, Table 20.3-1. Design values determined for the site using the USGS (United States Geological Survey) 2016 Seismic Design Maps Summary Report are summarized in Table 4, presented on the following page, and are based upon existing soil conditions.

Table 4. Recommended Earthquake Ground Motion Parameters (2010 ASCE-7)

Parameter	Value
Location (Lat, Long), degrees	45.359, -122.651
Mapped Spectral Acceleration Values	(MCE):
Peak Ground Acceleration PGA _M	0.413
Short Period, S _s	0.951 g
1.0 Sec Period, S ₁	0.409 g
Soil Factors for Site Class D:	
F _a	1.020
F _v	1.391
Residential Site Value = 2/3 x F _a x S _s	0.646 g
Residential Seismic Design Category	С

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Soil liquefaction is generally limited to loose, granular soils located below the water table. According to the Oregon HazVu: Statewide Geohazards Viewer, the subject site is regionally characterized as having no risk of soil liquefaction (DOGAMI:HazVu, 2018).

Footing and Roof Drains

Construction should include typical measures for controlling subsurface water beneath the homes, including positive crawlspace drainage to an adequate low-point drain exiting the foundation, visqueen covering the exposed ground in the crawlspace, and crawlspace ventilation (foundation vents). The homebuyers should be informed and educated that some slow flowing water in the crawlspaces is considered normal and not necessarily detrimental to the home given these other design elements incorporated into its construction. Appropriate design professionals should be consulted regarding crawlspace ventilation, building material selection and mold prevention issues, which are outside GeoPacific's area of expertise.

Down spouts and roof drains should collect roof water in a system separate from the footing drains to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point and storm system well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

If the proposed structures will have a raised floor, and no concrete slab-on-grade floors in living spaces are used, perimeter footing drains would not be required based on soil conditions encountered at the site and experience with standard local construction practices. Where it is desired to reduce the potential for moist crawl spaces, footing drains may be installed. If concrete slab-on-grade floors are used, perimeter footing drains should be installed as recommended below.

Where necessary, perimeter footing drains should consist of 3 or 4-inch diameter, perforated plastic pipe embedded in a minimum of 1 ft³ per lineal foot of clean, free-draining drain rock. The drain pipe and surrounding drain rock should be wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. A minimum 0.5 percent fall should be maintained throughout the drain and non-

22870 Weatherhill Road Subdivision Project No. 18-5056

perforated pipe outlet. In our opinion, footing drains may outlet at the curb, or on the back sides of lots where sufficient fall is not available to allow drainage to meet the street.

UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, GeoPacific should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. The checklist attached to this report outlines recommended geotechnical observations and testing for the project. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, GeoPacific attempted to execute these services in accordance with generally accepted professional principles and practices in the fields of geotechnical engineering and engineering geology at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.

We appreciate this opportunity to be of service.

Sincerely,

GEOPACIFIC ENGINEERING, INC.

Beth K. Rapp, C.E.G.

Senior Engineering Geologist

EXPIRES: 06/30/20/9

James D. Imbrie, P.E., G.E.
Principal Geotechnical Engineer

Attachments: References

Checklist of Recommended Geotechnical Testing and Observation

Figure 1 – Vicinity Map

Figure 2 – Site and Exploration Plan

Figure 3 – Fill Slope Detail Test Pit Logs (TP-1 – TP-3)

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CHECKLIST OF RECOMMENDED GEOTECHNICAL TESTING AND OBSERVATION

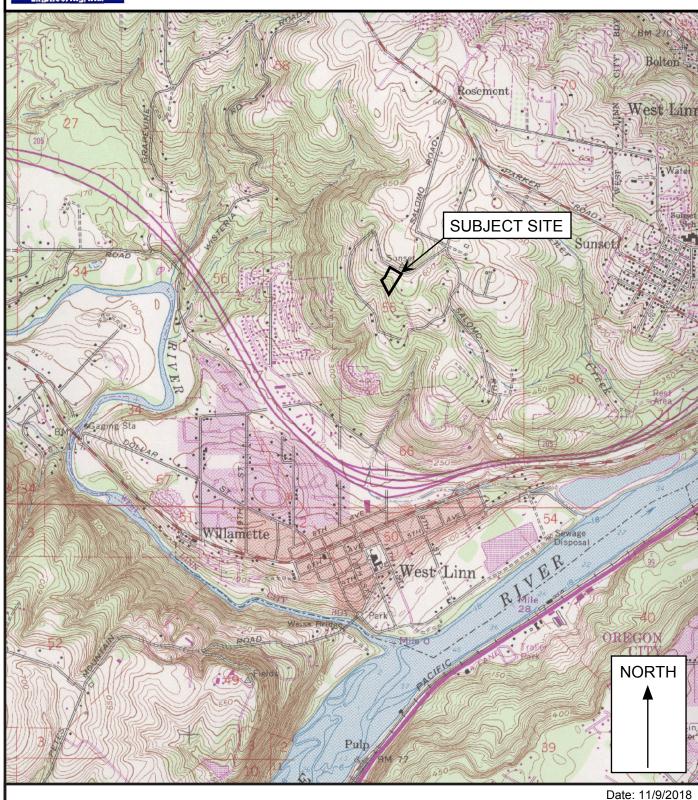
Item No.	Procedure	Timing	By Whom	Done
1	Preconstruction meeting	Prior to beginning site work	Contractor, Developer, Civil and Geotechnical Engineers	
2	Fill removal from site or sorting and stockpiling	Prior to mass stripping	Soil Technician/ Geotechnical Engineer	
3	Stripping, aeration, and root-picking operations	During stripping	Soil Technician	
4	Compaction testing of engineered fill (90% of Modified Proctor)	During filling, tested every 2 vertical feet	Soil Technician	
5	Compaction testing of trench backfill (95% of Standard Proctor)	During backfilling, tested every 4 vertical feet for every 200 lineal feet	Soil Technician	
6	Street Subgrade Compaction (95% of Standard Proctor)	Prior to placing base course	Soil Technician	
7	Base course compaction (95% of Modified Proctor)	Prior to paving, tested every 200 lineal feet	Soil Technician	
8	AC Compaction (92% (bottom lift) / 92% (top lift) of Rice)	During paving, tested every 200 lineal feet	Soil Technician	
9	Final Geotechnical Engineer's Report	Completion of project	Geotechnical Engineer	



14835 SW 72nd Avenue Portland, Oregon 97224

Tel: (503) 598-8445 Fax: (503) 941-9281

VICINITY MAP



Legend

Approximate Scale 1 in = 2,000 ft

Drawn by: EKR

Base map: U.S. Geological Survey 7.5 minute Topographic Map Series, Canby, Oregon Quadrangle, 1961 (Photorevised 1985).

Project: 22870 Weatherhill Road Subdivision

West Linn, Oregon

Project No. 18-5062

8/21/19 PO Meeting 317

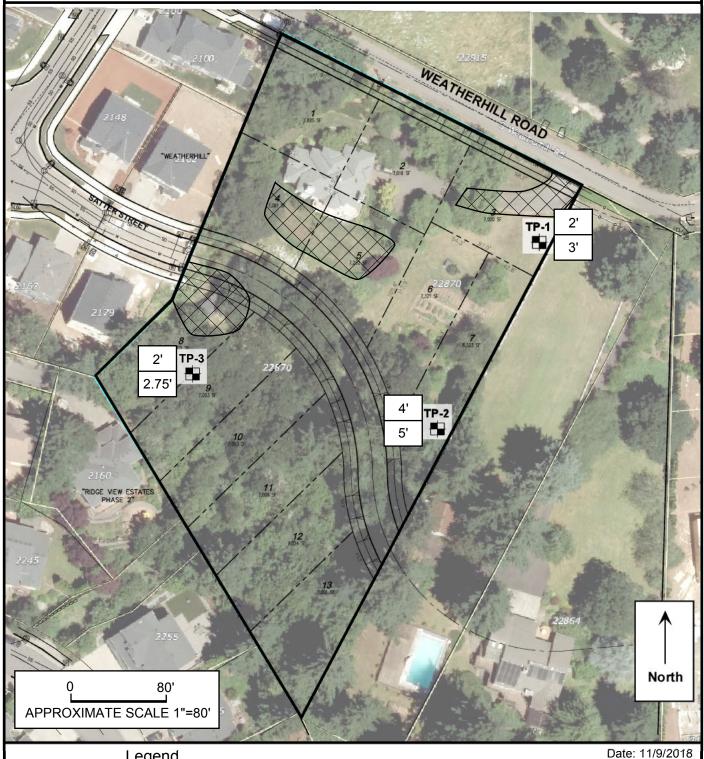
FIGURE 1



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SITE PLAN AND **EXPLORATION LOCATIONS**



Legend TP-1

Test Pit Designation and Approximate Location

Drawn by: EKR

2.5' 5'

2.5' = Depth at Which Rock is First Encountered

5' = Depth of Practical Refusal on Rock



Area of Potential Fill based on Reconnaissance

Project: 22870 Weatherhill Road Subdivision West Linn, Oregon

Project No. 18-5062 /19 PC Meeting 318



14835 SW 72nd Avenue Portland, Oregon 97224

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TEST PIT LOG

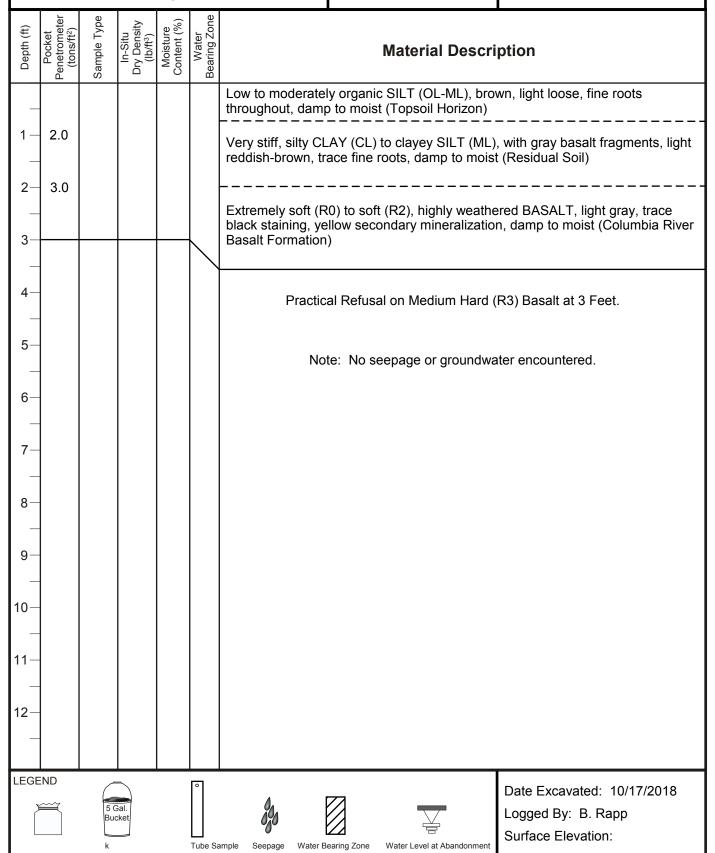
Project: 22870 Weatherhill Road Subdivision

West Linn, Oregon

Project No. 18-5062

Test Pit No.

TP-1





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TEST PIT LOG

Project: 22870 Weatherhill Road Subdivision

West Linn, Oregon

Project No. 18-5062

Test Pit No. **TP-2**

	•	77 331 2, 37 3gan						
Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (Ib/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description		
1-	2.5					Moderately organic SILT (OL-ML), dark brown, loose, fine and large roots throughout, damp (Topsoil Horizon)		
2- 2- 3- -	4.5 4.5					Very stiff, silty CLAY (CL) to clayey SILT (ML), trace gray basalt fragments, light reddish-brown, subtle orange and gray mottling, trace fine roots, damp to moist (Residual Soil)		
4- - 5-	4.5					silt matrix, light gra	veathered BASALT, trace rec ay, trace black staining, yello olumbia River Basalt Formati	ddish-brown silty clay to clayey w secondary mineralization, on)
6-						Practi	cal Refusal on Medium Hard	(R3) Basalt at 5 Feet.
7—						N	ote: No seepage or groundw	vater encountered.
8-								
9-								
10— —								
11- 12-								
_								
LEGE	END		Gal. cket		o Tube Sa	ample Seepage Water Be	earing Zone Water Level at Abandonment	Date Excavated: 10/17/2018 Logged By: B. Rapp Surface Elevation:



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TEST PIT LOG

Project: 22870 Weatherhill Road Subdivision

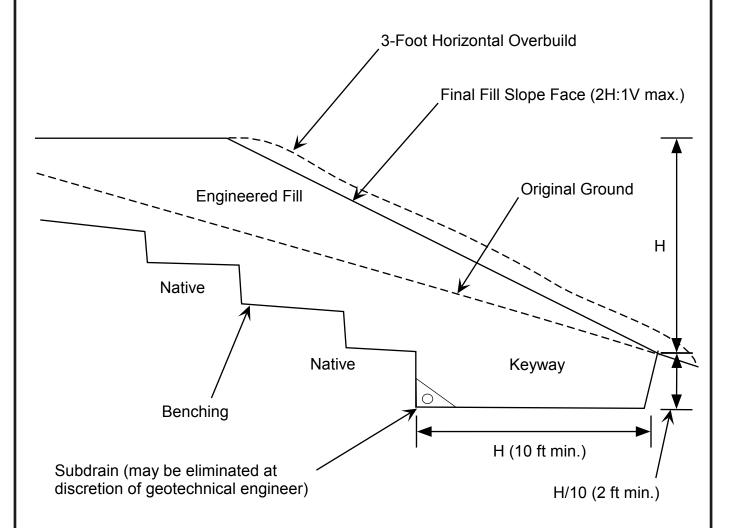
West Linn, Oregon

Project No. 18-5062

Test Pit No. **TP-3**

Woot Elilli, Grogori					•			
Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (Ib/ft³)	Moisture Content (%)	Water Bearing Zone		Material De	escription
_							y organic SILT (OL-ML) to moist (Topsoil Horiz), brown, light loose, fine roots zon)
1-	4.5						AY (CL) to clayey SILT ace fine roots, damp to	(ML), with gray basalt fragments, light moist (Residual Soil)
2-	4.5							ered BASALT, light gray, trace black n, damp to moist (Columbia River Basalt
-						Formation)		
4-						Practical	Refusal on Medium Ha	ard (R3) Basalt at 2.75 Feet.
5-						Not	e: No seepage or grou	undwater encountered.
6-								
7-								
8-								
9-								
10-								
_ 11_								
_ 12-								
_								
LEGE	END	5 C Buc			o Tube Sa	ample Seepage Water Bo	earing Zone Water Level at Abando	Date Excavated: 10/17/2018 Logged By: B. Rapp Surface Elevation:

TYPICAL KEYWAY, BENCHING & FILL SLOPE DETAIL



Recommended subdrain is minimum 3-inch-diameter ADS Heavy Duty grade (or equivalent), perforated plastic pipe enveloped in a minimum of 3 cubic feet per lineal foot of 2" to 1/2" open-graded gravel drain rock wrapped with geotextile filter fabric (Mirafi 140N or equivalent).

Project: 22870 Weatherhill Road Subdivision West Linn, Oregon

Project No. 18-5056

FIGURE 3



CIVIL ENGINEERS & PLANNERS

Stormwater Management Report Weatherhill Road Subdivision 12-Lot Subdivision at 22870 Weatherhill Road West Linn, Oregon

Emerio Project Number: 463-003

City of West Linn Permit Numbers: TBD

Date: 12/19/2018



Prepared For: Rod Friesen & Bob Schultz 22870 Weatherhill, LLC 12810 SW Morningstar Dr. Tigard, OR 97223 rod.friesen@frontier.com duke.pdx@gmail.com Prepared By: Eric Evans, PE Emerio Design, LLC 6445 SW Fallbrook PI, Suite 100 Beaverton, Oregon 97008 eric@emeriodesign.com (503) 746-8812

Table of Contents:

APPENDIX A

(1) Vicinity Map

APPENDIX B

(1) Soils Maps-"Soils Survey for Multnomah County"

APPENDIX C

- (1) Basin Area Tabulated Data
- (2) Online Presumptive Approach Calculator (PAC) Output
- (3) HydroCAD Output Conveyance Storm Flows

APPENDIX D

- (1) Pre-Developed Site Map
- (2) Post-Developed Site Map

Project Overview and Description:

Size and location of project site (vicinity map):

The current site is located in the south part of West Linn on the south side of Weatherhill Road, approximately 120 feet east of the intersection of Satter Street & Weatherhill Road. One large lot will be divided into 12 lots. The proposed site is 2.57 acres and will encompass roughly 45,105 SF of impervious onsite improvements and 6,560 SF offsite impervious improvement. Reference the vicinity map provided in Appendix A(1).

Property Zoning: The property is zoned R7 (Residential 7,000 SF lots).

Type of Development/Proposed Improvements: The proposed development will consist of a public street, a tract for stormwater, and new homes and driveways will be constructed on each lot.

Existing vs. post-construction conditions: the current (existing) site condition consists of an under-developed forested lot with one house, attached garage, and associated driveway.

Watershed Description: The site drainage area presently sheet flows south toward adjacent lots and into Crestview Drive. There is an existing ephemeral stream/drainage at the south line of the site along the middle of the property line where onsite flows collect and flow south through an existing easement to a culvert routing under Crestview Drive. In the post-developed condition, the site impervious flows will be treated onsite and discharged at the existing ephemeral stream location. Drainage basin areas are shown in Appendix D(2).

Soil Classification:

The NRCS soil survey of Clackamas County, Oregon classifies the onsite soils as Cascade-urban land complex soil. The associated hydrologic group of this soil is C, see Appendix B(1). A curve number of 74 is used for pre-developed pervious surfaces and 98 and 86 are used for impervious and pervious surfaces.

Methodology:

This project proposes on lot LIDA flow-through planter boxes to address private stormwater requirements, and Green Streets flow-through planters to address public ROW stormwater requirements. The proposed grading will retain the general existing drainage pattern for pervious areas of the site. ROW planters and private LIDA planters will all be routed to the same discharge location at the existing southwest ephemeral stream drainage.

Water Quality

Water quality will be achieved by means of a city of Portland planter boxes sized using the online Presumptive Approach Calculator (PAC). Stormwater runoff will enter the planter boxes by curb inlets and filter through an 18" layer of amended soil before reaching a 12" section of drain rock and a perf pipe to be routed offsite (see attached detail Appendix D(3). The planter boxes are concrete/lined to prevent infiltration into native soil. The pollution reduction event (water quality) is shown to

be satisfied when using the online analysis tool provided by the city of Portland. See Quantity Control/Detention and Appendix C(2) for sizing of the planter boxes.

Quantity Control/Detention

As required by the City of West Linn, detention was analyzed for the 2, 5, 10, and 25-year design storms.

Satter St. North ROW LIDA Facilities Area: 675 SF x 1.5 = 1,012 SF						
Return Pre-Developed Post-Developed Planter Discharge (CFS) (CFS)						
2-Year	½ of 0.016	0.031				
5-Year	0.031	0.031				
10-Year	0.048	0.031				
25-Year	0.067	0.061				

Satter St. South ROW LIDA Facilities Area: 585 SF x 1.5 = 878 SF						
Return Period	Pre-Developed (CFS)	Post-Developed Planter Discharge (CFS)				
2-Year	½ of 0.012	0.025				
5-Year	0.024	0.024				
10-Year	0.037	0.025				
25-Year	0.052	0.047				

Note from the table above, that while the 2-year post developed rate exceeds the pre-developed $\frac{1}{2}$ of the 2-year rate shown in the PAC results, it has been determined by BES staff that there is a glitch in the PAC calculator that does not properly analyze the lesser detention storm events and they have reasoned this is acceptable provided that the 10 and 25-year storm events pass requirements. This design passes the 5-year through 25-year events.

The surface area of planter resulting from the PAC analysis was increased by a design factor of 1.5 per city of West Linn staff guidelines. Reference Appendix C(2) for online PAC output results.

Stormwater Conveyance

Onsite conveyance will be by means of 12" storm water pipe from Satter Street routing all the way to the discharge point in the existing utility easement south of this site. For conservatism, the total discharge flow rate from proposed stormwater pipe was used to analyze the lowest potential pipe design slope at 0.5%. See Appendix C(3) for HydroCAD flow rates used.

Analysis:

The following design assumptions were utilized in this design.

Design Storm:

*Water quality storm = **0.83"** in **24** hours *2-year 24-hour storm = **2.4"** in **24** hours *5-year 24-hour storm = **2.9"** in **24** hours *10-year 24-hour storm = **3.4"** in **24** hours

*25-year 24-hour storm = **3.9"** in **24** hours

Conveyance: 25-year 24-hour storm = **3.9"** in **24** hours (West Linn)

Computation methods and software utilized in the design were from the online PAC and HydroCAD V-10.

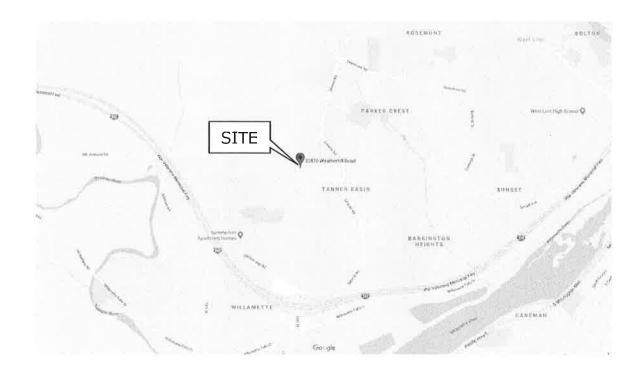
Curve numbers utilized in the design were 98 for impervious areas, 86 for pervious areas, and 74 for predeveloped pervious areas.

Engineering Conclusions:

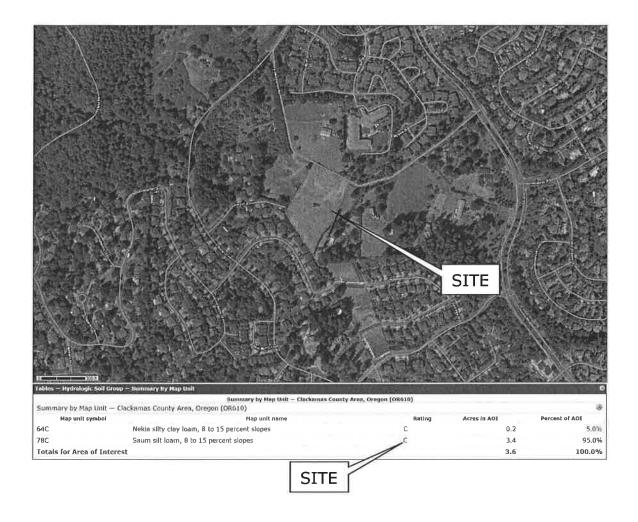
The design of the proposed stormwater management facilities satisfies the pollution reduction, conveyance and detention standards required by the 2010 City of West Linn Public Works Design Standards.

^{*}Note that City of Portland design storms are listed since the online PAC was used.

Appendix A:



Appendix B:



Appendix C:

								Total
		Total	Total	Qty of	Lot	ROW/Tract	Total	Pervious
Basin #	Name	Area	Area	Lots	Impervious	Imp	Impervious	(Calc'd)
		SF	Acres		SF	SF	SF	SF
101	North	8,552	0.20	0	0	8,552	8,552	0
102	South	6,553	0.15	0	0	6,553	6,553	0
103	Lots	30,000	0.69	12	30,000	0	30,000	0

APPENDIX C(Z)

PAC Report

Project Name

Weatherhill Rd

Permit No.

Created

12/3/18 10:48 AM

Project Address

22870 Weatherhill Rd West Linn, OR 97068 Designer

Emerio Design

Last Modified

12/19/18 2:01 PM

Company

Emerio Design

Report Generated

12/19/18 2:01 PM

Project Summary

12 Lot Subdivision

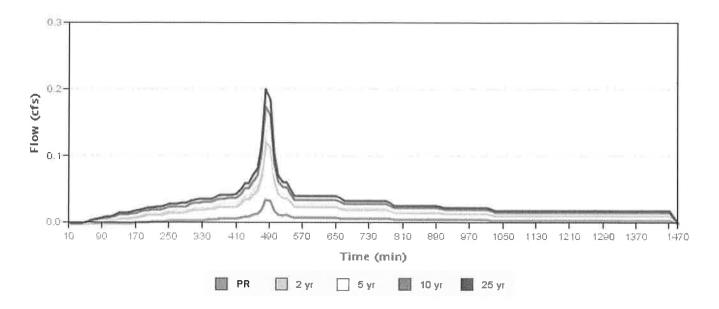
Catchment Name	Impervious Area (sq ft)	Native Soil Design Infiltration Rate	Hierarchy Category	Facility Type	Facility Config	Facility Size (sq ft)	Facility Sizing Ratio	PR Results	Flow Control Results
North	8552	0.01	3	Planter (Sloped)	D		7.9%	Pass	Fail
South	6553	0.10	3	Planter (Sloped)	D		8.9%	Pass	Fail

Catchment North

Site Soils & Infiltration Testing Data	Infiltration Testing Procedure	Open Pit Falling Head
	Native Soil Infiltration Rate (Itesl)	0.01 🗥
Correction Factor	CF _{test}	2
Design Infiltration Rates	Native Soil (I _{dsgn})	0.01 in/hr 🛆
	Imported Growing Medium	2.00 in/hr
Catchment Information	Hierarchy Category	3
	Disposal Point	В
	Hierarchy Description	Off-site flow to drainageway, river, or storm-only pipe system
	Pollution Reduction Requirement	Pass
	10-year Storm Requirement	N/A
	Flow Control Requirement	If discharging to an overland drainage system or to a storm sewer that discharges to an overland drainage system, including streams, drainageways, and ditches, the 2-year post-development peak flow must be equal or less than half of the 2-year pre-development rate and the 5, 10, and 25-year post-development peak rate must be equal or less than the pre-development rates for the corresponding design storms.
	Impervious Area	8552 sq ft 0.196 acre
	Time of Concentration (Tc)	5
	Pre-Development Curve Number (CN _{pre})	74
	Post-Development Curve Number (CN _{post})	98

 $\hat{\mathbb{A}}$ Indicates value is outside of recommended range

SBUH Results



	Pre-Development Ra	ate and Volume	Post-Development Rate and Volume		
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)	
PR	0	3.172	0.035	446.866	
2 yr	0.016	394.001	0.121	1547.449	
5 yr	0.031	602.513	0.147	1901.892	
10 yr	0.048	834.826	0.174	2256.866	
25 уг	0.067	1085.619	0.201	2612.174	

Facility North

Facility Details	Facility Type	Planter (Sloped)
	Facility Configuration	D: Lined Facility with RS and Ud
	Facility Shape	Sloped
	Above Grade Storage Data	
	Growing Medium Depth	18 in
	Surface Capacity at Depth 1	476.7 cu ft
	Design Infiltration Rate for Native Soil	0.000 in/hr
	Infiltration Capacity	0.031 cfs
Facility Facts	Total Facility Area Including Freeboard	675.00 sq ft
	Sizing Ratio	7.9%
Pollution Reduction Results	Pollution Reduction Score	Pass
	Overflow Volume	449.429 cf
	Surface Capacity Used	1%
Flow Control Results	Flow Control Score	Fail
	Overflow Volume	2255.169 cf
	Surface Capacity Used	89%

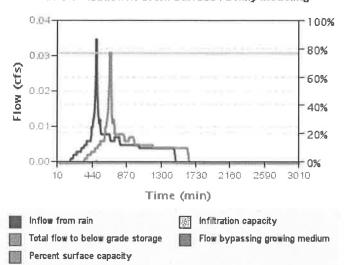
	Post-development outflow (cfs)		Pre-development inflow (cfs)	
2 year	0.031	≤ ½ of	0.016	Fail
5 year	0.031	≤	0.031	Pass
10 year	0.031	≤	0.048	Pass
25 year	0.061	≤	0.067	Pass

Sloped Facility Worksheet

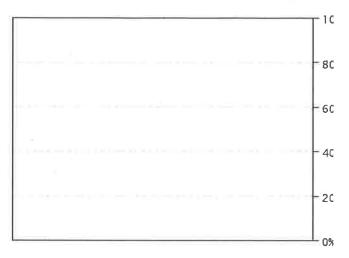
#	Segment Length (ft)	Check Dam Length (ft)	Slope, v/h (ft/ft)	Bottom Width (ft)	Right Side Slope, h/v (ft/ft)	Left Side Slope, h/v (ft/ft)	Downstream Depth (in)	Landscape Width (ft)
1	10.00	0.50	0.0050	7.50	0.0	0.0	9.0	7.50
2	10.00	0.50	0.0050	7.50	0.0	0.0	9.0	7.50
3	10.00	0.50	0.0050	7.50	0.0	0.0	9.0	7.50
4	12.00	0.50	0.0050	7.50	0.0	0.0	9.0	7.50

5	12.00	0.50	0.0050	7.50	0.0	0.0	9.0	7.50
6	12.00	0.50	0.0050	7.50	0.0	0.0	9.0	7.50
7	12.00	0.50	0.0050	7.50	0.0	0.0	9.0	7.50
8	12.00	0.50	0.0050	7.50	0.0	0.0	9.0	7.50

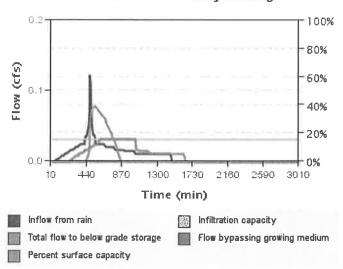
Pollution Reduction Event Surface Facility Modeling

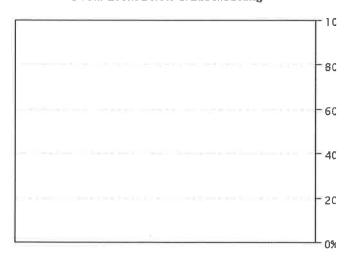


Pollution Reduction Event Below Grade Modeling

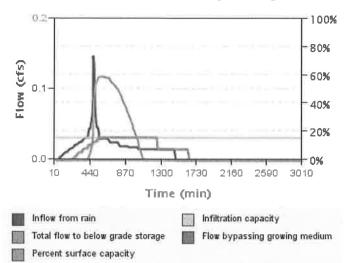


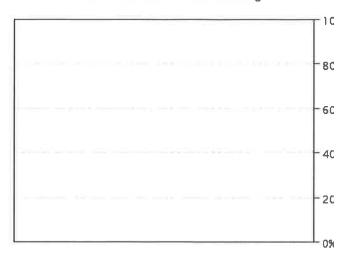
2 Year Event Surface Facility Modeling





5 Year Event Surface Facility Modeling

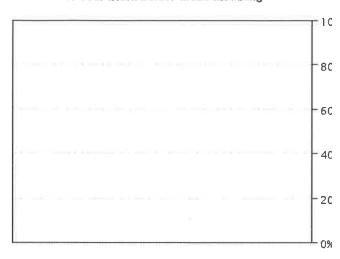




10 Year Event Surface Facility Modeling

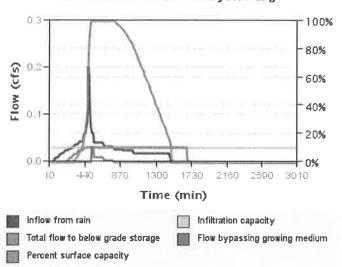
0.2 100% 80% Flow (cfs) 60% 40% 20% 0% 10 440 870 1300 1730 2160 2590 3010 Time (min) Inflow from rain Infiltration capacity Total flow to below grade storage Flow bypassing growing medium

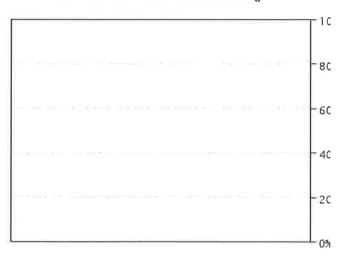
10 Year Event Below Grade Modeling



25 Year Event Surface Facility Modeling

Percent surface capacity

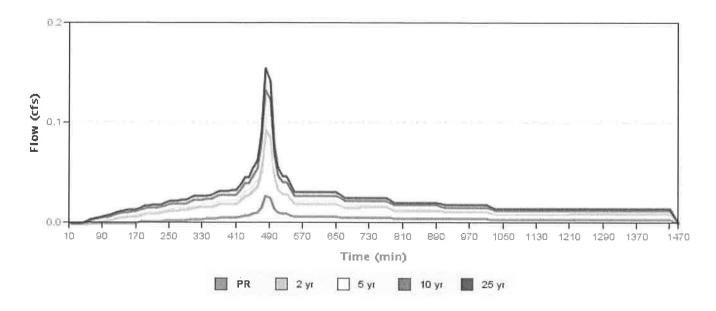




Catchment South

Site Soils & Infiltration Testing Data	Infiltration Testing Procedure	Encased Falling Head
	Native Soil Infiltration Rate (I _{test})	0.10 🕰
Correction Factor	CF _{test}	2
Design Infiltration Rates	Native Soil (I _{dsgn})	0.05 in/hr 🛆
	Imported Growing Medium	2.00 in/hr
Catchment Information	Hierarchy Category	3
	Disposal Point	В
	Hierarchy Description	Off-site flow to drainageway, river, or storm-only pipe system
	Pollution Reduction Requirement	Pass
	10-year Storm Requirement	N/A
	Flow Control Requirement	If discharging to an overland drainage system or to a storm sewer that discharges to an overland drainage system, including streams, drainageways, and ditches, the 2-year post-development peak flow must be equal or less than half of the 2-year pre-development rate and the 5, 10, and 25-year post-development peak rate must be equal or less than the pre-development rates for the corresponding design storms.
	Impervious Area	6553 sq ft 0.150 acre
	Time of Concentration (Tc)	5
	Pre-Development Curve Number (CN_{pre})	74
	Post-Development Curve Number (CN_{post})	98

SBUH Results



	Pre-Development Ra	ate and Volume	Post-Development Rate and Volume		
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)	
PR	0	2.431	0.027	342.413	
2 yr	0.012	301.904	0.093	1185.738	
5 yr	0.024	461.678	0.113	1457.332	
10 yr	0.037	639.688	0.133	1729.332	
25 yr	0.052	831.859	0.154	2001.588	

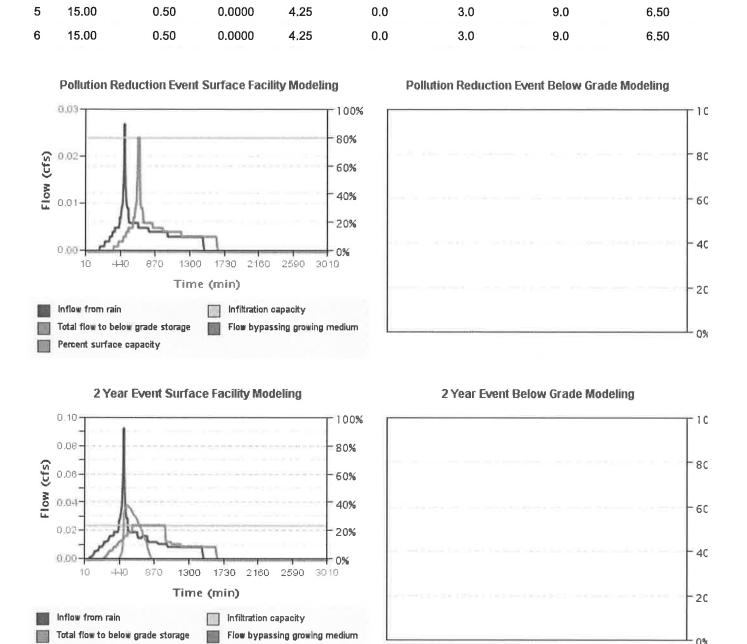
Facility South

Facility Details	Facility Type	Planter (Sloped)
	Facility Configuration	D: Lined Facility with RS and Ud
	Facility Shape	Sloped
	Above Grade Storage Data	
	Growing Medium Depth	18 in
	Surface Capacity at Depth 1	356.8 cu ft
	Design Infiltration Rate for Native Soil	0.000 in/hr
	Infiltration Capacity	0.024 cfs
Facility Facts	Total Facility Area Including Freeboard	585.00 sq ft
	Sizing Ratio	8.9%
Pollution Reduction Results	Pollution Reduction Score	Pass
	Overflow Volume	346.022 cf
	Surface Capacity Used	1%
Flow Control Results	Flow Control Score	Fail
	Overflow Volume	1725.118 cf
	Surface Capacity Used	87%

	Post-development outflow (cfs)		Pre-development inflow (cfs)	
2 year	0.024	≤ 1⁄2 of	0.012	Fail
5 year	0.024	≤	0.024	Fail
10 year	0.024	≤	0.037	Pass
25 year	0.047	≤	0.052	Pass

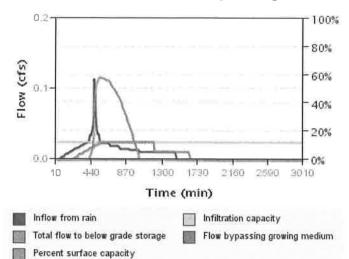
Sloped Facility Worksheet

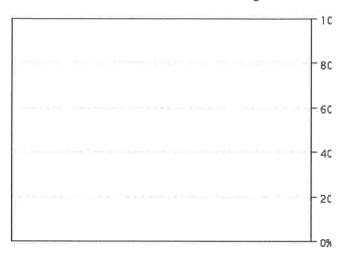
#	Segment Length (ft)	Check Dam Length (ft)	Slope, v/h (ft/ft)	Bottom Width (ft)	Right Side Slope, h/v (ft/ft)	Left Side Slope, h/v (ft/ft)	Downstream Depth (in)	Landscape Width (ft)
1	15.00	0.50	0.0000	4.25	0.0	3.0	9.0	6.50
2	15.00	0.50	0.0000	4.25	0.0	3.0	9.0	6.50
3	15.00	0.50	0.0000	4.25	0.0	3.0	9.0	6.50
4	15.00	0.50	0.0000	4.25	0.0	3.0	9.0	6.50



Percent surface capacity

5 Year Event Surface Facility Modeling





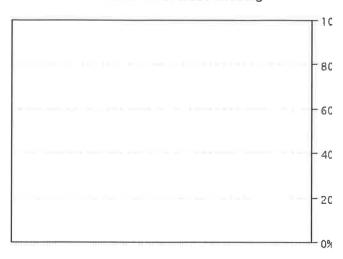
10 Year Event Surface Facility Modeling

0.2 100% 80% Flow (cfs) 60% 40% 20% 0.0 0% 440 870 1300 1730 2160 2590 10 Time (min)

Infiltration capacity

Flow bypassing growing medium

10 Year Event Below Grade Modeling

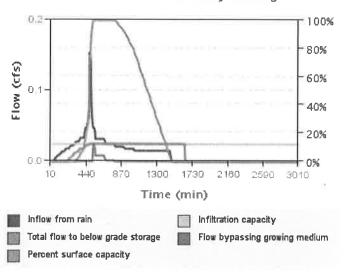


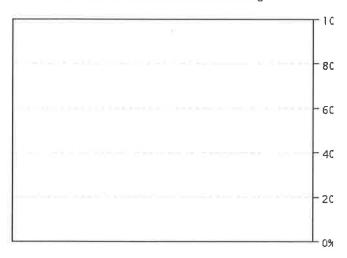
25 Year Event Surface Facility Modeling

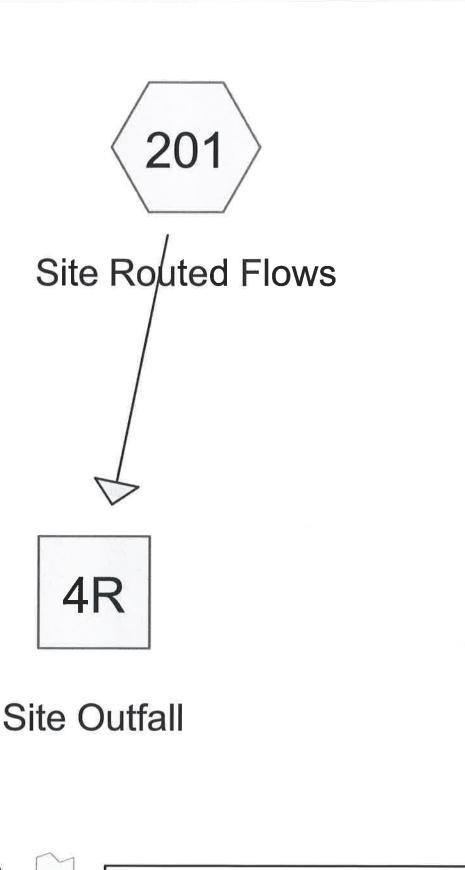
Inflow from rain

Total flow to below grade storage

Percent surface capacity









Reach



Link

Routing Diagram for 463-003 HydroCAD 2018-12
Prepared by Emerio Design LLC, Printed 12/18/2018
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Printed 12/18/2018

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Page 2

Summary for Subcatchment 201: Site Routed Flows

Runoff

1.41 cfs @

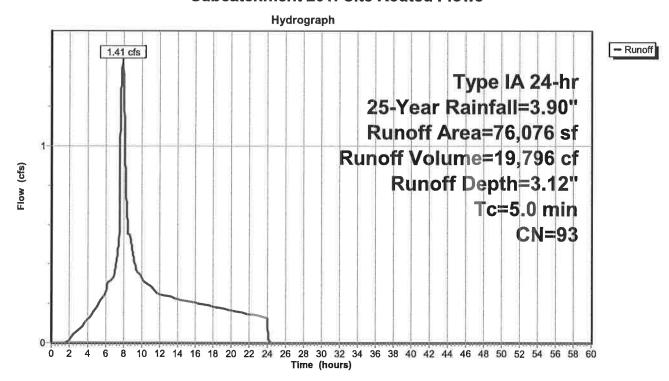
7.90 hrs, Volume=

19,796 cf, Depth= 3.12"

Runoff by SBUH method, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Type IA 24-hr 25-Year Rainfall=3.90"

, <u></u>	Α	rea (sf)	CN	Description				
*		15,105	98	streets & cu	streets & curb			
*		30,000	98	12 lots				
-		30,971	86	<50% Gras	s cover, Po	or, HSG C		
		76,076	93	Weighted A	verage			
		30,971	86	40.71% Pervious Area				
		45,105	98	59.29% Impervious Area				
	Тс	Length	Slope	•	Capacity	Description		
	(min)	(feet)	(ft/ft) (ft/sec)	(cfs)			
	5.0					Direct Entry,		

Subcatchment 201: Site Routed Flows



Prepared by Emerio Design LLC

Printed 12/18/2018

HydroCAD® 10.00-13 s/n 04804 © 2014 HydroCAD Software Solutions LLC

Page 3

Summary for Reach 4R: Site Outfall

Inflow Area = 76,076 sf, 59.29% Impervious, Inflow Depth = 3.12" for 25-Year event

Inflow = 1.41 cfs @ 7.90 hrs, Volume= 19,796 cf

Outflow = 1.41 cfs @ 7.90 hrs, Volume= 19,796 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.30 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 1.90 fps, Avg. Travel Time= 0.2 min

Peak Storage= 9 cf @ 7.90 hrs

Average Depth at Peak Storage= 0.54'

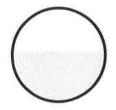
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.52 cfs

12.0" Round Pipe

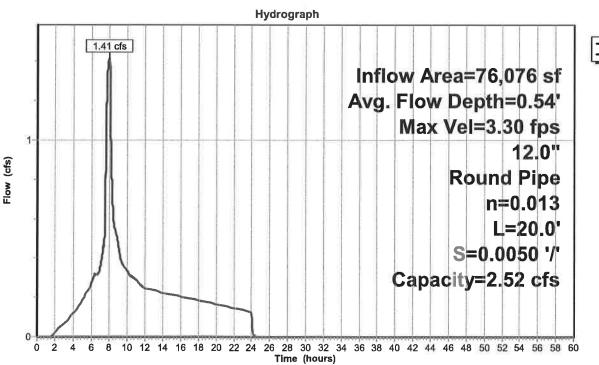
n = 0.013

Length= 20.0' Slope= 0.0050 '/'

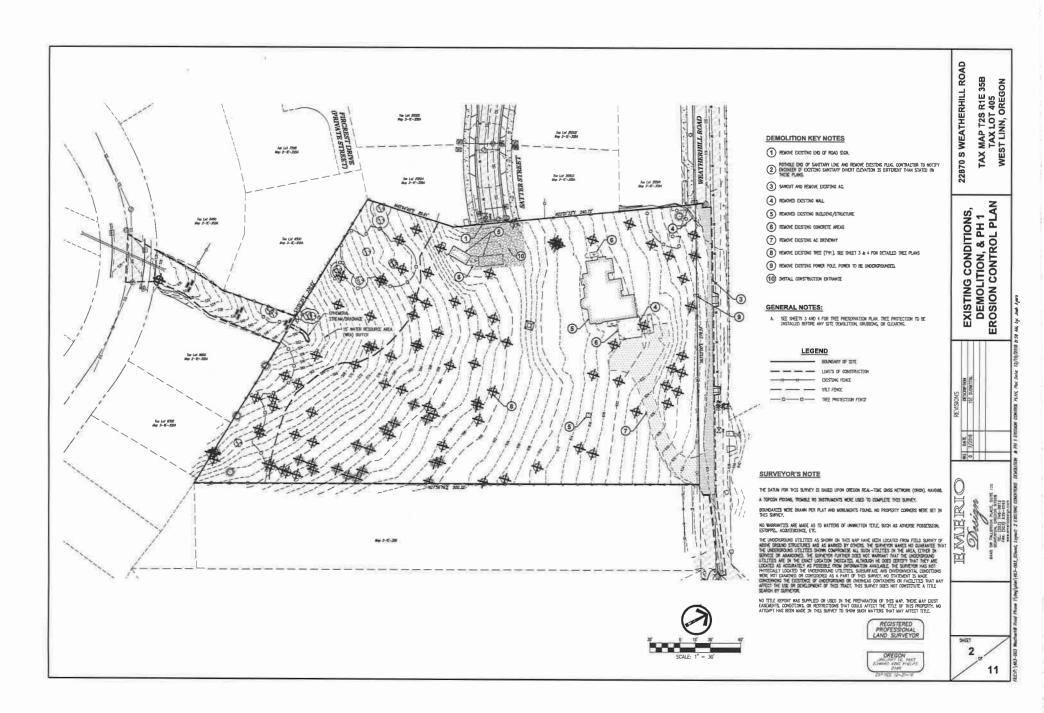
Inlet Invert= 100.00', Outlet Invert= 99.90'

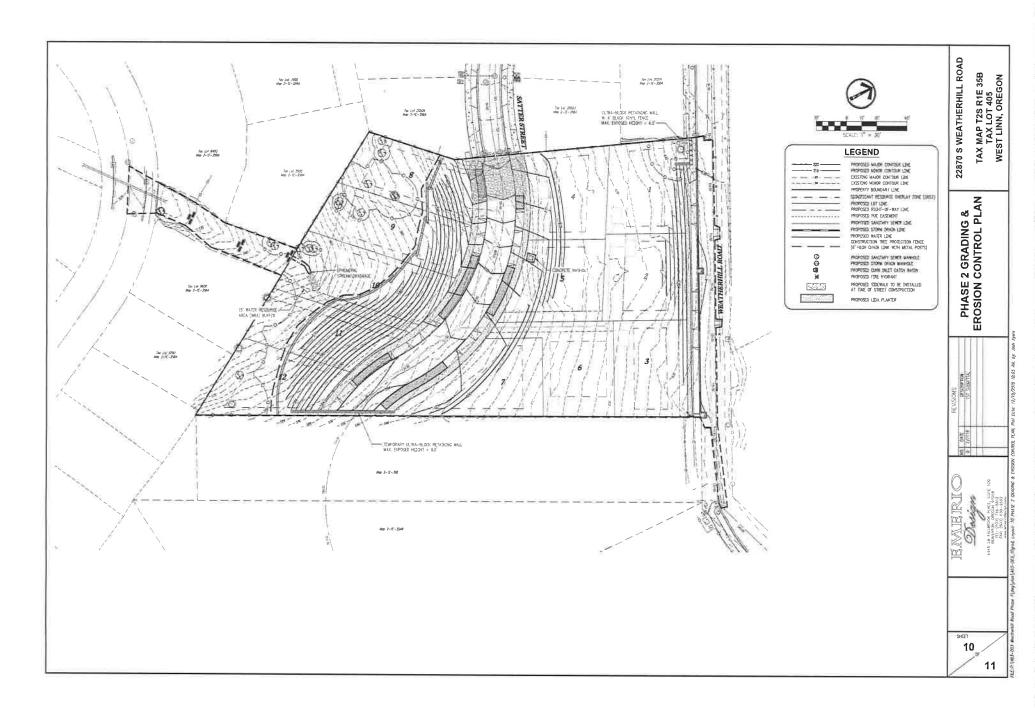


Reach 4R: Site Outfall



Appendix D:





WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: https://apps.oregon.gov/DSL/EPS/program?key=4.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279. A single PDF of the completed cover from and report may be e-mailed to: Wetland_Delineation@dsi.state.or.us. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Applicant Owner Name, Firm and Address:	Business phone # 971-235-3314
22870 Weatherhill, LLC	Mobile phone # (optional)
Billing Address: % Partnership Administrator: Rod Friesen	Mobile phone # (optional) E-mail: rod.friesen@frontier.com
12810 SW Morningstar Dr., Tigard, OR 97223	
Authorized Legal Agent, Name and Address (if differe	
Managing Member: Bob Schułtz 22870 Weatherhill, West Linn, OR 97068	Mobile phone # (optional) 971-732-0347 E-mail: duke.pdx@gamil.com
	C -(110);
property for the purpose of confirming the information in the rep	rity to allow access to the property. I authorize the Department to access the
Typed/Printed Name: BOB SCHUCTY	Signature:
Date: 11-22-18 Special instructions regarding	site access:
Project Name: 22870 Weatherhill Road	Latitude: 45.359 Longitude: -122.652
	decimal degree - centroid of site or start & end points of linear project
Proposed Use: Residential subdivision	Tax Map # 2S 1E Sec 35B
Troductival audulyision	Tax Lot(s) 405
	Tax Map #
Project Street Address (or other descriptive location):	Tax Lot(s)
22870 Weather Road,	Township 2S Range 1E Section 35 QQ B
0%	Use separate sheet for additional tax and location information
City: West Linn County: Clackamas	Waterway: River Mile:
	Waterway: River Mile:
Wetland Consultant Name, Firm and Address:	Waterway: River Mile: Phone # (503) 678-6007
	Phone # (503) 678-6007 Mobile phone # (if applicable)
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer	Waterway: River Mile: Phone # (503) 678-6007
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attached	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature:	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com ad report are true and correct to the best of my knowledge. Date: Date: Date: Authorized Agent
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Yes No Study A	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Yes No Study A	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com ed report are true and correct to the best of my knowledge. Date: Den ed Doll & Consultant Applicant/Owner Authorized Agent Area size: 2.56AC Total Wetland Acreage: 0.0000
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Yes No Study A	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com ed report are true and correct to the best of my knowledge. Date: Date: Authorized Agent Area size: 2.56AC Total Wetland Acreage: 0.0000
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? R-F permit application submitted Mitigation bank site	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com ad report are true and correct to the best of my knowledge. Date: Date: Applicant/Owner Authorized Agent Area size: 2.56AC Total Wetland Acreage: 0.0000 Fee (\$100) for resubmittal of rejected report
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Yes No Study A C R-F permit application submitted Mitigation bank site Industrial Land Certification Program Site	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com ad report are true and correct to the best of my knowledge. Date: Dender 26 2018 Consultant Applicant/Owner Authorized Agent Area size: 2.56AC Total Wetland Acreage: 0.0000 Fee (\$100) for resubmitted \$ 437.00 Request for Reissuance. See eligibility criteria. (no fee)
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Primary Contact for report review and site access is Wetland/Waters Present? R-F permit application submitted Mitigation bank site Industrial Land Certification Program Site Wetland restoration/enhancement project	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com ad report are true and correct to the best of my knowledge. Date: Date: Applicant/Owner Authorized Agent Area size: 2.56AC Total Wetland Acreage: 0.0000 Fee (\$100) for resubmittal of rejected report
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Primary Contact for report review and site access is Wetland/Waters Present? R-F permit application submitted Mitigation bank site Industrial Land Certification Program Site Wetland restoration/enhancement project (not mitigation)	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com ad report are true and correct to the best of my knowledge. Date: Den e 26 2018 Consultant Applicant/Owner Authorized Agent Area size: 2.56AC Total Wetland Acreage: 0.0000 Fee (\$100) for resubmittal of rejected report Request for Reissuance. See eligibility criteria. (no fee) DSL # Expiration date
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Yes No Study A Characteristic Study A Charact	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com ad report are true and correct to the best of my knowledge. Date: Den e
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Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attache Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Yes No Study A C) R-F permit application submitted Mitigation bank site Industrial Land Certification Program Site Wetland restoration/enhancement project (not mitigation) Previous delineation/application on parcel If known, previous DSL #	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com ad report are true and correct to the best of my knowledge. Date: Devel 26 2018 Consultant Applicant/Owner Authorized Agent Area size: 2.56AC Total Wetland Acreage: 0.0000 Fee (\$100) for resubmitted \$ 437.00 Fee (\$100) for resubmittal of rejected report Request for Reissuance. See eligibility criteria. (no fee) DSL # Expiration date LWI shows wetlands or waters on parcel Wetland ID code DSL WD #
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SCHOTT & ASSOCIATES

Ecologists & Wetlands Specialists

21018 NE Hwy 99E • P.O. Box 589 • Aurora, OR 97002 • (503) 678-6007 • FAX: (503) 678-6011

JURISDICTIONAL WETLAND DELINEATION FOR

22870 Weatherhill Road West Linn, Oregon

Prepared for

Bob Schultz 22870 Weatherhill LLC 22870 Weatherhill Road West Linn, OR 97068

Prepared by

Cari L Cramer
Of
Schott and Associates, Inc.

Date:

November 2018

Project # 2637

TABLE OF CONTENTS

DEPARTMENT OF STATE LANDS COVER FORM	l
(A) LANDSCAPE SETTING AND LAND USE	1
(B) SITE ALTERATIONS	1
(C) PRECIPITATION DATA AND ANALYSIS	
** WATER YEAR AVERAGE THROUGH THE MONTH OF SEPTEMBER	2
(D) SITE SPECIFIC METHODS	
(E) DESCRIPTION OF ALL WETLANDS AND OTHER NON-WETLAND WATERS	2
(F) DEVIATION FROM LWI OR NWI	
(G) MAPPING METHOD	3
(H) Additional Information	3
None	3
(I) RESULTS AND CONCLUSIONS	3
(J) DISCLAIMER	4
APPENDIX A: MAPS	5
APPENDIX B: DATA FORMS	12
APPENDIX C: GROUND LEVEL PHOTOGRAPHS	13
APPENDIX D: REFERENCES	14
LIST OF FIGURES	
FIGURE 1. LOCATION MAP	6
FIGURE 2. TAX MAP	7
FIGURE 3. LWI MAP	8
FIGURE 4. SOIL SURVEY MAP	9
FIGURE 5. AERIAL PHOTOGRAPH	10
FIGURE 6. WETLAND MAP	11

(A) Landscape Setting and Land Use

The 2.56 acre subject property is located at 22870 Weatherhill Road in West Linn, Hillsboro, Clackamas County, Oregon (T2S R1E Sec.35B TL405).

The property is entered from a driveway extending south from Weatherhill Road to the north. The site topography is terraced and south, southwest sloping. The northern half of the property is on the terrace and has one existing home and a barn located on the northwest portion of the property. A maintained landscape, dominated by lawn grasses and scattered ornamental and native trees, encompasses the house. The southern approximate half of the property is undeveloped with the exception of a few formed dirt trails. The northern 2/3rds of the southern half of the property contained large Oregon white oaks (*Quercus garryana*) with an understory of non-native grasses with some poison oak (*Toxicodendron diversilobum*), English ivy (*Hedera helix*) and Himalayan blackberry (*Rubus armeniacus*). The most southern third of the property was dominated by big leaf maple (*Acer macrophyllum*) with some Oregon ash (*Fraxinus latifolia*) in the overstory. The understory mainly consisted of Himalayan blackberry and English ivy with some beaked hazelnut (*Corylus cornuta*), vine maple (*Acer circinatum*), snowberry (*Symphoricarpos albus*) and holly (*Ilex sp*). There is an open tract southwest of the site.

The surrounding area is residential.

(B) Site Alterations

There is a house and one barn on the northwest portion of the property. The northern half of the property has a vegetable garden and a maintained landscape.

(C) Precipitation Data and Analysis

The site was visited on September 13, 2018. Precipitation was recorded at 0.03 inches by the West Linn weather station on that day (accuweather.com). Total precipitation recorded in the two weeks prior to the site visit was 0.21 inches. Precipitation for the month of September through the 13th was 0.24 inches, all of which accumulated on the day of the site visit and the two days prior. Precipitation for July and August were below average range according to the Oregon City WETS table at 0% and 7% of average respectively. June precipitation was within average range at 66% of average. May was below average range at 8% of average according to the Oregon City WETS table. No WETS table is available for West Linn. Between October 1st 2017 and August 13, 2018 a total of 36.16" of precipitation was recorded. This is 79% percent of the water year average through the month of September.

Table 1. Precipitation Summary and WE18 Averages								
Month	2017-2018	WETS Average	WETS	Percent of				
	Precipitation		Range	Average				
May	0.23	2.70	1.78-3.24	8				
June	1.20	1.81	1.13-2.18	66				
July	0	0.83	0.33-0.98	0				
August	0.07	1.03	0.29-1.12	7				
September*	0.24	1.85	0.94-2.20	13				
Water Year**	36.16	45.99		79%				

Table 1. Precipitation Summary and WETS Averages

(D) Site Specific Methods

Prior to visiting, site information was gathered, including recent and historical aerial photographs provided by Google Earth, the soil survey (NRCS web soil survey), the Local Wetland Inventory and National Wetland Inventory and the Water Resource Area (WRA) Map for West Linn. The USGS topography map was also reviewed prior to site visits.

Schott and Associates walked the subject property to assess the presence or absence of onsite wetlands and waters September 13, 2018. The 1987 Manual and Regional Supplement to the Corps of Engineers Delineation Manual: Western Mountains, Valleys, and Coast Region were used to determine presence or absence of State of Oregon wetland boundaries and the Federal jurisdictional wetlands.

Sample plots were placed where geomorphic location or vegetation indicated the possibility of wetlands. For each sample plot, data on vegetation, hydrology and soils was collected, recorded in the field and later transferred to data forms (Appendix B). If a wetland was present paired plots were located in the adjacent upland to document the transition.

(E) Description of All Wetlands and Other Non-Wetland Waters

Based on soil, vegetation and hydrology data taken in the field no wetlands were delineated on site. The upland sample plots were within forested area in the southern half of the subject property and consisted of Oregon white oak with an understory of nonnative grasses such as tall fescue (*Schedonorus arundinaceus*) with some Himalayan blackberry, English ivy and poison oak (sp1) in the northern portion. Within the southern portion of the forested area at the lowest point (sp2) in the southwest corner, the overstory consisted of bigleaf maple with beaked hazelnut, Himalayan blackberry and ivy in the

^{*}Recorded precipitation through September 13, 2018 (43% of the month) compared with average for the entire month.

^{**} Water Year average through the month of September.

understory. Near the southwest property boundary within a converging slope that is approximately 25' long and directing down slope southwest, where a stream was mapped on the LWI and WRA, sample plot 3 was taken at the lowest point. Vegetation consisted of Oregon ash, bigleaf maple, snowberry, vine maple, holly, sword fern, English ivy and Himalayan blackberry.

Soils were a 10YR3/3 and did not meet the hydric soil indicators in any of the sample plots and no hydrology was observed.

The WRA map showed an ephemeral drainage and the LWI showed a potential jurisdictional drainage that was mapped from approximately halfway up the property near the northwest property boundary angling south down slope, extending offsite through a tract directing southwest.

Onsite findings indicated an ephemeral drainage that started 25' up slope from the southwest property boundary. The ephemeral drainage was mainly bare and had no hydrology at the time of the site visit. Trace amounts of holly, English ivy and sword fern were growing within the drainage. The drainage extended offsite through a tract and was culverted under Crestview Drive. The drainage channel south of the site was less than 18" wide.

(F) Deviation from LWI or NWI

The Local Wetland Inventory (LWI) for the City of West Linn showed a drainage within the southern portion of the property starting near the northwest property line and directing south and off property at the southwest property line. Onsite findings did not show any indications of the drainage extending from half way up the property. The LWI corresponds only partially with onsite findings. The ephemeral drainage starts within converging slopes 25' northeast upslope of the southwest property boundary. The drainage angles down slope to the southwest extending off property through an offsite tract.

(G) Mapping Method

The sample plots and drainage boundary were flagged by Schott and Associates and surveyed by Emerio Design Professional Land Surveyor (PLS).

(H) Additional Information

None

(I) Results and Conclusions

Based on soil, vegetation and hydrology data taken in the field no wetlands were found onsite. One small ephemeral drainage was found onsite forming just north east of the

southwest property line. The drainage had bare ground. Just south of the site the drainage was less than 18 inches wide and looked like a recently formed erosion rill.

The LWI mapped a drainage starting upslope halfway up the property angling south and extending offsite at the southwest property line. Onsite findings located a much smaller ephemeral drainage starting approximately 25' upslope from the southwest property line. The drainage extended offsite southwest through a tract.

The NWI did not map any resource onsite or offsite bordering the subject property.

The soil survey map for Clackamas County mapped Saum silt loam on the entire property. Saum silt loam is not considered hydric.

The topographic map showed the property south, southwest sloping.

(J) Disclaimer

This report documents the investigation, best professional judgment and the conclusions of the investigator. It is correct and complete to the best of my knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State lands in accordance with OAR 141-090-0005 through 141-090-005.

Appendix A: Maps		



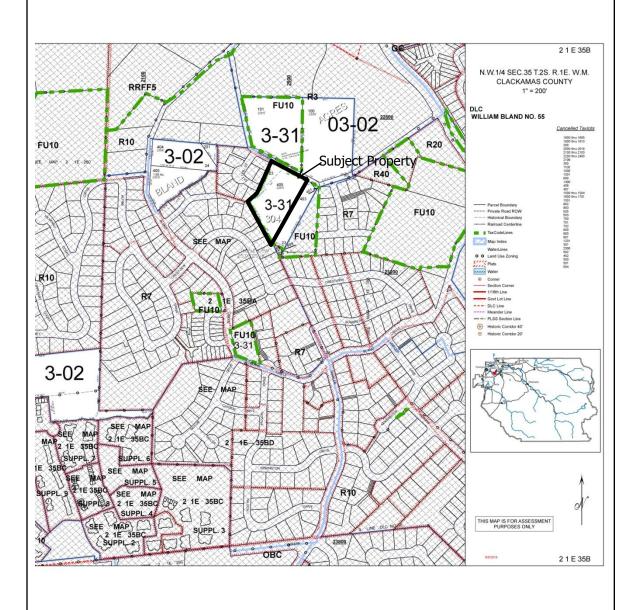
gle Maps 22870 Weatherhill Rd



 $oogle.com/maps/place/22870+Weatherhill+Rd, +West+Linn, +OR+97068/@45.3577601, -122.6489393, \\ 16z/data=14m5!3m4!1s0x54957165ce0feb55:0x292c778d1811d453!8m2!3d45... \\ 16z/data=14m5!3m2!3d45... \\ 16z/data=14m5!3d45... \\ 16z/data=14m5!3d45... \\ 16z/data=14m5!3d45... \\ 16z/data=14m5!3d45... \\ 16z/data=14m5!3d45... \\ 16z/data=1$

FIGURE 1. SITE LOCATION MAP 22870 Weatherhill Road S&A#2637

Schott & Associates P.O. Box 589 Aurora, OR. 97002 503.678.6007



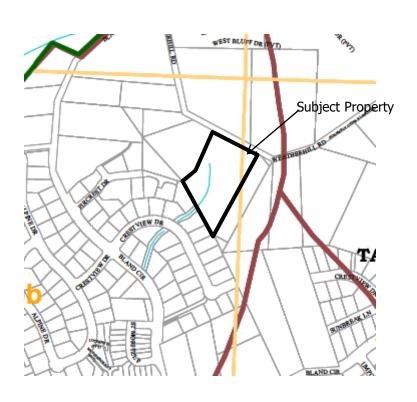


FIGURE 3.LWI MAP 22870 Weatherhill Road S&A#2637



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
64C	Nekia silty clay loam, 8 to 15 percent slopes	1.4	20.9%
78B	Saum silt loam, 3 to 8 percent slopes	0.6	8.3%
78C	Saum silt loam, 8 to 15 percent slopes	4.8	70.8%
Totals for Area of Interest		6.8	100.0%

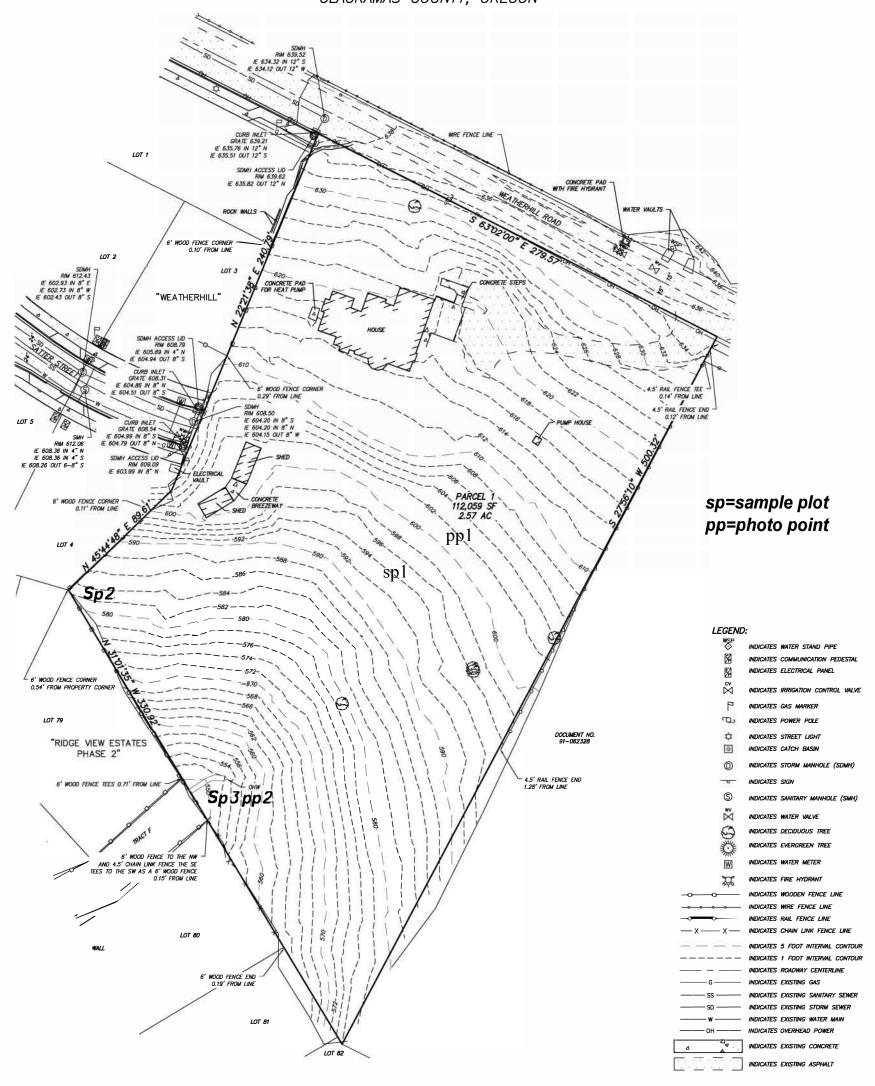
FIGURE 4. NRCS SOIL MAP 22870 Weatherhill Road S&A#2637

Schott & Associates P.O. Box 589 Aurora, OR. 97002 503.678.6007



EXISTING CONDITIONS MAP

OF PORTION OF LOT 23,
"BLAND ACRES" LOCATED IN THE
NW 1/4 OF SECTION 35,
T.2S., R.1E., W.M. CITY OF WEST LINN,
CLACKAMAS COUNTY, OREGON



SURVEY NOTES:

THE DATUM FOR THIS SURVEY IS BASED UPON OREGON REAL-TIME GNSS NETWORK (ORGN). NAVDBB.

A TOPCON PS104B. TRIMBLE RS INSTRUMENTS WERE USED TO COMPLETE THIS SURVEY.

BOUNDARIES WERE DRAWN PER PLAT AND MONUMENTS FOUND. NO PROPERTY CORNERS WERE SET IN THIS SURVEY.

BOUNDARIES WERE DRAWN PER PLAY AND MONOMENTS FUUND. NO PROPERTY CORNERS WERE SET IN THIS SURVEY.

NO WARRANTIES ARE MADE AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS ADVERSE POSSESSION, ESTOPPEL, ACQUIESCENCE, ETC.

THE UNDERGROUND UTILITIES AS SHOWN ON THIS MAP HAVE BEEN LOCATED FROM FIELD SURVEY OF ABOVE GROUND STRUCTURES AND AS MARKED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPROMES ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, THE SURVEYOR PURTHER DOES NOT MERAINT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERTHEAD CONTINUERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.

60'

NO TITLE REPORT WAS SUPPLIED OR USED IN THE PREPARATION OF THIS MAP. THERE MAY EXIST EASEMENTS, CONDITIONS, OR RESTRICTIONS THAT COULD AFFECT THE TITLE OF THIS PROPERTY. NO ATTEMPT HAS BEEN MADE IN THIS SURVEY TO SHOW SUCH MATTERS THAT MAY AFFECT TITLE.



60'

EMERIO Design

120' 6445 SW FALLBROOK PLACE, SUITE 100 BEAVERTON, OREGON 97008 PH: (503) 746-8812 FAX: (503) 639-9592

SCALE: 1" = 60 OCTOBER 15, 2018

ED 15 2019

30'

Appendix B: Data Forms	
Schott & Associates	
Ecologists and Wetland Specialists	F. (500) (50 -50)
PO Box 589, Aurora, OR. 97002 • (503) 678-6007 • Page 12	Fax (503) 678-6011 S&A#:2637

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

	ity/County:	West Linn, Clad		
Applicant/Owner: 22870 Weatherhill LLC		State: OR	Sampling Sec 35B	
Investigator(s): Cari Cramer	_	ownship, Range:		
Landform (hillslope, terrace, etc.): Terrace		cal relief (concave		
	at: 45.359	Long:	-122.652	
Soil Map Unit Name: Saum silt Loam	16 01 0			WI classification: None
Are climatic / hydrologic conditions on the site typical				
Are Vegetation , Soil , or Hydrology		icantly disturbed? ally problematic?		ormal Circumstances" present? Yes x No If needed, explain any answers in Remarks.)
Are Vegetation , Soil , or Hydrology	Natur	any problematic?	(1	ii rieeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site	map show	ving samplin	g point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes x N	lo			-
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N	lo <u>x</u>	Is the Sampled	d Area with	in a Wetland? Yes Nox
	<u> </u>			
Remarks:				
VEGETATION – Use scientific names of	f plants.			
Topic Otractions (Diet sines 200)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover	Species?	Status 54011	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Quercus garryana 2.	80	X	FACU	Total Number of Dominant
	-			Species Across All Strata: 5 (B)
3				Percent of Dominant Species
·				That Are OBL, FACW, or FAC: 60 (A/B)
	80	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5')				Prevalence Index worksheet:
1. Rubus armeniacus	5	x	FAC	Total % Cover of: Multiply by:
2.				OBL species x 1 =
3.				FACW species x 2 =
4				FAC species x 3 =
5				FACU species x 4 =
	5	_ = Total Cover		UPL species x 5 =
Herb Stratum (Plot size: 5)				Column Totals: (A) (B)
1. <u>Schedonorus arundinaceus</u>	60	X	FAC	Dravalance Index - D/A -
2.				Prevalence Index = B/A =
3.				Hydrophytic Vegetation Indicators:
4 5.				
				1 - Rapid Test for Hydrophytic Vegetation x 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0¹
8.				4 - Morphological Adaptations ¹ (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants ¹
11.				Problematic Hydrophytic Vegetation ¹ (Explain)
	60	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 5)				be present, unless disturbed or problematic.
Hedera helix	5	X	FACU	
Toxicodendron diversilobum	5	X	FAC	Hydrophytic
	_10	_ = Total Cover		Vegetation
% Bare Ground in Herb Stratum 25	_			Present? Yes x No
Remarks:				

0-16 10YR3/3 100 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Co Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	Type ¹ Loc ² Texture Remarks SiL
Depth (inches) Color (moist) % Color (moist) % T 0-16 10YR3/3 100 "Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Color (moist) Minimum (moist) Minim	Type ¹ Loc ² Texture Remarks SiL
"Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Co Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (excelled Felow Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Redox Dark Surface (F8) Restrictive Layer (if present): Type: Depth (inches): Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Drift Deposits (B3) Presence of Reduced Iron (Caecent Iron Reduction in Tille Soils (C6) Sunface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches):	SiL
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Co Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Black Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (excelled Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Mark 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Water Marks (B1) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (O Recent Iron Reduction in Tille Soils (C6) Surface Soil Cracks (B6) Sunted or Stressed Plants (I LRR A) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches):	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Co Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (excended Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Mark 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Reduced Iron (Cancent Iron Reduction in Tille Soils (C6) Iron Deposits (B5) Sunded or Stressed Plants (I LRR A) Syrface Water Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches):	
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Type: Depth (inches): Proposition Depth (inches): Depth (in	unless disturbed or problematic
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Depth (inches): Image: Comparison of the comp	ydric Soil Present? Yes No x
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High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C) Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (I) (LRR A) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No x Depth (inches):	4A, and 4B)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C) Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (I) (LRR A) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No X Depth (inches):	Drainage Patterns (B10)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C) Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (I) (LRR A) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No X Depth (inches):	
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C) Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (I) (LRR A) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No X Depth (inches):	
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Roots (C3) Presence of Reduced Iron (C) Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (I) (LRR A) Other (Explain in Remarks) Other (Explain in Remarks)	
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Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (I (LRR A) Other (Explain in Remarks)	
Algal Mat or Crust (B4) Soils (C6) Stunted or Stressed Plants (Eagle of Stunted or Stressed	
Stunted or Stressed Plants (I (LRR A) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Stunted or Stressed Plants (I (LRR A) Other (Explain in Remarks) The provided Head of Stressed Plants (I (LRR A) The provided Head of Stres	
Iron Deposits (B5) (LRR A) Surface Soil Cracks (B6) Other (Explain in Remarks) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes Nox Depth (inches):	FAC-Neutral Test (D5)
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No x Depth (inches):	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No x Depth (inches):	Raised Ant Mounds (D6) (LRR A)
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No x Depth (inches):	Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes No x Depth (inches):	
Surface Water Present? Yes No x Depth (inches):	
Surface Water Present? Yes No x Depth (inches):	
Water Table Present? Yes No _x Depth (inches):	Wetland Hydrology Present? Yes No _x
Saturation Present?	
(includes capillary fringe) Yes No x Depth (inches):	
escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	·
	·
	spections), if available:
lemarks:	spections), if available:
GHAINS.	spections), if available:
	spections), if available:
	spections), if available:

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

Project/Site: 22870 Weatherhill Road Cit	ty/County:	West Linn, Clad	ckamas	Sampling Date: September 13, 2018
Applicant/Owner: 22870 Weatherhill LLC		State: OR	Sampling	
Investigator(s): Cari Cramer		ownship, Range:	Sec 35B	
Landform (hillslope, terrace, etc.): Slope	Lo	cal relief (concave	e, convex, n	
Subregion (LRR): A La	t: 45.359	Long:	-122.652	
Soil Map Unit Name: Saum silt Loam			_	VI classification: None
Are climatic / hydrologic conditions on the site typical				
Are Vegetation , Soil , or Hydrology		ficantly disturbed?		ormal Circumstances" present? Yes x No
Are Vegetation , Soil , or Hydrology	Natur	ally problematic?	(1	If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site	map show	wing samplin	g point le	ocations, transects, important features, etc.
) <u>X</u>			
Hydric Soil Present? Yes No. Wetland Hydrology Present? Yes No.		is the Sampled	I Area with	in a Wetland? Yes Nox_
Remarks:	<u> </u>			
Remarks.				
VEGETATION – Use scientific names of	fnlante			
VEGETATION – Ose scientific fiames of	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30')	% Cover		<u>Status</u>	Number of Dominant Species
Acer macrophyllum	50	X	FACU	That Are OBL, FACW, or FAC:1 (A)
2. Fraxinus latifolia	5		FACW	Total Number of Dominant
3				Species Across All Strata: Percent of Dominant Species (B)
4				That Are OBL, FACW, or FAC: 25 (A/B)
	55	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 5')	45		E40	Total % Cover of: Multiply by:
1. Rubus armeniacus	15 5	X	FAC	
Corylus cornuta	5	X	FACU	· —
				FACW species x 2 =
4 5.				FAC species x 3 =
·	20	= Total Cover		FACU species x 4 =
Herb Stratum (Plot size: 5)		_		UPL species x 5 =
1				Column Totals: (A) (B)
2				Prevalence Index = B/A =
3				
4				Hydrophytic Vegetation Indicators:
5				1 - Rapid Test for Hydrophytic Vegetation
6.				2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
8 9.				data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants ¹
11.				Problematic Hydrophytic Vegetation ¹ (Explain)
		= Total Cover		¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 5)		_		be present, unless disturbed or problematic.
1. Hedera helix	80	X	FACU	
2.				Underwhide
	80	_ = Total Cover		Hydrophytic Vegetation
% Bare Ground in Herb Stratum 20	_			Present? Yes No x
Remarks:				

SOIL							Sampling Poi	nt: 2
Profile Description: (De		ne depth				onfirm the abs	ence of indicator	s.)
Depth (inches) Color (m	Matrix	%		Redox Fea %		Loc ²	Texture	Remarks
		_	Color (moist)	70	Type ¹	LOC		-
0-12 10YR3	/3	100					SiL	Roots at 12"
								
								
								
	<u> </u>							
¹ Type: C=Concentration	D=Depletio	n, RM=R	educed Matrix, CS	=Covered	or Coated Sa	and Grains.	² Location: PL=Por	e Lining, M=Matrix.
Hydric Soil Indicators:	(Applicable	e to all L	RRs, unless other	wise note	ed.)	Indica	tors for Problema	ntic Hydric Soils ³ :
Histosol (A1)			Sandy Redox (St	5)		2 (cm Muck (A10)	
Histic Epipedon (A2)		Stripped Matrix (ed Parent Material	(TF2)
Black Histic (A3)			Loamy Mucky Mi		(except MLI		ery Shallow Dark S	
Hydrogen Sulfide (A		—	Loamy Gleyed M			Ot	her (Explain in Rer	narks)
Depleted Below Dar	,	.11)	_ Depleted Matrix (` '		3.		
Thick Dark Surface Sandy Mucky Miner			Redox Dark Surface Depleted Dark Signature 1				idicators of hydropl etland hydrology m	nytic vegetation and
Sandy Gleyed Matri:	(S4)		Redox Depression	` ')		lless disturbed or p	
	. (0.)	·		(. 0)		<u> </u>		
Restrictive Layer (if prese	ent):							
Туре:					Hydric So	oil Present?	Yes	No x
Depth (inches):								
lemarks:								
IYDROLOGY								
Wetland Hydrology Indic						0	llit (O	
Primary Indicators (minimu	m of one rec	luirea; cn	lecк ан tnat apply) Water-Staine	d Loavos (PO) (ovcont		ary Indicators (2 or er-Stained Leaves	
Surface Water (A1)			MLRA 1, 2, 4				and 4B)	(D9) (WILKA I, Z,
High Water Table (A2)			Salt Crust (B		,		nage Patterns (B10))
Saturation (A3)			Aquatic Inver	tebrates (E	313)		Season Water Tab	
Water Marks (B1)			Hydrogen Su		` '		ıration Visible on A	erial Imagery (C9)
0			Oxidized Rhiz	zospheres	along Living	0		20)
Sediment Deposits (B2) Drift Deposits (B3)	1		Roots (C3) Presence of F	Poducod Ir	on (C4)		morphic Position (I llow Aquitard (D3)	02)
_ Dilit Deposits (B3)			Recent Iron F			51181	now Aquitara (D3)	
Algal Mat or Crust (B4)			Soils (C6)			FAC	-Neutral Test (D5)	
_			Stunted or St	ressed Pla	ints (D1)	· 		
_ Iron Deposits (B5)			(LRR A)				sed Ant Mounds (D	, \ ,
Surface Soil Cracks (B6 Inundation Visible on A6	,	, (D7)	Other (Explai	n in Rema	rks)	Fros	t-Heave Hummock	S (D7)
Sparsely Vegetated Co								
_ oparoory vogotatou oo	iouvo curia	30 (20)						
Field Observations:								
Surface Water Present?	Yes	No x	_ ' ' /					
Water Table Present?	Yes	No x	Depth (inches):		We	etland Hydrolo	gy Present? Y	es No x
Saturation Present?	Voc	No.	Donth (inches):					
(includes capillary fringe) escribe Recorded Data (sti	Yes		Depth (inches):	ne provice	e inepostion	e) if available:		
escribe Necolueu Daid (Sil	cam yauye,	MONITORI	ng wen, aenai phot	os, previou	is irispection	o, ii avallable.		
emarks:								

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

Project/Site: 22870 Weatherhill Road Cit	ty/County:	West Linn, Cla	ckamas	Sampling Date: September 13, 2018
Applicant/Owner: 22870 Weatherhill LLC		State: OR	Sampling	
Investigator(s): Cari Cramer	Section, To	ownship, Range:	Sec 35B	3 2S 1E
Landform (hillslope, terrace, etc.): Slope	Loc	cal relief (concave	e, convex, n	none): Concave Slope (%): 0
Subregion (LRR): A La	t: 45.359	Long:	-122.652	2 Datum: DD
Soil Map Unit Name: Saum silt Loam			N\	WI classification: None
Are climatic / hydrologic conditions on the site typica	I for this time	e of year? Yes	X No	(If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology	Signif	ficantly disturbed	? Are "No	ormal Circumstances" present? Yes x No
Are Vegetation , Soil , or Hydrology	Natur	ally problematic?	' ((If needed, explain any answers in Remarks.)
	_			
	-	wing samplin	g point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No		Is the Sample	d Area with	nin a Wetland? Yes Nox_
Wetland Hydrology Present? Yes No	x x			
Remarks: At bottom of ephemeral drainage				
VEGETATION – Use scientific names of	f plants.			
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover	Species?	<u>Status</u>	Number of Dominant Species
Acer macrophyllum	30	X	FACU	That Are OBL, FACW, or FAC:1 (A)
2. Fraxinus latifolia	20	X	FACW	Total Number of Dominant
3				Species Across All Strata: 5 (B) Percent of Dominant Species
4				That Are OBL, FACW, or FAC: 20 (A/B)
		T		
0 1 (0 1 0 1 (0 1)	50	= Total Cover	'	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 5')	_		E40	Total % Cover of: Multiply by:
1. Rubus armeniacus	<u>5</u> 	V	FAC	
2. Symphoricarpos albus	5	X	FACU	· —
3. Acer circinatum	20	V	FACU	FACW species x 2 =
Ilex aquifolium S.		X	FACU	FAC species x 3 =
J	50	= Total Cover		FACU species x 4 =
Herb Stratum (Plot size: 5)		= 10tal 00vcl		UPL species x 5 =
1. Polysticum munitum	3		FACU	Column Totals: (A) (B)
2.			17100	Prevalence Index = B/A =
3.				
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.	-			2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0 ¹
8				4 - Morphological Adaptations ¹ (Provide supporting
9				data in Remarks or on a separate sheet)
10				5 - Wetland Non-Vascular Plants ¹
11				Problematic Hydrophytic Vegetation ¹ (Explain)
	3	_ = Total Cover		¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 5)				be present, unless disturbed or problematic.
Hedera helix	10	X	FACU	
2				Hydrophytic
	10	_ = Total Cover		Vegetation
% Bare Ground in Herb Stratum 80	_			Present? Yes No x
Remarks:				

SOIL							Sampling Po	int: 3
Profile Description: (D		he depth				onfirm the abs	ence of indicator	s.)
Depth Color (n	Matrix	%		Redox Fea		Loc ²	Toyturo	Domarko
(inches) Color (n			Color (moist)	%	Type ¹	LOC	Texture	Remarks
0-12 10YR	3/3	100					SiL	Roots at 12"
1	 . _					 .	2	
¹ Type: C=Concentration	n, D=Depletic	n, RM=R	educed Matrix, CS	=Covered o	or Coated Sa	and Grains.	Location: PL=Por	e Lining, M=Matrix.
Hydric Soil Indicators	: (Applicabl	e to all L	RRs, unless other	wise note	d.)	Indica	tors for Problema	atic Hydric Soils ³ :
Histosol (A1)			Sandy Redox (St	5)		2 (cm Muck (A10)	
Histic Epipedon (A2	2)		Stripped Matrix (S6)			ed Parent Material	
Black Histic (A3)			Loamy Mucky Mi		(except ML		ery Shallow Dark S	
Hydrogen Sulfide (/			Loamy Gleyed M			Ot	her (Explain in Rer	narks)
Depleted Below Da Thick Dark Surface	,	(11) <u> </u>	Depleted Matrix (Redox Dark Surf	,		31		
Sandy Mucky Mine			Depleted Dark Sun				idicators of nydropi etland hydrology m	nytic vegetation and
Sandy Gleyed Matr	ix (S4)	-	Redox Depression	` ,			less disturbed or p	
	,		<u> </u>				·	
Restrictive Layer (if pres	ent):							
Туре:					Hydric So	oil Present?	Yes	No x
Depth (inches):								
YDROLOGY								
Wetland Hydrology Indic								
Primary Indicators (minim	um of one red	quired; ch		-1.1	DO) /		ary Indicators (2 or	
Surface Mater (A1)			Water-Staine				er-Stained Leaves	(B9) (MLRA 1, 2,
Surface Water (A1)High Water Table (A2)			MLRA 1, 2, 4 Salt Crust (B)		and 4B) nage Patterns (B10))
Saturation (A3)			Aquatic Inver	,	(13)		Season Water Tab	
Water Marks (B1)			Hydrogen Su				ration Visible on A	` '
			Oxidized Rhiz	zospheres	along Living			
Sediment Deposits (B2	2)		Roots (C3)				morphic Position (I	02)
_ Drift Deposits (B3)			Presence of F			Shal	llow Aquitard (D3)	
Algal Mat or Crust (B4	١		Recent Iron F Soils (C6)	Reduction if	n i lilea	FAC	-Neutral Test (D5)	
_ Algai Mat of Ordst (D4)	1		Stunted or St	ressed Pla	nts (D1)	170	-Neutral Test (DS)	
Iron Deposits (B5)			(LRR A)		` ,	Rais	ed Ant Mounds (D	6) (LRR A)
Surface Soil Cracks (B	,		Other (Explai	n in Remar	ks)	Fros	t-Heave Hummock	s (D7)
_ Inundation Visible on A								
_ Sparsely Vegetated Co	ncave Surfa	ce (B8)						
Field Observations:								
Surface Water Present?	Yes	No >	Depth (inches):					
Water Table Present?	Yes	No >	_ _ ` `		We	etland Hydrolo	gy Present? Y	es No x
Saturation Present?			, /			-		
(includes capillary fringe)	Yes		Depth (inches):			\ '.c '' ' '		
escribe Recorded Data (s	tream gauge	monitori	ng well, aerial photo	os, previou	s inspection	s), it available:		
emarks:								
a								

Appendix C: Ground Level Photographs		
Schott & A	Associates	



Photo Point 1 facing west, northwest



Photo Point 1 facing southwest



Photo Point 1 facing east, southeast



Photo Point 1 facing north, northeast



Appendix C: Ground Level Photographs 22870 Weatherhill Road S&A# 2637

Schott & Associates P.O. Box 589 Aurora, OR. 97002 503.678.6007



Photo Point 2 facing southwest

Appendix D: References

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Consulting Arborists and Urban Forest Management

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December 16, 2018

Planning and Building City of West Linn 22500 Salamo Road #1000 West Linn, Oregon 97068

Re: Arborist Report and Tree Preservation Plan for the Walling Circle Two-Lot Partition

West Linn, Oregon

Project No. MHA18060 22870 Weatherhill Road Subdivision

Please find enclosed the Arborist Report and Tree Preservation Plan for the 12-lot subdivision project located at 22870 Weatherhill Road in West Linn, Oregon. Please contact us if you have questions or need any additional information.

Respectfully,

Morgan Holen & Associates, LLC

Morgan E. Holen, Member

ISA Board Certified Master Arborist, PN-6145B

ISA Tree Risk Assessment Qualified

Forest Biologist

Arborist Report and Tree Preservation Plan

12-Lot Subdivision 22870 Weatherhill Road West Linn, Oregon

December 16, 2018

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Table of Contents

Purpose	1
Scope of Work and Limitations	
Tree Inventory	
Tree Preservation Plan	
Tree Protection Standards	
Before Construction	
During Construction	
Post Construction	



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12-Lot Subdivision – 22870 Weatherhill Road, West Linn, Oregon Arborist Report and Tree Preservation Plan December 16, 2018

MHA18060

Purpose

This Arborist Report and Tree Preservation Plan for the 12-lot subdivision at 22870 Weatherhill Road in West Linn, Oregon, is provided pursuant to City of West Linn Community Development Code Chapter 55, Municipal Code Sections 8.500 and 8.600 and the West Linn Tree Technical Manual. This report describes the existing trees located on the project site, as well as recommendations for tree removal, retention and protection. This report is based on observations made by International Society of Arboriculture (ISA) Board Certified Master Arborist (PN-6145B) and Qualified Tree Risk Assessor Morgan Holen during a site visit conducted on September 26, 2018, an on-site meeting with the City's Arborist Mike Perkins that same day and subsequent coordination with Emerio Design.

Scope of Work and Limitations

Morgan Holen & Associates, LLC, was contracted by Schultz Development Group to collect tree inventory data for individual trees measuring six inches and larger in diameter and to develop an arborist report and tree preservation plan for the project in coordination with Emerio Design. The project proposes demolition of an existing house and development of a 12-lot subdivision and associated improvements. Site plans were provided by Emerio Design illustrating the location of existing trees and potential construction impacts.

Visual Tree Assessment (VTA) was performed on individual trees located across the site. VTA is the standard process whereby the inspector visually assesses the tree from a distance and up close, looking for defect symptoms and evaluating overall condition and vitality of individual trees. Trees were evaluated in terms of general condition and potential construction impacts. Dense blackberries and invasive vegetation limited visual assessment for a number of trees, particularly along the southern boundary. Following the inventory fieldwork, we coordinated with Emerio Design to discuss potentially significant trees as determined by the City's Arborist during our on-site meeting and tree protection recommendations. The location of individual trees is shown on site plan drawings and tree numbers correspond with the enclosed tree data.

The client may choose to accept or disregard the recommendations contained herein, or seek additional advice. Neither this author nor Morgan Holen & Associates, LLC, have assumed any responsibility for liability associated with the trees on or adjacent to this site.

Tree Inventory

The existing trees are scattered across the site, primarily around the existing home and driveway and in a relatively natural stand spreading across the southern half of the site. In all, 124 existing trees were inventoried including 18 different species, four trees located off-site in a utility easement connecting the site to Crestview Drive and one tree located along the southern boundary adjacent to 2265 Crestview Drive. Table 1 provides a summary of the count of inventoried trees by species. The enclosed tree data provides a complete description of the individual trees.

Table 1. Count of Trees by Species – 22870 Weatherhill Drive.

Common Name	Species Name	Count	Percent*
apple	Malus spp.	1	1%
bigleaf maple	Acer macrophyllum	20	16%
cherry	Prunus spp.	1	1%
Coral Bark maple	Acer palmatum 'Sango-kaku'	1	1%
Douglas-fir	Pseudotsuga menziesii	23	19%
English hawthorn	Crataegus monogyna	8	6%
English holly	Ilex aquifolium	1	1%
incense cedar	Calocedrus decurrens	1	1%
madrone	Arbutus menziesii	2	2%
Oregon ash	Fraxinus latifolia	1	1%
Oregon white oak	Quercus garryana	40	32%
paper birch	Betula papyrifera	2	2%
river birch	Betula nigra	6	5%
Scouler's willow	Salix scouleriana	13	10%
spruce	Picea spp.	1	1%
sweet cherry	Prunus avium	1	1%
western redcedar	Thuja plicata	2	2%
apple	Malus spp.	1	1%
Total		124	100%

^{*}Percent total does not sum to 100% due to rounding.

Oregon white oak (*Quercus garryana*) is most common, accounting for 40 of the 124 inventoried trees, most of which are growing in the relatively natural stand throughout the southern half of the property. A mix of bigleaf maple (*Acer macrophyllum*), Scouler's willow (*Salix scouleriana*), and Douglas-fir (*Pseudotsuga menziesii*), primarily scattered among the oaks in the stand, account for a total of 56 of the 124 inventoried trees. Non-native and invasive English hawthorn (*Crataegus monogyna*), English holly (*Ilex aquifolium*) and sweet cherry (*Prunus avium*) account for 10 of the 124 inventoried trees. Besides one Oregon ash (*Fraxinus latifolia*) and two madrones (*Arbutus menziesii*) which are also located within the stand, the other 15 inventoried trees are a mix of species planted for landscaping purposes.

Trees located around the existing house and driveway have been well-maintained over time. The relatively natural stand of trees has been generally unmaintained but is in generally good condition as a whole although individual trees in the stand are highly variable in terms of general condition and structure due to natural stand dynamics. Trees planned for retention within the stand should be reassessed at the time of site clearing in terms of exposure from adjacent tree removal and at the time individual plot plans are developed in terms of potential homebuilding impacts; if trees are determined to no longer be suitable for preservation the City may require additional documentation and separate tree removal permits in accordance with Municipal Code Sections 8.500 and 8.600.

Significant trees were determined by the City Arborist during the September 26, 2018 on-site meeting. Based on evaluation of the size, type, location, health, and long-term survivability of the individual and stand grown trees, 45 trees were identified as being significant including 10 Douglas-firs in fair and good condition measuring 18- to 47-inches in diameter and 35 Oregon white oaks in fair and good condition measuring 6- and 19-inches in diameter or having multiple codominant stems.

Tree Preservation Plan

We coordinated with Emerio Design to discuss trees suitable for preservation in terms of potential construction impacts for site improvements associated with the proposed subdivision including rough grading, underground utilities, an extension of Satter Street east to west through the site, and improvements along Weatherhill Road. Table 2 provides a summary of the number of non-significant and significant trees by treatment consistent with the proposed tree preservation plan.

Treatment	Non- Significant	Significant	Total*		
Remove	68	38	106 (85%)		
Retain	11	7	18 (15%)		
Total	79 (64%)	45 (36%)	124 (100%)		

Table 2. Number of Inventoried Trees by Treatment and Significance.

Of the 124 inventoried trees, 68 non-significant trees are planned for removal including two trees located within the utility easement near Crestview Drive and one tree located along the southern property boundary. The boundary tree, #20807, is an 8-inch diameter bigleaf maple with very poor structure that is not suitable for retention with exposure from the proposed removal of adjacent on-site tree #20806, a 15-inch diameter bigleaf maple deemed hazardous due to advanced trunk decay with a hollow from 0- to 3-feet along the north face of the trunk. Removal of the boundary tree will require written authorization from the adjacent property owner prior to its removal. If the neighbor is not willing to consent to removal of this tree following coordination by the owner of the development site, it may remain with the understanding that it has been recommended for removal by a qualified arborist and liability associated with its retention will fall on the neighboring owner.

Eleven non-significant stand grown trees are planned for retention, including another two trees located off-site in the utility easement. Per the West Linn Tree Technical Manual, each tree to be retained shall have a designated tree protection zone equal to ½-foot radius per caliper inch of tree diameter. The standard tree protection zone is depicted on the tree preservation plan for each of these trees.

Of the 45 significant trees, 38 are planned for removal for the purposes of site development and seven are planned for retention. Chapter 55 of the West Linn Community Development Code requires that up to 20% of the significant tree canopy area on a site be preserved. Emerio Design calculated the total significant tree area based on the dripline plus 10-feet to be 50,265-square feet of which 10,687-square feet are planned for retention. This equates to 21.3% which exceeds the City's standard.

Chapter 55 also requires that significant trees be protected at the dripline plus 10-feet. The tree protection plan identifies the significant trees and depicts protection fencing at this distance where feasible. Minor encroachments limited to the 10-foot dripline buffer are shown where a planter box is proposed southwest of tree #20712 on lot 8 and where planter boxes and underground utilities and manholes are proposed north and northwest of tree #20788 in the rear of lots 10 and 11 and north of tree #20798 in the rear of lot 12. Adequate protection is possible and no critical root impacts are anticipated because the entire dripline area will continue to be protected. A more significant encroachment is proposed north of tree #20491 at lot 1 where a retaining wall is needed for sidewalk improvements along Weatherhill Road. In this case, protection fencing is reduced to the limits of work which does encroach into the dripline area. However, the proposed block wall is located in an area that is already disturbed with existing asphalt roadway and a rockery wall. Demolition of the rockery wall and excavation of up to one foot to install the new block wall should be performed under arborist supervision and with hand tools only. Tree protection standards are provided in the next section and should be copied onto the tree preservation plan drawing.

Tree Protection Standards

Trees to be protected will need special consideration to assure their protection during construction. In addition, trees preserved during site improvement work may require further evaluation in terms of individual plot plans for homebuilding which may result in additional tree protection recommendations or additional tree removal if adequate protection is not possible. It is the Client's responsibility to implement this plan and to monitor the construction process. Tree protection measures include:

Before Construction

- 1. Tree Protection Zone. The standard Tree Protection Zone (TPZ) for each tree to be protected shall be established ½-foot radius per inch of trunk diameter for non-significant trees and at the dripline plus 10-feet for significant trees. Where infrastructure (planter box, underground utilities and manholes, block wall) must be installed closer to the tree(s), protection fencing may be established within the TPZ in accordance with the tree protection plan.
- 2. Protection Fencing. Protection fencing shall be installed as depicted on the tree preservation plan before demolition, grubbing, grading, or construction begins. All trees to be retained shall be protected by six-foot-high chain link fences installed per plan. Protection fencing shall be secured to two-inch diameter galvanized iron posts, driven to a depth of a least two feet, placed no further than 10-feet apart. If fencing is located on pavement, posts may be supported by an appropriate grade level concrete base. Protection fencing shall remain in place until final inspection of the project permit, or in consultation with the Project Arborist.
- **3. Signage.** An 8.5x11 –inch sign stating, "WARNING: Tree Protection Zone," shall be displayed on each protection fence at all times.
- **4. Designation of Cut Trees.** Trees to be removed shall be clearly marked with construction flagging, tree-marking paint, or other methods approved in advanced by the Project Arborist. Trees shall be carefully removed so as to avoid either above or below ground damage to those trees to be preserved. Roots of stumps that are adjacent to retained trees shall be carefully severed prior to stump extraction.
- **5. Preconstruction Conference.** The Project Arborist shall be on site to discuss methods of tree removal and tree protection prior to any construction.
- **6. Verification of Tree Protection Measures.** Prior to commencement of construction, the Project Arborist shall verify in writing to the City Arborist that tree protection fencing has been satisfactorily installed.

During Construction

- 7. Tree Protection Zone Maintenance. The protection fencing shall not be moved, removed, or entered by equipment except under direction of the Project Arborist, in coordination with the City Arborist.
- **8. Storage of Material or Equipment.** The contractor shall not store materials or equipment within the TPZ.

- 9. Activity Adjacent to Tree #20491. The Contractor shall be responsible for coordinating with the Project Arborist in a timely manner prior to working beneath the dripline of tree #20491. Demolition of the existing rockery wall and excavation for construction of the proposed block wall shall be performed under the direct on-site supervision of the Project Arborist. Work shall be performed by hand and with hand tools only. Excavation shall not exceed 1-foot depth. The Project Arborist shall monitor and document work, assess exposed roots in terms of quantity, size, condition, and proximity to trunk, direct pruning of non-critical roots, and provide recommendations for the protection of critical roots if any are encountered. Each site visit during construction shall be documented by the Project Arborist in an inspection report submitted to the Client, Contractor and City Arborist.
- **10. Crown Pruning.** Crown pruning may be needed to provide overhead clearance and removed dead and defective branches for safety. Pruning should be performed in accordance with the West Linn Tree Technical Manual, Best Management Practices for Tree Pruning and ANSI A300 Standards, and conducted by a Qualified Tree Service.
- **11. Quality Assurance.** The contractor shall be responsible for coordinating with the Project Arborist as needed, in a timely manner, prior to construction activities that could encroach on protected trees. The Project Arborist should monitor construction activities and progress on-call and provide written reports to the developer and the City following each site visit.

Post Construction

12. Final Report. After the project has been completed, the Project Arborist shall provide a final report to the Client and City Arborist. The final report shall include concerns about any trees negatively impacted during construction, and describe the measures needed to maintain and protect the remaining trees for a minimum of two years after project completion.

Please contact us if you have questions or need any additional information. Thank you for choosing Morgan Holen & Associates, LLC, to provide consulting arborist services for the Walling Circle partition project.

Thank you,

Morgan Holen & Associates, LLC

Morgan E. Holen, Member

ISA Board Certified Master Arborist, PN-6145B

ISA Tree Risk Assessment Qualified

Forest Biologist

Enclosures: MHA18060 22870 Weatherhill Road – Tree Data 9-26-18 Rev. 12-16-18



MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx Page 1 of 6

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
							Storm damage, codominant stem failure, open		
20432	Dec	Coral Bark maple	Acer palmatum 'Sango-kaku'	3x5	12	F	wound	No	Remove
20433	Dec	English hawthorn	Crataegus monogyna	4x10	18	F	Invasive species, moderate structure, crown decay	No	Remove
20434	Dec	English hawthorn	Crataegus monogyna	7x8	25	G	Invasive species	No	Remove
20435	Dec	river birch	Betula nigra	23	30	F	Moderate structure, twig dieback	No	Remove
20436	Dec	river birch	Betula nigra	17	16	F	Moderate structure, twig dieback	No	Remove
20437	Dec	river birch	Betula nigra	16	0	D	Mostly dead	No	Remove
20438	Dec	river birch	Betula nigra	15	28	F	Moderate structure, twig dieback	No	Remove
20439	Dec	river birch	Betula nigra	14	16	F	Moderate structure, twig dieback	No	Remove
20440	Dec	river birch	Betula nigra	18	16	F	Moderate structure, twig dieback	No	Remove
20441	Dec	cherry	Prunus spp.	14	18	G	Well-maintained	No	Remove
20454	Dec	English hawthorn	Crataegus monogyna	4x8	18	F	Invasive species, moderate structure, crown decay	No	Remove
20459	Dec	English hawthorn	Crataegus monogyna	5,6,2x8	18	G	Invasive species	No	Remove
20460	Dec	English hawthorn	Crataegus monogyna	5,2x8	14	G	Invasive species	No	Remove
20487	Con	incense cedar	Calocedrus decurrens	22	12	G	Some crown asymmetry	No	Remove
20488	Con	Douglas-fir	Pseudotsuga menziesii	30	26	F	Topped	No	Remove
							Moderate structure, previously topped, some		
20489	Dec	bigleaf maple	Acer macrophyllum	13,21	26	F	trunk decay	No	Remove
20491	Con	Douglas-fir	Pseudotsuga menziesii	34	22	G	Spur leader, no major defects	Yes	Retain
20492	Dec	paper birch	Betula papyrifera	11	10	G		No	Remove
20493	Dec	paper birch	Betula papyrifera	2x10	16	G		No	Remove
20494	Dec	English hawthorn	Crataegus monogyna	5x10	20	G	Invasive species	No	Remove
20495	Dec	English hawthorn	Crataegus monogyna	3x12	20	G	Invasive species	No	Remove
20584	Dec	Oregon white oak	Quercus garryana	12,16	34	G	Dense group	Yes	Remove
20585	Dec	Oregon white oak	Quercus garryana	6	22	F	Dense group	Yes	Remove
20586	Dec	Oregon white oak	Quercus garryana	19	34	G	Dense group	Yes	Remove



MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx Page 2 of 6

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
20587	Dec	Oregon white oak	Quercus garryana	16	34	G	Dense group	Yes	Remove
20605	Dec	Scouler's willow	Salix scouleriana	2x12	16	F	Previous leader failure, dead and broken branches	No	Remove
20606	Dec	English hawthorn	Crataegus monogyna	14	13	F	Invasive species	No	Remove
20607	Dec	sweet cherry	Prunus avium	22	22	F	Invasive species, moderate structure, dead and broken branches	No	Remove
20647	Dec	Oregon white oak	Quercus garryana	2x18	20	G	Oak grove	Yes	Remove
20648	Dec	Oregon white oak	Quercus garryana	14	16	F	Oak grove, few dead and broken branches	Yes	Remove
20649	Dec	Oregon white oak	Quercus garryana	12	15	G	Oak grove	Yes	Remove
20650	Dec	Oregon white oak	Quercus garryana	11,14, 16	20	G	Oak grove	Yes	Remove
20651	Dec	Oregon white oak	Quercus garryana	14,16	30	G	Oak grove	Yes	Remove
20656	Dec	Oregon white oak	Quercus garryana	8,3x14, 17	28	G	Oak grove, hornets nest, old steel brace compartmentalized in trunk	Yes	Remove
20658	Dec	Oregon white oak	Quercus garryana	3x10	14	G	Oak grove	Yes	Remove
20659	Dec	Oregon white oak	Quercus garryana	14	20	G	Oak grove, one-sided to south	Yes	Remove
20660	Dec	Oregon white oak	Quercus garryana	8	16	G	Oak grove	Yes	Remove
20661	Dec	Oregon white oak	Quercus garryana	8,10, 14,15	20	G	Oak grove	Yes	Remove
20662	Dec	Oregon white oak	Quercus garryana	5,2x6, 11	12	F	Oak grove, very upright high live crown, small diameter stems are completely dead	Yes	Remove
20663	Dec	Oregon white oak	Quercus garryana	5,6, 7,14,18	15	F	Oak grove, moderate one-sided crown structure	Yes	Remove
20665	Dec	Oregon white oak	Quercus garryana	10,2x12, 18,20	30	G	Oak grove, few dead and broken branches	Yes	Remove
20666	Con	Douglas-fir	Pseudotsuga menziesii	32	24	G	Codominant crown class, ivy up lower trunk	Yes	Remove
20667	Con	Douglas-fir	Pseudotsuga menziesii	28	24	G	Codominant crown class, ivy up lower trunk	Yes	Remove
20670	Dec	Oregon white oak	Quercus garryana	8,10,12	16	G	Oak grove	Yes	Remove



MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx Page 3 of 6

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
20671	Dec	Oregon white oak	Quercus garryana	4x12	18	G	Oak grove	Yes	Remove
20672	Dec	Oregon white oak	Quercus garryana	14	20	F	One-sided to west	Yes	Remove
20673	Dec	Oregon white oak	Quercus garryana	14	30	F	One-sided to north, few dead and broken branches	Yes	Remove
							Codominant crown class, few dead and broken		
20674		Douglas-fir	Pseudotsuga menziesii	36		G P	branches		Remove
20675	Dec	apple	Malus spp.	8,10	20	Р	Very poor structure, dieback, decay	NO	Remove
20677	Dec	Oregon white oak	Quercus garryana	14	14	F	Oak grove, one-sided to north, few dead and broken branches	Yes	Remove
20678	Dec	Oregon white oak	Quercus garryana	8,9,14	18	G	Oak grove, few dead and broken branches	Yes	Remove
20679	Dec	Oregon white oak	Quercus garryana	12	12	F	Oak grove, few dead and broken branches, ivy up lower trunk	Yes	Remove
20680	Dec	Oregon white oak	Quercus garryana	12	12	F	Oak grove, few dead and broken branches, ivy up lower trunk	Yes	Retain
20681	Dec	Oregon white oak	Quercus garryana	14	12	F	Oak grove, few dead and broken branches, ivy up lower trunk	Yes	Retain
20682	Dec	Oregon white oak	Quercus garryana	7,2x10	16	G	Oak grove, some ivy	Yes	Remove
20683	Dec	Oregon white oak	Quercus garryana	10,12,14	20	F	Oak grove, few dead and broken branches	Yes	Remove
20686	Dec	Oregon white oak	Quercus garryana	6,8	10	F	Oak grove, few dead and broken branches	Yes	Remove
20687	Dec	Oregon white oak	Quercus garryana	6	10	F	Oak grove, few dead and broken branches	Yes	Remove
20688	Dec	Oregon white oak	Quercus garryana	10	10	F	Oak grove, few dead and broken branches	Yes	Remove
20689	Con	Douglas-fir	Pseudotsuga menziesii	26	22	F	Codominant crown class, broken top, new leaders	Yes	Remove
20691	Dec	Oregon ash	Fraxinus latifolia	7	14	F	Moderate structure	No	Remove
20694	Dec	Oregon white oak	Quercus garryana	16,18	18	G	Oak grove	Yes	Remove
20696	Dec	Oregon white oak	Quercus garryana	2x14	12	Р	Half dead	No	Remove
20699	Dec	Oregon white oak	Quercus garryana	10	5	Р	Oak grove, suppressed	No	Remove



MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx Page 4 of 6

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
20700	Dec	Oregon white oak	Quercus garryana	14	12	Р	Oak grove, severe ivy infestation, small live crown	No	Remove
20704	Dec	Oregon white oak	Quercus garryana	2x14	16	G	Oak grove	Yes	Remove
20705	Dec	Oregon white oak	Quercus garryana	16	16	G	Oak grove	Yes	Remove
20709	Dec	madrone	Arbutus menziesii	16	14	F	Crown dieback, trunk decay	No	Retain
20712	Dec	Oregon white oak	Quercus garryana	18	16	G	Oak grove, ivy up lower trunk	Yes	Retain
20714	Dec	Scouler's willow	Salix scouleriana	4x8	12	F	Inaccessible	No	Retain
20715	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Retain
20716	Dec	Scouler's willow	Salix scouleriana	12	12	F	Inaccessible	No	Retain
20717	Dec	Scouler's willow	Salix scouleriana	10	12	F	Inaccessible	No	Remove
20719	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Remove
20722	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Retain
							Moderate structure, additional codominant stem		
							failed in past and has advanced decay, remaining		
20728	Dec	bigleaf maple	Acer macrophyllum	3x20	24	F	stems are mostly one-sided to east	No	Retain
20734	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Retain
20735	Dec	bigleaf maple	Acer macrophyllum	10	12	F	Inaccessible	No	Retain
20741	Dec	Scouler's willow	Salix scouleriana	14	10	F	Inaccessible	No	Remove
20744	Dec	bigleaf maple	Acer macrophyllum	7	12	F	Poor structure	No	Remove
							History of branch failure, crown decay, trunk		
20745	Dec	Scouler's willow	Salix scouleriana	16	8	Р	decay with hollow	No	Remove
20747	Dec	bigleaf maple	Acer macrophyllum	8	16	F	Poor structure	No	Remove
20748	Dec	English holly	llex aquifolium	8	8	F	Invasive species	No	Remove
20749	Dec	bigleaf maple	Acer macrophyllum	8	8	F	Poor structure	No	Remove
20750	Con	Douglas-fir	Pseudotsuga menziesii	18	14	F	Codominant crown class, old broken top	No	Remove
20751	Dec	bigleaf maple	Acer macrophyllum	10	16	F	Poor structure	No	Remove
20753	Con	Douglas-fir	Pseudotsuga menziesii	16	14	F	Codominant crown class, ivy	No	Remove
20754	Con	Douglas-fir	Pseudotsuga menziesii	7	3	Р	Suppressed, mostly dead	No	Remove



MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx Page 5 of 6

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
20761	Con	Douglas-fir	Pseudotsuga menziesii	18	14	G	Ivy up trunk, codominant crown class	Yes	Remove
20766	Con	Douglas-fir	Pseudotsuga menziesii	12	10	F	Codominant crown class, some ivy	No	Remove
20767	Con	Douglas-fir	Pseudotsuga menziesii	18	14	F	Pistolbutt, sweep in upper trunk	No	Remove
20768	Con	Douglas-fir	Pseudotsuga menziesii	19	14	F	One-sided to south, sweep in upper trunk	No	Remove
							Codominant stems with seam, dead and broken		
20769	Dec	Oregon white oak	Quercus garryana	16,20	12	F	branches, crown decay, upright crown	No	Remove
20770	Con	Douglas-fir	Pseudotsuga menziesii	20	15	F	Old broken top, forked leaders, twig dieback	No	Remove
20771	Con	Douglas-fir	Pseudotsuga menziesii	16	14	F	Codominant crown class	No	Remove
20774	Con	Douglas-fir	Pseudotsuga menziesii	12	10	F	Codominant crown class, ivy up trunk	No	Remove
20775	Con	Douglas-fir	Pseudotsuga menziesii	16	8	F	Codominant crown class, ivy up trunk	No	Remove
20776	Con	Douglas-fir	Pseudotsuga menziesii	10	6	Р	Suppressed, extensive ivy	No	Remove
20779	Dec	bigleaf maple	Acer macrophyllum	8	16	F	Very poor structure	No	Remove
20780	Dec	bigleaf maple	Acer macrophyllum	2x6	10	F	Very poor structure	No	Remove
20781	Dec	bigleaf maple	Acer macrophyllum	10	10	F	Very poor structure	No	Remove
20782	Dec	bigleaf maple	Acer macrophyllum	8	10	F	Very poor structure	No	Remove
20785	Con	Douglas-fir	Pseudotsuga menziesii	47	26	G	Forked leaders	Yes	Retain
20788	Con	Douglas-fir	Pseudotsuga menziesii	36	28	G	Limited assessment	Yes	Retain
20793	Con	Scouler's willow	Salix scouleriana	14	8	Р	Multiple leader failures, vigorous sprouting	No	Remove
20794	Dec	bigleaf maple	Acer macrophyllum	9	16	F	Poor structure	No	Retain
20795	Dec	bigleaf maple	Acer macrophyllum	2x6	10	Р	Very poor structure	No	Remove
20796	Dec	bigleaf maple	Acer macrophyllum	8	12	F	Poor structure	No	Remove
20797	Dec	bigleaf maple	Acer macrophyllum	7	14	F	Poor structure	No	Remove
20798	Con	Douglas-fir	Pseudotsuga menziesii	23	18	G	Limited assessment	Yes	Retain
20802	Dec	bigleaf maple	Acer macrophyllum	16	18	G		No	Remove
20805	Con	Douglas-fir	Pseudotsuga menziesii	8	6	Р	Suppressed, growing into 20806	No	Remove
20005		1.1.6					Advanced trunk decay with hollow 0-3' north face,		
20806	Dec	bigleaf maple	Acer macrophyllum	15	16	Р	poor crown structure	No	Remove



MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx Page 6 of 6

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
							Boundary tree, very poor structure, not suitable		
							for retention with exposure from removal of		Remove with adjacent
20807	Dec	bigleaf maple	Acer macrophyllum	8	14	Р	adjacent hazard tree 20806	No	owner's consent
20808	Dec	madrone	Arbutus menziesii	15	18	Р	Crown difficult to assess but advanced basal decay	No	Remove
20834	Dec	Scouler's willow	Salix scouleriana	18	12	F	Off-site in utility easement, inaccessible	No	Retain
20835	Dec	Scouler's willow	Salix scouleriana	18	12	F	Off-site in utility easement, inaccessible	No	Retain
20849	Con	western redcedar	Thuja plicata	6	6	G	Off-site in utility easement, young tree	No	Remove
20850	Con	western redcedar	Thuja plicata	6	6	G	Off-site in utility easement, young tree	No	Remove
20900	Dec	bigleaf maple	Acer macrophyllum	8	12	Р	Very poor structure	No	Remove
20921	Dec	bigleaf maple	Acer macrophyllum	9,12	16	F	Poor structure, trunk decay	No	Remove
30001	Con	spruce	Picea spp.	8	8	G		No	Remove
30002	Dec	Oregon white oak	Quercus garryana	7,9,11	14	Р	Low vigor, dieback	No	Remove
							Codominant crown class, few dead and broken		
30003	Con	Douglas-fir	Pseudotsuga menziesii	32	24	G	branches	Yes	Remove

^{*}DBH is tree diameter measured at breast height, 4.5-feet above the ground level (inches); codominant trunks splitting below DBH are measured individually and DBH is reported as the sum of each stem.

Sig? asks whether or not individual trees are considered potentially significant, either Yes (likely significant) or No (not considered significant).

 $^{{}^{\}Lambda}\text{C-Rad}$ is the average crown radius measured in feet.

^{*}Cond is an arborist assigned rating to generally describe the condition of individual trees as follows- Dead; Poor; Fair; Good; or Excellent condition.

PC-4 Applicant's Submittal 2/20/19



CIVIL ENGINEERS & PLANNERS

February 19, 2019

City of West Linn Planning Dept. ATTN: Jennifer Arnold 22500 Salamo Road West Linn, OR 97068

SUBJECT: Incomplete Letter – Application No. SUB-18-04 application for 12-lot Subdivision at 22870 Weatherhill Road

Dear Mrs. Arnold:

You provided the applicant with an incomplete letter on January 23, 2019 indicating items that needed to be submitted by the applicant before the City could deem the application complete. Below is the list of incomplete items listed in the City's January 23, 2019 letter, as well as a response from the applicant.

Engineering:

1. The centerline of the road needs to be the true centerline of the road as parking is not prohibited on one side or another.

RESPONSE: The applicant has revised the centerline for Satter St. so that it is a "true" centerline. See submitted revised plan set for more detail.

2. Need to add a turnaround approved by TVF&R at the east end near lot 7 and 12 in case the 22864 Weatherhill Subdivision does not go through.

RESPONSE: The applicant has added a turnaround at the east end near lot 7. The applicant is proposing to use the flag pole for lot 6 as the fire turnaround until Satter St. is extended with the development of the adjacent property to the east (i.e. 22864 Weatherhill Rd.). See sheet 6 of the revised plan set for more detail.

- 3. Planters are not a good application for this site. Better applications might be: a. A few planters and a small pond.
- b. Install the future storm, water and sanitary sewer mains extending across the 22864 Weatherhill Subdivision to the east along with the necessary easements. The storm water would go to the regional

pond at Bland and Salamo. A drainage report would need to show that the pond has capacity for this subdivision.

RESPONSE: The applicant has worked closely with the City's Engineer to design LIDA planters for the project. As a result of working with the City's Engineer, the applicant has revised the LIDA planters to meet the requirements of the City. See revised plan set for more detail.

Planning:

Community Development Code Chapter 32, Water Resource Area Protection: A narrative addressing approval and submittal criteria for Chapter 32 is required.

RESPONSE: The applicant worked closely with Schott & Associates on the Water Resource Area Protection requirements. As a result, the applicant has provided a narrative prepared by Schott & Associates addressing the approval and submittal criteria for Chapter 32. A copy of the narrative has been included with the incomplete items submitted by the applicant.

85.170.B(2)(c) TIA When Required: Preliminary count required to show number of trips generated by this development. A full TIA is not required. Please put preliminary count in the narrative.

RESPONSE: Pursuant to the City requesting a trip generation letter, the applicant hired Global Transportation Engineering to prepare the required letter. A copy of the Global Transportation Engineering trip generation letter has been submitted with the incomplete materials.

85.200.A(17) Planter Strip: Narrative shows the installation of planter strips along the Satter Street extension. The submitted plans show the LIDA planters in place of the planter strip. Plans and narrative must be consistent.

RESPONSE: The applicant has updated the narrative accordingly to address this item. A revised narrative has been submitted with the incomplete response.

85.200.J(4) Street Lighting: A street lighting plan is noted as submitted in the narrative, but does not appear to have been included in the applicant's submitted packet. The LIDA planters do not leave much room (if any) for required street lighting which needs to be addressed in the narrative and on the plans.

RESPONSE: A street lighting plan has been prepared and submitted with the incomplete materials as Sheet 12 of the plan set.

99.038.E(5) Neighborhood Association Meeting Submittal Requirements: Submitting an audiotape of the meeting is an application requirement.

RESPONSE: The applicant contacted the Savana Oaks Neighborhood Association (SONA) to get a copy of the audiotape for the neighborhood meeting the applicant attended to present the proposed subdivision. I was informed by Roberta Schwarz, President Designee, that they do not record their meetings. However, Mrs. Schwarz provided the applicant with the meeting minutes from the meeting and the applicant has submitted those to the City with the application. Since SONA does not record their meeting, the applicant will not be able to provide a recording of the SONA meeting attended for this proposal.



CIVIL ENGINEERS & PLANNERS

DATE: 12-27-2018

PROPERTY OWNER/

DEVLOPER: 22870 Weatherhill, LLC

%Partnership Administrator: Rod Friesen

12810 SW Morningstar Dr.

Tigard, OR 97223 Ph.: (971) 235-3314

E-mail: rod.friesen@frontier.com

CIVIL ENGINEER, PLANNING &

SURVEYOR: Emerio Design, LLC

Attn: Steve Miller

6445 SW Fallbrook Pl., Suite 100

Beaverton, OR 97008

(541) 318-7487

E-mail: stevem@emeriodesign.com

REQUEST: Approval of 24-Lot Subdivision in the R-7 zone.

SITE

LOCATION: 22870 Weatherhill Rd.

ZONING: Single-Family Residential Detached and attached (R-7), City of West Linn, Oregon

SITE SIZE: 2.57 Acres

LEGAL DESCRIPTION: Tax Map 2S1E35B, Tax Lot 405

LIST OF EXHIBITS:

- 1 Detailed Plan Set
- 2 Pre-Application Notes
- 3 Neighborhood Meeting Notice
- 4 Phase I Environmental Report
- 5 Geotechnical Report

6 - Stormwater Management Report

7 - Arborist Report

WEST LINN APPLICABLE COMMUNITY DEVELOPMENT CODE (CDC) SECTIONS

CDC Chapter 12: (R-7 Zone)

CDC Chapter 32: Water Resource Area Protection – (Submitted as separate narrative by Schott &

Associates)

CDC Chapter 48: Access, Egress and Circulation

CDC Chapter 85: Land Division

CDC Chapter 92: Required Improvements

I. <u>INTRODUCTION</u>

The applicant is applying to subdivide an approximately 2.57 – acre property in a manner that allows the applicant to provide a variety of lot sizes and housing types. The subject property was recently annexed into the City of West Linn pursuant to File No. ANX-17-01 and Ordinance #1671. A pre-application conference was held with the City to discuss the subdivision of this property on September 6, 2018 by the Applicant.

The subject property is located on the south side of Weatherhill Road approximately 180-feet east Satter Street. The property is located on a hill and the site slopes gently downward to the south/southeast. There is one existing single-family residential home on the property, as well as the presence of a headwater to a small ephemeral stream on the southern edge of the property. The home will be removed with the development of the subdivision. There are trees, planted fields and grass, and a defined garden area on the property.

Adjacent properties to the south, east and west are within the West Linn City limits and are zoned R-7. These properties are developed with residential dwellings. There are two (2) properties located immediately to the north and across Weatherhill Road. One is located within the City and is developed with the Tanner Springs Assisted Living facility, while the other is located in unincorporated Clackamas County and is developed with a single-family residence.

II. CONFORMANCE WITH CITY OF WEST LINN CODE APPROVAL CRITERIA

CHAPTER 12 SINGLE-FAMILY RESIDENTIAL DETACHED AND ATTACHED, R-7

12.030 PERMITTED USES

The following uses are permitted outright in this zone.

1. Single-family detached residential unit.

RESPONSE: The proposed use is single-family detached residential units, a use permitted outright in the R-7 zone. The applicant's proposal satisfies the requirements of this section.

12.070 DIMENSIONAL REQUIREMENTS, USES PERMITTED OUTRIGHT AND USES PERMITTED UNDER PRESCRIBED CONDITIONS

Except as may be otherwise provided by the provisions of this code, the following are the requirements for uses within this zone:

- A. The minimum lot size shall be:
 - 1. For a single-family detached unit, 7,000 square feet.
- B. The minimum front lot line length or the minimum lot width at the front lot line shall be 35 feet.
- C. The average minimum lot width shall be 35 feet.

RESPONSE: The sizes of the twelve (12) lots proposed in the subdivision are between 7,004 square feet, and 9,744 square feet, with an average lot size of 7,490 square feet. As such, all twelve (12) lots meet or exceed the 7,000-square foot minimum lot size. All proposed front lot lines will meet or exceed the 35-foot minimum front lot line length, as well as the minimum average lot width of 35 feet. Therefore, all twelve (12) lots comply with the above criteria.

- E. The minimum yard dimensions or minimum building setback areas from the lot line shall be:
 - 1. For the front yard, 20 feet, except for steeply sloped lots where the provisions of CDC 41.010 shall apply.
 - 2. For an interior side yard, seven and one-half feet.
 - 3. For a side yard abutting a street, 15 feet.
 - 4. For a rear yard, 20 feet.
- F. The maximum building height shall be 35 feet, except for steeply sloped lots in which case the provisions of CDC 41.010 shall apply.
- G. The maximum lot coverage shall be 35 percent.
- H. The minimum width of an accessway to a lot which does not abut a street or a flag lot shall be 15 feet.
- I. The maximum floor area ratio shall be 0.45. Type I and II lands shall not be counted toward lot area when determining allowable floor area ratio, except that a minimum floor area ratio of 0.30 shall be allowed regardless of the classification of lands within the property. That 30 percent shall be based upon the entire property including Type I and II lands. Existing residences in excess of this standard may be replaced to their prior dimensions when damaged without the requirement that the homeowner obtain a non-conforming structures permit under Chapter 66 CDC.
- J. The sidewall provisions of Chapter 43 CDC shall apply.

RESPONSE: No homes are being proposed at this time. All Yard dimensions, building height, lot coverage, floor area ratios and sidewall provisions will be verified at time of building permit submittal.

CHAPTER 48 – ACCESS, EGRESS AND CIRCULATION

48.025 ACCESS CONTROL

- A. Purpose. The following access control standards apply to public, industrial, commercial and residential developments including land divisions. Access shall be managed to maintain an adequate level of service and to maintain the functional classification of roadways as required by the West Linn Transportation System Plan.
- B. Access control standards.
- Traffic impact analysis requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements.

RESPONSE: The City has not required a traffic impact analysis due to the small size and low impacts of the proposed development.

2. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

RESPONSE: Each lot on the property will include a driveway to provide access to/from either Weahterhill Rd. and/or Satter St., which are both public streets adjacent to the site with a local designation. The City's spacing standards for driveways along residential streets has been maintained for all new driveway access locations. The proposed configuration will create a safe and efficient access configuration for each new driveway.

- Access options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (planned access shall be consistent with adopted public works standards and TSP). These methods are "options" as approved by the City Engineer.
 - a) <u>Option 1.</u> Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.
 - b) Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.

c) Option 3. Access is from a public street adjacent to the development lot or parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in subsection (B)(6) of this section.

RESPONSE: The Applicant is proposing access to the site via Option 3. The proposed design limits curb cuts for access to the new lots proposed within this development. Each lot will take access to either Weatherhill Rd. or Satter St. via individual driveways. The City's spacing standards for driveways along residential streets has been maintained for all new driveway access locations. The proposed configuration will create a safe and efficient access configuration for each new driveway.

4. Subdivisions fronting onto an arterial street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).

RESPONSE: The proposed development does not front onto an arterial street. The requirements of this section do not apply.

5. Double-frontage lots. When a lot or parcel has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street. When a lot or parcel has frontage opposite that of the adjacent lots or parcels, access shall be provided from the street with the lowest classification.

RESPONSE: No double fronted lots will be created as part of this subdivision.

- 6. Access spacing.
 - a. The access spacing standards found in the adopted Transportation System Plan (TSP) shall be applicable to all newly established public street intersections and non-traversable medians. Deviation from the access spacing standards may be granted by the City Engineer if conditions are met as described in the access spacing variances section in the adopted TSP.
 - b. Private drives and other access ways are subject to the requirements of CDC 48.060.

RESPONSE: The Applicant's proposed driveway locations are shown on the site plan (see Sheet 7). The City's access spacing requirements for new driveways onto a residential local street have been maintained.

7. Number of access points. For single-family (detached and attached), two-family, and duplex housing types, one street access point is permitted per lot or parcel, when alley access cannot otherwise be provided; except that two access points may be permitted corner lots (i.e., no more than one access per street), subject to the access spacing standards in subsection (B)(6) of this section. The number of street access points for multiple family, commercial, industrial, and public/institutional

developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with subsection (B)(8) of this section, in order to maintain the required access spacing, and minimize the number of access points.

RESPONSE: The Applicant is proposing only one access point for each single-family lot. New driveways will be created for all 12 lots.

- 8. Shared driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:
 - a. Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line, but may be extended in the future as the adjacent lot or parcel develops. "Developable" means that a lot or parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).
 - b. Access easements (i.e., for the benefit of affected properties) shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.
 - c. Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, lot or parcel configuration, and similar conditions) prevent extending the street/driveway in the future.

RESPONSE: The Applicant is not proposing any shared driveways for the development.

- C. Street connectivity and formation of blocks required. In order to promote efficient vehicular and pedestrian circulation throughout the City, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:
 - 1. Block length and perimeter. The maximum block length shall not exceed 800 feet or 1,800 feet along an arterial.
 - 2. Street standards. Public and private streets shall also conform to Chapter 92 CDC, Required Improvements, and to any other applicable sections of the West Linn Community Development Code and approved TSP.
 - Exception. Exceptions to the above standards may be granted when blocks are divided by one or more pathway(s), in conformance with the provisions of CDC 85.200(C), Pedestrian and Bicycle Trails, or cases where extreme topographic (e.g., slope, creek, wetlands, etc.) conditions or compelling functional limitations preclude

implementation, not just inconveniences or design challenges.

RESPONSE: No new roads are being proposed as part of the subdivision. Satter Street is currently stubbed at the western boundary of the site. With this proposal the applicant will be extending Satter Street through the site from west to east and stubbing the street at the eastern boundary of the site for future extension.

The existing block length along Weatherhill Rd. between the center-line of Satter Street and De Vries Way is 584 feet. With the extension of Satter Street through the site, it will allow for the future extension of the street through the neighbor's property where it will be connected with the existing Satter Street stub located in the Weatherhill Estates subdivision. Once Satter Street is connected between the Weatherhill Subdivision and the Weatherhill Estates Subdivision, a block length will be established that is 926 feet in length. When the property to the east of the subject property redevelops, there will be an opportunity to establish a new block length of 800-feet by creating a new street connection with Weatherhill Road.

Existing development patterns and topographic conditions preclude the extension of any new roadways through the site or within close proximity which could logically provide for future connectivity. Furthermore, Figure 12 of the West Linn Transportation System Plan – Recommended Local Street Connectivity Projects – does not identify a new street connection within or adjacent to this site. All street standards will be met as shown in the submitted plan set.

48.030 MINIMUM VEHICULAR REQUIREMENTS FOR RESIDENTIAL USES

A. Direct individual access from single-family dwellings and duplex lots to an arterial street, as designated in the transportation element of the Comprehensive Plan, is prohibited for lots or parcels created after the effective date of this code where an alternate access is either available or is expected to be available by imminent development application. Evidence of alternate or future access may include temporary cul-de-sacs, dedications or stubouts on adjacent lots or parcels, or tentative street layout plans submitted at one time by adjacent property owner/developer or by the owner/developer, or previous owner/developer, of the property in question.

In the event that alternate access is not available as determined by the Planning Director and City Engineer, access may be permitted after review of the following criteria:

- 1. Topography.
- 2. Traffic volume to be generated by development (i.e., trips per day).
- 3. Traffic volume presently carried by the street to be accessed.
- 4. Projected traffic volumes.
- Safety considerations such as line of sight, number of accidents at that location, emergency vehicle access, and ability of vehicles to exit the site without backing into traffic.

- 6. The ability to consolidate access through the use of a joint driveway.
- 7. Additional review and access permits may be required by State or County agencies.

RESPONSE: The Applicant is not proposing new access to any arterials; therefore, this subsection does not apply.

- B. When any portion of any house is less than 150 feet from the adjacent right-of-way, access to the home is as follows:
 - One single-family residence, including residences with an accessory dwelling unit as defined in CDC 02.030, shall provide 10 feet of unobstructed horizontal clearance. Dualtrack or other driveway designs that minimize the total area of impervious driveway surface are encouraged.
 - 2. Two to four single-family residential homes equals a 14- to 20-foot-wide paved or all weather surface. Width shall depend upon adequacy of line of sight and number of homes.
 - 3. Maximum driveway grade shall be 15 percent. The 15 percent shall be measured along the centerline of the driveway only. Variations require approval of a Class II variance by the Planning Commission pursuant to Chapter 75 CDC. Regardless, the last 18 feet in front of the garage shall be under 12 percent grade as measured along the centerline of the driveway only. Grades elsewhere along the driveway shall not apply.
 - 4. The driveway shall include a minimum of 20 feet in length between the garage door and the back of sidewalk, or, if no sidewalk is proposed, to the paved portion of the right-ofway.
- C. When any portion of one or more homes is more than 150 feet from the adjacent right-of-way, the provisions of subsection B of this section shall apply in addition to the following provisions.
 - 1. A turnaround may be required as prescribed by the Fire Chief.
 - 2. Minimum vertical clearance for the driveway shall be 13 feet, six inches.
 - 3. A minimum centerline turning radius of 45 feet is required unless waived by the Fire Chief.
 - 4. There shall be sufficient horizontal clearance on either side of the driveway so that the total horizontal clearance is 20 feet.
- D. Access to five or more single-family homes shall be by a street built to full construction code standards. All streets shall be public. This full street provision may only be waived by variance.
- E. Access and/or service drives for multi-family dwellings shall be fully improved with hard surface pavement:
 - 1. With a minimum of 24-foot width when accommodating two-way traffic; or

- 2. With a minimum of 15-foot width when accommodating one-way traffic. Horizontal clearance shall be two and one-half feet wide on either side of the driveway.
- 3. Minimum vertical clearance of 13 feet, six inches.
- 4. Appropriate turnaround facilities per Fire Chief's standards for emergency vehicles when the drive is over 150 feet long. Fire Department turnaround areas shall not exceed seven percent grade unless waived by the Fire Chief.
- 5. The grade shall not exceed 10 percent on average, with a maximum of 15 percent.
- 6. A minimum centerline turning radius of 45 feet for the curve.
- F. Where on-site maneuvering and/or access drives are necessary to accommodate required parking, in no case shall said maneuvering and/or access drives be less than that required in Chapters 46 and 48 CDC.
- G. The number of driveways or curb cuts shall be minimized on arterials or collectors. Consolidation or joint use of existing driveways shall be required when feasible.
- H. In order to facilitate through traffic and improve neighborhood connections, it may be necessary to construct a public street through a multi-family site.
- I. Gated accessways to residential development other than a single-family home are prohibited.

RESPONSE: Access to each lot will be provided to/from either Weatherhill Rd. or Satter St., which are both local residential streets, and will meet the minimum vehicular requirements of this subsection.

48.060 WIDTH AND LOCATION OF CURB CUTS AND ACCESS SEPARATION REQUIREMENTS

- A. Minimum curb cut width shall be 16 feet.
- B. Maximum curb cut width shall be 36 feet, except along Highway 43 in which case the maximum curb cut shall be 40 feet. For emergency service providers, including fire stations, the maximum shall be 50 feet.
- C. No curb cuts shall be allowed any closer to an intersecting street right-of-way line than the following:
 - 1. On an arterial when intersected by another arterial, 150 feet.
 - 2. On an arterial when intersected by a collector, 100 feet.
 - 3. On an arterial when intersected by a local street, 100 feet.
 - 4. On a collector when intersecting an arterial street, 100 feet.

- 5. On a collector when intersected by another collector or local street, 35 feet.
- 6. On a local street when intersecting any other street, 35 feet.
- D. There shall be a minimum distance between any two adjacent curb cuts on the same side of a public street, except for one-way entrances and exits, as follows:
 - 1. On an arterial street, 150 feet.
 - 2. On a collector street, 75 feet.
 - 3. Between any two curb cuts on the same lot or parcel on a local street, 30 feet.
- E. A rolled curb may be installed in lieu of curb cuts and access separation requirements.
- F. Curb cuts shall be kept to the minimum, particularly on Highway 43. Consolidation of driveways is preferred. The standard on Highway 43 is one curb cut per business if consolidation of driveways is not possible.
- G. Adequate line of sight pursuant to engineering standards should be afforded at each driveway or accessway.

RESPONSE: All streets serving the subdivision are local residential streets. All proposed curb cuts will meet the spacing requirements of this section and will be confirmed during the construction plan review prior to commencing construction of the subdivision.

CHAPTER 85 GENERAL PROVISIONS

85.170 SUPPLEMENTAL SUBMITTAL REQUIREMENTS FOR TENTATIVE SUBDIVISION OR PARTITION PLAN

B. <u>Transportation</u>.

- Centerline profiles with extensions shall be provided beyond the limits of the proposed subdivision to the point where grades meet, showing the finished grade of streets and the nature and extent of street construction. Where street connections are not proposed within or beyond the limits of the proposed subdivision on blocks exceeding 330 feet, or for cul-de-sacs, the tentative plat or partition shall indicate the location of easements that provide connectivity for bicycle and pedestrian use to accessible public rights-of-way.
- 2. Traffic Impact Analysis (TIA).
 - a. <u>Purpose.</u> The purpose of this section of the code is to implement Section 660-012-0045(2)(e) of the State Transportation Planning Rule that requires the City to adopt a process to apply conditions to development proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Analysis must be submitted with a development application in order to

determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Study; and who is qualified to prepare the study.

- b. <u>Typical average daily trips.</u> The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as the standards by which to gauge average daily vehicle trips.
- c. <u>Traffic impact analysis requirements.</u>
 - 1) Preparation. A Traffic Impact Analysis shall be prepared by a professional engineer qualified under OAR 734-051-0040. The City shall commission the traffic analysis and it will be paid for by the applicant.
 - 2) Transportation Planning Rule compliance. See CDC 105.050(D), Transportation Planning Rule Compliance.
 - 3) Pre-application conference. The applicant will meet with West Linn Public Works prior to submitting an application that requires a traffic impact application. This meeting will determine the required elements of the TIA and the level of analysis expected.

RESPONSE: The Applicant is not proposing a change in zoning or a plan amendment designation as a part of this land use application, therefore a Traffic Impact Analysis (TIA) is not required per this subsection.

Nevertheless, at the request of City staff, the applicant has retained a Transportation Engineer, Global Transportation Engineering, and they have prepared a Trip Generation Letter summarizing the trip generation evaluation for the proposed 12-lot subdivision. A copy of the Trip Generation Letter has been submitted as part of the overall application materials.

Per the submitted Trip Generation Letter, the proposed 12-Lot subdivision it is estimated to generate 114 daily trips; including 9 AM peak hour trips, and 12 PM peak hour trips that will be added to the local street network. Based on the low number of trips generated by the proposed 12-Lot subdivision, the applicant is not required to prepare a full TIA for the project. As such, the applicant's proposal satisfies the above criterion.

C. Grading.

- 1. If areas are to be graded, a plan showing the location of cuts, fill, and retaining walls, and information on the character of soils shall be provided. The grading plan shall show proposed and existing contours at intervals per CDC 85.160(E)(2).
- 2. The grading plan shall demonstrate that the proposed grading to accommodate roadway standards and create appropriate building sites is the minimum amount necessary.
- 3. The grading plan must identify proposed building sites and include tables and maps identifying acreage, location and type of development constraints due to site

characteristics such as slope, drainage and geologic hazards. For Type I, II, and III lands (refer to definitions in Chapter <u>02</u> CDC), the applicant must provide a geologic report, with text, figures and attachments as needed to meet the industry standard of practice, prepared by a certified engineering geologist and/or a geotechnical professional engineer, that includes:

- a. Site characteristics, geologic descriptions and a summary of the site investigation conducted;
- b. Assessment of engineering geological conditions and factors;
- c. Review of the City of West Linn's Natural Hazard Mitigation Plan and applicability to the site; and
- d. Conclusions and recommendations focused on geologic constraints for the proposed land use or development activity, limitations and potential risks of development, recommendations for mitigation approaches and additional work needed at future development stages including further testing and monitoring.

RESPONSE: As part of the application materials, the applicant has provided a grading and erosion control plan (see Sheet 10) showing the locations of cuts, fills, and retaining walls. The Applicant has also provided a detailed Geotechnical report that provides information on the character of the soils. Together, these documents demonstrate that the proposed grading plan to accommodate roadway standards and create appropriate building sites is the minimum amount necessary given the sites topographic and soil conditions. The Applicant's proposal satisfies the above criteria and will be further reviewed with the civil plans prior to commencing any construction.

D. Water.

- A plan for domestic potable water supply lines and related water service facilities, such as reservoirs, etc., shall be prepared by a licensed engineer consistent with the adopted Comprehensive Water System Plan and most recently adopted updates and amendments.
- Location and sizing of the water lines within the development and off-site extensions.
 Show on-site water line extensions in street stubouts to the edge of the site, or as needed to complete a loop in the system.
- 3. Adequate looping system of water lines to enhance water quality.
- 4. For all non-single-family developments, calculate fire flow demand of the site and demonstrate to the Fire Chief. Demonstrate to the City Engineer how the system can meet the demand.

RESPONSE: A utility plan has been submitted by the Applicant as part of the overall application materials. The utility plan shows the location and sizing of the water lines, as well as on-site water line extensions in street stubouts to the edge of the site, or as needed to complete a loop in the system. All proposed water improvements are included on the utility plan (see Sheet 11) of the land use application.

E. Sewer.

- A plan prepared by a licensed engineer shall show how the proposal is consistent with the Sanitary Sewer Master Plan and subsequent updates and amendments.
 Agreement with that plan must demonstrate how the sanitary sewer proposal will be accomplished and how it is efficient. The sewer system must be in the correct zone.
- 2. Sanitary sewer information will include plan view of the sanitary sewer lines, including manhole locations and depths. Show how each lot or parcel would be sewered.
- Sanitary sewer lines shall be located in the public right-of-way, particularly the street, unless the applicant can demonstrate why the alternative location is necessary and meets accepted engineering standards.
- 4. Sanitary sewer line should be at a depth that can facilitate connection with downsystem properties in an efficient manner.
- 5. The sanitary sewer line should be designed to minimize the amount of lineal feet in the system.
- 6. The sanitary sewer line shall minimize disturbance of natural areas and, in those cases where that is unavoidable, disturbance shall be mitigated pursuant to the appropriate chapters (e.g., Chapter 32 CDC, Water Resource Area Protection).
- 7. Sanitary sewer shall be extended or stubbed out to the next developable subdivision or a point in the street that allows for reasonable connection with adjacent or nearby properties.
- 8. The sanitary sewer system shall be built pursuant to Department of Environmental Quality (DEQ), City, and Tri-City Service District sewer standards. This report should be prepared by a licensed engineer, and the applicant must be able to demonstrate the ability to satisfy these submittal requirements or standards at the pre-construction phase.

RESPONSE: A utility plan has been submitted by the Applicant as part of the overall application materials. The utility plan shows the location and sizing of the sewer lines. Sanitary sewer will be extended or stubbed out to the next developable subdivision or to a point in the street that allows for reasonable connection with adjacent or nearby properties. The proposed sanitary sewer lines will be located to minimize disturbance of natural areas; however, in those cases where that is unavoidable, disturbances will be kept to a minimum and mitigated pursuant to Chapter 32 of the Community Development Code (CDC), Water Resource Area Protection.

All proposed sewer improvements will be built pursuant to DEQ, City, and Tri-City Service District standards, and those improvements are included on the utility plan (see Sheet 11) of the land use application.

F. <u>Storm</u>. A proposal shall be submitted for storm drainage and flood control including profiles of proposed drainageways with reference to the most recently adopted Storm Drainage Master Plan.

RESPONSE: A utility plan has been submitted by the Applicant as part of the overall application materials. The utility plan shows the location and sizing of the stormwater lines. The public stormwater plan will include LIDA storm planters in the right-of-way for treatment and detention for the street. Individual LIDA planters will also be located on each lot for the treatment/detention of the future homes according to City requirements. All proposed storm drainage improvements are included on the utility plan (see Sheet 11) of the land use application.

85.180 REDIVISION PLAN REQUIREMENT

A redivision plan shall be required for a partition or subdivision, where the property could be developed at a higher density, under existing/proposed zoning, if all services were available and adequate to serve the use.

RESPONSE: The property is being developed at the highest density allowed under applicable zoning, therefore a redivision plan is not required.

85.200 APPROVAL CRITERIA

No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to provide service to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.

A. Streets.

1. General. The location, width and grade of streets shall be considered in their relation to existing and planned streets, to the generalized or reasonable layout of streets on adjacent undeveloped lots or parcels, to topographical conditions, to public convenience and safety, to accommodate various types of transportation (automobile, bus, pedestrian, bicycle), and to the proposed use of land to be served by the streets. The functional class of a street aids in defining the primary function and associated design standards for the facility. The hierarchy of the facilities within the network in regard to the type of traffic served (through or local trips), balance of function (providing access and/or capacity), and the level of use (generally measured in vehicles per day) are generally dictated by the functional class. The street system shall assure an adequate traffic or circulation system with intersection angles, grades, tangents, and curves appropriate for the traffic to be carried. Streets should provide for the continuation, or the appropriate projection, of existing principal streets in surrounding areas and should not impede or adversely affect development of adjoining lands or access thereto.

To accomplish this, the emphasis should be upon a connected continuous pattern of local, collector, and arterial streets rather than discontinuous curvilinear streets and cul-de-sacs. Deviation from this pattern of connected streets should only be permitted in cases of extreme topographical challenges including excessive slopes (35 percent-plus), hazard

areas, steep drainageways, wetlands, etc. In such cases, deviations may be allowed but the connected continuous pattern must be reestablished once the topographic challenge is passed. Streets should be oriented with consideration of the sun, as site conditions allow, so that over 50 percent of the front building lines of homes are oriented within 30 degrees of an east-west axis.

Internal streets are the responsibility of the developer. All streets bordering the development site are to be developed by the developer with, typically, half-street improvements or to City standards prescribed by the City Engineer. Additional travel lanes may be required to be consistent with adjacent road widths or to be consistent with the adopted Transportation System Plan (TSP) and any adopted updated plans.

An applicant may submit a written request for a waiver of abutting street improvements if the TSP prohibits the street improvement for which the waiver is requested. Those areas with numerous (particularly contiguous) under-developed or undeveloped tracts will be required to install street improvements. When an applicant requests a waiver of street improvements and the waiver is granted, the applicant shall pay an in-lieu fee equal to the estimated cost, accepted by the City Engineer, of the otherwise required street improvements. As a basis for this determination, the City Engineer shall consider the cost of similar improvements in recent development projects and may require up to three estimates from the applicant. The amount of the fee shall be established prior to the Planning Commission's decision on the associated application. The in-lieu fee shall be used for in kind or related improvements.

Streets shall also be laid out to avoid and protect tree clusters and significant trees, but not to the extent that it would compromise connectivity requirements per this subsection (A)(1), or bring the density below 70 percent of the maximum density for the developable net area. The developable net area is calculated by taking the total site acreage and deducting Type I and II lands; then up to 20 percent of the remaining land may be excluded as necessary for the purpose of protecting significant tree clusters or stands as defined in CDC 55.100(B)(2).

RESPONSE: This site is located along Weatherhill Road between Satter Street to the west and De Vries Way to the east. All streets, whether existing or proposed, are designated as local streets. The development of this site will not affect the connectivity of these two streets. Aside from the extension of Satter Street through the site, Figure 12 of the West Linn Transportation System Plan – Recommended Local Street Connectivity Projects – does not identify a new street connection within or adjacent to this site.

2. Right-of-way widths shall depend upon which classification of street is proposed. The right-of-way widths are established in the adopted TSP.

RESPONSE: The site abuts Weatherhill Road along the northern property boundary. Satter Street is stubbed to the sites western property boundary. Both streets are designated as local streets. As part of the proposed development, the Applicant will be dedicating 13-feet of right-of-way for Weatherhill street to make necessary improvements along Weatherhill Road. Satter Street is a local street with a 52-foot right-of-way. In an effort to provide on-street parking on one side of Satter Street, the applicant

will be widening the right-of-way for Satter Street to 58-feet. Right-of-way for both streets meet the width requirements as determined by their functional classifications.

3. <u>Street widths</u>. Street widths shall depend upon which classification of street is proposed. The classifications and required cross sections are established in the adopted TSP.

The following table identifies appropriate street width (curb to curb) in feet for various street classifications. The desirable width shall be required unless the applicant or his or her engineer can demonstrate that site conditions, topography, or site design require the reduced minimum width. For local streets, a 12-foot travel lane may only be used as a shared local street when the available right of-way is too narrow to accommodate bike lanes and sidewalks.

RESPONSE: No new streets or roads are proposed with this land use application. Weatherhill Road and Satter Street will continue to meet street width requirements.

- 4. The decision-making body shall consider the City Engineer's recommendations on the desired right-of-way width, pavement width and street geometry of the various street types within the subdivision after consideration by the City Engineer of the following criteria:
 - a. The type of road as set forth in the Transportation Master Plan.
 - b. The anticipated traffic generation.
 - c. On-street parking requirements.
 - d. Sidewalk and bikeway requirements.
 - e. Requirements for placement of utilities.
 - f. Street lighting.
 - q. Drainage and slope impacts.
 - h. Street trees.
 - i. Planting and landscape areas.
 - j. Existing and future driveway grades
 - k. Street geometry.
 - I. Street furniture needs, hydrants.

RESPONSE: Aside from the 13-foot right-of-way dedication along Weatherhill Rd. and the associated improvements (i.e. sidewalk, planter strip and paving), the pre-application conference notes do not identify the need for any further improvements along Weatherhill Road. Satter Street has been designed to comply with all City standards and specification.

- 5. Additionally, when determining appropriate street width, the decision-making body shall consider the following criteria:
 - a. When a local street is the only street serving a residential area and is expected to carry more than the normal local street traffic load, the designs with two travel and one parking lane are appropriate.
 - b. Streets intended to serve as signed but unstriped bike routes should have the travel lane widened by two feet.
 - c. Collectors should have two travel lanes and may accommodate some parking. Bike routes are appropriate.
 - d. Arterials should have two travel lanes. On-street parking is not allowed unless part of a Street Master Plan. Bike lanes are required as directed by the Parks Master Plan and Transportation Master Plan.

RESPONSE: The proposed development will result in twelve (12) new homes taking access to the existing surrounding transportation system. No arterial streets are adjacent to this proposal.

6. <u>Reserve strips.</u> Reserve strips or street plugs controlling the access to streets are not permitted unless owned by the City.

RESPONSE: The Applicant does not propose reserve strips or street plugs with this application. All rights-of-way will be dedicated to the edge of the adjoining properties.

7. <u>Alignment.</u> All streets other than local streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuations of the centerlines thereof. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the centerlines of streets having approximately the same direction and otherwise shall not be less than 100 feet.

RESPONSE: Except for extending Satter Street through the site, which will be the continuation of an existing street stub, no new streets or roads are proposed as part of this application.

8. <u>Future extension of streets.</u> Where necessary to give access to or permit a satisfactory future subdivision of adjoining land, streets shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without turnarounds. (Temporary turnarounds built to Fire Department standards are required when the dead-end street is over 100 feet long.)

RESPONSE: As noted above, Satter Street will be extended through the site as part of the development and stubbed to the sites eastern property boundary to permit the satisfactory subdivision of adjoining land. The Applicant's proposal satisfies this criterion.

 Intersection angles. Streets shall be laid out to intersect angles as near to right angles as practical, except where topography requires lesser angles, but in no case less than 60 degrees unless a special intersection design is approved. Intersections which are not at right angles shall have minimum corner radii of 15 feet along right-of-way lines which form acute angles. Right-of-way lines at intersections with arterial streets shall have minimum curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 25 feet. All radii shall maintain a uniform width between the roadway and the right-of-way lines. The intersection of more than two streets at any one point will not be allowed unless no alternative design exists.

RESPONSE: No new intersections are being proposed as part of the Applicant's proposal, therefore, the above criterion does not apply to the Applicant's request.

10. <u>Additional right-of-way for existing streets.</u> Wherever existing street rights-of-way adjacent to or within a tract are of inadequate widths based upon the standards of this chapter, additional right-of-way shall be provided at the time of subdivision or partition.

RESPONSE: The applicant will be dedicating 13-feet of right-of-way for Weatherhill Rd. along the sites frontage.

11. Cul-de-sacs.

- a. New cul-de-sacs and other closed-end streets (not including stub streets intended to be connected) on sites containing less than five acres, or sites accommodating uses other than residential or mixed use development, are not allowed unless the applicant demonstrates that there is no feasible alternative due to:
 - 1) Physical constraints (e.g., existing development, the size or shape of the site, steep topography, or a fish bearing stream or wetland protected by Chapter 32 CDC), or
 - 2) Existing easements or leases.
- b. New cul-de-sacs and other closed-end streets, consistent with subsection (A)(11)(a) of this section, shall not exceed 200 feet in length or serve more than 25 dwelling units unless the design complies with all adopted Tualatin Valley Fire and Rescue (TVFR) access standards and adequately provides for anticipated traffic, consistent with the Transportation System Plan (TSP).
- c. New cul-de-sacs and other closed-end streets (not including stub streets intended to be connected) on sites containing five acres or more that are proposed to accommodate residential or mixed use development are prohibited unless barriers (e.g., existing development, steep topography, or a fish bearing stream or wetland protected by Chapter 32 CDC, or easements, leases or covenants established prior to May 1, 1995) prevent street extensions. In that case, the street shall not exceed 200 feet in length or serve more than 25 dwelling units, and its design shall comply with all adopted TVFR access standards and adequately provide for anticipated traffic, consistent with the TSP.
- Applicants for a proposed subdivision, partition or a multifamily, commercial or industrial development accessed by an existing cul-de-sac/closed-end street shall

- demonstrate that the proposal is consistent with all applicable traffic standards and TVFR access standards.
- e. All cul-de-sacs and other closed-end streets shall include direct pedestrian and bicycle accessways from the terminus of the street to an adjacent street or pedestrian and bicycle accessways unless the applicant demonstrates that such connections are precluded by physical constraints or that necessary easements cannot be obtained at a reasonable cost.
- f. All cul-de-sacs/closed-end streets shall terminate with a turnaround built to one of the following specifications (measurements are for the traveled way and do not include planter strips or sidewalks).

RESPONSE: No cul-de-sacs are proposed as part of this land use application.

12. Street names. No street names shall be used which will duplicate or be confused with the names of existing streets within the City. Street names that involve difficult or unusual spellings are discouraged. Street names shall be subject to the approval of the Planning Commission or Planning Director, as applicable. Continuations of existing streets shall have the name of the existing street. Streets, drives, avenues, ways, boulevards, and lanes shall describe through streets. Place and court shall describe cul-de-sacs. Crescent, terrace, and circle shall describe loop or arcing roads.

RESPONSE: No new streets are proposed as part of this land use application.

13. Grades and curves. Grades and horizontal/vertical curves shall meet the West Linn Public Works Design Standards.

RESPONSE: Any grades and/or horizontal/vertical curves will be designed to meet West Linn Public Works Design Standards.

14. Access to local streets. Intersection of a local residential street with an arterial street may be prohibited by the decision-making authority if suitable alternatives exist for providing interconnection of proposed local residential streets with other local streets. Where a subdivision or partition abuts or contains an existing or proposed major arterial street, the decision-making authority may require marginal access streets, reverse-frontage lots with suitable depth, visual barriers, noise barriers, berms, no-access reservations along side and rear property lines, and/or other measures necessary for adequate protection of residential properties from incompatible land uses, and to ensure separation of through traffic and local traffic.

RESPONSE: The property does not abut nor contain an existing or proposed arterial street.

15. Alleys. Alleys shall be provided in commercial and industrial districts unless other permanent provisions for access to off-street parking and loading facilities are made as approved by the decision-making authority. While alley intersections and sharp changes in alignment should be avoided, the corners of necessary alley intersections shall have radii of not less than 10 feet. Alleys may be provided in residential subdivisions or multi-family

projects. The decision to locate alleys shall consider the relationship and impact of the alley to adjacent land uses. In determining whether it is appropriate to require alleys in a subdivision or partition, the following factors and design criteria should be considered:

- a. The alley shall be self-contained within the subdivision. The alley shall not abut undeveloped lots or parcels which are not part of the project proposal. The alley will not stub out to abutting undeveloped parcels which are not part of the project proposal.
- b. The alley will be designed to allow unobstructed and easy surveillance by residents and police.
- c. The alley should be illuminated. Lighting shall meet the West Linn Public Works Design Standards.
- d. The alley should be a semi-private space where strangers are tacitly discouraged.
- e. Speed bumps may be installed in sufficient number to provide a safer environment for children at play and to discourage through or speeding traffic.
- f. Alleys should be a minimum of 14 feet wide, paved with no curbs.

RESPONSE: No alleys are proposed as part of this land use application.

16. Sidewalks. Sidewalks shall be installed per CDC 92.010(H), Sidewalks. The residential sidewalk width is six feet plus planter strip as specified below. Sidewalks in commercial zones shall be constructed per subsection (A)(3) of this section. See also subsection C of this section. Sidewalk width may be reduced with City Engineer approval to the minimum amount (e.g., four feet wide) necessary to respond to site constraints such as grades, mature trees, rock outcroppings, etc., or to match existing sidewalks or right-of-way limitations.

RESPONSE: The applicant proposes to install a sidewalk along the sites Weatherhill Rd. frontage, as well as provide sidewalks along both sides of Satter St. with the extension of the street through the site.

17. Planter strip. The planter strip is between the curb and sidewalk providing space for a grassed or landscaped area and street trees. The planter strip shall be at least 6 feet wide to accommodate a fully matured tree without the boughs interfering with pedestrians on the sidewalk or vehicles along the curbline. Planter strip width may be reduced or eliminated, with City Engineer approval, when it cannot be corrected by site plan, to the minimum amount necessary to respond to site constraints such as grades, mature trees, rock outcroppings, etc., or in response to right-of-way limitations.

RESPONSE: The applicant proposes to install a planter strip between the curb and sidewalk providing space for a grassed and/or landscaped area along the sites Weatherhill Rd. frontage as part of the proposed development.

However, with the extension of Satter St. through the site, the applicant is proposing to install a "hybrid" planter strip between the curb and sidewalk that will consist of LIDA planters and street trees. The applicant has worked closely with the City's Engineer on the design of the LIDA planter strip to make sure it satisfies the City's requirements.

18. Streets and roads shall be dedicated without any reservations or restrictions.

RESPONSE: No reservations or restrictions are being proposed with the street dedications.

19. All lots in a subdivision shall have access to a public street. Lots created by partition may have access to a public street via an access easement pursuant to the standards and limitations set forth for such accessways in Chapter 48 CDC.

RESPONSE: All proposed lots created by the subdivision in this land use application will have access to a public street per City requirements.

20. Gated streets. Gated streets are prohibited in all residential areas on both public and private streets. A driveway to an individual home may be gated.

RESPONSE: No gated streets are being proposed as part of this land use application.

- 21. Entryway treatments and street isle design. When the applicant desires to construct certain walls, planters, and other architectural entryway treatments within a subdivision, the following standards shall apply:
 - a. All entryway treatments except islands shall be located on private property and not in the public right-of-way.
 - b. Planter islands may be allowed provided there is no structure (i.e., brick, signs, etc.) above the curbline, except for landscaping. Landscaped islands shall be set back a minimum of 24 feet from the curbline of the street to which they are perpendicular.
 - c. All islands shall be in public ownership. The minimum aisle width between the curb and center island curbs shall be 14 feet. Additional width may be required as determined by the City Engineer.
 - d. Brick or special material treatments are acceptable at intersections with the understanding that the City will not maintain these sections except with asphalt overlay, and that they must meet the Americans with Disabilities Act (ADA) standards. They shall be laid out to tie into existing sidewalks at intersections.
 - e. Maintenance for any common areas and entryway treatments (including islands) shall be guaranteed through homeowners association agreements, CC&Rs, etc.
 - f. Under Chapter 52 CDC, subdivision monument signs shall not exceed 32 square feet in area.

RESPONSE: No entryway treatments are being proposed as part of this land use application; therefore, the above criteria do not apply to the applicant's request.

22. Based upon the determination of the City Manager or the Manager's designee, the applicant shall construct or cause to be constructed, or contribute a proportionate share of the costs, for all necessary off-site improvements identified by the transportation analysis commissioned to address CDC 85.170(B)(2) that are required to mitigate impacts from the proposed subdivision. The proportionate share of the costs shall be determined by the City Manager or Manager's designee, who shall assume that the proposed subdivision provides improvements in rough proportion to identified impacts of the subdivision. Off-site transportation improvements will include bicycle and pedestrian improvements as identified in the adopted City of West Linn TSP.

RESPONSE: The City Manager has not identified the need for any off-site improvements related to the development of this property; therefore, the above criterion does not apply to the applicant's proposal.

B. Blocks and lots.

General. The length, width, and shape of blocks shall be designed with due regard for the
provision of adequate building sites for the use contemplated; consideration of the need
for traffic safety, convenience, access, circulation, and control; and recognition of
limitations and opportunities of topography and solar access.

RESPONSE: No new roads are proposed as part of this land use application and the block pattern is already established.

2. Sizes. The recommended block size is 400 feet in length to encourage greater connectivity within the subdivision. Blocks shall not exceed 800 feet in length between street lines, except for blocks adjacent to arterial streets or unless topographical conditions or the layout of adjacent streets justifies a variation. Designs of proposed intersections shall demonstrate adequate sight distances to the City Engineer's specifications. Block sizes and proposed accesses must be consistent with the adopted TSP. Subdivisions of five or more acres that involve construction of a new street shall have block lengths of no more than 530 feet. If block lengths are greater than 530 feet, accessways on public easements or right-of-way for pedestrians and cyclists shall be provided not more than 330 feet apart. Exceptions can be granted when prevented by barriers such as topography, rail lines, freeways, pre-existing development, leases, easements or covenants that existed prior to May 1, 1995, or by requirements of Titles 3 and 13 of the UGMFP. If streets must cross water features protected pursuant to Title 3 UGMFP, provide a crossing every 800 to 1,200 feet unless habitat quality or the length of the crossing prevents a full street connection.

RESPONSE: No new roads are proposed as part of this land use application and the block pattern is already established.

3. Lot size and shape. Lot or parcel size, width, shape, and orientation shall be appropriate for the location of the subdivision or partition, for the type of use contemplated, for potential utilization of solar access, and for the protection of drainageways, trees, and other natural features. No lot or parcel shall be dimensioned to contain part of an existing

or proposed street. All lots or parcels shall be buildable. "Buildable" describes lots that are free of constraints such as wetlands, drainageways, etc., that would make home construction impossible. Lot or parcel sizes shall not be less than the size required by the zoning code unless as allowed by planned unit development (PUD).

RESPONSE: The proposed lots created through this subdivision are each a minimum of 7,000 square feet in size to accommodate single family detached dwelling units in the R-7 zone. All proposed lots meet or exceed the minimum requirements for front lot line length, lot width and lot depth.

4. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street parking and service facilities required by the type of use proposed.

RESPONSE: The applicant is proposing residential development for this site, so the above criterion is not applicable to the proposal.

5. Access. Access to subdivisions, partitions, and lots shall conform to the provisions of Chapter 48 CDC, Access, Egress and Circulation.

RESPONSE: The subdivision, as proposed, conforms to the provisions of Chapter 48 CDC.

6. Double frontage lots and parcels. Double frontage lots and parcels have frontage on a street at the front and rear property lines. Double frontage lots and parcels shall be avoided except where they are essential to provide separation of residential development from arterial streets or adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. A planting screen or impact mitigation easement at least 10 feet wide, and across which there shall be no right of access, may be required along the line of building sites abutting such a traffic artery or other incompatible use.

RESPONSE: This land use application does not include double frontage lots.

Lot and parcel side lines. The lines of lots and parcels, as far as is practicable, should run at right angles to the street upon which they face, except that on curved streets they should be radial to the curve.

RESPONSE: All proposed lot lines and side parcel lines run at right angles to the street as far as is practicable.

- 8. Flag lots. Flag lots can be created where it can be shown that no other reasonable street access is possible to achieve the requested land division. A single flag lot shall have a minimum street frontage of 15 feet for its accessway. Where two to four flag lots share a common accessway, the minimum street frontage and accessway shall be eight feet in width per lot. Common accessways shall have mutual maintenance agreements and reciprocal access and utility easements. The following dimensional requirements shall apply to flag lots:
 - a. Setbacks applicable to the underlying zone shall apply to the flag lot.

- b. Front yard setbacks may be based on the rear property line of the lot or parcel which substantially separates the flag lot from the street from which the flag lot gains access. Alternately, the house and its front yard may be oriented in other directions so long as some measure of privacy is ensured, or it is part of a pattern of development, or it better fits the topography of the site.
- c. The lot size shall be calculated exclusive of the accessway; the access strip may not be counted towards the area requirements.
- d. The lot depth requirement contained elsewhere in this code shall be measured from the rear property line of the lot or parcel which substantially separates the flag lot from the street from which the flag lot gains access.
- e. As per CDC 48.030, the accessway shall have a minimum paved width of 12 feet.
- f. If the use of a flag lot stem to access a lot is infeasible because of a lack of adequate existing road frontage, or location of existing structures, the proposed lot(s) may be accessed from the public street by an access easement of a minimum 15-foot width across intervening property.

RESPONSE: The land use application proposed one (1) flag lot as part of the subdivision. Lot 6 will be configured as a flag lot because no other reasonable street access is possible given the irregular shape of the parent parcel. The proposed flag lot will have 19.8-feet of street frontage for its accessway. As proposed the flag lot complies with all city requirements.

- 9. Large lots or parcels. In dividing tracts into large lots or parcels which, at some future time, are likely to be redivided, the approval authority may:
 - a. Require that the blocks be of such size and shape, and be so divided into building sites, and contain such easements and site restrictions as will provide for extension and opening of streets at intervals which will permit a subsequent division of any tract into lots or parcels of smaller size; or
 - b. Alternately, in order to prevent further subdivision or partition of oversized and constrained lots or parcels, restrictions may be imposed on the subdivision or partition plat.

RESPONSE: The proposed lots are not likely to be redivided as the density proposed and the lot sizes proposed are consistent with the maximum allowable density per the site's zoning.

- C. Pedestrian and bicycle trails.
 - Trails or multi-use pathways shall be installed, consistent and compatible with federal ADA requirements and with the Oregon Transportation Planning Rule, between subdivisions, cul-de-sacs, and streets that would otherwise not be connected by streets due to excessive grades, significant tree(s), and other constraints natural or manmade. Trails shall also accommodate bicycle or pedestrian traffic between neighborhoods and

- activity areas such as schools, libraries, parks, or commercial districts. Trails shall also be required where designated by the Parks Master Plan.
- 2. The all-weather surface (asphalt, etc.) trail should be eight feet wide at minimum for bicycle use and six feet wide at minimum for pedestrian use. Trails within 10 feet of a wetland or natural drainageway shall not have an all-weather surface, but shall have a soft surface as approved by the Parks Director. These trails shall be contained within a corridor dedicated to the City that is wide enough to provide trail users with a sense of defensible space. Corridors that are too narrow, confined, or with vegetative cover may be threatening and discourage use. Consequently, the minimum corridor width shall be 20 feet. Sharp curves, twists, and blind corners on the trail are to be avoided as much as possible to enhance defensible space. Deviations from the corridor and trail width are permitted only where topographic and ownership constraints require it.
- 3. Defensible space shall also be enhanced by the provision of a three- to four-foot-high matte black chain link fence or acceptable alternative along the edge of the corridor. The fence shall help delineate the public and private spaces.
- 4. The bicycle or pedestrian trails that traverse multi-family and commercial sites should follow the same defensible space standards but do not need to be defined by a fence unless required by the decision-making authority.
- 5. Except for trails within 10 feet of a wetland or natural drainageway, soft surface or gravel trails may only be used in place of a paved, all-weather surface where it can be shown to the Planning Director that the principal users of the path will be recreational, non-destination-oriented foot traffic, and that alternate paved routes are nearby and accessible.
- 6. The trail grade shall not exceed 12 percent except in areas of unavoidable topography, where the trail may be up to a 15 percent grade for short sections no longer than 50 feet. In any location where topography requires steeper trail grades than permitted by this section, the trail shall incorporate a short stair section to traverse the area of steep grades.

RESPONSE: Sidewalks are provided along the frontages of the property. No pedestrian or bicycle trails are required.

D. Transit facilities.

1. The applicant shall consult with Tri-Met and the City Engineer to determine the appropriate location of transit stops, bus pullouts, future bus routes, etc., contiguous to or within the development site. If transit service is planned to be provided within the next two years, then facilities such as pullouts shall be constructed per Tri-Met standards at the time of development. More elaborate facilities, like shelters, need only be built when service is existing or imminent. Additional rights-of-way may be required of developers to accommodate buses.

- 2. The applicant shall make all transit-related improvements in the right-of-way or in easements abutting the development site as deemed appropriate by the City Engineer.
- Transit stops shall be served by striped and signed pedestrian crossings of the street within 150 feet of the transit stop where feasible. Illumination of the transit stop and crossing is required to enhance defensible space and safety. ODOT approval may be required.
- 4. Transit stops should include a shelter structure bench plus eight feet of sidewalk to accommodate transit users, non-transit-related pedestrian use, and wheelchair users. Tri-Met must approve the final configuration.

RESPONSE: No transit facilities have been identified by Tri-Met or the City Development Engineer adjacent to this property. The above criteria do not apply to the Applicant's proposal.

- E. Grading. Grading of building sites shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:
 - 1. All cuts and fills shall comply with the excavation and grading provisions of the Uniform Building Code and the following:
 - a. Cut slopes shall not exceed one and one-half feet horizontally to one foot vertically (i.e., 67 percent grade).
 - b. Fill slopes shall not exceed two feet horizontally to one foot vertically (i.e., 50 percent grade). Please see the following illustration.
 - 2. The character of soil for fill and the characteristics of lot and parcels made usable by fill shall be suitable for the purpose intended.
 - 3. If areas are to be graded (more than any four-foot cut or fill), compliance with CDC 85.170(C) is required.
 - 4. The proposed grading shall be the minimum grading necessary to meet roadway standards, and to create appropriate building sites, considering maximum allowed driveway grades.
 - 5. Type I lands shall require a report submitted by an engineering geologist, and Type I and Type II lands shall require a geologic hazard report.
 - 6. Repealed by Ord. 1635.
 - 7. On land with slopes in excess of 12 percent, cuts and fills shall be regulated as follows:
 - a. Toes of cuts and fills shall be set back from the boundaries of separate private ownerships at least three feet, plus one-fifth of the vertical height of the cut or fill. Where an exception is required from that requirement, slope easements shall be provided.

- b. Cuts shall not remove the toe of any slope where a severe landslide or erosion hazard exists (as described in subsection (G)(5) of this section).
- c. Any structural fill shall be designed by a registered engineer in a manner consistent with the intent of this code and standard engineering practices, and certified by that engineer that the fill was constructed as designed.
- d. Retaining walls shall be constructed pursuant to Section 2308(b) of the Oregon State Structural Specialty Code.
- e. Roads shall be the minimum width necessary to provide safe vehicle access, minimize cut and fill, and provide positive drainage control.
- 8. Land over 50 percent slope shall be developed only where density transfer is not feasible. The development will provide that:
 - a. At least 70 percent of the site will remain free of structures or impervious surfaces.
 - b. Emergency access can be provided.
 - c. Design and construction of the project will not cause erosion or land slippage.
 - d. Grading, stripping of vegetation, and changes in terrain are the minimum necessary to construct the development in accordance with subsection J of this section.

RESPONSE: A geotechnical engineering report is included with this submittal. A grading plan has been included in the submitted plans which complies with all criteria of this subsection.

F. Water.

- 1. A plan for domestic water supply lines or related water service facilities shall be prepared consistent with the adopted Comprehensive Water System Plan, plan update, March 1987, and subsequent superseding revisions or updates.
- 2. Adequate location and sizing of the water lines.
- 3. Adequate looping system of water lines to enhance water quality.
- 4. For all non-single-family developments, there shall be a demonstration of adequate fire flow to serve the site.
- 5. A written statement, signed by the City Engineer, that water service can be made available to the site by the construction of on-site and off-site improvements and that such water service has sufficient volume and pressure to serve the proposed development's domestic, commercial, industrial, and fire flows.

RESPONSE: The Applicant proposes new water service connections for all proposed lots off of either Weatherhill Road or Satter Street, which will be extended through the site as part of this application. This proposal is consistent with the adopted Comprehensive Water System Plan. All proposed water improvements are included on the utility plan of the land use application.

G. Sewer.

- A plan prepared by a licensed engineer shall show how the proposal is consistent with the Sanitary Sewer Master Plan (July 1989). Agreement with that plan must demonstrate how the sanitary sewer proposal will be accomplished and how it is gravity-efficient. The sewer system must be in the correct basin and should allow for full gravity service.
- 2. Sanitary sewer information will include plan view of the sanitary sewer lines, including manhole locations and depth or invert elevations.
- 3. Sanitary sewer lines shall be located in the public right-of-way, particularly the street, unless the applicant can demonstrate why the alternative location is necessary and meets accepted engineering standards.
- 4. Sanitary sewer line should be at a depth that can facilitate connection with downsystem properties in an efficient manner.
- 5. The sanitary sewer line should be designed to minimize the amount of lineal feet in the system.
- 6. The sanitary sewer line shall avoid disturbance of wetland and drainageways. In those cases where that is unavoidable, disturbance shall be mitigated pursuant to Chapter 32 CDC, Water Resource Area Protection, all trees replaced, and proper permits obtained. Dual sewer lines may be required so the drainageway is not disturbed.
- 7. Sanitary sewer shall be extended or stubbed out to the next developable subdivision or a point in the street that allows for reasonable connection with adjacent or nearby properties.
- 8. The sanitary sewer system shall be built pursuant to DEQ, City, and Tri-City Service District sewer standards. The design of the sewer system should be prepared by a licensed engineer, and the applicant must be able to demonstrate the ability to satisfy these submittal requirements or standards at the pre-construction phase.
- A written statement, signed by the City Engineer, that sanitary sewers with sufficient
 capacity to serve the proposed development and that adequate sewage treatment plant
 capacity is available to the City to serve the proposed development.

RESPONSE: The Applicant proposes new sewer service connections for all proposed lots off of either Weatherhill Road or Satter Street, which will be extended through the site as part of this application. All proposed sewer improvements are included on the utility plan of the land use application. The proposed sanitary sewer system is consistent with the Sanitary Sewer Master Plan, is in the correct basin and allows for full gravity service.

H. Storm detention and treatment. All proposed storm detention and treatment facilities comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards, there will be no adverse off-site impacts caused by

the development (including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream), and there is sufficient factual data to support the conclusions of the submitted plan.

RESPONSE: The Applicant's proposed stormwater detention and treatment design will include a public storm treatment/detention system consisting of LIDA storm planters for treatment and detention within the Satter Street right-of-way. The Applicant is also proposing to install individual LIDA planters on each lot for the future homes according to City requirements. All proposed storm drainage improvements are included on the utility plan Sheet 11 of the land use application.

I. Utility easements. Subdivisions and partitions shall establish utility easements to accommodate the required service providers as determined by the City Engineer. The developer of the subdivision shall make accommodation for cable television wire in all utility trenches and easements so that cable can fully serve the subdivision.

RESPONSE: The applicant will establish utility easements as determined by the City Engineer and shown on the preliminary plat. All required easements will be recorded with the recording of the final plat.

- J. Supplemental provisions.
 - 1. Wetland and natural drainageways. Wetlands and natural drainageways shall be protected as required by Chapter 32 CDC, Water Resource Area Protection. Utilities may be routed through the protected corridor as a last resort, but impact mitigation is required.

RESPONSE: The proposed subdivision does not impact any wetlands. The site does contain the presence of a headwater to a small ephemeral stream on the southern edge of the property. As part of the submitted application materials, the applicant has provided a Phase I Environmental review for the property, as well as a wetland delineation report. An electronic copy of the wetland delineation report has been sent to Oregon Department of State Lands.

As part of the proposed development, the Applicant is proposing to route some utilities (i.e. stormwater and sewer) through the protected corridor and will provide impact mitigation as required by the City.

2. Willamette and Tualatin Greenways. The Willamette and Tualatin River Greenways shall be protected as required by Chapter 28 CDC, Willamette and Tualatin River Protection.

RESPONSE: No greenways exist on this site or have been identified for dedication on this property. This property is not adjacent to the Willamette or Tualatin River and, therefore, a River Greenway is not feasible on this site.

3. Street trees. Street trees are required as identified in the appropriate section of the municipal code and Chapter 54 CDC.

RESPONSE: There are no existing street trees along the sites frontage of Weatherhill Road. The applicant will install street trees as a component of the frontage improvements on Weatherhill Road, as well as along both sides of Satter Street with the extension of the street through the site.

4. Lighting. All subdivision street or alley lights shall meet West Linn Public Works Design Standards.

RESPONSE: The applicant proposes to install new light fixtures along both the sites Weatherhill Rd. frontage, as well as along Satter St. with the extension of the street through the site. All required street lights will provide adequate lighting per current City standards. A photometric plan has been provided for review (see Sheet 12 of the submitted plan set).

5. Dedications and exactions. The City may require an applicant to dedicate land and/or construct a public improvement that provides a benefit to property or persons outside the property that is the subject of the application when the exaction is roughly proportional. No exaction shall be imposed unless supported by a determination that the exaction is roughly proportional to the impact of development.

RESPONSE: As mentioned previously, the applicant will be dedicating 13-feet of right-of-way along the sites Weatherhill Rd. frontage. Additionally, right-of-way will be dedicated for the extension of Satter St. through the site in accordance with city standards and specifications.

6. Underground utilities. All utilities, such as electrical, telephone, and television cable, that may at times be above ground or overhead shall be buried underground in the case of new development. The exception would be in those cases where the area is substantially built out and adjacent properties have above-ground utilities and where the development site's frontage is under 200 feet and the site is less than one acre. High voltage transmission lines, as classified by Portland General Electric or electric service provider, would also be exempted. Where adjacent future development is expected or imminent, conduits may be required at the direction of the City Engineer. All services shall be underground with the exception of standard above-grade equipment such as some meters, etc.

RESPONSE: The Applicant's proposal complies with the above criterion because all new utility services are proposed to be located underground as part of the subdivision. With the exception of standard above-grade equipment, all services will be located underground pursuant to city standards and specifications.

7. Density requirement. Density shall occur at 70 percent or more of the maximum density allowed by the underlying zoning. These provisions would not apply when density is transferred from Type I and II lands as defined in CDC 02.030. Development of Type I or II lands are exempt from these provisions. Land divisions of three lots or less would also be exempt.

RESPONSE: The R-7 zone permits a maximum density of 6.4 dwelling units per net acre. Net acre is defined as "the total gross acres less the public right-of-way and other acreage deductions, as applicable. The net acreage of this site after removal of dedicated right-of- way is 86,255 sq. ft. or 1.98 acres. At 6.4 dwelling units per net acre, the maximum number of dwelling units on this site is 12.32. This proposal is for a 12-lot subdivision. The proposed density for the site is within 70 percent of the maximum allowable density. The requirements of this section have been satisfied.

8. Mix requirement. The "mix" rule means that developers shall have no more than 15 percent of the R-2.1 and R-3 development as single-family residential. The intent is that the majority of the site shall be developed as medium high density multi-family housing.

RESPONSE: This property is zoned R-7 and, therefore, the use of the parcel as an entirely residential development is permitted.

9. Heritage trees/significant tree and tree cluster protection. All heritage trees, as defined in the municipal code, shall be saved. Diseased heritage trees, as determined by the City Arborist, may be removed at his/her direction. All non-heritage trees and clusters of trees (three or more trees with overlapping dripline; however, native oaks need not have an overlapping dripline) that are considered significant by virtue of their size, type, location, health, or numbers shall be saved pursuant to CDC 55.100(B)(2). Trees are defined per the municipal code as having a trunk six inches in diameter or 19 inches in circumference at a point five feet above the mean ground level at the base of the trunk.

RESPONSE: The applicant has inventoried all trees on site and has consulted with the City's arborist to determine which trees on site are significant. The applicant is proposing tree preservation consistent with these requirements, as detailed in the tree protection plan (Sheet 3). The trees identified as significant on this site will be retained with the development of the subdivision.

CHAPTER 92 REQUIRED IMPROVEMENTS FOR ALL DEVELOPMENT

The following improvements shall be installed at the expense of the developer and meet all City codes and standards:

- A. Streets within subdivisions.
 - All streets within a subdivision, including alleys, shall be graded for the full right-of-way width and improved to the City's permanent improvement standards and specifications which include sidewalks and bicycle lanes, unless the decision-making authority makes the following findings:
 - a. The right-of-way cannot be reasonably improved in a manner consistent with City road standards or City standards for the protection of wetlands and natural drainageways.
 - b. The right-of-way does not provide a link in a continuous pattern of connected local streets, or, if it does provide such a link, that an alternative street link already exists or the applicant has proposed an alternative street which provides the necessary connectivity, or the applicant has proven that there is no feasible location on the property for an alternative street providing the link.
 - 2. When the decision-making authority makes these findings, the decision-making authority may impose any of the following conditions of approval:
 - a. A condition that the applicant initiate vacation proceedings for all or part of the right-of-way.
 - b. A condition that the applicant build a trail, bicycle path, or other appropriate way.

If the applicant initiates vacation proceedings pursuant to subsection (A)(2)(a) of this section, and the right-of-way cannot be vacated because of opposition from adjacent property owners, the City Council

shall consider and decide whether to process a City-initiated street vacation pursuant to Chapter 271 ORS.

Construction staging area shall be established and approved by the City Engineer. Clearing, grubbing, and grading for a development shall be confined to areas that have been granted approval in the land use approval process only. Clearing, grubbing, and grading outside of land use approved areas can only be approved through a land use approval modification and/or an approved Building Department grading permit for survey purposes. Catch basins shall be installed and connected to pipe lines leading to storm sewers or drainageways.

RESPONSE: No vacation proceedings are being requested by the Applicant, nor are they being required by the City for the proposed 12-lot subdivision. All proposed streets within the subdivision, will be graded for the full right-of-way width and improved to the City's permanent improvement standards and specifications which include sidewalks and bicycle lanes, unless the decision-making authority determines otherwise.

B. <u>Extension of streets to subdivisions</u>. The extension of subdivision streets to the intercepting paving line of existing streets with which subdivision streets intersect shall be graded for the full right-of-way width and improved to a minimum street structural section and width of 24 feet.

RESPONSE:

C. Local and minor collector streets within the rights-of-way abutting a subdivision shall be graded for the full right-of-way width and approved to the City's permanent improvement standards and specifications. The City Engineer shall review the need for street improvements and shall specify whether full street or partial street improvements shall be required. The City Engineer shall also specify the extent of storm drainage improvements required. The City Engineer shall be guided by the purpose of the City's systems development charge program in determining the extent of improvements which are the responsibility of the subdivider.

RESPONSE: There are not collector streets abutting the proposed subdivision, therefore, the above criterion does not apply to the Applicant's request.

D. Monuments. Upon completion of the first pavement lift of all street improvements, monuments shall be installed and/or reestablished at every street intersection and all points of curvature and points of tangency of street centerlines with an iron survey control rod. Elevation benchmarks shall be established at each street intersection monument with a cap (in a monument box) with elevations to a U.S. Geological Survey datum that exceeds a distance of 800 feet from an existing benchmark.

RESPONSE: All required monuments will be installed with the development of the subdivision consistent with the City Standards and Specification pursuant to the above criterion.

E. <u>Storm detention and treatment.</u> For Type I, II and III lands (refer to definitions in Chapter <u>02</u> CDC), a registered civil engineer must prepare a storm detention and treatment plan, at a scale sufficient to evaluate all aspects of the proposal, and a statement that demonstrates:

- The location and extent to which grading will take place indicating general contour lines, slope ratios, slope stabilization proposals, and location and height of retaining walls, if proposed.
- 2. All proposed storm detention and treatment facilities comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards.
- 3. There will be no adverse off-site impacts, including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream.
- 4. There is sufficient factual data to support the conclusions of the plan.
- 5. Per CDC <u>99.035</u>, the Planning Director may require the information in subsections (E)(1), (2), (3) and (4) of this section for Type IV lands if the information is needed to properly evaluate the proposed site plan.

RESPONSE: The subject property does not contain any Type I, II, III and/or IV lands per the City's definitions in Chapter 02 of the CDC. As such, the above criteria do not apply to the Applicant's proposal.

- F. <u>Sanitary sewers</u>. Sanitary sewers shall be installed to City standards to serve the subdivision and to connect the subdivision to existing mains.
 - If the area outside the subdivision to be directly served by the sewer line has reached a
 state of development to justify sewer installation at the time, the Planning Commission
 may recommend to the City Council construction as an assessment project with such
 arrangement with the subdivider as is desirable to assure financing his or her share of the
 construction.
 - 2. If the installation is not made as an assessment project, the City may reimburse the subdivider an amount estimated to be a proportionate share of the cost for each connection made to the sewer by property owners outside of the subdivision for a period of 10 years from the time of installation of the sewers. The actual amount shall be determined by the City Administrator considering current construction costs.

RESPONSE: As mentioned previously in this narrative, the sanitary sewer lines will be installed to meet all City Standards and Specifications to serve the subdivision. As part of the submitted application materials, the Applicant has provided a detailed composite utility plan on Sheet 11 of the plan set that shows the line sizing and location for the proposed sewer lines.

G. Water system. Water lines with valves and fire hydrants providing service to each building site in the subdivision and connecting the subdivision to City mains shall be installed. Prior to starting building construction, the design shall take into account provisions for extension beyond the subdivision and to adequately grid the City system. Hydrant spacing is to be based on accessible area served according to the City Engineer's recommendations and City standards. If required water mains will directly serve property outside the subdivision, the City

may reimburse the developer an amount estimated to be the proportionate share of the cost for each connection made to the water mains by property owners outside the subdivision for a period of 10 years from the time of installation of the mains. If oversizing of water mains is required to areas outside the subdivision as a general improvement, but to which no new connections can be identified, the City may reimburse the developer that proportionate share of the cost for oversizing. The actual amount and reimbursement method shall be as determined by the City Administrator considering current or actual construction costs.

RESPONSE: As mentioned previously in this narrative, the water lines will be installed to meet all City Standards and Specifications to serve the subdivision. As part of the submitted application materials, the Applicant has provided a detailed composite utility plan on Sheet 11 of the plan set that shows the line sizing and location for the proposed water lines. Prior to starting building construction, the Applicant will work with the City's Engineering and Fire Departments to assure the design for the water system takes into account provisions for extension beyond the subdivision and to adequately grid the City system. Hydrant spacing will also be addressed at that time to make sure they are located in an accessible area pursuant to City Standards.

H. Sidewalks.

- 1. Sidewalks shall be installed on both sides of a public street and in any special pedestrian way within the subdivision, except that in the case of primary or secondary arterials, or special type industrial districts, or special site conditions, the Planning Commission may approve a subdivision without sidewalks if alternate pedestrian routes are available. In the case of the double-frontage lots, provision of sidewalks along the frontage not used for access shall be the responsibility of the developer. Providing front and side yard sidewalks shall be the responsibility of the land owner at the time a request for a building permit is received. Additionally, deed restrictions and CC&Rs shall reflect that sidewalks are to be installed prior to occupancy and it is the responsibility of the lot or homeowner to provide the sidewalk, except as required above for double-frontage lots.
- 2. On local streets serving only single-family dwellings, sidewalks may be constructed during home construction, but a letter of credit shall be required from the developer to ensure construction of all missing sidewalk segments within four years of final plat approval pursuant to CDC 91.010(A)(2).
- 3. The sidewalks shall measure at least six feet in width and be separated from the curb by a six-foot minimum width planter strip. Reductions in widths to preserve trees or other topographic features, inadequate right-of-way, or constraints, may be permitted if approved by the City Engineer in consultation with the Planning Director.
- 4. Sidewalks should be buffered from the roadway on high volume arterials or collectors by landscape strip or berm of three and one-half-foot minimum width.
- 5. The City Engineer may allow the installation of sidewalks on one side of any street only if the City Engineer finds that the presence of any of the factors listed below justifies such waiver:
 - a. The street has, or is projected to have, very low volume traffic density;

- b. The street is a dead-end street;
- c. The housing along the street is very low density; or
- d. The street contains exceptional topographic conditions such as steep slopes, unstable soils, or other similar conditions making the location of a sidewalk undesirable.

RESPONSE: The Applicant will be installing a sidewalk along the sites Weahterhill Rd. frontage, as well as along both sides of Satter Street with the extension of the street through the site. All proposed and required sidewalks will be installed pursuant to the City's design standards and specifications. Should the developer choose to install the sidewalks with the construction of the homes, then a letter of credit will be provided to the City to ensure construction of all missing sidewalks within four years of the final plat approval.

I. <u>Bicycle routes</u>. If appropriate to the extension of a system of bicycle routes, existing or planned, the Planning Commission may require the installation of separate bicycle lanes within streets and separate bicycle paths.

RESPONSE: Per the City's Transportation System Plan (TSP) there are no bicycle routes identified, either existing or planned, for the subject property.

J. <u>Street name signs</u>. All street name signs and traffic control devices for the initial signing of the new development shall be installed by the City with sign and installation costs paid by the developer.

RESPONSE: All required street signs, whether street names or traffic control signs, will be installed pursuant to the City's Standards and Specifications as outlined in the above criterion. The Applicant is agreeable to paying the installation costs associated with the installation of the required signage.

K. <u>Dead-end street signs</u>. Signs indicating "future roadway" shall be installed at the end of all discontinued streets. Signs shall be installed by the City per City standards, with sign and installation costs paid by the developer.

RESPONSE: The Applicant is proposing the terminate Weatherhill Rd. in a "stubbed" street design. A barricade will be installed at the end of the street and any required signage will be installed consistent with the City's development codes.

L. <u>Signs indicating future use</u> shall be installed on land dedicated for public facilities (e.g., parks, water reservoir, fire halls, etc.). Sign and installation costs shall be paid by the developer.

RESPONSE: No public facilities are being proposed as part of this development request, therefore, the above criterion does not apply to the Applicant's proposal.

M. <u>Street lights</u>. Street lights shall be installed and shall be served from an underground source of supply. The street lighting shall meet IES lighting standards. The street lights shall be the shoe-box style light (flat lens) with a 30-foot bronze pole in residential (non-intersection) areas. The street light shall be the cobra head style (drop lens) with an approximate 50-foot

(sized for intersection width) bronze pole. The developer shall submit to the City Engineer for approval of any alternate residential, commercial, and industrial lighting, and alternate lighting fixture design. The developer and/or homeowners association is required to pay for all expenses related to street light energy and maintenance costs until annexed into the City.

RESPONSE: All required street lights will be installed and will be served from an underground source of supply. All required street lighting will meet IES lighting standards and the street light will be the "shoebox" style light (i.e. flat lens).

N. <u>Utilities</u>. The developer shall make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, shall be placed underground.

RESPONSE: Consistent with the above criterion, the Applicant's developer will make all necessary arrangements with the franchised utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, will be placed underground as required by the City's Community Development Code (CDC).

O. <u>Curb cuts and driveways</u>. Curb cuts and driveway installations are not required of the subdivider at the time of street construction, but, if installed, shall be according to City standards. Proper curb cuts and hard-surfaced driveways shall be required at the time buildings are constructed.

RESPONSE: All curb cuts and driveway installations will be installed at the time buildings are constructed on the lots. However, should the developer decide to install some curb cuts and driveways at the time of street construction, then, if installed, they will be installed according to City standards.

P. <u>Street trees</u>. Street trees shall be provided by the City Parks and Recreation Department in accordance with standards as adopted by the City in the Municipal Code. The fee charged the subdivider for providing and maintaining these trees shall be set by resolution of the City Council.

RESPONSE: The Applicant agrees to install all required street trees pursuant to the above criterion by working with the City's Parks and Recreation Department to obtain the necessary street trees. Additionally, the Applicant is agreeable to paying the fees set by resolution of the City Council for providing and maintain the requires street trees.

Q. <u>Joint mailbox facilities</u> shall be provided in all residential subdivisions, with each joint mailbox serving at least two, but no more than eight, dwelling units. Joint mailbox structures shall be placed in the street right-of-way adjacent to roadway curbs. Proposed locations of joint mailboxes shall be designated on a copy of the tentative plan of the subdivision, and shall be approved as part of the tentative plan approval. In addition, sketch plans for the joint mailbox structures to be used shall be submitted and approved by the City Engineer prior to final plat approval.

RESPONSE: The Applicant will work with the US Postal Service (USPS) to identify a strategic location for two (2) joint mailbox facilities to serve the proposed 12-lot subdivision. The joint mailbox facilities will be installed in the street right-of-way adjacent to the roadway curbs. As part of the tentative plan approval, the Applicant requests, as a condition of any final approval, that the required sketch plans for the joint mailbox structures to be used shall be submitted and approved by the City Engineer prior to final plat approval.

92.030 IMPROVEMENT PROCEDURES

In addition to other requirements, improvements installed by the developer, either as a requirement of these regulations or at the developer's own option, shall conform to the requirements of this title and permanent improvement standards and specifications adopted by the City and shall be installed in accordance with the following procedure:

- A. Improvement work shall not be commenced until plans have been checked for adequacy and approved by the City. To the extent necessary for evaluation of the proposal, the improvement plans may be required before approval of the tentative plan of a subdivision or partition. Plans shall be prepared in accordance with the requirements of the City.
- B. Improvement work shall not be commenced until the City has been notified in advance, and if work has been discontinued for any reason, it shall not be resumed until the City has been notified.
- C. Improvements shall be constructed under the Engineer. The City may require changes in typical sections and details in the public interest if unusual conditions arise during construction to warrant the change.
- D. All underground utilities, sanitary sewers, and storm drains installed in streets by the subdivider or by any utility company shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed to a length obviating the necessity for disturbing the street improvements when service connections are made.
- E. A digital and mylar map showing all public improvements as built shall be filed with the City Engineer upon completion of the improvements.

RESPONSE: All requirements and improvements installed by the developer, either as a requirement of the City's CDC regulations or at the developer's own option, will conform to the requirements of this title and permanent improvement standards and specifications adopted by the City and will be installed in accordance with the above procedures. The Applicant is agreeable, as a condition of any final approval, that all improvements be installed in accordance with all City standards and specifications adopted by the City.

SUMMARY AND CONCLUSION

Based upon the application materials submitted herein, the Applicant respectfully requests approval from the City's Planning Department of this application for a 12-lot residential subdivision.



CIVIL ENGINEERS & PLANNERS

Stormwater Management Report Weatherhill Road Subdivision 12-Lot Subdivision at 22870 Weatherhill Road West Linn, Oregon

Emerio Project Number:

463-003

City of West Linn Permit Numbers:

SUB-18-04

Date:

12/19/2018

Rev 1: 02/07/2019



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Table of Contents:

APPENDIX A

(1) Vicinity Map

APPENDIX B

(1) Soils Maps-"Soils Survey for Clackamas County"

APPENDIX C

- (1) Basin Area Tabulated Data
- (2) Online Presumptive Approach Calculator (PAC) Output
- (3) HydroCAD Output Conveyance Storm Flows

APPENDIX D

- (1) Pre-Developed Site Map
- (2) Post-Developed Site Map

Project Overview and Description:

Size and location of project site (vicinity map):

The current site is located in the south part of West Linn on the south side of Weatherhill Road, approximately 120 feet east of the intersection of Satter Street & Weatherhill Road. One large lot will be divided into 12 lots. The proposed site is 2.57 acres and will encompass roughly 45,105 SF of impervious onsite improvements and 6,560 SF offsite impervious improvement. Reference the vicinity map provided in Appendix A(1).

Property Zoning: The property is zoned R7 (Residential 7,000 SF lots).

Type of Development/Proposed Improvements: The proposed development will consist of a public street, a tract for stormwater, and new homes and driveways will be constructed on each lot.

Existing vs. post-construction conditions: the current (existing) site condition consists of an under-developed forested lot with one house, attached garage, and associated driveway.

Watershed Description: The site drainage area presently sheet flows south toward adjacent lots and into Crestview Drive. There is an existing ephemeral stream/drainage at the south line of the site along the middle of the property line where onsite flows collect and flow south through an existing easement to a culvert routing under Crestview Drive. In the post-developed condition, the site impervious flows will be treated onsite and discharged at the existing ephemeral stream location. Drainage basin areas are shown in Appendix D(2).

Soil Classification:

The NRCS soil survey of Clackamas County, Oregon classifies the onsite soils as Cascade-urban land complex soil. The associated hydrologic group of this soil is C, see Appendix B(1). A curve number of 74 is used for pre-developed pervious surfaces and 98 and 86 are used for impervious and pervious surfaces.

Methodology:

This project proposes on lot LIDA flow-through planter boxes to address private stormwater requirements, and Green Streets flow-through planters to address public ROW stormwater requirements. The proposed grading will retain the general existing drainage pattern for pervious areas of the site. ROW planters and private LIDA planters will all be routed to the same discharge location at the existing southwest ephemeral stream drainage.

Water Quality

Water quality will be achieved by means of city of Portland planter boxes sized using the online Presumptive Approach Calculator (PAC). Stormwater runoff will enter the planter boxes by curb inlets and filter through an 18" layer of amended soil before reaching a 12" section of drain rock and a perf pipe to be routed offsite (see attached detail Appendix D(3). The planter boxes are open bottomed allowing infiltration to native soil; however, for the purposes of analysis, this infiltration amount is omitted. The pollution reduction event (water quality) is shown to be satisfied when using the

online analysis tool provided by the city of Portland. See Quantity Control/Detention and Appendix C(2) for sizing of the planter boxes.

Quantity Control/Detention

As required by the City of West Linn, detention was analyzed for the 2, 5, 10, and 25-year design storms.

Satter St. North ROW LIDA Facilities Area: 650 SF x 1.5 = 975 SF				
Return Period	Pre-Developed (CFS)	Post-Developed Planter Discharge (CFS)		
2-Year	½ of 0.016	0.03		
5-Year	0.031	0.03		
10-Year	0.048	0.03		
25-Year	0.067	0.061		

Satter St. South ROW LIDA Facilities Area: 526.5 SF x 1.5 = 790 SF				
Return Period	Pre-Developed (CFS)	Post-Developed Planter Discharge (CFS)		
2-Year	½ of 0.013	0.024		
5-Year	0.025	0.024		
10-Year	0.039	0.024		
25-Year	0.054	0.05		

Note from the table above, that while the 2-year post developed rate exceeds the pre-developed $\frac{1}{2}$ of the 2-year rate shown in the PAC results, it has been determined by BES staff that there is a glitch in the PAC calculator that does not properly analyze the lesser detention storm events and they have reasoned this is acceptable provided that the 10 and 25-year storm events pass requirements. This design passes the 5-year through 25-year events.

The surface area of planter resulting from the PAC analysis was increased by a design factor of 1.5 per city of West Linn staff guidelines. Reference Appendix C(2) for online PAC output results.

Stormwater Conveyance

Onsite conveyance will be by means of 12" storm water pipe from Satter Street routing all the way to the discharge point in the existing utility easement south of this site. For conservatism, the total discharge flow rate from proposed stormwater pipe was used to analyze the lowest potential pipe design slope at 0.5%. See Appendix C(3) for HydroCAD flow rates developed during the 25-year 24-hr conveyance design storm event.

Analysis:

The following design assumptions were utilized in this design.

Design Storm:

*Water quality storm = **0.83"** in **24** hours *2-year 24-hour storm = **2.4"** in **24** hours *5-year 24-hour storm = **2.9"** in **24** hours *10-year 24-hour storm = **3.4"** in **24** hours *25-year 24-hour storm = **3.9"** in **24** hours

Conveyance: 25-year 24-hour storm = **3.9"** in **24** hours (West Linn)

*Note that City of Portland design storms are listed since the online PAC was used.

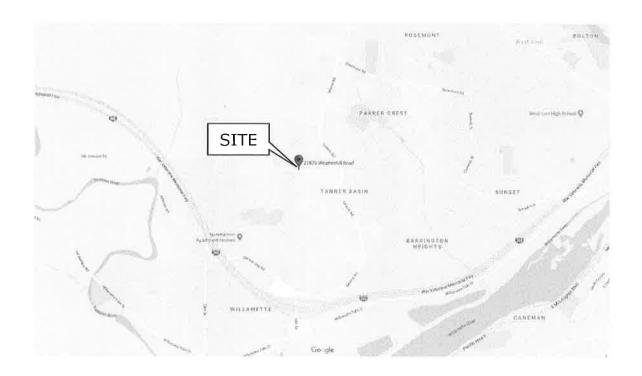
Computation methods and software utilized in the design were from the online PAC and HydroCAD V-10.

Curve numbers utilized in the design were 98 for impervious areas, 86 for pervious areas, and 74 for predeveloped pervious areas.

Engineering Conclusions:

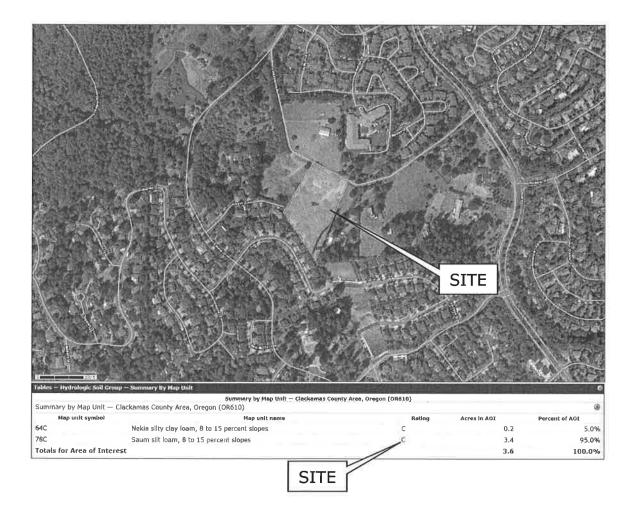
The design of the proposed stormwater management facilities satisfies the pollution reduction, conveyance and detention standards required by the 2010 City of West Linn Public Works Design Standards.

:A xibnaqqA



Appendix B:

Appendix B(1) Soil Classification



Appendix C:

								Total
		Total	Total	Qty of	Lot	ROW/Tract	Total	Pervious
Basin #	Name	Area	Area	Lots	Impervious	Imp	Impervious	(Calc'd)
		SF	Acres		SF	SF	SF	SF
101	North	8,552	0.20	0	0	8,552	8,552	0
102	South	6,892	0.16	0	0	6,892	6,892	0
103	Lots	60,971	1.40	12	30,000	0	30,000	30,971

PAC Report

Project Name

Weatherhill Rd

Permit No.

Created

12/3/18 10:48 AM

Project Address

22870 Weatherhill Rd West Linn, OR 97068 Designer

Last Modified

Emerio Design

2/1/19 10:34 AM

Company

Emerio Design

Report Generated

2/1/19 10:34 AM

Project Summary

12 Lot Subdivision

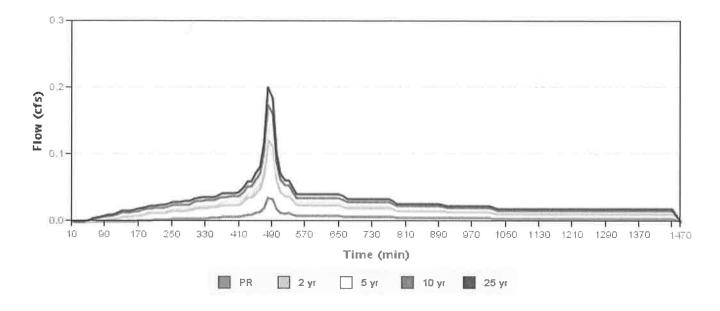
Catchment Name	Impervious Area (sq ft)	Native Soil Design Infiltration Rate	Hierarchy Category	Facility Type	Facility Config	Facility Size (sq ft)	Facility Sizing Ratio	PR Results	Flow Control Results
North	8552	0.01	3	Planter (Sloped)	D		7.6%	Pass	Fail
South	6892	0.10	3	Planter (Sloped)	D		7.6%	Pass	Fail

Catchment North

Site Soils & Infiltration Testing Data	Infiltration Testing Procedure	Open Pit Falling Head
	Native Soil Infiltration Rate (I _{test})	0.01 🗥
Correction Factor	CF _{test}	2
Design Infiltration Rates	Native Soil (I _{dsgn})	0.01 in/hr 🕰
	Imported Growing Medium	2.00 in/hr
Catchment Information	Hierarchy Category	3
	Disposal Point	В
	Hierarchy Description	Off-site flow to drainageway, river, or storm-only pipe system
	Pollution Reduction Requirement	Pass
	10-year Storm Requirement	N/A
	Flow Control Requirement	If discharging to an overland drainage system or to a storm sewer that discharges to an overland drainage system, including streams, drainageways, and ditches, the 2-year post-development peak flow must be equal or less than half of the 2-year pre-development rate and the 5, 10, and 25-year post-development peak rate must be equal or less than the pre-development rates for the corresponding design storms.
	Impervious Area	8552 sq ft 0.196 acre
	Time of Concentration (Tc)	5
	Pre-Development Curve Number (CN _{pre})	74
	Post-Development Curve Number (CN _{post})	98

 $[\]triangle$ Indicates value is outside of recommended range

SBUH Results



	Pre-Development Ra	ate and Volume	Post-Development Rate and Volume		
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)	
PR	0	3.172	0.035	446.866	
2 yr	0.016	394.001	0.121	1547.449	
5 yr	0.031	602.513	0.147	1901.892	
10 yr	0.048	834.826	0.174	2256.866	
25 yr	0.067	1085.619	0.201	2612.174	

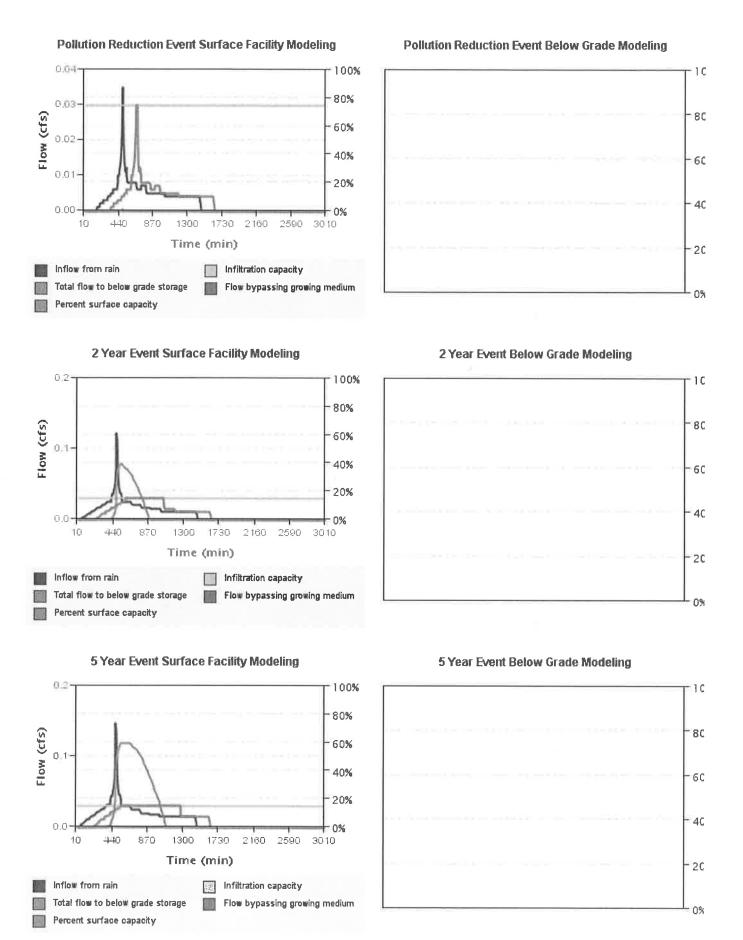
Facility North

Facility Details	Facility Type	Planter (Sloped)
	Facility Configuration	D: Lined Facility with RS and Ud
	Facility Shape	Sloped
	Above Grade Storage Data	
	Growing Medium Depth	18 in
	Surface Capacity at Depth 1	485.1 cu ft
	Design Infiltration Rate for Native Soil	0.000 in/hr
	Infiltration Capacity	0.030 cfs
Facility Facts	Total Facility Area Including Freeboard	650.00 sq ft
	Sizing Ratio	7.6%
Pollution Reduction Results	Pollution Reduction Score	Pass
	Overflow Volume	448.325 cf
	Surface Capacity Used	1%
Flow Control Results	Flow Control Score	Fail
	Overflow Volume	2250.357 cf
	Surface Capacity Used	91%

	Post-development outflow (cfs)		Pre-development inflow (cfs)	
2 year	0.03	≤ ½ of	0.016	Fail
5 year	0.03	≤	0.031	Pass
10 year	0.03	≤	0.048	Pass
25 year	0.061	≤	0.067	Pass

Sloped Facility Worksheet

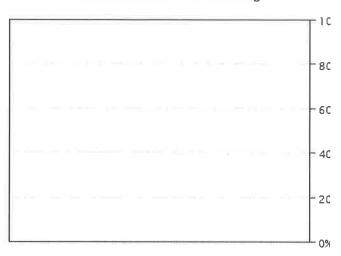
#	Segment Length (ft)	Check Dam Length (ft)	Slope, v/h (ft/ft)	Bottom Width (ft)	Right Side Slope, h/v (ft/ft)	Left Side Slope, h/v (ft/ft)	Downstream Depth (in)	Landscape Width (ft)
1	40.00	0.50	0.0000	6.50	0.0	0.0	9.0	6.50
2	60.00	0.50	0.0000	6.50	0.0	0.0	9.0	6.50



10 Year Event Surface Facility Modeling

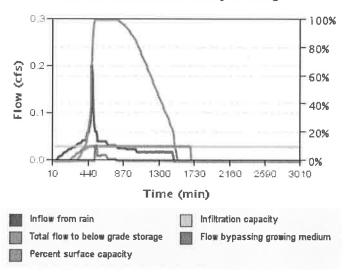
0.2 100% 80% Flow (cfs) 60% 40% 20% 0.0 440 10 870 1300 1730 2160 2590 3010 Time (min) Inflow from rain Infiltration capacity Total flow to below grade storage Flow bypassing growing medium

10 Year Event Below Grade Modeling

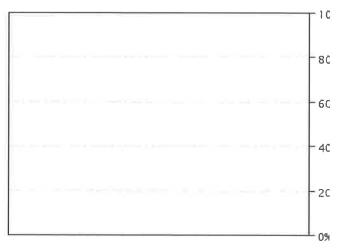


25 Year Event Surface Facility Modeling

Percent surface capacity



25 Year Event Below Grade Modeling

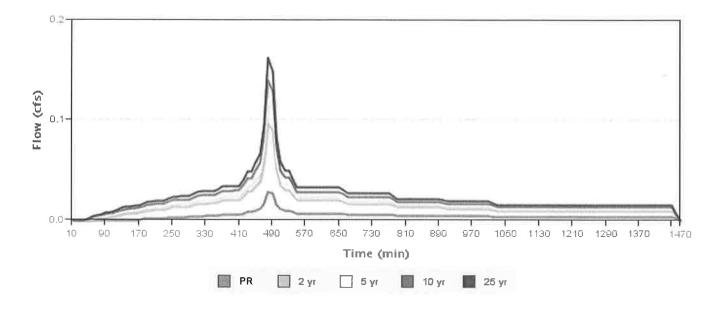


Catchment South

Site Soils & Infiltration Testing Data	Infiltration Testing Procedure	Encased Falling Head
	Native Soil Infiltration Rate (I_{test})	0.10 🕰
Correction Factor	CF _{test}	2
Design Infiltration Rates	Native Soil (I _{dsgn})	0.05 in/hr 🕰
*	Imported Growing Medium	2.00 in/hr
Catchment Information	Hierarchy Category	3
	Disposal Point	В
	Hierarchy Description	Off-site flow to drainageway, river, or storm-only pipe system
	Pollution Reduction Requirement	Pass
	10-year Storm Requirement	N/A
	Flow Control Requirement	If discharging to an overland drainage system or to a storm sewer that discharges to an overland drainage system, including streams, drainageways, and ditches, the 2-year post-development peak flow must be equal or less than half of the 2-year pre-development rate and the 5, 10, and 25-year post-development peak rate must be equal or less than the pre-development rates for the corresponding design storms.
	Impervious Area	6892 sq ft 0.158 acre
	Time of Concentration (Tc)	5
	Pre-Development Curve Number (CN _{pre})	74
	Post-Development Curve Number (CN _{post})	98

 $[\]triangle$ Indicates value is outside of recommended range

SBUH Results



	Pre-Development Ra	ate and Volume	Post-Development Rate and Volume		
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)	
PR	0	2.556	0.028	360.126	
2 yr	0.013	317.523	0.097	1247.079	
5 yr	0.025	485.561	0.119	1532.722	
10 yr	0.039	672.78	0.14	1818.793	
25 yr	0.054	874.893	0.162	2105.134	

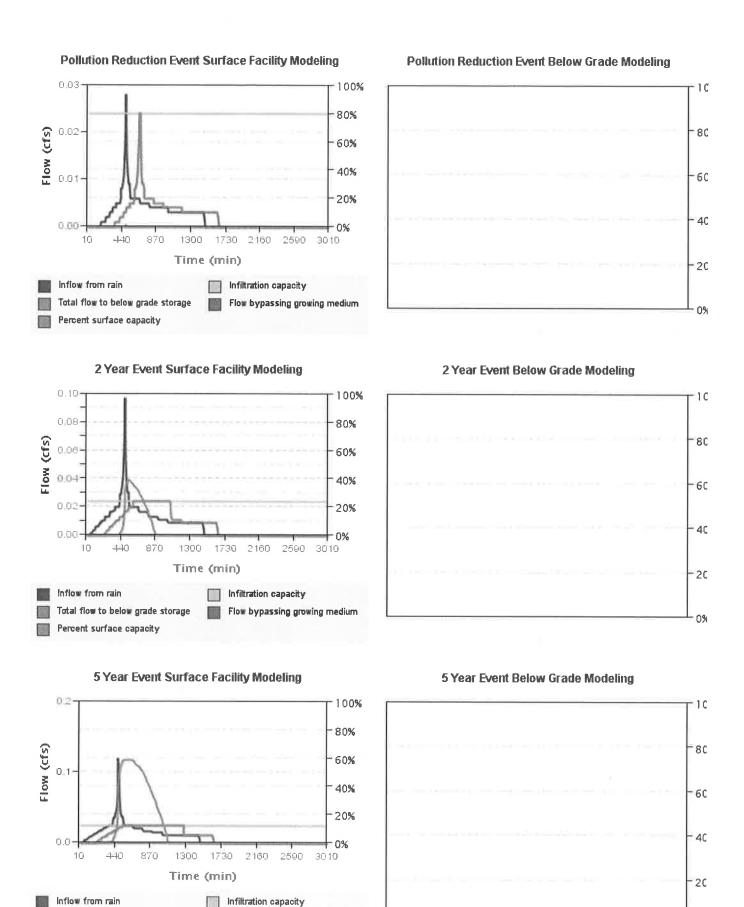
Facility South

Facility Details	Facility Type	Planter (Sloped)
	Facility Configuration	D: Lined Facility with RS and Ud
	Facility Shape	Sloped
	Above Grade Storage Data	
	Growing Medium Depth	18 in
	Surface Capacity at Depth 1	392.4 cu ft
	Design Infiltration Rate for Native Soil	0.000 in/hr
	Infiltration Capacity	0.024 cfs
Facility Facts	Total Facility Area Including Freeboard	526.50 sq ft
	Sizing Ratio	7.6%
Pollution Reduction Results	Pollution Reduction Score	Pass
	Overflow Volume	361.472 cf
	Surface Capacity Used	1%
Flow Control Results	Flow Control Score	Fail
	Overflow Volume	1826.414 cf
	Surface Capacity Used	90%

	Post-development outflow (cfs)		Pre-development inflow (cfs)	
2 year	0.024	≤ ½ of	0.013	Fail
5 year	0.024	≤	0.025	Pass
10 year	0.024	≤	0.039	Pass
25 year	0.05	≤	0.054	Pass

Sloped Facility Worksheet

#	Segment Length (ft)	Check Dam Length (ft)	Slope, v/h (ft/ft)	Bottom Width (ft)	Right Side Slope, h/v (ft/ft)	Left Side Slope, h/v (ft/ft)	Downstream Depth (in)	Landscape Width (ft)	
1	40.00	0.50	0.0000	6.50	0.0	0.0	9.0	6.50	
2	41.00	0.50	0.0000	6.50	0.0	0.0	9.0	6.50	



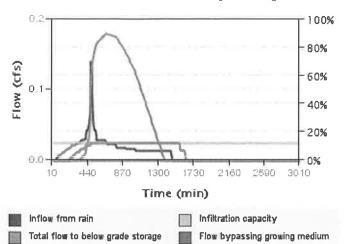
0%

Flow bypassing growing medium

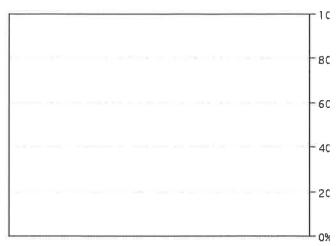
Total flow to below grade storage

Percent surface capacity

10 Year Event Surface Facility Modeling

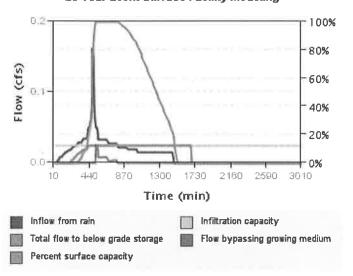


10 Year Event Below Grade Modeling



25 Year Event Surface Facility Modeling

Percent surface capacity



25 Year Event Below Grade Modeling





Site Routed Flows



Site Outfall









Routing Diagram for 463-003 HydroCAD 2018-12
Prepared by Emerio Design LLC, Printed 2/5/2019
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Page 2

Summary for Subcatchment 201: Site Routed Flows

Runoff

1.42 cfs @

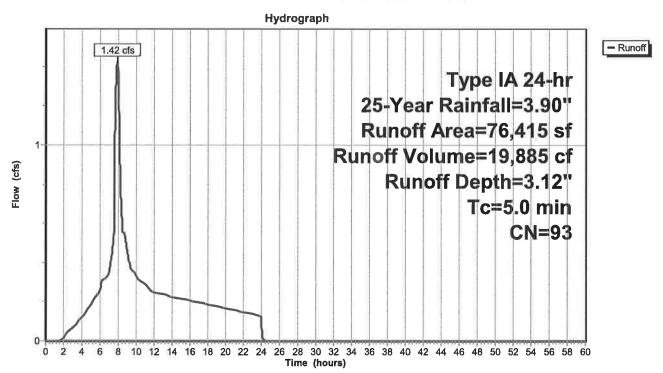
7.90 hrs, Volume=

19,885 cf, Depth= 3.12"

Runoff by SBUH method, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs Type IA 24-hr 25-Year Rainfall=3.90"

	Area (sf) CN	Description		
*	15,444	4 98	streets & cu	ırb	
*	30,000	98	12 lots		
	30,97	1 86	<50% Gras	s cover, Po	Poor, HSG C
	76,415	5 93	Weighted A	verage	
	30,97°	1 86	40.53% Per	rvious Area	a
	45,444	4 98	59.47% lmp	pervious Ar	rea
	Tc Leng		•	Capacity	• • • • • • • • • • • • • • • • • • •
(r	min) (fee	et) (ft/	ft) (ft/sec)	(cfs)	
	5.0				Direct Entry,

Subcatchment 201: Site Routed Flows



Prepared by Emerio Design LLC

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Printed 2/5/2019

Page 3

Summary for Reach 4R: Site Outfall

Inflow Area =

76,415 sf, 59.47% Impervious, Inflow Depth = 3.12" for 25-Year event

Inflow =

1.42 cfs @ 7.90 hrs, Volume=

19.885 cf

Outflow =

1.42 cfs @

7.90 hrs. Volume=

19,885 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.30 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 1.90 fps, Avg. Travel Time= 0.2 min

Peak Storage= 9 cf @ 7.90 hrs

Average Depth at Peak Storage= 0.54'

Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.52 cfs

12.0" Round Pipe

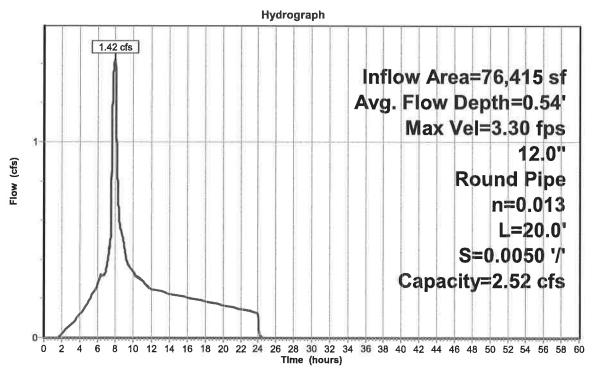
n = 0.013

Length= 20.0' Slope= 0.0050 '/'

Inlet Invert= 100.00', Outlet Invert= 99.90'

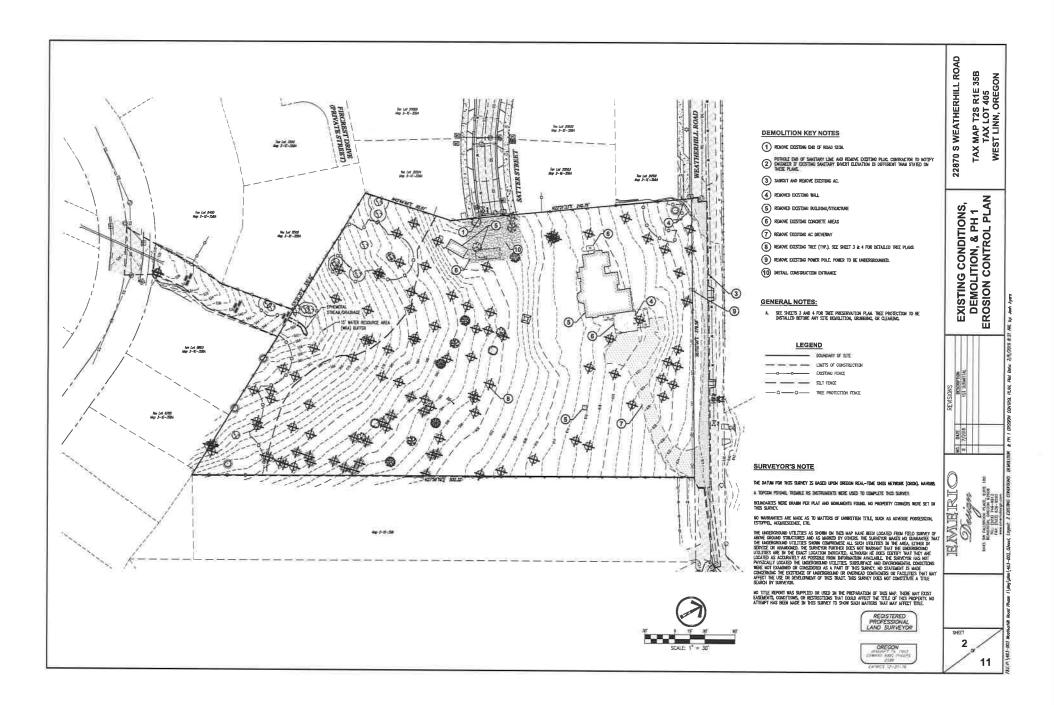


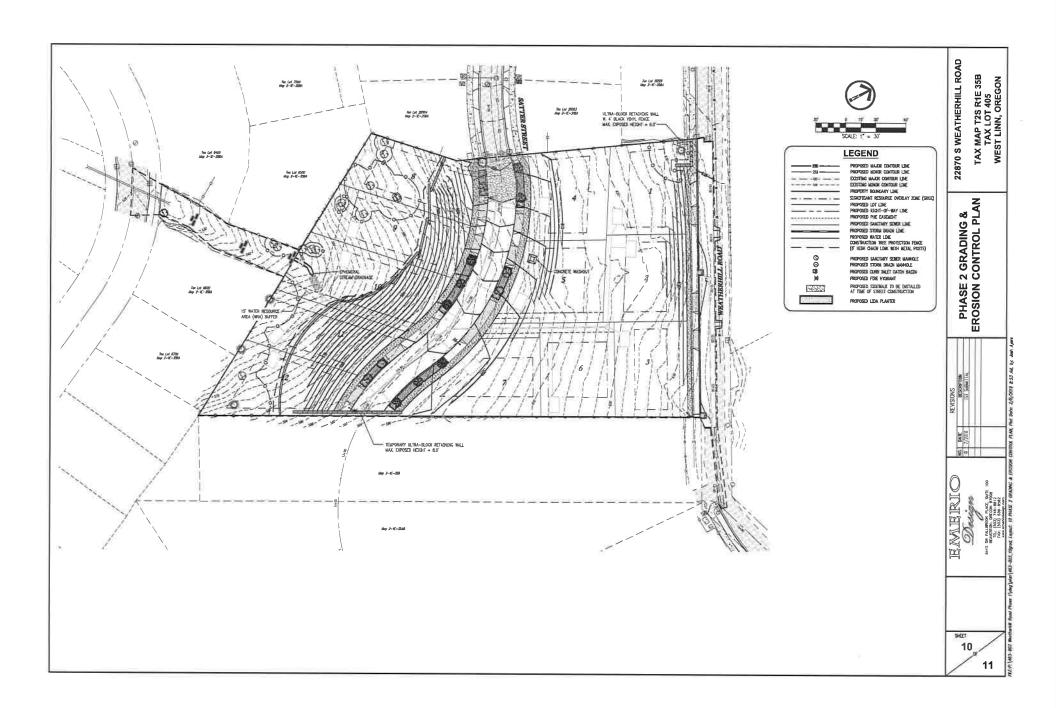
Reach 4R: Site Outfall



- Inflow - Outflow

Appendix D:





WEATHERHILL ROAD SUBDIVISION

12 LOT SUBDIVISION NW 1/4 SECTION 13, T. 3S, R. 1W, W.M. CITY OF WEST LINN, OREGON

GENERAL LEGEND OVERHEAD UTILITIES LINE UNDERGROUND UTILITIES LINE COMMUNICATIONS LINE ELECTRIC LINE

FIRE HYDRANT AIR RELEASE WATER BLOWOFF WATER METER/SERVICE WATER VAULT IRRIGATION SPRINKLER HEAD CULVERT / OUTFALL STORM DRAIN MANHOLE CATCH BASIN / AREA DRAIN SANITARY SEWER MANHOLE UTILITY MANHOLE UTILITY CLEAN OUT UTILITY VALVE UTILITY POLE UTILITY GUY POLE UTILITY GUY WIRE UTILITY/LIGHT POLE LIGHT POLE LIGHT POLE WITH ARM LIGHT SIGNAL JUNCTION BOX JUNCTION BOX ELECTRIC METER/SERVICE ELECTRIC PEDESTAL ELECTRIC VAULT TELEPHONE MANHOLE COMMUNICATIONS PEDESTAL COMMUNICATIONS VAULT GAS METER/SERVICE

DECIDOUS TREE 蕊 EVERGREEN TREE SIGN POST MAILBOX SIDEWALK TO BE INSTALLED AT TIME OF STREET CONSTRUCTION

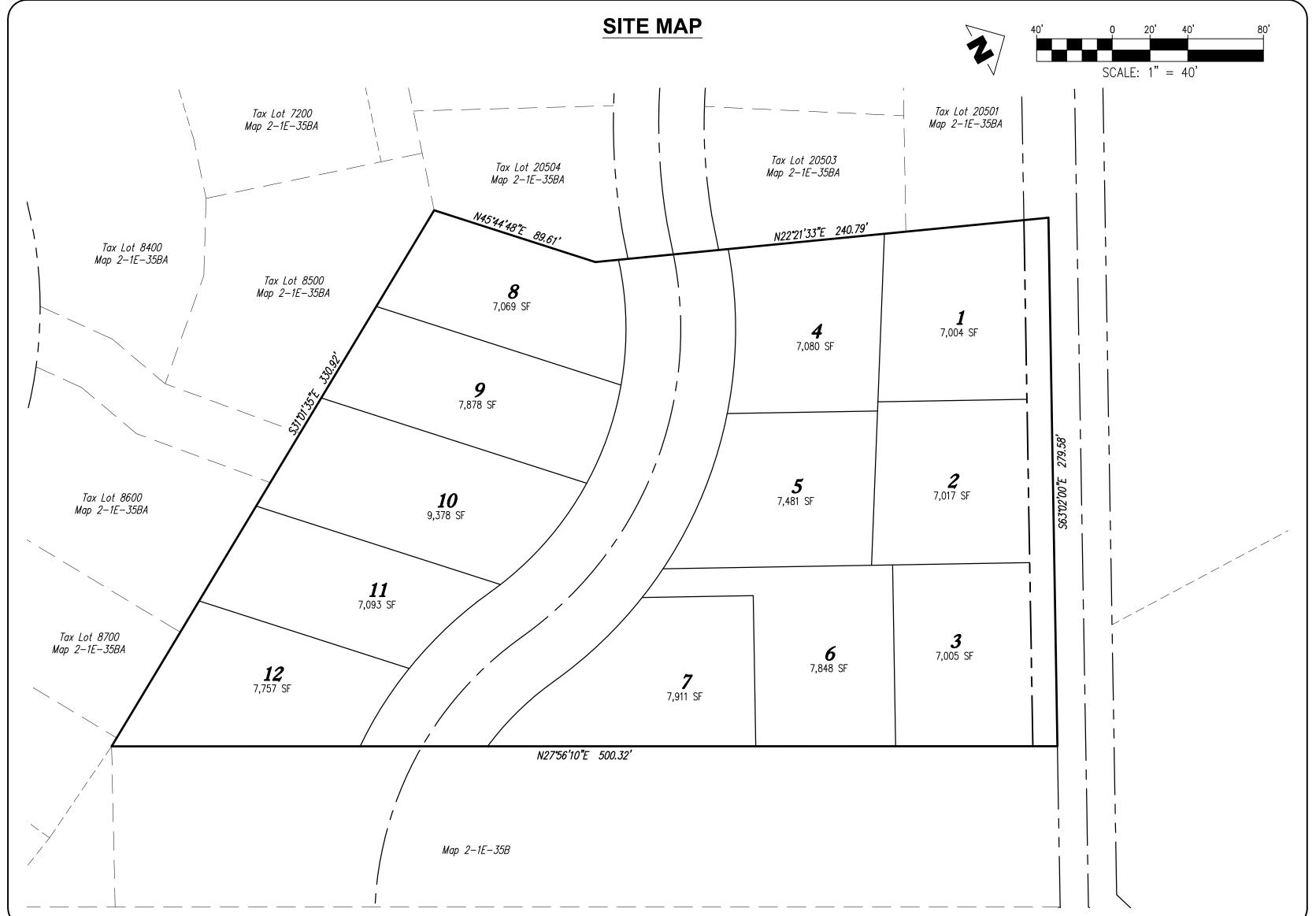
GAS PEDESTAL

ENGINEER'S NOTE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS.

THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF



BENCHMARK INFORMATION

THE DATUM FOR THIS SURVEY IS BASED UPON OREGON REAL-TIME GNSS NETWORK (ORGN).

DATUM = NAVD 88

SITE DATA

AREA:	2.57 Ac.
ZONING:	R-7
TAX MAP:	T2SR1E35B
TAX LOT:	405
NO. OF LOTS:	12

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

POTENTIAL UNDERGROUND FACILITY OWNERS

Dig Safely.

Call the Oregon One-Call Center DIAL 811 or 1-800-332-2344

EMERGENCY TELEPHONE NUMBERS

NW NATURAL GAS M-F 7am-6pm 503-226-4211 Ext.4313 AFTER HOURS 503-226-4211 503-464-7777 CENTURY LINK 1-800-491-0118 FRONTIER 1-800-921-8101

CITY OF WEST LINN PUBLIC WORKS 503-635-0238

PROJECT CONTACTS

APPLICANT:

ROD FREISEN 22870 WEATHERHILL, LLC WEST LINN, OR 97068 (971) 235-3314 ROD.FRIESEN@FRONTIER.COM

22870 WEATHERHILL, LLC PARTINERSHIP ADMINISTRATOR: ROD FREISEN (971) 235-3314

LAND USE, CIVIL ENGINEER AND SURVEYOR:

EMERIO DESIGN, LLC 6445 SW FALLBROOK PL, SUITE 100 BEAVERTON, OR 97008 LAND USE CONTACT: STEVE MILLER ENGINEER CONTACT: ERIC EVANS SURVEYOR CONTACT: KING PHELPS (503) 746-8812 (P) (503) 639-9592 (F)

VICINITY MAP

NO. TITLE

- 1 COVER SHEET

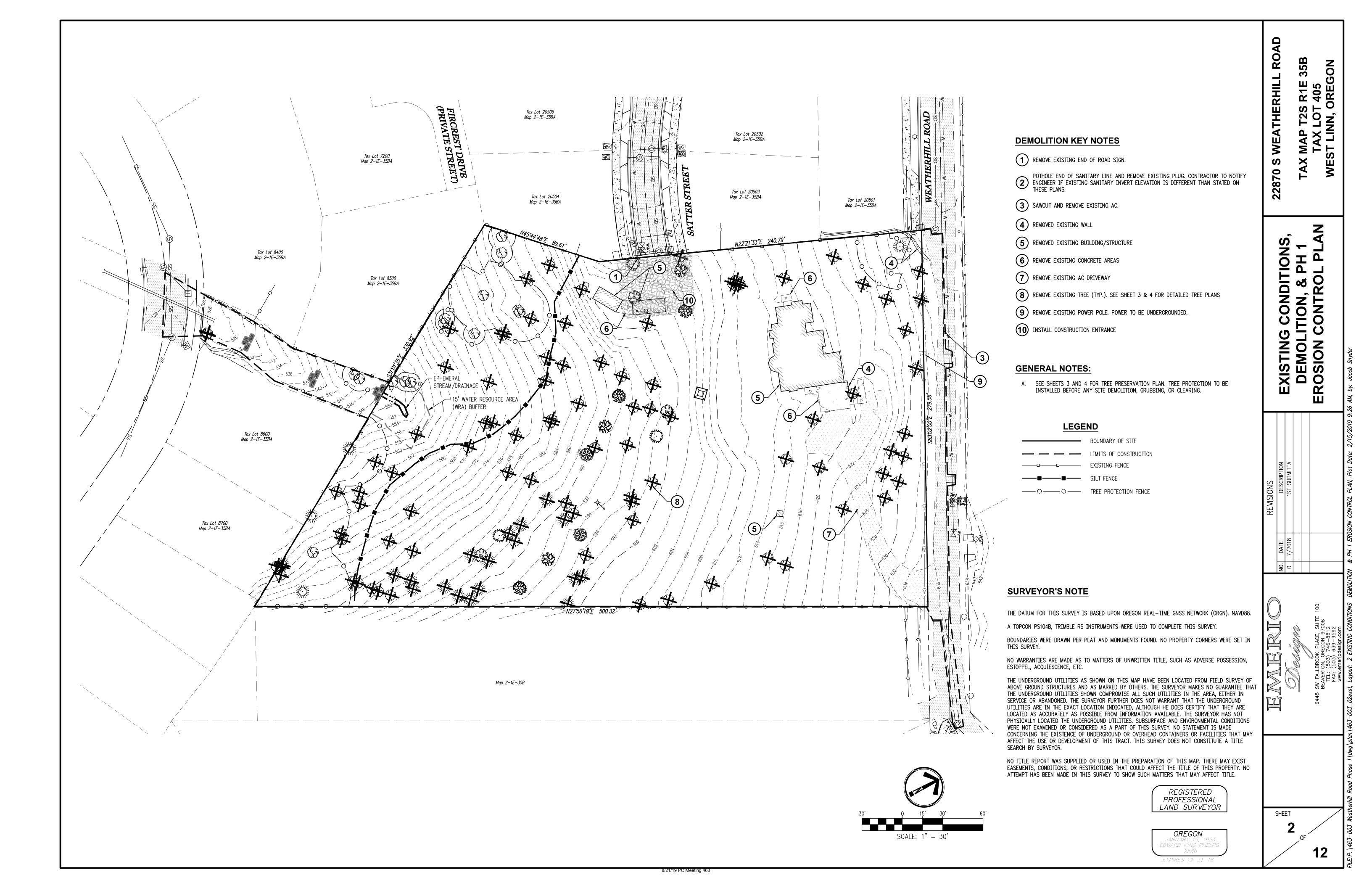
- 7 PRELIMINARY SITE PLAN
- 9 WEATHERHILL ROAD PLAN, PROFILE, AND STORM LINE
- 10 PHASE 2 GRADING & EROSION CONTROL PLAN
- 11 COMPOSITE UTILITY PLAN
- 12 LIGHTING PLAN

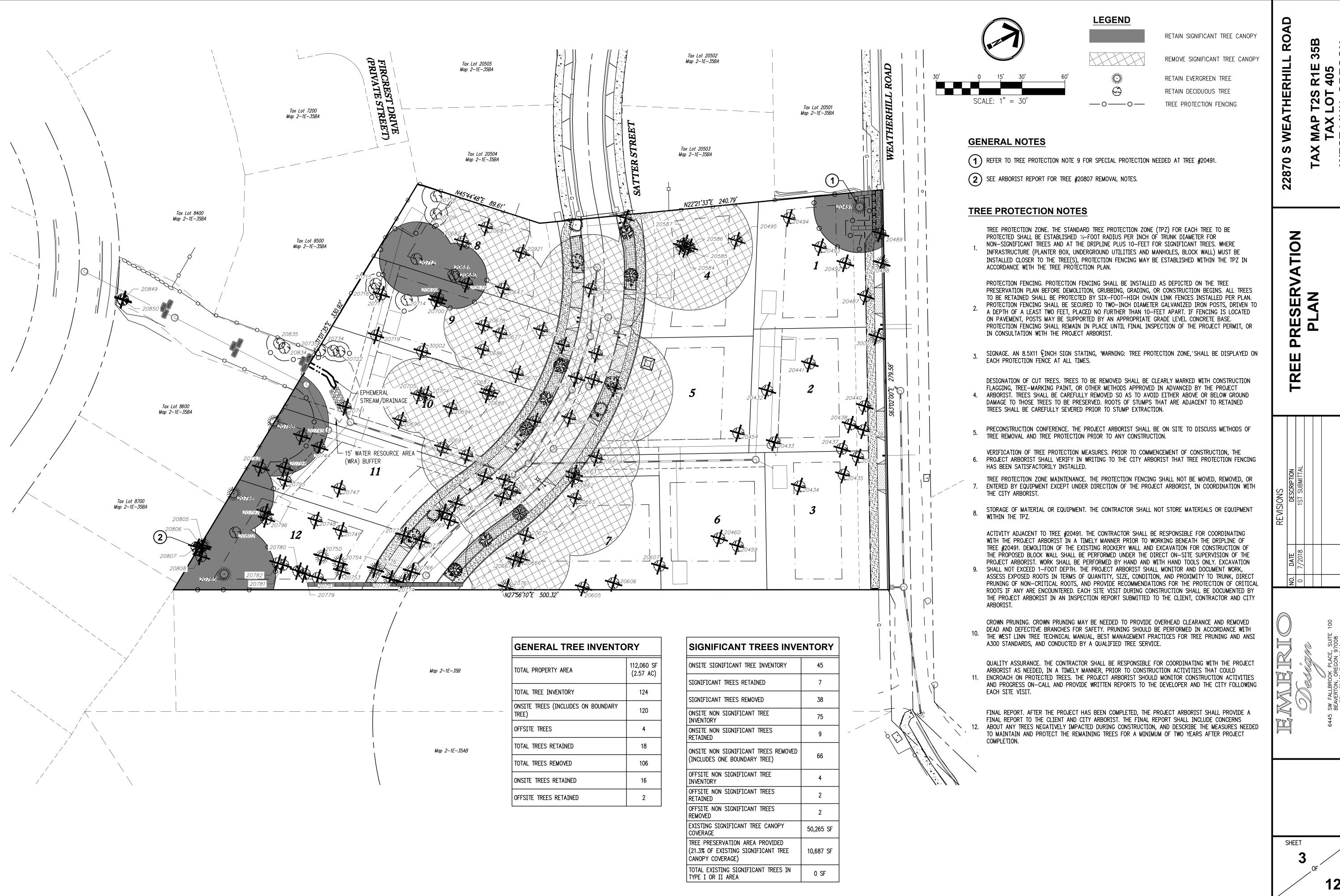
** LOTS 4 THROUGH 12 TO BE CONSTRUCTED WITH FIRE SPRINKLERS UNLESS SATTER STREET IS CONNECTED THROUGH FROM THE EAST PRIOR TO HOME

SHEE COVER **DRAWING INDEX** EXISTING CONDITIONS, DEMOLITION, & PH 1 EROSION CONTROL 4 TREE PRESERVATION DETAILS 5 SLOPE ANALYSIS PLAN 6 PRELIMINARY PLAT 8 SATTER STREET PLAN, PROFILE, AND STORM LINE

GON

22870





Morgan Holen

MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
							Storm damage, codominant stem failure, open		
20432	Dec	Coral Bark maple	Acer palmatum 'Sango-kaku'	3x5	12	F	wound	No	Remove
20422		Cardiala la accela a una	Contraction	410	10	_	la carica ana si a mandanaka aku sakura ana cun da sacu	N	D
20433 20434		English hawthorn	Crataegus monogyna	4x10	18 25	F	Invasive species, moderate structure, crown decay		Remove
		English hawthorn	Crataegus monogyna	7x8		G	Invasive species	No	Remove
20435		river birch	Betula nigra	23	30	F	Moderate structure, twig dieback	No	Remove
20436 20437	-	river birch	Betula nigra	17	16 0	F D	Moderate structure, twig dieback	No No	Remove
20437 20438	_	river birch	Betula nigra Betula nigra	16 15	28	F	Mostly dead Moderate structure, twig dieback	No	Remove Remove
20438 20439	 	river birch		14	16	F	Moderate structure, twig dieback	No	Remove
2043 <u>9</u> 20440		river birch	Betula nigra	18	16		Moderate structure, twig dieback	No	Remove
20440 20441	-	cherry	Betula nigra	14	18	G	Well-maintained	No	Remove
20441	Dec	cherry	Prunus spp.	14	10	G	Well-Maintained	NO	Kelliove
20454	Doc	English hawthorn	Cratagaus managuna	140	10	_	Invasivo species, moderate structure, grown dosay	No	Pomovo
20454 20459		English hawthorn	Crataegus monogyna	4x8	18 18	F G	Invasive species, moderate structure, crown decay	No No	Remove Remove
	 	English hawthorn	Crataegus monogyna	5,6,2x8		G	Invasive species		
20460		English hawthorn	Crataegus monogyna Calocedrus decurrens	5,2x8	14 12		Invasive species	No No	Remove
20487 20488	-	incense cedar		30		G F	Some crown asymmetry		Remove
20488	Con	Douglas-fir	Pseudotsuga menziesii	30	26	г	Topped	No	Remove
20400		historia	A	12.21	٦,	_	Moderate structure, previously topped, some	l Na	D = =
20489		bigleaf maple	Acer macrophyllum	13,21	26		trunk decay	No	-
	 	Douglas-fir	Pseudotsuga menziesii	34	22	G	Spur leader, no major defects	Yes	Retain
20492		paper birch	Betula papyrifera	2::10	10	G		No	Remove
20493	_	paper birch	Betula papyrifera	2x10	16	G	I	No	Remove
20494	_	English hawthorn	Crataegus monogyna	5x10	20	G	Invasive species	No	Remove
20495	_	English hawthorn	Crataegus monogyna	3x12	20	G	Invasive species	No	Remove
20584		Oregon white oak	Quercus garryana	12,16	34	G	Dense group	Yes	Remove
20585	 	Oregon white oak	Quercus garryana	6	22	F	Dense group	Yes	Remove
20586		Oregon white oak	Quercus garryana	19	34	G	Dense group	Yes	Remove
20587	Dec	Oregon white oak	Quercus garryana	16	34	G	Dense group	Yes	Remove
20605		C 1 7 '11			1.0	_		١	
20605	 	Scouler's willow	Salix scouleriana	2x12	16		Previous leader failure, dead and broken branches		Remove
20606	Dec	English hawthorn	Crataegus monogyna	14	13	F	Invasive species	No	Remove
20607						_	Invasive species, moderate structure, dead and	١	
20607		sweet cherry	Prunus avium	22	22	F	broken branches		Remove
20647	-	Oregon white oak	Quercus garryana	2x18	20	G	Oak grove	Yes	
20648		Oregon white oak	Quercus garryana	14	16	F	Oak grove, few dead and broken branches	Yes	Remove
20649	Dec	Oregon white oak	Quercus garryana	12	15	G	Oak grove	Yes	Remove
20050	_	0	0	11,14,			0-1	 	D
20650	 	Oregon white oak	Quercus garryana	16		G	Oak grove	 	Remove
20651	Dec	Oregon white oak	Quercus garryana	14,16	30	G	Oak grove	Yes	Remove
20055	_			8,3x14,	ı		Oak grove, hornets nest, old steel brace	 	
20656	_	Oregon white oak	Quercus garryana	17	28		compartmentalized in trunk	 	Remove
20658	 	Oregon white oak	Quercus garryana	3x10	14	G	Oak grove	t	Remove
20659	_	Oregon white oak	Quercus garryana	14	20	G	Oak grove, one-sided to south	_	Remove
20660	Dec	Oregon white oak	Quercus garryana	8	16	G	Oak grove	Yes	Remove
				8,10,					
20661	Dec	Oregon white oak	Quercus garryana	14,15	20	G	Oak grove	Yes	Remove
	_			5,2x6,			Oak grove, very upright high live crown, small		
20662	Dec	Oregon white oak	Quercus garryana	11	12	F	diameter stems are completely dead	Yes	Remove
				5,6,					
20663	Dec	Oregon white oak	Quercus garryana	7,14,18	15	F	Oak grove, moderate one-sided crown structure	Yes	Remove
				10,2x12,					
20665	_	Oregon white oak	Quercus garryana	18,20			Oak grove, few dead and broken branches	Yes	Remove
20666	Con	Douglas-fir	Pseudotsuga menziesii	32	24	G	Codominant crown class, ivy up lower trunk	Yes	Remove

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MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
20667	Con	Douglas-fir	Pseudotsuga menziesii	28	24	G	Codominant crown class, ivy up lower trunk	Yes	Remove
20670	Dec	Oregon white oak	Quercus garryana	8,10,12	16	G	Oak grove	Yes	Remove
20671	Dec	Oregon white oak	Quercus garryana	4x12	18	G	Oak grove	Yes	Remove
20672	Dec	Oregon white oak	Quercus garryana	14	20	F	One-sided to west	Yes	Remove
							One-sided to north, few dead and broken		
20673	Dec	Oregon white oak	Quercus garryana	14	30	F	branches	Yes	Remove
							Codominant crown class, few dead and broken		
20674	Con	Douglas-fir	Pseudotsuga menziesii	36	24	G	branches	Yes	Remove
20675	Dec	apple	Malus spp.	8,10	20	Р	Very poor structure, dieback, decay	No	Remove
							Oak grove, one-sided to north, few dead and		
20677	Dec	Oregon white oak	Quercus garryana	14	14	F	broken branches	Yes	Remove
20678	Dec	Oregon white oak	Quercus garryana	8,9,14	18	G	Oak grove, few dead and broken branches	Yes	Remove
							Oak grove, few dead and broken branches, ivy up		
20679	Dec	Oregon white oak	Quercus garryana	12	12	F	lower trunk	Yes	Remove
							Oak grove, few dead and broken branches, ivy up		
20680	Dec	Oregon white oak	Quercus garryana	12	12	F	lower trunk	Yes	Retain
		-					Oak grove, few dead and broken branches, ivy up		
20681	Dec	Oregon white oak	Quercus garryana	14	12	F	lower trunk	Yes	Retain
20682	_	Oregon white oak	Quercus garryana	7,2x10	16	G	Oak grove, some ivy		Remove
20683		Oregon white oak	Quercus garryana	10,12,14	20	F	Oak grove, few dead and broken branches		Remove
20686		Oregon white oak	Quercus garryana	6,8	10	F	Oak grove, few dead and broken branches		Remove
20687		Oregon white oak	Quercus garryana	6	10	F	Oak grove, few dead and broken branches		Remove
20688		Oregon white oak	Quercus garryana	10	10	F.	Oak grove, few dead and broken branches		Remove
20000	DCC	Oregon winte out	quereus garryana	1	10		our grove, rew dead and broken branches	103	Remove
20689	Con	Douglas-fir	Pseudotsuga menziesii	26	22	F	Codominant crown class, broken top, new leaders	Voc	Remove
20691		Oregon ash	Fraxinus latifolia	7	14	F	Moderate structure		Remove
20691 20694		Oregon white oak		16,18	18	G			Remove
			Quercus garryana	<u> </u>	12	P	Oak grove Half dead		
20696	_	Oregon white oak	Quercus garryana	2x14					Remove
20699	Dec	Oregon white oak	Quercus garryana	10	5	Р	Oak grove, suppressed	No	Remove
20700	<u></u>	0	0	1 14	12		0-1	 NI=	D
20700		Oregon white oak	Quercus garryana	14	12	<u>P</u>	Oak grove, severe ivy infestation, small live crown		Remove
20704	_	Oregon white oak	Quercus garryana	2x14	16	G	Oak grove		Remove
20705		Oregon white oak	Quercus garryana	16	16	<u>G</u>	Oak grove		Remove
20709		madrone	Arbutus menziesii	16	14	F	Crown dieback, trunk decay		Retain
20712		Oregon white oak	Quercus garryana	18	16	G	Oak grove, ivy up lower trunk		Retain
20714		Scouler's willow	Salix scouleriana	4x8	12	F	Inaccessible	No	Retain
20715	_	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	.	Retain
20716		Scouler's willow	Salix scouleriana	12	12	F	Inaccessible		Retain
20717	_	Scouler's willow	Salix scouleriana	10	12	F	Inaccessible		Remove
20719		Scouler's willow	Salix scouleriana	14		F	Inaccessible		Remove
20722	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Retain
							Moderate structure, additional codominant stem		
							failed in past and has advanced decay, remaining		
20728	Dec	bigleaf maple	Acer macrophyllum	3x20	24	F	stems are mostly one-sided to east	No	Retain
20734	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Retain
20735	Dec	bigleaf maple	Acer macrophyllum	10	12	F	Inaccessible	No	Retain
20741	Dec	Scouler's willow	Salix scouleriana	14	10	F	Inaccessible	No	Remove
20744	Dec	bigleaf maple	Acer macrophyllum	7	12	F	Poor structure	No	Remove
							History of branch failure, crown decay, trunk		
20745	Dec	Scouler's willow	Salix scouleriana	16	8	Р	decay with hollow	No	Remove
20747		bigleaf maple	Acer macrophyllum	8	16	F	Poor structure		Remove
20748	-	English holly	Ilex aquifolium	8	8	F	Invasive species		Remove
20749	_	bigleaf maple	Acer macrophyllum	8	8	F	Poor structure	 	Remove
		Douglas-fir	Pseudotsuga menziesii	18	_	F	Codominant crown class, old broken top	.	Remove

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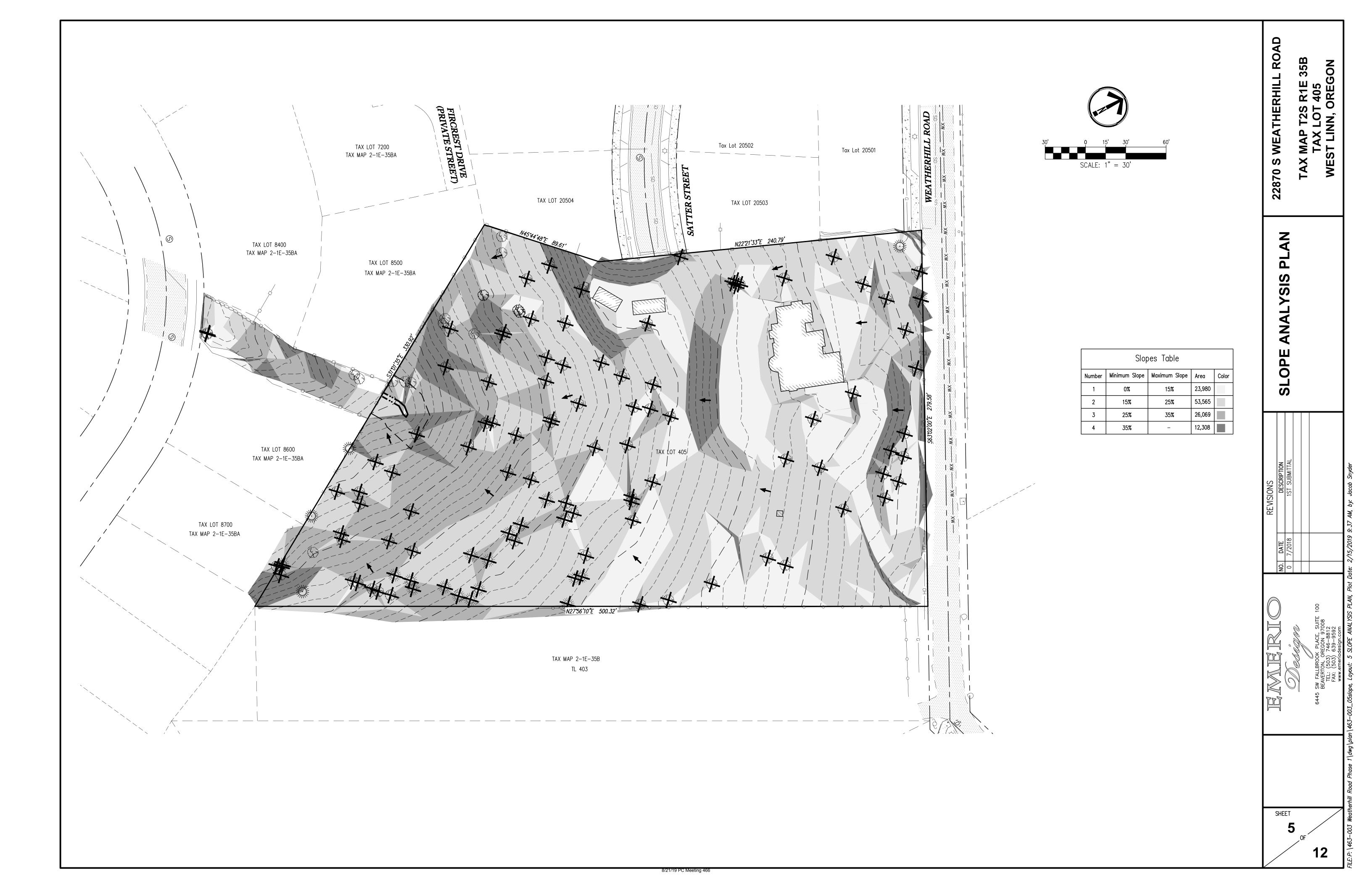


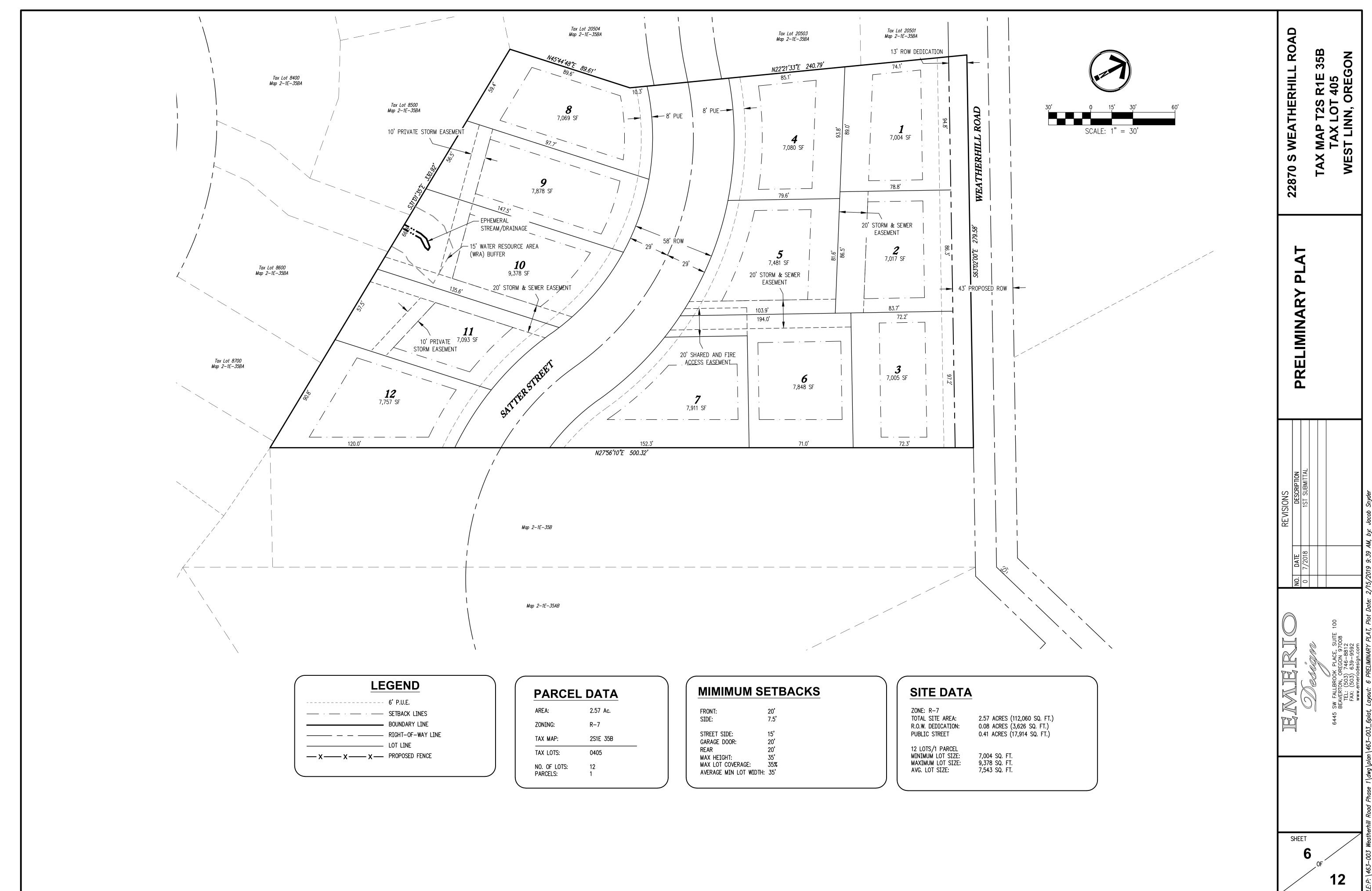
MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx

No.	Type	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
20751	Dec	bigleaf maple	Acer macrophyllum	10	16	F	Poor structure	No	Remove
20753	Con	Douglas-fir	Pseudotsuga menziesii	16	14	F	Codominant crown class, ivy	No	Remove
20754	Con	Douglas-fir	Pseudotsuga menziesii	7	3	Р	Suppressed, mostly dead	No	Remove
20761	Con	Douglas-fir	Pseudotsuga menziesii	18	14	G	Ivy up trunk, codominant crown class	Yes	Remove
20766	Con	Douglas-fir	Pseudotsuga menziesii	12	10	F	Codominant crown class, some ivy	No	Remove
20767	Con	Douglas-fir	Pseudotsuga menziesii	18	14	F	Pistolbutt, sweep in upper trunk	No	Remove
20768	Con	Douglas-fir	Pseudotsuga menziesii	19	14	F	One-sided to south, sweep in upper trunk	No	Remove
							Codominant stems with seam, dead and broken		
20769	Dec	Oregon white oak	Quercus garryana	16,20	12	F	branches, crown decay, upright crown	No	Remove
20770	Con	Douglas-fir	Pseudotsuga menziesii	20	15	F	Old broken top, forked leaders, twig dieback	No	Remove
20771	Con	Douglas-fir	Pseudotsuga menziesii	16	14	F	Codominant crown class	No	Remove
20774	Con	Douglas-fir	Pseudotsuga menziesii	12	10	F	Codominant crown class, ivy up trunk	No	Remove
20775	Con	Douglas-fir	Pseudotsuga menziesii	16	8	F	Codominant crown class, ivy up trunk	No	Remove
20776	Con	Douglas-fir	Pseudotsuga menziesii	10	6	Р	Suppressed, extensive ivy	No	Remove
20779	Dec	bigleaf maple	Acer macrophyllum	8	16	F	Very poor structure	No	Remove
20780	Dec	bigleaf maple	Acer macrophyllum	2x6	10	F	Very poor structure	No	Remove
20781	Dec	bigleaf maple	Acer macrophyllum	10	10	F	Very poor structure	No	Remove
20782	Dec	bigleaf maple	Acer macrophyllum	8	10	F	Very poor structure	No	Remove
20785	Con	Douglas-fir	Pseudotsuga menziesii	47	26	G	Forked leaders	Yes	Retain
20788	Con	Douglas-fir	Pseudotsuga menziesii	36	28	G	Limited assessment	Yes	Retain
20793	Con	Scouler's willow	Salix scouleriana	14	8	Р	Multiple leader failures, vigorous sprouting	No	Remove
20794	Dec	bigleaf maple	Acer macrophyllum	9	16	F	Poor structure	No	Retain
20795	Dec	bigleaf maple	Acer macrophyllum	2x6	10	Р	Very poor structure	No	Remove
20796	Dec	bigleaf maple	Acer macrophyllum	8	12	F	Poor structure	No	Remove
20797	Dec	bigleaf maple	Acer macrophyllum	7	14	F	Poor structure	No	Remove
20798	Con	Douglas-fir	Pseudotsuga menziesii	23	18	G	Limited assessment	Yes	Retain
20802	Dec	bigleaf maple	Acer macrophyllum	16	18	G		No	Remove
20805	Con	Douglas-fir	Pseudotsuga menziesii	8	6	Р	Suppressed, growing into 20806	No	Remove
							Advanced trunk decay with hollow 0-3' north face,		
20806	Dec	bigleaf maple	Acer macrophyllum	15	16	Р	poor crown structure	No	Remove
							Boundary tree, very poor structure, not suitable		Remove with
							for retention with exposure from removal of		adjacent owner's
20807	Dec	bigleaf maple	Acer macrophyllum	8	14	Р	adjacent hazard tree 20806	No	consent
20808	Dec	madrone	Arbutus menziesii	15	18	Р	Crown difficult to assess but advanced basal decay	No	Remove
20834	Dec	Scouler's willow	Salix scouleriana	18	12	F	Off-site in utility easement, inaccessible	No	Retain
20835		Scouler's willow	Salix scouleriana	18	12	F	Off-site in utility easement, inaccessible	No	Retain
	Con	western redcedar	Thuja plicata	6	6	G	Off-site in utility easement, young tree	No	Remove
20850	Con	western redcedar	Thuja plicata	6	6	G	Off-site in utility easement, young tree	No	Remove
20900	Dec	bigleaf maple	Acer macrophyllum	8	12	Р	Very poor structure	No	Remove
20921		bigleaf maple	Acer macrophyllum	9,12	16	F	Poor structure, trunk decay		Remove
30001		spruce	Picea spp.	. 8	8	G			Remove
30002	Dec	Oregon white oak	Quercus garryana	7,9,11	14	Р	Low vigor, dieback	No	Remove
							Codominant crown class, few dead and broken		
30003	Con	Douglas-fir	Pseudotsuga menziesii	32	24	G	branches	Yes	Remove
			_				odominant trunks splitting below DBH are measured		
		e sum of each stem.		<u> </u>	1	,, ,,	<u> </u>		,
•		average crown radiu	s measured in feet.						
u-nau	is tile	average crown iddiu	s measured in reet.						

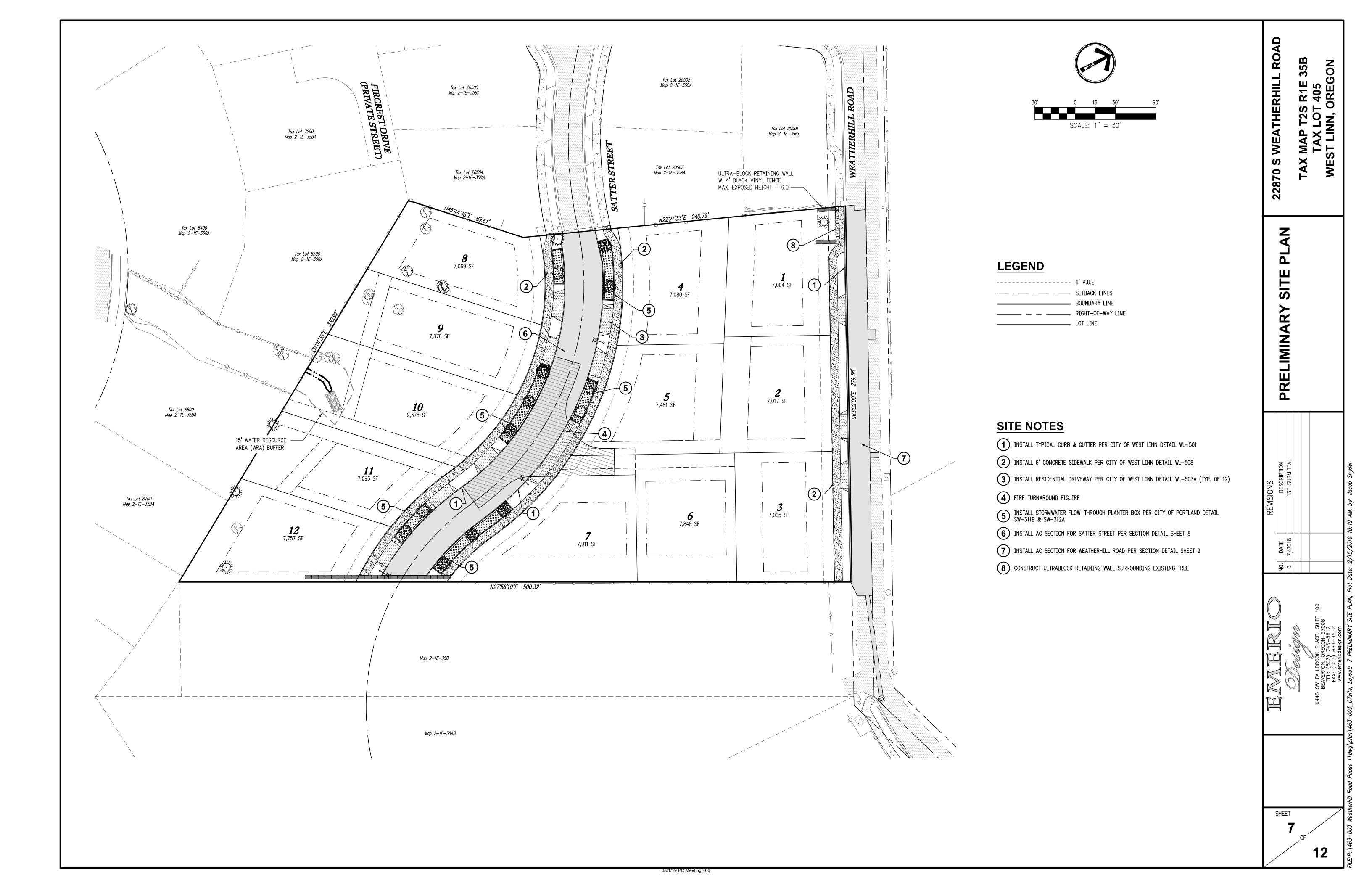
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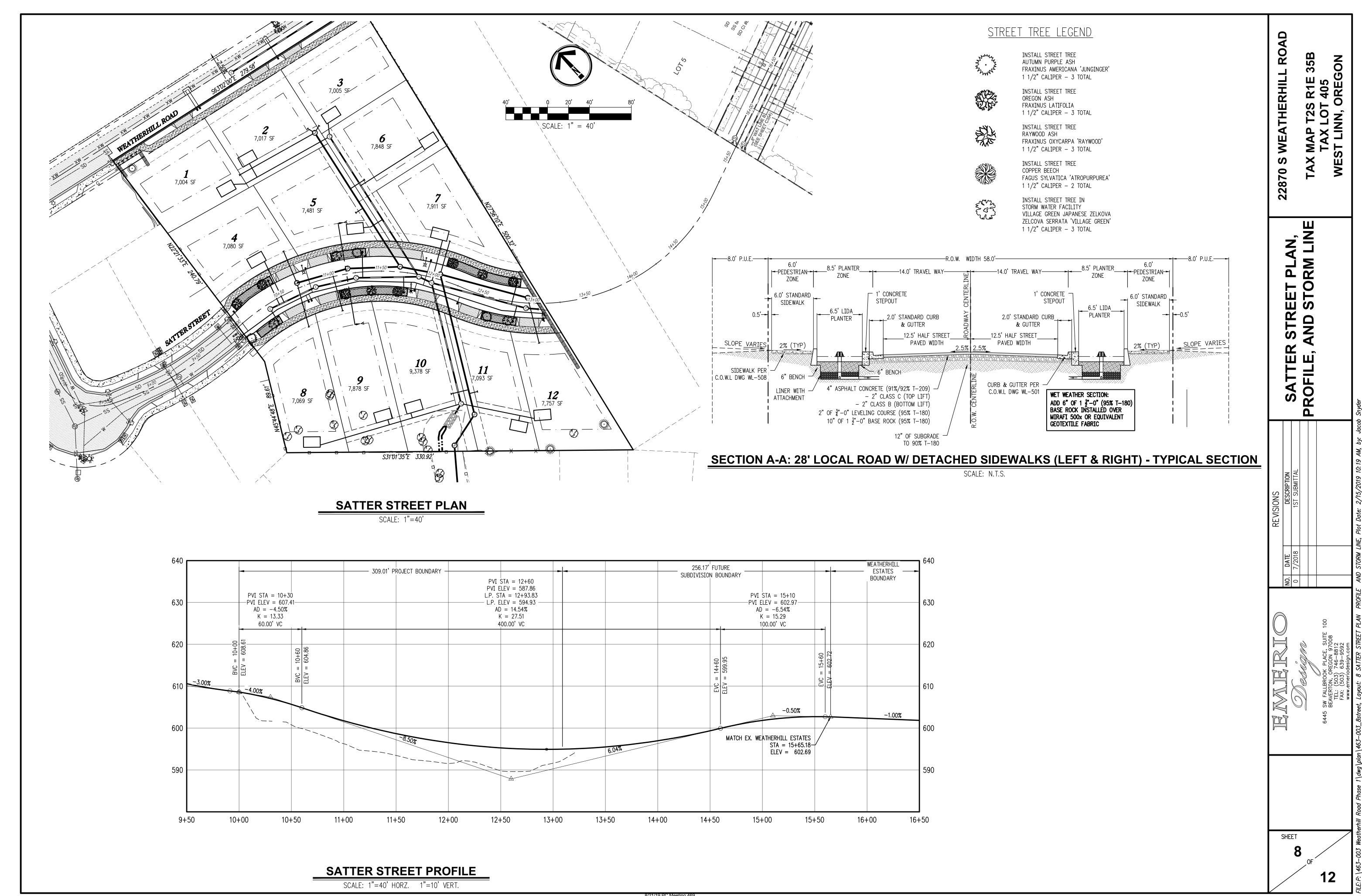
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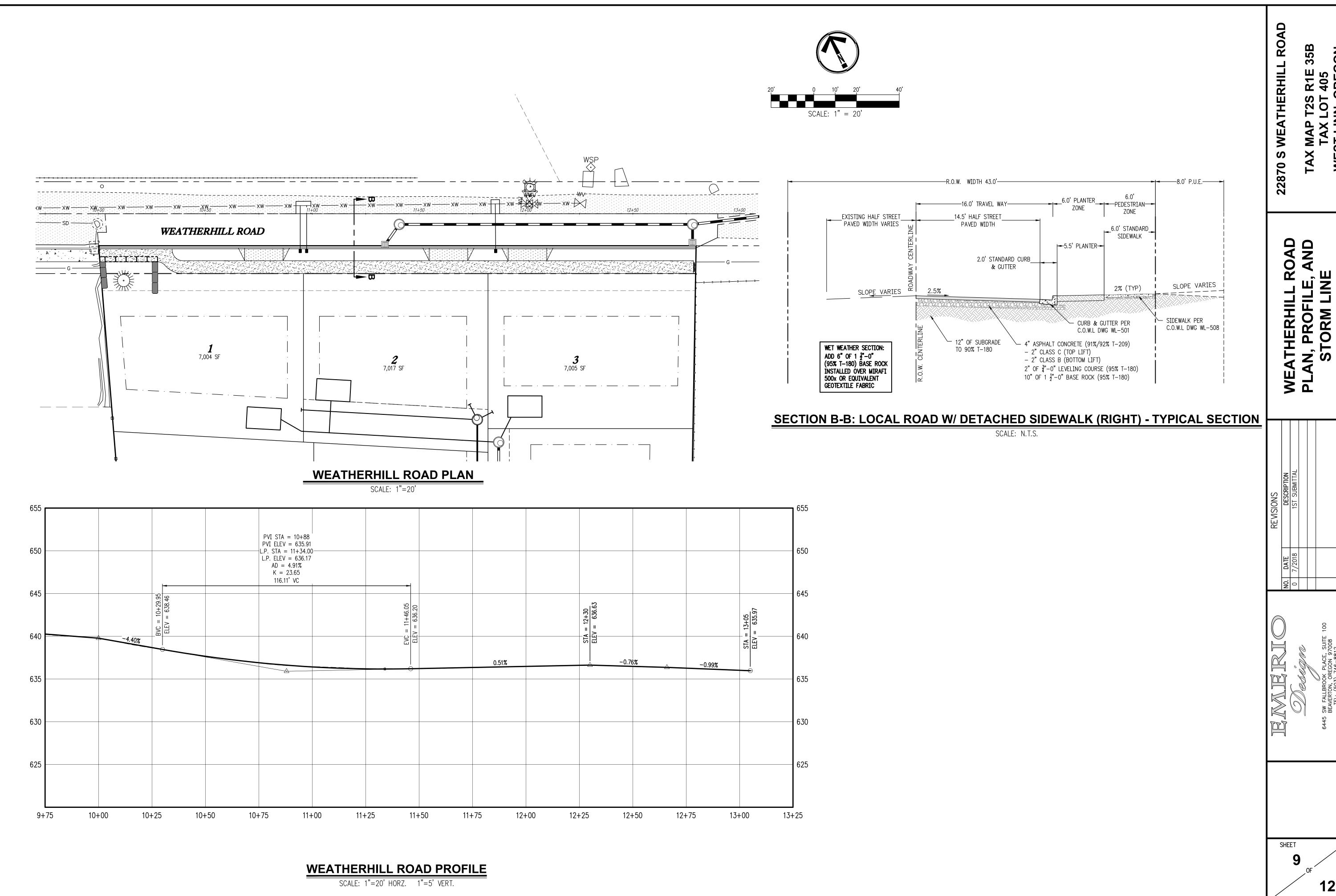


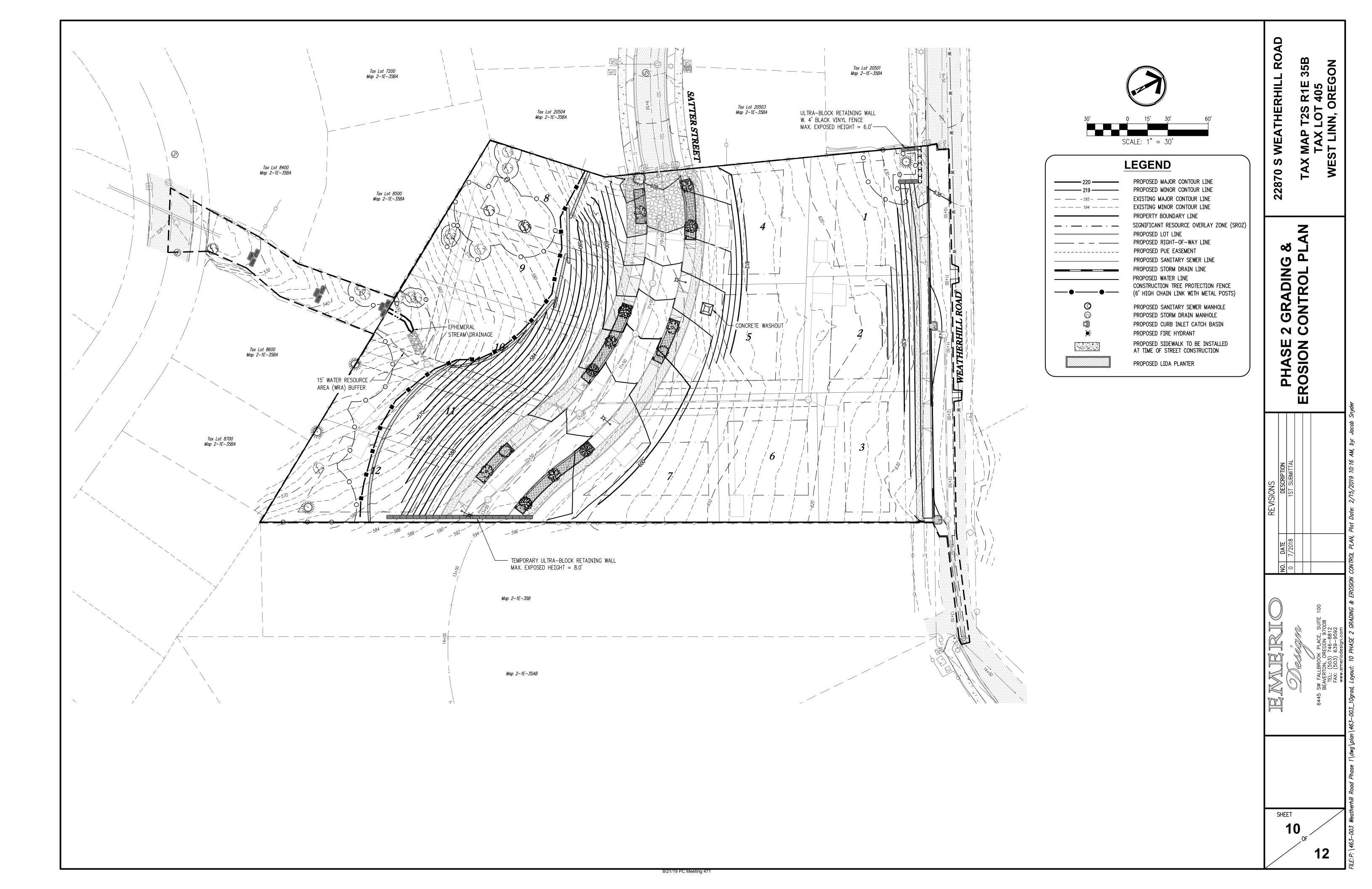


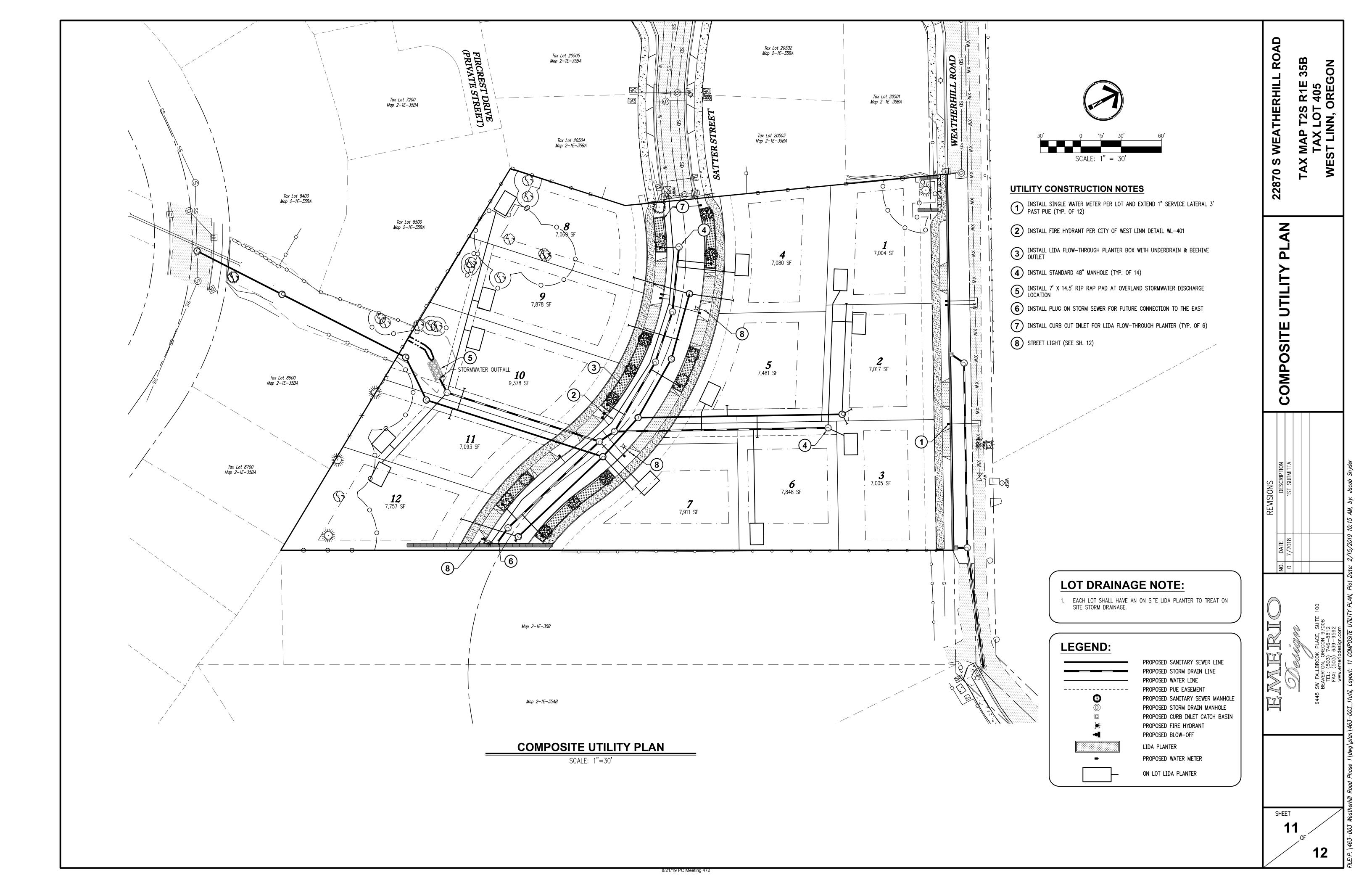
8/21/19 PC Meeting 467

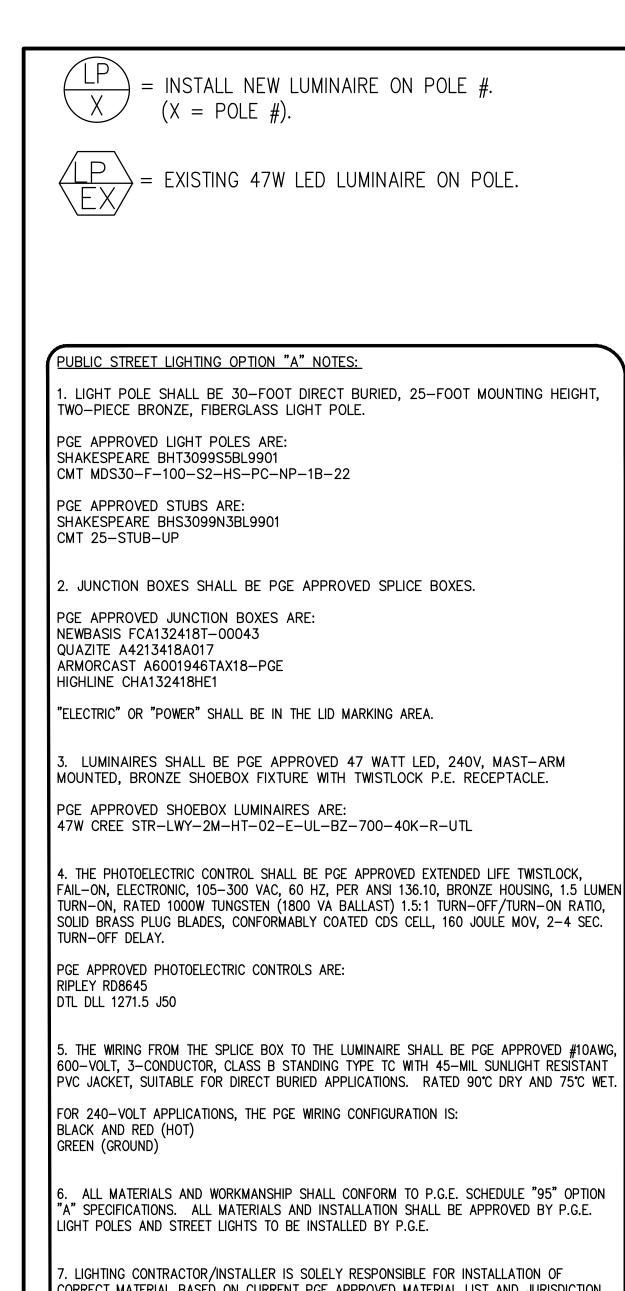




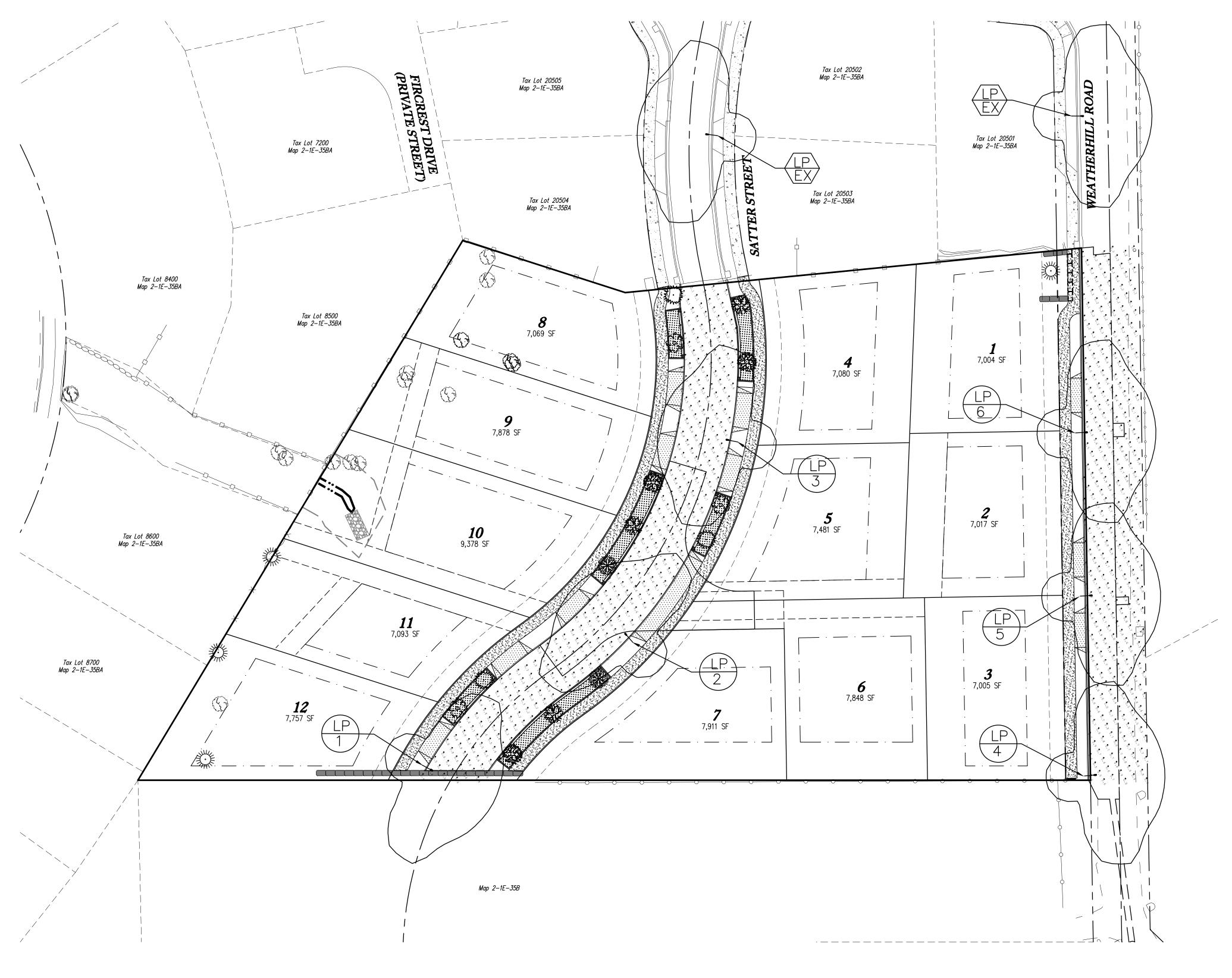


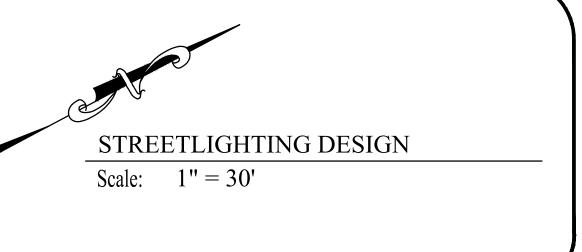






7. LIGHTING CONTRACTOR/INSTALLER IS SOLELY RESPONSIBLE FOR INSTALLATION OF CORRECT MATERIAL BASED ON CURRENT PGE APPROVED MATERIAL LIST AND JURISDICTION SPECIFICATIONS AND STANDARDS. LIGHT POLE AND FIXTURE SUBMITTAL TO PROPER JURISDICTION RECOMMENDED.





NUMERIC SUMMARY						
PROJECT: WEATHERHILL						
LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN
SATTER STREET	ILLUMINANCE	FC	0.47	0.90	0.10	4.70
SW WEATHERHILL ROAD	ILLUMINANCE	FC	0.58	0.90	0.10	5.80

Title: STRE

Designed by: Adam
ODate: Februa

To Date: Februa

Title: STRE

To Designed by: Jesse On Date: Februa

To Date: F

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THERHIL

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LIGHTING

ATHERHIL

S R1E T 405 OREG

8/21/19 PC Meeting 47

NATURAL RESOURCE ASSESSMENT Within Water Resource Area

FOR

22870 WEATHERHILL ROAD

Prepared for:
Bob Schultz
22870 Weatherhill LLC
22870 Weatherhill Road
West Linn, OR 97068

Prepared by: Cari Cramer Schott and Associates

> February 2019 Project #: 2637

INTRODUCTION

Site Location

Schott and Associates (S&A) was contracted to conduct a natural resource assessment on the 2.56 acre subject property located at 22870 Weatherhill Road in West Linn, Clackamas County, Oregon (T2S, R1E, Sec. 35B, TL 405).

Site Description

The property is entered south from a driveway off of Weatherhill Road to the north. The site topography is terraced and south, southwest sloping. The northern half of the property is on the terrace and has one existing home and a barn located on the northwest portion of the property. A maintained landscape, dominated by lawn grasses and scattered ornamental and native trees, surrounds the house. The southern approximate half of the property is undeveloped with the exception of a few formed dirt trails. The northern 2/3rds of the southern half of the property contained large Oregon white oaks (*Quercus garryana*) with an understory of non-native grasses with some poison oak (*Toxicodendron diversilobum*), English ivy (*Hedera helix*) and Himalayan blackberry (*Rubus armeniacus*). The most southern third of the property was dominated by big leaf maple (*Acer macrophyllum*) with some Oregon ash (*Fraxinus latifolia*) in the overstory. The understory mainly consisted of Himalayan blackberry and English ivy with some beaked hazelnut (*Corylus cornuta*), vine maple (*Acer circinatum*), snowberry (*Symphoricarpos albus*) and English holly (*Ilex aquifolium*).

There is an open tract southwest of the site. The surrounding area is residential.

Project Objectives

The applicant proposes construction of a 12 lot subdivision with associated access drive, parking and utilities. Also proposed is continuing Satter Street through the approximate middle of the property directing east, southeast.

The WRA Map documents a protected water resource on site (Appendix A). An Ephemeral Stream is WRA mapped through the south half of the property starting near the west property boundary and directing south down slope and extending offsite through a tract. The ephemeral stream is mapped within the Goal 5 Significant Riparian Corridor. As per 32.120 the WRA map is ... not intended to delineate the exact WRA boundaries or water feature alignment. Amendments to the WRA Maps may be made in accordance with the provisions of Chapters 98 and 99 CDC.

This report will outline the actual extent of the onsite WRA feature, and address the approval criteria in CDC Chapter 32.060 Standard Review Process.

METHODS

A natural resource assessment was conducted by S&A on September 13, 2018 for the purposes of completing a wetland delineation and natural resource assessment. 32.020 Chapter 32 of the CDC applies to all development, activity or uses within WRAs identified on the WRA map. The limits of the onsite undisturbed waterway was determined based on field verified conditions and documented in this report.

WRA CONDITIONS

Waterway

During the delineation site visit one ephemeral stream was located onsite at the southwest property boundary. The ephemeral stream started 25' up slope to the northeast and directed to the southwest. Within the ephemeral stream the ground was mainly bare and had no hydrology at the time of the site visit. The homeowner indicated that there is only hydrology after hard rains. The stream continued offsite through a tract to a culvert under Crestview Drive. The stream channel south of the site was less than 18" wide.

Wetland

Based on soil, vegetation and hydrology data taken in the field no wetlands were delineated on site. The upland sample plots were within forested area in the southern half of the subject property and consisted of Oregon white oak with an understory of nonnative grasses such as tall fescue (*Schedonorus arundinaceus*) with some Himalayan blackberry, English ivy and poison oak (sp1) in the northern portion. Within the southern portion of the forested area at the lowest point (sp2) in the northwest corner, the overstory consisted of bigleaf maple with beaked hazelnut, Himalayan blackberry and English ivy in the understory. Near the southwest property boundary within a converging slope that is approximately 25' long and directing down slope southwest a stream was LWI and WRA mapped. Sample plot 3 was taken at the lowest point in this area. Vegetation consisted of Oregon ash, bigleaf maple, snowberry, vine maple, holly, sword fern, English ivy and Himalayan blackberry.

Soils were a 10YR3/3 in all of the sample plots and did not meet the hydric soil indicators. No hydrology was observed.

The Local Wetland Inventory (LWI) for the City of West Linn showed a drainage within the southern portion of the property starting near the middle of the west property line and directing south and off property at the southwest property line. Onsite findings did not show any indications of the drainage extending from half way up the property. The LWI corresponds only partially with onsite findings. The ephemeral drainage starts within converging slopes 25' northeast, upslope of the southwest property boundary. The drainage angles down slope to the southwest extending off property through an offsite tract.

Water Resource Area (WRA)

The water resource delineated onsite is an ephemeral stream. As per Table 32-2, the required width of the WRA on each side of the ephemeral stream is 15'.

Undisturbed WRA Conditions

The water resource delineated onsite is within an undeveloped portion of the site. There has been little to no disturbance.

As per CDC Section 32.050(F)(8) plant communities within the undisturbed WRA were identified and characterized. The onsite tree canopy within the 15' adjacent to the delineated resource consisted of bigleaf maple and Oregon ash. Understory vegetation consisted of common snowberry, vine maple, and holly with some beaked hazelnut, Himalayan blackberry and sword fern. The WRA was in good condition.

Table 1. WRA vegetation

Scientific Name	Common Name	Layer	% Cover
Acer macrophyllum	Big leaf maple	Tree	40
Fraxinus latifolia	Oregon ash	Tree	30
Symphoricarpos albus	Common snowberry	Shrub	10
Acer circinatum	Vine maple	Tree	5
Corylus cornuta	Beaked hazelnut	Tree	5
Ilex aquifolium	English holly	Shrub	5
Polystichum munitum	Sword fern	Forb	5
Rubus armeniacus	Himalayan blackberry	Shrub	5
% cover by natives			95
% native tree canopy			70
% invasive/noxious			10

IMPACTS

Impacts to Wetlands/Waters

No impacts to wetlands or waters are proposed.

Impacts to the WRA

The required WRA width is 15' for an ephemeral drainage. The ephemeral drainage is located 25' upslope from the southwest property boundary. Sewer pipe will be extended down to the existing sewer line at Crestview Drive resulting in minor temporary impacts within the WRA.

Temporary impacts proposed are approximately 100sf at the southeast corner of the WRA.

32.060 APPROVAL CRITERIA (STANDARD PROCESS)

No application for development on property containing a WRA shall be approved unless the approval authority finds that the proposed development is consistent with the following approval criteria, or can satisfy the criteria by conditions of approval:

- *A.* WRA protection/minimizing impacts.
 - 1. Development shall be conducted in a manner that will avoid or, if avoidance is not possible, minimize adverse impact on WRAs.
 - 2. Mitigation and re-vegetation of disturbed WRAs shall be completed per CDC 32.090 and 32.100 respectively.

Proposed development shall avoid permanent impacts to the WRA. A Sewer pipe will be installed and extended down to the existing sewer line at Crestview Drive resulting in approximately 100sf of temporary impacts at the southeast corner of the WRA minimizing the area of temporary disturbance to the extent possible.

- B. Storm water and storm water facilities.
 - 1. Proposed developments shall be designed to maintain the existing WRAs and utilize them as the primary method of storm water conveyance through the project site unless:
 - a. The surface water management plan calls for alternate configurations (culverts, piping, etc.); or
 - b. Under CDC 32.070, the applicant demonstrates that the relocation of the water resource will not adversely impact the function of the WRA including, but not limited to, circumstances where the WRA is poorly defined or not clearly channelized. Re-vegetation, enhancement and/or mitigation of the re-aligned water resource shall be required as applicable.

The project has been designed to maintain the existing WRA and to utilize it as the primary method of storm water conveyance through the project site.

- 2. Public and private storm water detention, storm water treatment facilities and storm water outfall or energy dissipaters (e.g., rip rap) may encroach into the WRA if:
 - a. Accepted engineering practice requires it;
 - b. Encroachment on significant trees shall be avoided when possible, and any tree loss shall be consistent with the City's Tree Technical Manual and mitigated per CDC 32.090;
 - c. There shall be no direct outfall into the water resource, and any resulting outfall shall not have an erosive effect on the WRA or diminish the stability of slopes; and
 - d. There are no reasonable alternatives available.

A geotechnical report may be required to make the determination regarding slope stability.

The treated public and private storm water will outfall into the WRA as there are no reasonable alternatives available on site. The proposed outfall design follows accepted engineering practices and it does not encroach on any significant trees. The storm water

outfall will occur above the ephemeral stream and any resulting outfall will not have an erosive affect on the stream or diminish the stability of any slopes.

3. Roadside storm water conveyance swales and ditches may be extended within rights-of-way located in a WRA. When possible, they shall be located along the side of the road furthest from the water resource. If the conveyance facility must be located along the side of the road closest to the water resource, it shall be located as close to the road/sidewalk as possible and include habitat friendly design features (treatment train, rain gardens, etc.).

No roadside storm water swales or ditches will be extended into the WRA.

4. Storm water detention and/or treatment facilities in the WRA shall be designed without permanent perimeter fencing and shall be landscaped with native vegetation.

No storm water detention and/or treatment facilities will be located in the WRA.

5. Access to public storm water detention and/or treatment facilities shall be provided for maintenance purposes. Maintenance driveways shall be constructed to minimum width and use water permeable paving materials. Significant trees, including roots, shall not be disturbed to the degree possible. The encroachment and any tree loss shall be mitigated per CDC 32.090. There shall also be no adverse impacts upon the hydrologic conditions of the site.

The applicant is proposing to install LIDA planters within the Satter Street right of way to treat the public storm water, so access will be readily available.

6. Storm detention and treatment and geologic hazards. Per the submittals required by CDC 32.050(F)(3) and 92.010(E), all proposed storm detention and treatment facilities must comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards, there will be no adverse offsite impacts caused by the development (including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream), and the applicant must provide sufficient factual data to support the conclusions of the submitted plan.

All plans have been prepared by a licensed Oregon Engineer and a Geotechnical report has been provided by GeoPacific Engineering, Inc. All proposed storm detention and treatment facilities have been designed to comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards, and there will be no adverse off-site impacts caused by the proposed development. All factual data required to support the conclusions have been submitted as part of the overall application materials.

C. Repealed by Ord. 1647.

D. <u>WRA width</u>. Except for the exemptions in CDC <u>32.040</u>, applications that are using the alternate review process of CDC <u>32.070</u>, or as authorized by the approval authority consistent with the provisions of this chapter, all development is prohibited in the WRA as established in Table 32-2.

As per Table 32-2 the protected WRA feature onsite is an Ephemeral Stream requiring a 15' width on each side of the water resource.

E. Per the submittals required by CDC 32.050(F)(4), the applicant must demonstrate that the proposed methods of rendering known or potential hazard sites safe for development, including proposed geotechnical remediation, are feasible and adequate to prevent landslides or other damage to property and safety. The review authority may impose conditions, including limits on type or intensity of land use, which it determines are necessary to mitigate known risks of landslides or property damage.

A Geotechnical report is provided as part of the submitted application materials. The report did not identify any potential hazards on the site that would be impacted by the proposed development.

- F. Roads, driveways and utilities.
 - 1. New roads, driveways, or utilities shall avoid WRAs unless the applicant demonstrates that no other practical alternative exists. In that case, road design and construction techniques shall minimize impacts and disturbance to the WRA by the following methods:
 - a. New roads and utilities crossing riparian habitat areas or streams shall be aligned as close to perpendicular to the channel as possible.
 - b. Roads and driveways traversing WRAs shall be of the minimum width possible to comply with applicable road standards and protect public safety. The footprint of grading and site clearing to accommodate the road shall be minimized.
 - c. Road and utility crossings shall avoid, where possible:
 - 1) Salmonid spawning or rearing areas;
 - 2) Stands of mature conifer trees in riparian areas;
 - 3) Highly erodible soils;
 - 4) Landslide prone areas:
 - 5) Damage to, and fragmentation of, habitat; and
 - 6) Wetlands identified on the WRA Map.

The proposed development has been designed to minimize adverse impacts on the WRA. There will be no new roads or driveways located in the WRA.

A sewer line is proposed to be installed along the northern boundary of proposed lot 11 and through a small portion of the 15' WRA. The sewer line will not cross the ephemeral stream but will temporarily impact an approximate 100sf area at the southeast corner of the WRA. In addition, the applicant is proposing to have the treated storm sewer line installed along the southern boundary of lot 10 with the stormwater outfall occurring above the ephemeral

stream and sheet flow through the stream naturally. No mature trees or wetlands will be impacted by the proposed activity.

2. Crossing of fish bearing streams and riparian corridors shall use bridges or arch-bottomless culverts or the equivalent that provides comparable fish protection, to allow passage of wildlife and fish and to retain the natural stream bed.

There are no fish bearing streams or riparian corridors. There is an ephemeral drain that will be within a protected tract and there will be no crossing.

3. New utilities spanning fish bearing stream sections, riparian corridors, and wetlands shall be located on existing roads/bridges, elevated walkways, conduit, or other existing structures or installed underground via tunneling or boring at a depth that avoids tree roots and does not alter the hydrology sustaining the water resource, unless the applicant demonstrates that it is not physically possible or it is cost prohibitive. Bore pits associated with the crossings shall be restored upon project completion. Dry, intermittent streams may be crossed with open cuts during a time period approved by the City and any agency with jurisdiction.

There are no fish bearing streams, riparian corridors or wetlands onsite.

4. No fill or excavation is allowed within the ordinary high water mark of a water resource, unless all necessary permits are obtained from the City, U.S. Army Corps of Engineers and Oregon Department of State Lands (DSL).

No fill or excavation is proposed within the OHW of the ephemeral drain.

5. Crossings of fish bearing streams shall be aligned, whenever possible, to serve multiple properties and be designed to accommodate conduit for utility lines. The applicant shall, to the extent legally permissible, work with the City to provide for a street layout and crossing location that will minimize the need for additional stream crossings in the future to serve surrounding properties.

There are no fish bearing streams on site, just a non-jurisdictional ephemeral stream. There will be no crossing of the stream.

- G. Passive recreation. Low impact or passive outdoor recreation facilities for public use including, but not limited to, multi-use paths and trails, not exempted per CDC $\underline{32.040}(B)(2)$, viewing platforms, historical or natural interpretive markers, and benches in the WRA, are subject to the following standards:
 - 1. Trails shall be constructed using non-hazardous, water permeable materials with a maximum width of four feet or the recommended width under the applicable American

Association of State Highway and Transportation Officials (AASHTO) standards for the expected type and use, whichever is greater.

- 2. Paved trails are limited to the area within 20 feet of the outer boundary of the WRA, and such trails must comply with the storm water provisions of this chapter.
- 3. All trails in the WRA shall be set back from the water resource at least 30 feet except at stream crossing points or at points where the topography forces the trail closer to the water resource.
- 4. Trails shall be designed to minimize disturbance to existing vegetation, work with natural contours, avoid the fall line on slopes where possible, avoid areas with evidence of slope failure and ensure that trail runoff does not create channels in the WRA.
- 5. Foot bridge crossings shall be kept to a minimum. When the stream bank adjacent to the foot bridge is accessible (e.g., due to limited vegetation or topography), where possible, fences or railings shall be installed from the foot bridge and extend 15 feet beyond the terminus of the foot bridge to discourage trail users and pets from accessing the stream bank, disturbing wildlife and habitat areas, and causing vegetation loss, stream bank erosion and stream turbidity. Bridges shall not be made of continuous impervious materials or be treated with toxic substances that could leach into the WRA.
- 6. Interpretive facilities (including viewpoints) shall be at least 10 feet from the top of the water resource's bankfull flow/OHW or delineated wetland edge and constructed with a fence between users and the resource. Interpretive signs may be installed on footbridges.

No passive low impact outdoor recreation amenities are being proposed as part of the development so above criterion does not apply.

H. <u>Daylighting Piped Streams</u>.

- 1. As part of any application, covered or piped stream sections shown on the WRA Map are encouraged to be "daylighted" or opened. Once it is daylighted, the WRA will be limited to 15 feet on either side of the stream. Within that WRA, water quality measures are required which may include a storm water treatment system (e.g., vegetated bioswales), continuous vegetative ground cover (e.g., native grasses) at least 15 feet in width that provides year round efficacy, or a combination thereof.
- 2. The re-opened stream does not have to align with the original piped route but may take a different route on the subject property so long as it makes the appropriate upstream and downstream connections and meet the standards of subsections (H)(3) and (4) of this section.
- 3. A re-aligned stream must not create WRAs on adjacent properties not owned by the applicant unless the applicant provides a notarized letter signed by the adjacent property owner(s) stating that the encroachment of the WRA is permitted.
- 4. The evaluation of proposed alignment and design of the reopened stream shall consider the following factors:

- a. The ability of the reopened stream to safely carry storm drainage through the area without causing significant erosion.
- b. Continuity with natural contours on adjacent properties, slope on site and drainage patterns.
- c. Continuity of adjacent vegetation and habitat values.
- d. The ability of the existing and proposed vegetation to filter sediment and pollutants and enhance water quality.
- e. Provision of water temperature conducive to fish habitat.

There is no proposal to cover, pipe or re-align a stream section.

5. Any upstream or downstream WRAs or riparian corridors shall not apply to, or overlap, the daylighted stream channel.

No upstream or downstream WRAs or riparian corridors apply to or overlap the daylighted stream channel.

6. When a stream is daylighted the applicant shall prepare and record a legal document describing the reduced WRA required by subsections (H)(1) and (5) of this section. The document will be signed by a representative of the City and recorded at the applicant's expense to better ensure long term recognition of the reduced WRA and reduced restrictions for the daylighted stream section.

No stream daylighting or WRA reduction is proposed.

- I. The following habitat friendly development practices shall be incorporated into the design of any improvements or projects in the WRA to the degree possible:
 - 1. Restore disturbed soils to original or higher level of porosity to regain infiltration and storm water storage capacity.
 - 2. Apply a treatment train or series of storm water treatment measures to provide multiple opportunities for storm water treatment and reduce the possibility of system failure.
 - 3. Incorporate storm water management in road rights-of-way.
 - 4. Landscape with rain gardens to provide on-lot detention, filtering of rainwater, and groundwater recharge.
 - 5. Use multi-functional open drainage systems in lieu of conventional curb-and-gutter systems.
 - 6. Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics.

- 7. Retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden watering.
- 8. Disconnect downspouts from roofs and direct the flow to vegetated infiltration/filtration areas such as rain gardens.
- 9. Use pervious paving materials for driveways, parking lots, sidewalks, patios, and walkways.
- 10. Reduce sidewalk width to a minimum four feet. Grade the sidewalk so it drains to the front yard of a residential lot or retention area instead of towards the street.
- 11. Use shared driveways.
- 12. Reduce width of residential streets and driveways, especially at WRA crossings.
- 13. Reduce street length, primarily in residential areas, by encouraging clustering.
- 14. Reduce cul-de-sac radii and use pervious and/or vegetated islands in center to minimize impervious surfaces.
- 15. Use previously developed areas (PDAs) when given an option of developing PDA versus non-PDA land.
- 16. Minimize the building, hardscape and disturbance footprint.
- 17. Consider multi-story construction over a bigger footprint. (Ord. 1623 § 1, 2014; Ord. 1635 § 19, 2014; Ord. 1647 § 5, 2016; Ord. 1662 § 7, 2017)

The applicant is agreeable to following the habitat friendly development practices listed above for any improvements in the WRA to the degree possible. As a condition of any final approval, the applicant is agreeable to incorporating the habitat friendly development practices listed above into the civil designs, to the extent practicable, for the installation of the sewer pipe and treated storm water.

32.070 Alternate Review Process; 32.080 APPROVAL CRITERIA (ALTERNATE REVIEW PROCESS)

The above criteria do not apply as WRA reduction is not being proposed. An ephemeral drainage was delineated onsite and the location was concurred with by DSL. The required WRA on each side of the delineated ephemeral drainage is 15' and no alternative is being proposed.

32.090 MITIGATION PLAN

A mitigation plan shall only be required if development is proposed within a WRA (including development of a PDA). (Exempted activities of CDC <u>32.040</u> do not require mitigation unless specifically stated. Temporarily disturbed areas, including TDAs associated

with exempted activities, do not require mitigation, just grade and soil restoration and revegetation.) The mitigation plan shall satisfy all applicable provisions of CDC <u>32.100</u>, ReVegetation Plan Requirements.

32.100 RE-VEGETATION PLAN REQUIREMENTS

A. In order to achieve the goal of re-establishing forested canopy, native shrub and ground cover and to meet the mitigation requirements of CDC <u>32.090</u> and vegetative enhancement of CDC <u>32.080</u>, tree and vegetation plantings are required according to the following standards:

Development is not proposed in the WRA. Only temporary impacts of 100sf in the southeast corner of the WRA are proposed to install a sewer line. The area will be restored and revegetated with native plant species as required by 32.090.

32.110 HARDSHIP PROVISIONS

The purpose of this section is to ensure that compliance with this chapter does not deprive an owner of reasonable use of land. To avoid such instances, the requirements of this chapter may be reduced. The decision-making authority may impose such conditions as are deemed necessary to limit any adverse impacts that may result from granting relief. The burden shall be on the applicant to demonstrate that the standards of this chapter, including Table 32-2, Required Width of WRA, will deny the applicant "reasonable use" of his/her property.

The Hardship Provision does not apply.

Appendix A. Site Vicinity Map



gle Maps 22870 Weatherhill Rd

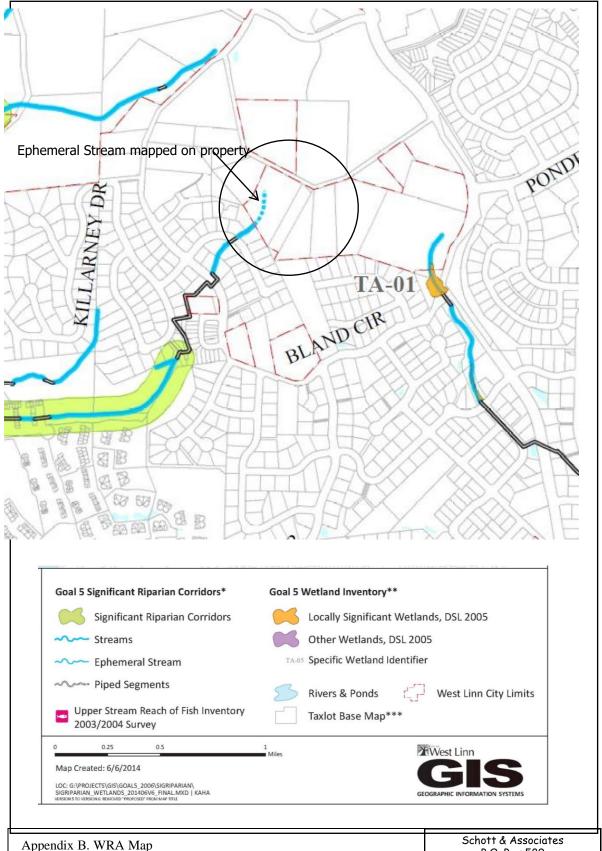


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Appendix A: SITE LOCATION MAP 22870 Weatherhill Road S&A#2637

Schott & Associates P.O. Box 589 Aurora, OR. 97002 503.678.6007

Appendix B. WRA Map

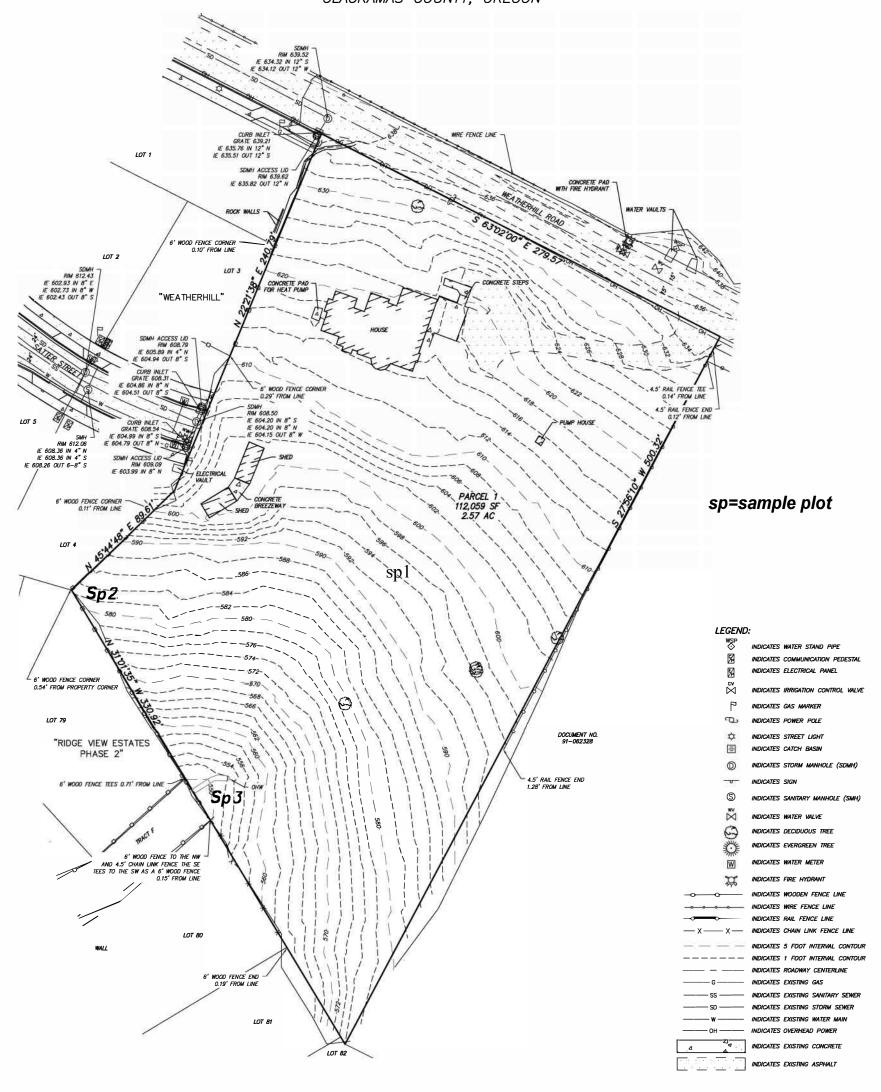


Appendix B. WRA Map 22870 Weatherhill Road S&A#2637 P.O. Box 589
Aurora, OR. 97002
503.678.6007

Appendix C. Existing Conditions Map

EXISTING CONDITIONS MAP

OF PORTION OF LOT 23, "BLAND ACRES" LOCATED IN THE NW 1/4 OF SECTION 35, T.2S., R.1E., W.M. CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON



SURVEY NOTES:

THE DATUM FOR THIS SURVEY IS BASED UPON OREGON REAL-TIME GNSS NETWORK (ORGN). NAVD88. A TOPCON PS104B. TRIMBLE RS INSTRUMENTS WERE USED TO COMPLETE THIS SURVEY.

BOUNDARIES WERE DRAWN PER PLAT AND MONUMENTS FOUND. NO PROPERTY CORNERS WERE SET IN THIS SURVEY.

NO WARRANTIES ARE MADE AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS ADVERSE POSSESSION, ESTOPPEL, ACQUIESCENCE, ETC.

THE UNDERGROUND UTILITIES AS SHOWN ON THIS MAP HAVE BEEN LOCATED FROM FIELD SURVEY OF ABOVE GROUND STRUCTURES AND AS MARKED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPROMES ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDOMED. THE SURVEYOR PURTHER DOES NOT MERABAT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. SUBJURIFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERTHEAD CONTINNERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.

60'

NO TITLE REPORT WAS SUPPLIED OR USED IN THE PREPARATION OF THIS MAP. THERE MAY EXIST EASEMENTS, CONDITIONS, OR RESTRICTIONS THAT COULD AFFECT THE TITLE OF THIS PROPERTY. NO ATTEMPT HAS BEEN MADE IN THIS SURVEY TO SHOW SUCH MATTERS THAT MAY AFFECT TITLE.



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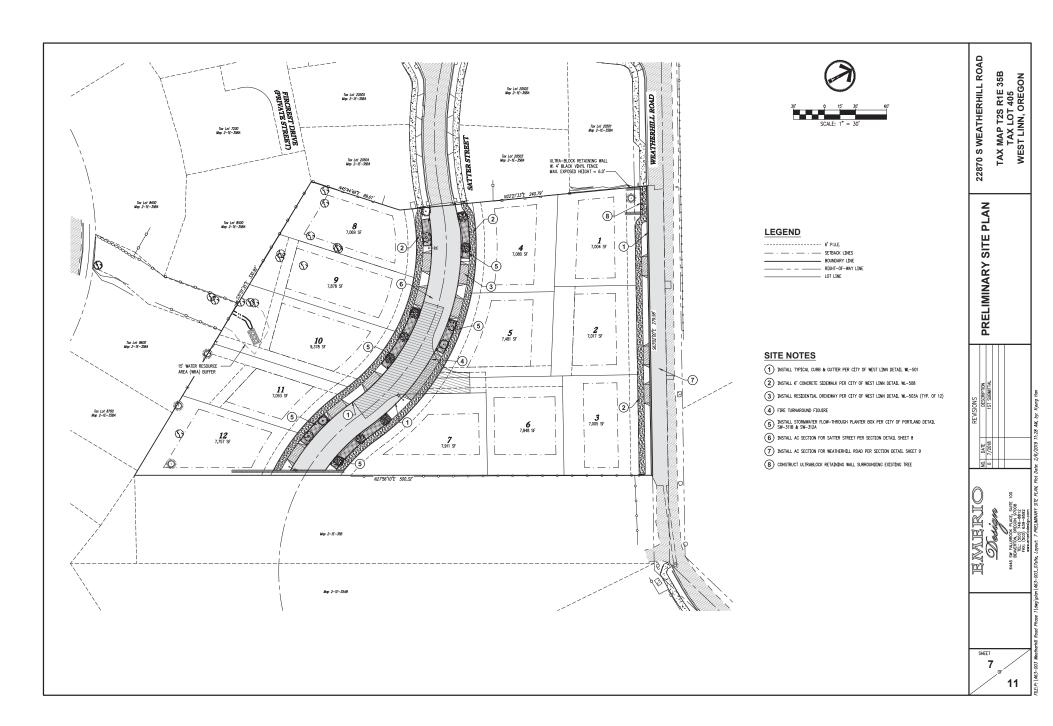
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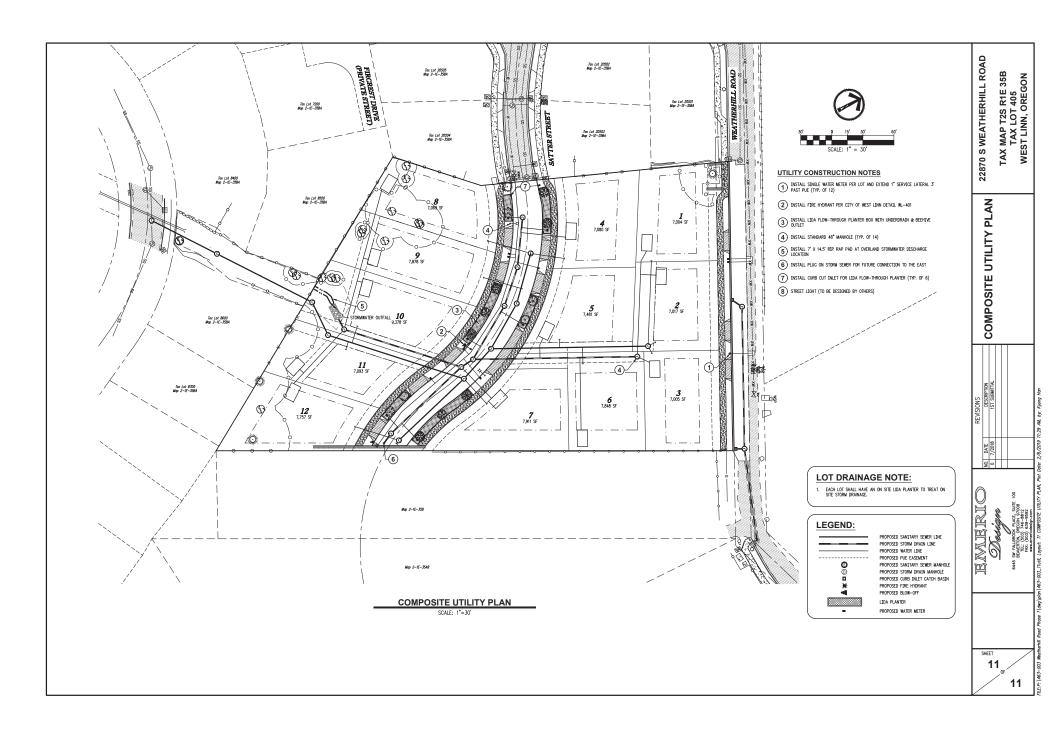
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Appendix D. Development Plan





Appendix E. Delineation and Concurrence Letter

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: https://apps.oregon.gov/DSL/EPS/program?key=4.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279. A single PDF of the completed cover from and report may be e-mailed to: Wetland_Delineation@dsi.state.or.us. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

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22870 Weatherhill, LLC		Mobile phone :	# (ontional)	
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12010 3W Monningstar Dr., Tigaro, OH 97223				
Authorized Legal Agent, Name and Address	(if different):	Business phon	e #	<u></u>
Managing Member: Bob Schultz	·		(optional) 971-732-0347 ix@gamil.com	
22870 Weatherhill, West Linn, OR 97068		E-mail: duke.po	x@gamil.com	
I either own the property described below or I have le property for the purpose of confirming the information	egal authority to allow	access to the propert	y. I authorize the Department	to access the
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Wetland Consultant Name, Firm and Address:				· · · · · · · · · · · · · · · · · · ·
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SCHOTT & ASSOCIATES

Ecologists & Wetlands Specialists

21018 NE Hwy 99E • P.O. Box 589 • Aurora, OR 97002 • (503) 678-6007 • FAX: (503) 678-6011

JURISDICTIONAL WETLAND DELINEATION FOR

22870 Weatherhill Road West Linn, Oregon

Prepared for

Bob Schultz 22870 Weatherhill LLC 22870 Weatherhill Road West Linn, OR 97068

Prepared by

Cari L Cramer
Of
Schott and Associates, Inc.

Date:

November 2018

Project # 2637

TABLE OF CONTENTS

DEPARTMENT OF STATE LANDS COVER FORM	1
(A) LANDSCAPE SETTING AND LAND USE	1
(B) SITE ALTERATIONS	1
(C) PRECIPITATION DATA AND ANALYSIS	1
** WATER YEAR AVERAGE THROUGH THE MONTH OF SEPTEMBER	2
(D) SITE SPECIFIC METHODS	2
(E) DESCRIPTION OF ALL WETLANDS AND OTHER NON-WETLAND WATERS	2
(F) DEVIATION FROM LWI OR NWI	3
(G) MAPPING METHOD	3
(H) ADDITIONAL INFORMATION	3
None	3
(I) RESULTS AND CONCLUSIONS	3
(J) DISCLAIMER	4
APPENDIX A: MAPS	5
APPENDIX B: DATA FORMS	12
APPENDIX C: GROUND LEVEL PHOTOGRAPHS	13
APPENDIX D: REFERENCES	14
LIST OF FIGURES	
FIGURE 1. LOCATION MAP	
FIGURE 2. TAX MAP	
FIGURE 3. LWI MAP	
FIGURE 4. SOIL SURVEY MAP	
FIGURE 5. AERIAL PHOTOGRAPH	
FIGURE 6. WETLAND MAP	

(A) Landscape Setting and Land Use

The 2.56 acre subject property is located at 22870 Weatherhill Road in West Linn, Hillsboro, Clackamas County, Oregon (T2S R1E Sec.35B TL405).

The property is entered from a driveway extending south from Weatherhill Road to the north. The site topography is terraced and south, southwest sloping. The northern half of the property is on the terrace and has one existing home and a barn located on the northwest portion of the property. A maintained landscape, dominated by lawn grasses and scattered ornamental and native trees, encompasses the house. The southern approximate half of the property is undeveloped with the exception of a few formed dirt trails. The northern 2/3rds of the southern half of the property contained large Oregon white oaks (*Quercus garryana*) with an understory of non-native grasses with some poison oak (*Toxicodendron diversilobum*), English ivy (*Hedera helix*) and Himalayan blackberry (*Rubus armeniacus*). The most southern third of the property was dominated by big leaf maple (*Acer macrophyllum*) with some Oregon ash (*Fraxinus latifolia*) in the overstory. The understory mainly consisted of Himalayan blackberry and English ivy with some beaked hazelnut (*Corylus cornuta*), vine maple (*Acer circinatum*), snowberry (*Symphoricarpos albus*) and holly (*Ilex sp*). There is an open tract southwest of the site.

The surrounding area is residential.

(B) Site Alterations

There is a house and one barn on the northwest portion of the property. The northern half of the property has a vegetable garden and a maintained landscape.

(C) Precipitation Data and Analysis

The site was visited on September 13, 2018. Precipitation was recorded at 0.03 inches by the West Linn weather station on that day (accuweather.com). Total precipitation recorded in the two weeks prior to the site visit was 0.21 inches. Precipitation for the month of September through the 13th was 0.24 inches, all of which accumulated on the day of the site visit and the two days prior. Precipitation for July and August were below average range according to the Oregon City WETS table at 0% and 7% of average respectively. June precipitation was within average range at 66% of average. May was below average range at 8% of average according to the Oregon City WETS table. No WETS table is available for West Linn. Between October 1st 2017 and August 13, 2018 a total of 36.16" of precipitation was recorded. This is 79% percent of the water year average through the month of September.

Table 1. Precipitation Summary and WETS Averages				
Month	2017-2018	WETS Average	WETS	Percent of
	Precipitation		Range	Average
May	0.23	2.70	1.78-3.24	8
June	1.20	1.81	1.13-2.18	66
July	0	0.83	0.33-0.98	0
August	0.07	1.03	0.29-1.12	7
September*	0.24	1.85	0.94-2.20	13
Water Year**	36.16	45.99		79%

Table 1. Precipitation Summary and WETS Averages

(D) Site Specific Methods

Prior to visiting, site information was gathered, including recent and historical aerial photographs provided by Google Earth, the soil survey (NRCS web soil survey), the Local Wetland Inventory and National Wetland Inventory and the Water Resource Area (WRA) Map for West Linn. The USGS topography map was also reviewed prior to site visits.

Schott and Associates walked the subject property to assess the presence or absence of onsite wetlands and waters September 13, 2018. The 1987 Manual and Regional Supplement to the Corps of Engineers Delineation Manual: Western Mountains, Valleys, and Coast Region were used to determine presence or absence of State of Oregon wetland boundaries and the Federal jurisdictional wetlands.

Sample plots were placed where geomorphic location or vegetation indicated the possibility of wetlands. For each sample plot, data on vegetation, hydrology and soils was collected, recorded in the field and later transferred to data forms (Appendix B). If a wetland was present paired plots were located in the adjacent upland to document the transition.

(E) Description of All Wetlands and Other Non-Wetland Waters

Based on soil, vegetation and hydrology data taken in the field no wetlands were delineated on site. The upland sample plots were within forested area in the southern half of the subject property and consisted of Oregon white oak with an understory of nonnative grasses such as tall fescue (*Schedonorus arundinaceus*) with some Himalayan blackberry, English ivy and poison oak (sp1) in the northern portion. Within the southern portion of the forested area at the lowest point (sp2) in the southwest corner, the overstory consisted of bigleaf maple with beaked hazelnut, Himalayan blackberry and ivy in the

^{*}Recorded precipitation through September 13, 2018 (43% of the month) compared with average for the entire month.

^{**} Water Year average through the month of September.

understory. Near the southwest property boundary within a converging slope that is approximately 25' long and directing down slope southwest, where a stream was mapped on the LWI and WRA, sample plot 3 was taken at the lowest point. Vegetation consisted of Oregon ash, bigleaf maple, snowberry, vine maple, holly, sword fern, English ivy and Himalayan blackberry.

Soils were a 10YR3/3 and did not meet the hydric soil indicators in any of the sample plots and no hydrology was observed.

The WRA map showed an ephemeral drainage and the LWI showed a potential jurisdictional drainage that was mapped from approximately halfway up the property near the northwest property boundary angling south down slope, extending offsite through a tract directing southwest.

Onsite findings indicated an ephemeral drainage that started 25' up slope from the southwest property boundary. The ephemeral drainage was mainly bare and had no hydrology at the time of the site visit. Trace amounts of holly, English ivy and sword fern were growing within the drainage. The drainage extended offsite through a tract and was culverted under Crestview Drive. The drainage channel south of the site was less than 18" wide.

(F) Deviation from LWI or NWI

The Local Wetland Inventory (LWI) for the City of West Linn showed a drainage within the southern portion of the property starting near the northwest property line and directing south and off property at the southwest property line. Onsite findings did not show any indications of the drainage extending from half way up the property. The LWI corresponds only partially with onsite findings. The ephemeral drainage starts within converging slopes 25' northeast upslope of the southwest property boundary. The drainage angles down slope to the southwest extending off property through an offsite tract.

(G) Mapping Method

The sample plots and drainage boundary were flagged by Schott and Associates and surveyed by Emerio Design Professional Land Surveyor (PLS).

(H) Additional Information

None

(I) Results and Conclusions

Based on soil, vegetation and hydrology data taken in the field no wetlands were found onsite. One small ephemeral drainage was found onsite forming just north east of the

southwest property line. The drainage had bare ground. Just south of the site the drainage was less than 18 inches wide and looked like a recently formed erosion rill.

The LWI mapped a drainage starting upslope halfway up the property angling south and extending offsite at the southwest property line. Onsite findings located a much smaller ephemeral drainage starting approximately 25' upslope from the southwest property line. The drainage extended offsite southwest through a tract.

The NWI did not map any resource onsite or offsite bordering the subject property.

The soil survey map for Clackamas County mapped Saum silt loam on the entire property. Saum silt loam is not considered hydric.

The topographic map showed the property south, southwest sloping.

(J) Disclaimer

This report documents the investigation, best professional judgment and the conclusions of the investigator. It is correct and complete to the best of my knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State lands in accordance with OAR 141-090-0005 through 141-090-005.

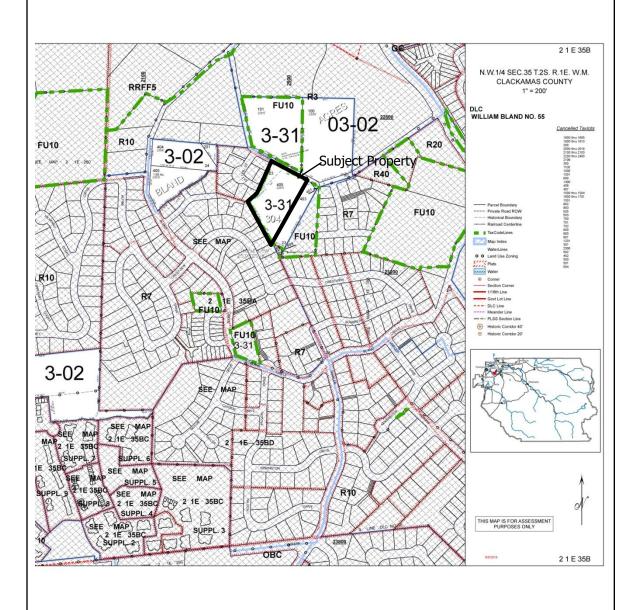
Appendix A: Maps	



gle Maps 22870 Weatherhill Rd



 $\log e. com/maps/place/22870+Weatherhill+Rd, + West+Linn, + OR+97068/@45.3577601, -122.6489393, \\ 16z/data = 14m513m411s0x54957165ce0feb55:0x292c778d1811d45318m2l3d45. \\ (2.10) + 2.2.6489393, \\ (2.10) + 2.2.648939, \\ (2.10) + 2.2.64893, \\ (2.10) + 2.2.64893, \\ (2.10) + 2.2.6489, \\ (2.1$



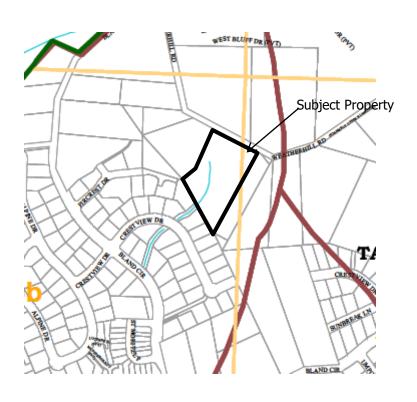


FIGURE 3.LWI MAP 22870 Weatherhill Road S&A#2637



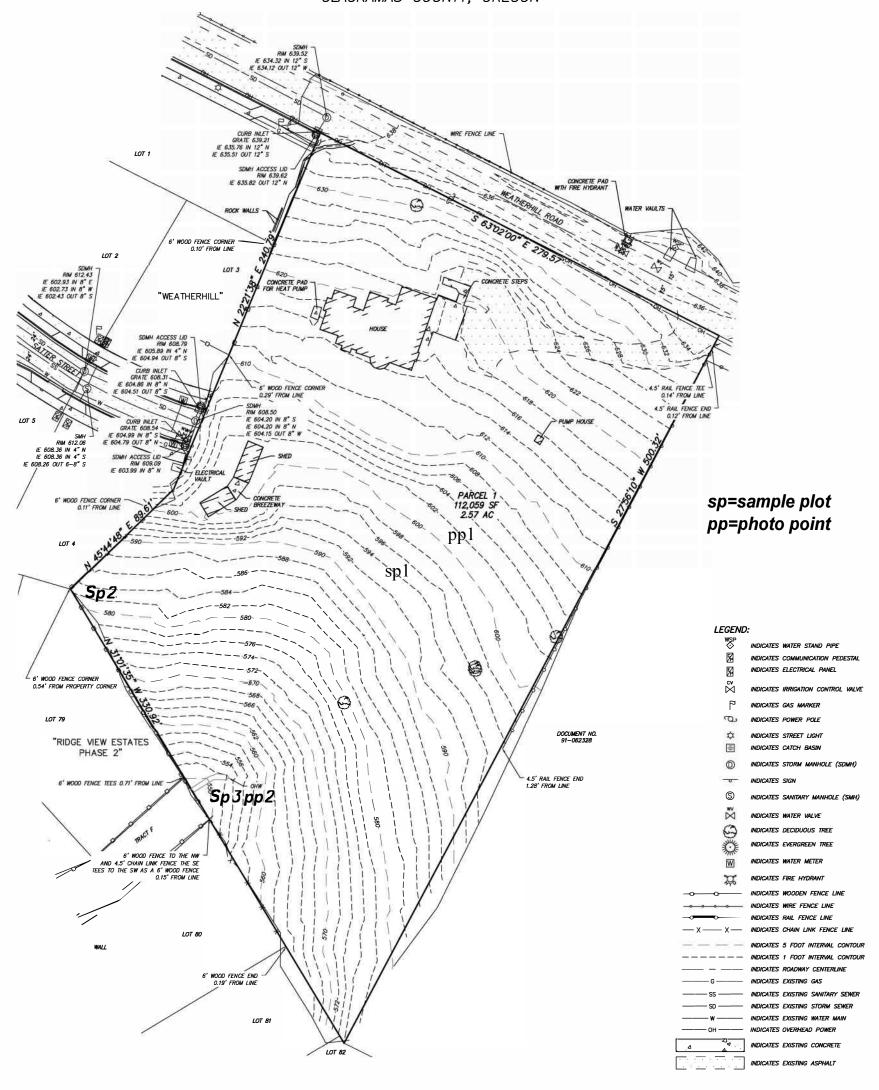
FIGURE 4. NRCS SOIL MAP 22870 Weatherhill Road S&A#2637

Schott & Associates P.O. Box 589 Aurora, OR. 97002 503.678.6007



EXISTING CONDITIONS MAP

OF PORTION OF LOT 23, "BLAND ACRES" LOCATED IN THE NW 1/4 OF SECTION 35, T.2S., R.1E., W.M. CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON



SURVEY NOTES:

THE DATUM FOR THIS SURVEY IS BASED UPON OREGON REAL-TIME GNSS NETWORK (ORGN). NAVD88. A TOPCON PS104B. TRIMBLE RS INSTRUMENTS WERE USED TO COMPLETE THIS SURVEY.

BOUNDARIES WERE DRAWN PER PLAT AND MONUMENTS FOUND. NO PROPERTY CORNERS WERE SET IN THIS SURVEY.

NO WARRANTIES ARE MADE AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS ADVERSE POSSESSION, ESTOPPEL, ACQUIESCENCE, ETC.

THE UNDERGROUND UTILITIES AS SHOWN ON THIS MAP HAVE BEEN LOCATED FROM FIELD SURVEY OF ABOVE GROUND STRUCTURES AND AS MARKED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPROMES ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, THE SURVEYOR PURTHER DOES NOT MERAINT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERTHEAD CONTINUERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.

60'

NO TITLE REPORT WAS SUPPLIED OR USED IN THE PREPARATION OF THIS MAP. THERE MAY EXIST EASEMENTS, CONDITIONS, OR RESTRICTIONS THAT COULD AFFECT THE TITLE OF THIS PROPERTY. NO ATTEMPT HAS BEEN MADE IN THIS SURVEY TO SHOW SUCH MATTERS THAT MAY AFFECT TITLE.



60'

120'6445 SW FALLBROOK PLACE, SUITE 100 BEAVERTON, OREGON 97008 PH: (503) 746-8812 FAX: (503) 639-9592

SCALE: 1" = 60OCTOBER 15, 2018

JOB: 463-003

30'

Appendix B: Data Forms		
	Schott & Associates	

Ecologists and Wetland Specialists
PO Box 589, Aurora, OR. 97002 • (503) 678-6007 • Fax (503) 678-6011

S&A#:2637

Page 12

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

	ity/County:	West Linn, Clad		
Applicant/Owner: 22870 Weatherhill LLC		State: OR	Sampling Sec 35B	
Investigator(s): Cari Cramer	_	ownship, Range:		
Landform (hillslope, terrace, etc.): Terrace		cal relief (concave		
	at: 45.359	Long:	-122.652	
Soil Map Unit Name: Saum silt Loam	16 01 0			WI classification: None
Are climatic / hydrologic conditions on the site typical				
Are Vegetation , Soil , or Hydrology		icantly disturbed? ally problematic?		ormal Circumstances" present? Yes x No If needed, explain any answers in Remarks.)
Are Vegetation , Soil , or Hydrology	Natur	any problematic?	(1	ii rieeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site	map show	ving samplin	g point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes x N	lo			-
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N	lo <u>x</u>	Is the Sampled	d Area with	in a Wetland? Yes Nox
	<u> </u>			
Remarks:				
VEGETATION – Use scientific names of	f plants.			
Topic Otrock was (Diet siege 200)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover	Species?	Status 54011	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Quercus garryana 2.	80	X	FACU	Total Number of Dominant
	-			Species Across All Strata: 5 (B)
3				Percent of Dominant Species
·				That Are OBL, FACW, or FAC: 60 (A/B)
	80	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5')				Prevalence Index worksheet:
1. Rubus armeniacus	5	x	FAC	Total % Cover of: Multiply by:
2.				OBL species x 1 =
3.				FACW species x 2 =
4				FAC species x 3 =
5				FACU species x 4 =
	5	_ = Total Cover		UPL species x 5 =
Herb Stratum (Plot size: 5)				Column Totals: (A) (B)
1. <u>Schedonorus arundinaceus</u>	60	X	FAC	Dravalance Index - D/A -
2.				Prevalence Index = B/A =
3.				Hydrophytic Vegetation Indicators:
4 5.				
				1 - Rapid Test for Hydrophytic Vegetation x 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0¹
8.				4 - Morphological Adaptations ¹ (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants ¹
11.				Problematic Hydrophytic Vegetation ¹ (Explain)
	60	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 5)				be present, unless disturbed or problematic.
Hedera helix	5	X	FACU	
Toxicodendron diversilobum	5	X	FAC	Hydrophytic
	_10	_ = Total Cover		Vegetation
% Bare Ground in Herb Stratum 25	_			Present? Yes x No
Remarks:				

SOIL							Sampling Poir	nt: 1
Profile Desc	ription: (Describe	to the depti	h needed to docum	ent the ind	licator or co	nfirm the abs	sence of indicators	
Depth	. Matrix	•		Redox Feat				•
(inches)	Color (moist)	%	Color (moist)	%	_Type ¹ _	Loc ²	Texture	Remarks
0-16	10YR3/3	100					SiL	
0-10	10113/3	100					- SIL	
1T C-C-			Dadwaad Matrix CC			d Crains	21tion: DIDone	Lining M-Matrix
Type. C=CC	oncentration, D=Dep	ietion, Rivi=i	Reduced Matrix, CS	=Covered o	i Coated Sar	iu Grairis.	² Location: PL=Pore	Lining, M=Matrix.
Hydric Soil	Indicators: (Applie	cable to all	LRRs. unless other	rwise noted	4.)	Indica	ators for Problemat	ic Hydric Soils ³ :
-					,			
Histosol		_	_ Sandy Redox (S				cm Muck (A10)	FF0)
	oipedon (A2)	_	Stripped Matrix (aveaut MLD		ed Parent Material (
	stic (A3)	_	Loamy Mucky Mi		except wilk		ery Shallow Dark Su	
	en Sulfide (A4)	- (444)	Loamy Gleyed M	` '		0	ther (Explain in Rem	arks)
	d Below Dark Surfac	e (A11)	Depleted Matrix (3.		
	ark Surface (A12)	_	Redox Dark Surf				ndicators of hydroph	
	Mucky Mineral (S1)		Depleted Dark S				etland hydrology mu	
Sandy G	Bleyed Matrix (S4)		Redox Depression	ons (Fo)	1	ur	nless disturbed or pro	DDIEMAIIC
Dootsietive I o	(if							
	yer (if present):							
Type:					Hydric Soi	I Present?	Yes	No x
Depth (inch	nes):							
Remarks:								
HYDROLOG	v							
	ology Indicators:							
	tors (minimum of one	a required: c	hack all that annly)			Second	ary Indicators (2 or r	nore required)
	iors (minimum or one	e required, c	Water-Staine	d Leaves (F	RO) (except	Wat	ter-Stained Leaves (RO) (MI RA 1 2
Surface Wa	iter (A1)		MLRA 1, 2, 4				and 4B)	D9) (WILKA 1, 2,
High Water			Salt Crust (B				inage Patterns (B10)	1
Saturation (Aquatic Inver		13)		-Season Water Table	
Water Mark			Hydrogen Su				uration Visible on Ae	
	.5 (51)		Oxidized Rhiz	•	,			na magary (00)
Sediment D	eposits (B2)		Roots (C3)	200pilores e	along Living	Geo	morphic Position (D	2)
Drift Deposi	. ,		Presence of I	Reduced Iro	on (C4)		llow Aquitard (D3)	_/
			Recent Iron F		` '		1 1 1 1 (1)	
Algal Mat or	r Crust (B4)		Soils (C6)			FAC	C-Neutral Test (D5)	
	,		Stunted or St	ressed Plar	nts (D1)		,	
Iron Deposi	ts (B5)		(LRR A)		` ,	Rais	sed Ant Mounds (D6) (LRR A)
	l Cracks (B6)		Other (Éxplai	in in Remarl	ks)		st-Heave Hummocks	
	Visible on Aerial Ima	igery (B7)			,			,
	egetated Concave S							
		` ,						
Field Observa	tions:							
Surface Water		No	x Depth (inches):					
Water Table Pr			x Depth (inches):		Wet	land Hydrold	gy Present? Ye	s No x
Saturation Pres			Dopui (illolles).		"""	11941010	.g,	110 A
(includes capill		No	x Depth (inches):					
	led Data (stream ga			-		if available:		
Describe Record	ieu Dala (Silealii ga	uy c , monitor	ing well, aeliai pilol	os, previous	s mapechons)	, ii avallable.		
Remarks:								

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

	ty/County:	West Linn, Cla		_ '	September 13, 2018
Applicant/Owner: 22870 Weatherhill LLC		State: OR	Sampling		
Investigator(s): Cari Cramer		ownship, Range:			20 20
Landform (hillslope, terrace, etc.): Slope		cal relief (concave			Slope (%): 2
Subregion (LRR): A La	t: 45.359	Long:	-122.652		DD
Soil Map Unit Name: Saum silt Loam	l for this time	a of waar? Vaa	_	_	None
Are climatic / hydrologic conditions on the site typical Are Vegetation , Soil , or Hydrology		e or year? Tes ficantly disturbed			present? Yes x No
Are Vegetation , Soil , or Hydrology Are Vegetation , Soil , or Hydrology		ally problematic?			answers in Remarks.)
					,
SUMMARY OF FINDINGS – Attach site I Hydrophytic Vegetation Present? Yes No		wing samplin ∣	g point le	ocations, transed	cts, important features, etc.
Hydric Soil Present? Yes No	x	Is the Sample	d Area with	in a Wetland?	Yes Nox
Wetland Hydrology Present? Yes No) <u>X</u>				
Remarks:		•			
VEGETATION – Use scientific names of	plants.				
Tage Chapture (District 20)	Absolute		Indicator	Dominance Test v	
Tree Stratum (Plot size: 30')	% Cover		Status FACU	Number of Domina That Are OBL, FAC	
Acer macrophyllum Fraxinus latifolia	<u>50</u> 5	X	FACU FACW	Total Number of De	. ,
			TACW	Species Across All	
4.				Percent of Domina	•
				That Are OBL, FAC	CW, or FAC: <u>25</u> (A/B)
	55	= Total Cover			
Sapling/Shrub Stratum (Plot size: 5')				Prevalence Index	worksheet:
Rubus armeniacus	15	X	FAC	Total % Cover of:	Multiply by:
2. Corylus cornuta	5	X	FACU	OBL species	x 1 =
3				FACW species	x 2 =
4				FAC species	x 3 =
5		T 1 1 0		FACU species	x 4 =
Llorb Stratum (Diot aire) F	20	_ = Total Cover		UPL species	x 5 =
Herb Stratum (Plot size: 5) 1.				Column Totals:	(A) (B)
2.	-			Prevalence Index	= B/A =
3.					
4.				Hydrophytic Vege	etation Indicators:
5.				1 - Rapid Test f	for Hydrophytic Vegetation
6				2 - Dominance	Test is >50%
7				3 - Prevalence	
8				4 - Morphologic	cal Adaptations ¹ (Provide supporting
9					s or on a separate sheet) n-Vascular Plants ¹
10.					rdrophytic Vegetation ¹ (Explain)
11		Tatal Ossas			
Woody Vine Stratum (Plot size: 5)		_ = Total Cover			c soil and wetland hydrology must disturbed or problematic.
1. Hedera helix	80	X	FACU		
2.		X	1700		
	80	= Total Cover		Hydrophytic	
% Bare Ground in Herb Stratum 20				Vegetation Present? Ye	es No x
	-				
Remarks:					

SOIL							Sampling Point:	2
Profile Descri	iption: (Describe t	o the depth	needed to docum	ent the in	dicator or co	nfirm the abs	ence of indicators.)	
Depth	Matrix			Redox Fe		. 2	- .	
(inches)	Color (moist)	<u></u> %	Color (moist)	<u></u> %	Type ¹	<u>Loc²</u>	Texture	Remarks
0-12	10YR3/3	100					SiL	Roots at 12"
								
¹ Type: C=Cor	ncentration, D=Depl	etion, RM=R	Reduced Matrix, CS=	=Covered	or Coated Sar	nd Grains.	Location: PL=Pore L	ining, M=Matrix.
Hydric Soil I	ndicators: (Applic	able to all I	RRs, unless other	wise note	ed)	Indica	tors for Problematic	Hydric Soils ³
-		ubio to un E			, and			Tryanto Cono I
Histosol (pedon (A2)		Sandy Redox (S5 Stripped Matrix (S	,			cm Muck (A10) ed Parent Material (TF	2)
Black His			Loamy Mucky Mir		(except MI R		ery Shallow Dark Surfa	
	Sulfide (A4)		Loamy Gleyed Ma		(except MEIX		her (Explain in Remar	
	Below Dark Surface	e (A11)	Depleted Matrix (•.	(=,,p.a	,
	rk Surface (A12)	` ′ _	Redox Dark Surfa			³ In	dicators of hydrophyti	c vegetation and
	ucky Mineral (S1)		Depleted Dark Su	,)	we	etland hydrology must	be present,
Sandy GI	eyed Matrix (S4)	_	Redox Depressio	ns (F8)		un	less disturbed or prob	lematic
Restrictive Lay	er (if present):							
Type:					Hydric Soi	I Present?	Yes	No x
Depth (inche	es):							
Remarks:								
LIVEROL OCY	,							
HYDROLOGY								
	logy Indicators: ors (minimum of one	required: ch	neck all that annly)			Seconda	ary Indicators (2 or mo	are required)
1 minary maicato	one (minimum) end	required, ci	Water-Stained	d Leaves	(B9) (except		er-Stained Leaves (B9	
Surface Water	er (A1)		MLRA 1, 2, 4			4A, a	and 4B)	// (III.E.T.A. 1, 2,
High Water 7	Γable (A2)		Salt Crust (B1		,	Draii	nage Patterns (B10)	
Saturation (A	(3)		Aquatic Invert	ebrates (E	313)	Dry-	Season Water Table (C2)
Water Marks	(B1)		Hydrogen Sul			Satu	ration Visible on Aeria	al Imagery (C9)
Cadimaant Da	nasita (DO)		Oxidized Rhiz	ospheres	along Living	0	manushia Danitian (DO)	
Sediment De Drift Deposits			Roots (C3) Presence of F	Poduood li	ron (C4)		morphic Position (D2) llow Aquitard (D3)	
Driit Deposits	s (D3)		Recent Iron R			31141	ilow Aquitaru (D3)	
Algal Mat or	Crust (B4)		Soils (C6)	Caacton	iii Tillea	FAC	-Neutral Test (D5)	
	(= -)		Stunted or Str	ressed Pla	ants (D1)			
Iron Deposits	` '		(LRR A)		, ,		ed Ant Mounds (D6) (
Surface Soil	` ,		Other (Explain	n in Rema	ırks)	Fros	t-Heave Hummocks (D7)
	isible on Aerial Imag							
Sparsely Vec	getated Concave Su	ırface (B8)						
Field Observed	•							
Field Observati		No.	Donth (inches):					
Surface Water F Water Table Pre			Depth (inches): Depth (inches):	-	Wet	land Hydrolo	gy Present? Yes	No x
Saturation Prese			Deptil (iliches).	-		iana myarolo	gy i resent: Tes	NO
(includes capilla		No :	x Depth (inches):					
· ·			ng well, aerial photo	os previou	us inspections) if available:		
_ 5551155 1 1000140	Jaka (oli cairi gad	30,oriitori	Hon, acriai priote	, p. cviot	20 mopodions,	,, αταπασιο.		
Remarks:								
radiiana.								

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

Project/Site: 22870 Weatherhill Road Ci	ty/County:	West Linn, Cla	ckamas	Sampling Date: September 13, 2018
Applicant/Owner: 22870 Weatherhill LLC		State: OR	Sampling	
Investigator(s): Cari Cramer	Section, T	ownship, Range:	Sec 35B	3 2S 1E
Landform (hillslope, terrace, etc.): Slope	Lo	cal relief (concav	e, convex, n	none): Concave Slope (%): 0
Subregion (LRR): A La	t: 45.359	Long:	-122.652	2 Datum: DD
Soil Map Unit Name: Saum silt Loam			N\	WI classification: None
Are climatic / hydrologic conditions on the site typical	I for this time	e of year? Yes	X No	(If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology	Signi	ficantly disturbed	? Are "No	ormal Circumstances" present? Yes x No
Are Vegetation , Soil , or Hydrology	Natur	ally problematic?) ((If needed, explain any answers in Remarks.)
	_			
	-	wing samplin	g point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No		Is the Sample	d Area with	nin a Wetland? Yes Nox_
Wetland Hydrology Present? Yes No	0 <u>x</u>			
Remarks: At bottom of ephemeral drainage				
VEGETATION – Use scientific names of	f plants.			
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30')	% Cover	Species?	<u>Status</u>	Number of Dominant Species
Acer macrophyllum	30	X	FACU	That Are OBL, FACW, or FAC:1 (A)
2. Fraxinus latifolia	20	Х	FACW	Total Number of Dominant
3				Species Across All Strata: 5 (B) Percent of Dominant Species
4				That Are OBL, FACW, or FAC: 20 (A/B)
		T		
0 15 (0) 1 0() (5)	50	= Total Cover	•	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 5')	-		E40	Total % Cover of: Multiply by:
1. Rubus armeniacus	<u>5</u> 	V	FAC	
2. Symphoricarpos albus	5	X	FACU	· —
3. Acer circinatum	20	V	FACU	FACW species x 2 =
Ilex aquifolium S.		X	FACU	FAC species x 3 =
J	50	= Total Cover		FACU species x 4 =
Herb Stratum (Plot size: 5)				UPL species x 5 =
1. Polysticum munitum	3		FACU	Column Totals: (A) (B)
2.			17100	Prevalence Index = B/A =
3.				
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0 ¹
8.				4 - Morphological Adaptations ¹ (Provide supporting
9				data in Remarks or on a separate sheet)
10				5 - Wetland Non-Vascular Plants ¹
11				Problematic Hydrophytic Vegetation ¹ (Explain)
	3	_ = Total Cover	•	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 5)				be present, unless disturbed or problematic.
Hedera helix	10	X	FACU	
2				Hydrophytic
	_10	= Total Cover	•	Vegetation
% Bare Ground in Herb Stratum 80	_			Present? Yes No x
Remarks:				

SOIL							Sampling Po	int: 3
Profile Description: (De		e depth				onfirm the abs	sence of indicator	s.)
Depth Color (m	Matrix	 -		Redox Fea		Loc ²	Toyturo	Domarko
(inches) Color (m			Color (moist)	%	Type ¹	LOC	Texture	Remarks
0-12 10YR3	<u>/3</u> 1	00					SiL	Roots at 12"
								
								
			_					
¹ Type: C=Concentration,	D=Depletio	n, RM=Re	educed Matrix, CS	=Covered	or Coated Sa	and Grains.	Location: PL=Por	e Lining, M=Matrix.
Hydric Soil Indicators:	(Applicable	to all LF	RRs, unless other	rwise note	d.)	Indica	ators for Problema	atic Hydric Soils ³ :
Histosol (A1)			Sandy Redox (S	5)		2	cm Muck (A10)	
Histic Epipedon (A2)			Stripped Matrix (S6)			ed Parent Material	
Black Histic (A3)			Loamy Mucky Mi		(except ML		ery Shallow Dark S	
Hydrogen Sulfide (A		—	Loamy Gleyed M			01	ther (Explain in Rer	narks)
Depleted Below Dar Thick Dark Surface	,	11)	Depleted Matrix (Redox Dark Surf	` '		31		
Sandy Mucky Minera			Depleted Dark Sun		1		idicators of nydropi etland hydrology m	nytic vegetation and
Sandy Gleyed Matrix	(S4)		Redox Depression	` ,			less disturbed or p	
	,			. ,			·	
Restrictive Layer (if prese	ent):							
Type:					Hydric S	oil Present?	Yes	No x
Depth (inches):								
YDROLOGY								
Wetland Hydrology Indica								
Primary Indicators (minimu	m of one req	uired; che		-11 /	DO\ /		ary Indicators (2 or	
Surface Water (A1)			Water-Staine				er-Stained Leaves	(B9) (MLRA 1, 2,
Surface Water (A1) High Water Table (A2)			MLRA 1, 2, 4 Salt Crust (B ²)		and 4B) nage Patterns (B10))
Saturation (A3)			Aquatic Inver	,	313)		Season Water Tab	
Water Marks (B1)			Hydrogen Su				ration Visible on A	` '
			Oxidized Rhiz	zospheres	along Living			
Sediment Deposits (B2)			Roots (C3)				morphic Position (I	02)
_ Drift Deposits (B3)			Presence of F			Sha	llow Aquitard (D3)	
Algal Mat or Crust (B4)			Recent Iron F Soils (C6)	Reduction I	n Tillea	FAC	-Neutral Test (D5)	
_ Algai Mat of Ordst (D4)			Stunted or St	ressed Pla	nts (D1)	1740	-Neutral Test (DS)	
Iron Deposits (B5)			(LRR A)		()	Rais	sed Ant Mounds (D	6) (LRR A)
Surface Soil Cracks (B6	,		Other (Explai	n in Remai	rks)	Fros	st-Heave Hummock	s (D7)
_ Inundation Visible on A								
_ Sparsely Vegetated Cor	ncave Surfac	e (B8)						
Field Observations:								
Surface Water Present?	Yes	No x	Depth (inches):					
Water Table Present?	Yes	No x	- _ ' '		W	etland Hydrolo	gy Present? Y	es No x
Saturation Present?	.,		_ ` ` ` ′	-		-		
(includes capillary fringe)	Yes	No x				\ '		
escribe Recorded Data (str	eam gauge,	monitorin	g well, aerial photo	os, previou	s inspection	s), it available:		
emarks:								
omano.								

Appendix C: Ground Level Photographs		
Schott	& Associates	



Photo Point 1 facing west, northwest



Photo Point 1 facing southwest



Photo Point 1 facing east, southeast



Photo Point 1 facing north, northeast



Appendix C: Ground Level Photographs 22870 Weatherhill Road S&A# 2637

Schott & Associates P.O. Box 589 Aurora, OR. 97002 503.678.6007



Photo Point 2 facing southwest

Appendix D: References

- Environmental Laboratory, 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS.
- Environmental Laboratory, 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0), Wetlands Regulatory Assistance Program ERDC/EL TR-10-3 U.S. Army Engineer Research and Development Center. Vicksburg, MS.
- Federal Interagency Committee for Wetland Delineation, 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative technical publication. 138 pp.
- Federal Register, 1980. 40 CFR Part 230: Section 404(b)(1), Guidelines for Specification of Disposal Sites of Dredged or Fill Material, Vol. 45, No. 249, pp. 85352-85353, U.S. Govt. Printing Office, Washington, D.C.
- Federal Register, 1982. Title 33, *Navigation and Navigable Waters; Chapter II*, *Regulatory Programs of the Corps of Engineers.* Vol. 47, No. 138, p. 31810, U.S. Govt. Printing Office, Washington, D.C.
- Federal Register, 1986. 33 CFR Parts 320 through 330, *Regulatory Programs of the Corps of Engineers; Final Rule*, Vol. 51, No. 219 pp. 41206-41259, U.S. Govt. Printing Office, Washington, D.C.
- Kollmorgen Corporation, 1975. *Munsell Soil Color Charts*. Macbeth Division of Kollmorgen Corporation, Baltimore, MD.
- U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL). 2014. Western Mountains, Valleys and Coast 2016 Regional Wetland Plant List
- U.S. Department of Agriculture, Web Soil Survey *Soil Survey of Clackamas County, Oregon.* U.S.D.A. Soil Conservation Service, Washington, D.C.,



December 26, 2018

Attn: Rod Friesen

Tigard, OR 97068

22870 Weatherhill, LLC

12810 SW Morningstar Dr.

Department of State Lands

775 Summer Street NE, Suite 100 Salem, OR 97301-1279 (503) 986-5200 FAX (503) 378-4844 www.oregon.gov/dsl

State Land Board

Kate Brown Governor

Dennis Richardson Secretary of State

Re:

WD # 2018-0636 Wetland Delineation Report for 22870 Weatherhill

Rd.; Clackamas County; T2S R1E Sec. 35B, Tax Lot 405

City of West Linn Local Wetlands Inventory

Tobias Read State Treasurer

Dear Mr. Friesen:

The Department of State Lands has reviewed the wetland delineation report prepared by Schott & Associates for the site referenced above. Based upon the information presented in the report, we concur with the waterway boundary as mapped in Figure 6 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map.

Within the study area, one ephemeral drainage was identified. This drainage is exempt per OAR 141-085-0515 (3). This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will determine jurisdiction for purposes of the Clean Water Act.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter. Thank you for having the site evaluated. Please phone me at 503-986-5246 if you have any questions.

Sincerely,

Chris Stevenson Jurisdiction Coordinator Approved by

Peter Ryan, PWS

Aquatic Resource Specialist

Enclosures

ec: Cari Cramer, Schott & Associates

City of West Linn Planning Department (Maps enclosed for updating LWI)

Jessica Menichino, Corps of Engineers

Bob Schultz, Weatherhill, LLC

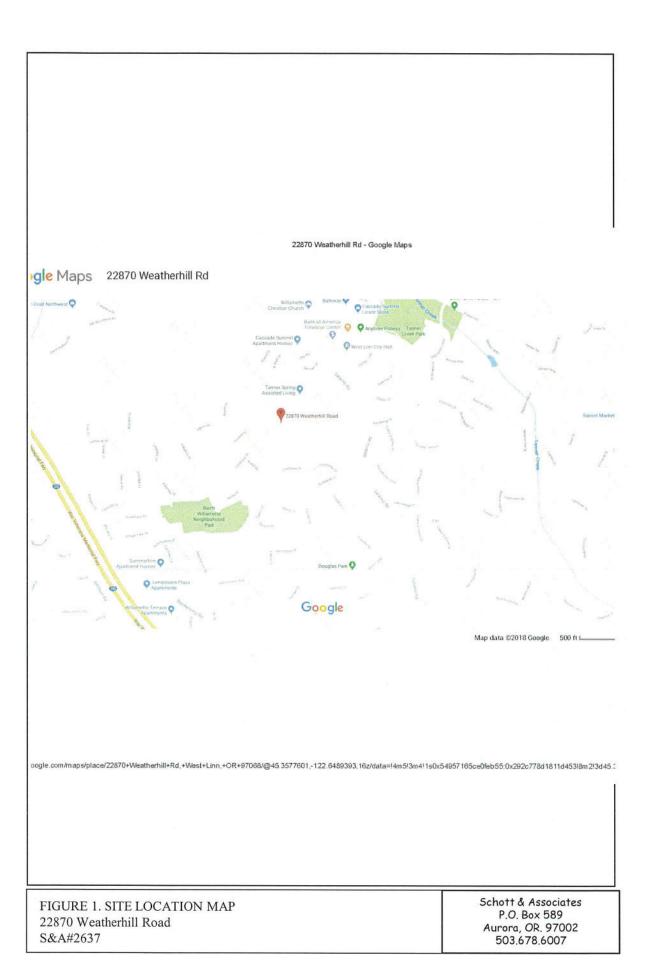
Anita Huffman, DSL

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: https://apps.oregon.gov/DSL/EPS/program?key=4.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279. A single PDF of the completed cover from and report may be e-mailed to: Wetland_Delineation@dsi.state.or.us. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Applicant Owner Name, Firm and Address:	Business phone # 971-235-3314
22870 Weatherhill, LLC	
Billing Address: % Partnership Administrator: Rod Friesen	Mobile phone # (optional) E-mail: rod.fnesen@frontier.com
12810 SW Morningstar Dr., Tigard, OR 97223	
Authorized Legal Agent, Name and Address (if differen	10.
Managing Member: Bob Schultz	
22870 Weatherhill, West Linn, OR 97068	Mobile phone # (optional) 971-732-0347 E-mail: duke.pdx@gamil.com
,	*
Leither own the property described below as I have been to	
property for the purpose of confirming the information in the rep	ity to allow access to the property. I authorize the Department to access the
Typed/Printed Name: BOB SCHULTE	
Date: 11-22-18 Special instructions regarding	Signature:
Project Name: 22870 Weatherhill Road	Latitude: 45.359 Longitude: -122.652
Donor dill	decimal degree - centroid of site or start & end points of linear project
Proposed Use: Residential subdivision	Tax Map # 2S 1E Sec 35B
- OSASTINATI GUDATVISIOTI	Tax Lot(s) 405
Project Street Address (at the control of the cont	Tax Map #
Project Street Address (or other descriptive location): 22870 Weather Road,	Tax Lot(s)
22070 VVeather Hoad,	Township 2S Range 1E Section 35 QQ B
City: West Linn County: Clackamas	Use separate sheet for additional tax and location information
- County	Waterway: River Mile:
Wetland Consultant Name, Firm and Address:	Phone # (503) 678-6007
Wetland Consultant Name, Firm and Address: Schott and Associates/Carl Cramer PO Box 589	Phone # (503) 678-6007 Mobile phone # (if applicable)
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer	Phone # (503) 678-6007
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attached Consultant Signature:	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attached Consultant Signature:	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com d report are true and correct to the best of my knowledge. Date: Date: Democrated Date: Date: Date: Democrated Date:
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attached Consultant Signature: Primary Contact for report review and site access is	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com d report are true and correct to the best of my knowledge. Date: Demier 26, 2018 Consultant Applicant/Owner Authorized Agent
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attached Consultant Signature: Primary Contact for report review and site access is	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com d report are true and correct to the best of my knowledge. Date: Date: Democrated Date: Date: Date: Democrated Date:
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attached Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Yes No Study Address	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com direport are true and correct to the best of my knowledge. Date: Date: Applicant/Owner Authorized Agent rea size: 2.56AC Total Wetland Acreage: 0.0000
Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attached Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Yes No Study Address R-F permit application submitted	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com direport are true and correct to the best of my knowledge. Date: Demonstrated Agent Consultant Applicant/Owner Authorized Agent rea size: 2.56AC Total Wetland Acreage: 0.0000
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Wetland Consultant Name, Firm and Address: Schott and Associates/Cari Cramer PO Box 589 Aurora, OR 97002 The information and conclusions on this form and in the attached Consultant Signature: Primary Contact for report review and site access is Wetland/Waters Present? Yes No Study Address R-F permit application submitted Mitigation bank site Industrial Land Certification Program Site	Phone # (503) 678-6007 Mobile phone # (if applicable) E-mail: caric@schottandassociates.com description are true and correct to the best of my knowledge. Date: Demonstrate
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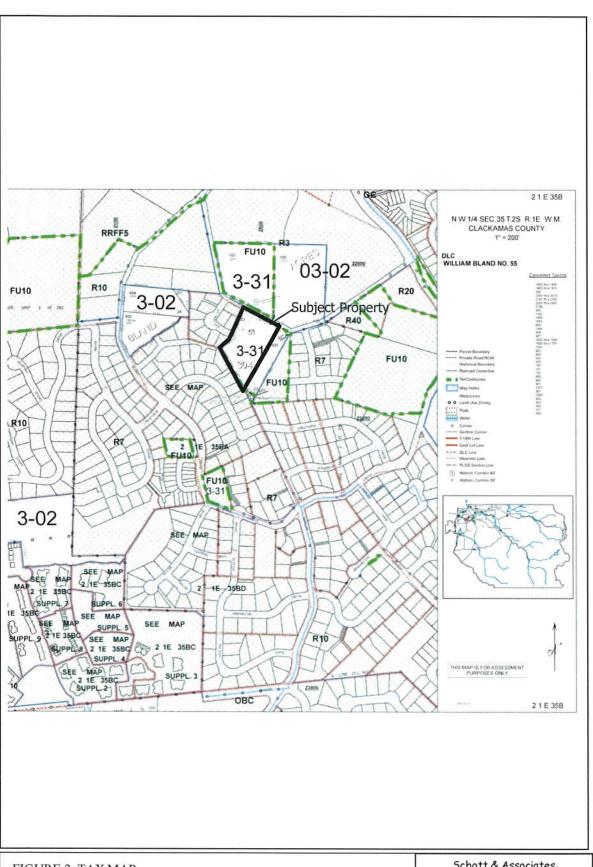
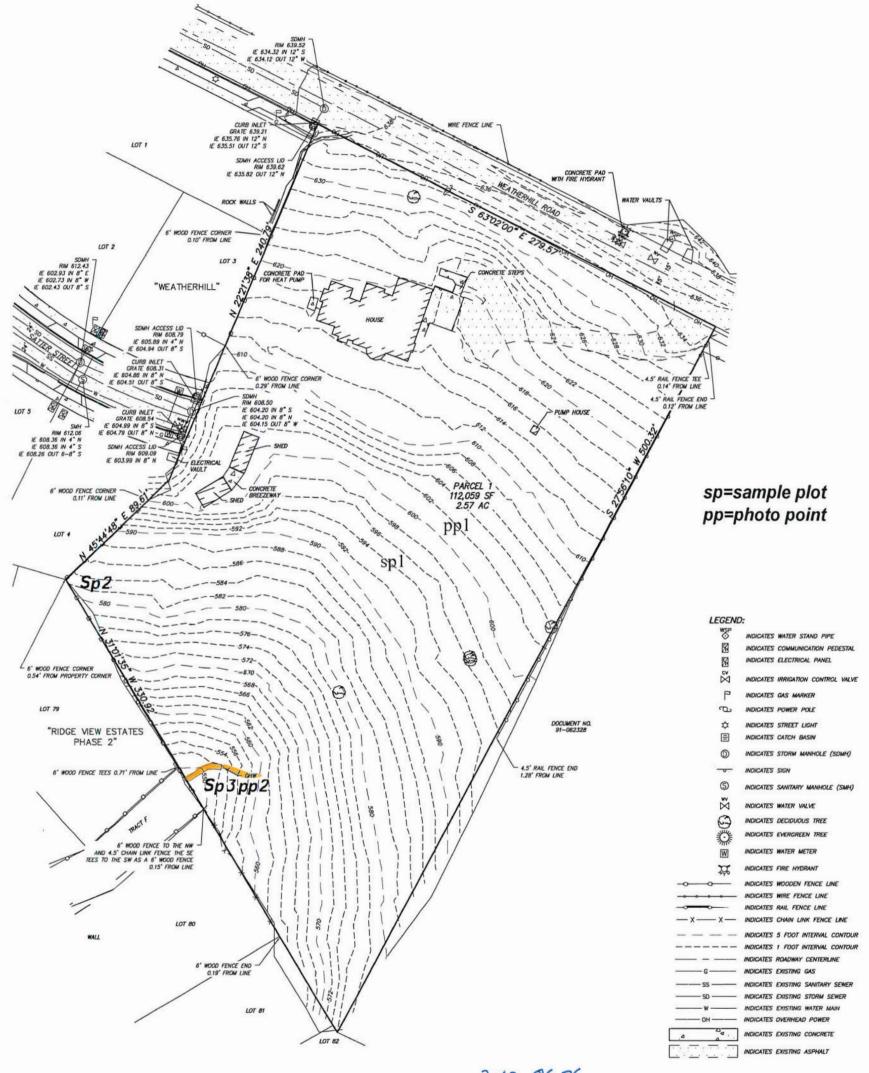


FIGURE 2. TAX MAP 22870 Weatherhill Road S&A#2637 Schott & Associates P.O. Box 589 Aurora, OR. 97002 503.678.6007

EXISTING CONDITIONS MAP

OF PORTION OF LOT 23,
"BLAND ACRES" LOCATED IN THE
NW 1/4 OF SECTION 35,
T.2S., R.1E., W.M. CITY OF WEST LINN,
CLACKAMAS COUNTY, OREGON



SURVEY NOTES:

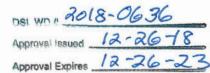
THE DATUM FOR THIS SURVEY IS BASED UPON OREGON REAL-TIME GNSS NETWORK (ORGN). NAVOBB.
A TOPCON PS104B, TRIMBLE RS INSTRUMENTS WERE USED TO COMPLETE THIS SURVEY.

BOUNDARIES WERE DRAWN PER PLAT AND MONUMENTS FOUND. NO PROPERTY CORNERS WERE SET IN THIS SURVEY.

NO WARRANTIES ARE MADE AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS ADVERSE POSSESSION, ESTOPPEL, ACQUIESCENCE, ETC.

THE UNDERGROUND UTILITIES AS SHOWN ON THIS MAP HAVE BEEN LOCATED FROM FIELD SURVEY OF ABOVE GROUND STRUCTURES AND AS MARKED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPROMISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT INFROMIT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. SUBJURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY, NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTINIERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.

NO TITLE REPORT WAS SUPPLIED OR USED IN THE PREPARATION OF THIS MAP, THERE MAY EXIST EASEMENTS, CONDITIONS, OR RESTRICTIONS THAT COULD AFFECT THE TITLE OF THIS PROPERTY. NO ATTEMPT HAS BEEN MADE IN THIS SURVEY TO SHOW SUCH MATTERS THAT MAY AFFECT TITLE.

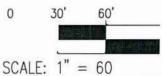




EMERIO Design

120' 6445 SW FALLBROOK PLACE, SUITE 100 BEAVERTON, OREGON 97008 PH: (503) 746-8812 FAX: (503) 639-9592







MEMORANDUM

DATE: February 14, 2019

TO: Eric Evans, Emerio Design

FROM: Dana M. Beckwith, P.E. / P.T.O.E.

Phoebe Kuo

SUBJECT: West Linn Weatherhill Subdivision Trip Generation

P19-015-000

This memorandum summarizes the trip generation evaluation for the proposed 12-lot (2.57 acre) subdivision located at 22870 Weatherhill Road in the City of West Linn, Oregon.

PROJECT DESCRIPTION

The proposed 12-lot subdivision at 22870 Weatherhill Road is located within an area of West Linn zoned as R-7 Single-Family Residential Detached and Attached. Figure 1 shows the detailed site plan. The proposed development is a conforming land use per the City of West Linn Municipal Code Section 12 and consists of 12 Single Family Dwelling Units.

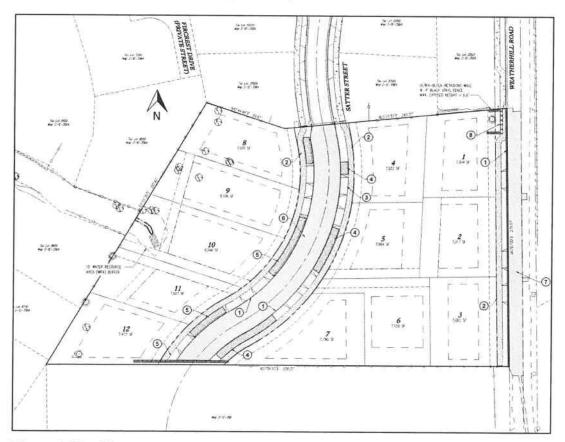


Figure 1 Site Plan

West Linn Weatherhill Rd Trip Generation February 14, 2019 Page 2 of 2

TRIP GENERATION

Trip rates presented in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual, Ninth Edition*, were utilized to estimate the number of vehicle trips per dwelling unit, that are anticipated to be generated by the site. The site's trip generation is based on the ITE Single-Family Detached Housing land use (ITE Code 210) for weekdays during the peak hour of adjacent street traffic. Table 1 summarizes the estimated trip generation for the site.

Table 1: Trip Generation Summary

Land Use	Dwelling Units	Weekday								
		ADT ²	AM Peak Hour			PM Peak Hour				
		ADI-	Total	Enter	Exit	Total	Enter	Exit		
Single-Family Detached Housing (ITE 210)										
Generation Rate Per Dwelling Units ¹	40	9.52	0.75	25%	75%	1.00	63%	37%		
New Site Trips	12	114	9	2	7	12	8	4		

¹ Source: Trip Generation Manual, ninth Edition, ITE, 2012, average rates.

As summarized in Table 1, it is estimated that 114 daily trips including 9 AM peak hour trips and 12 PM peak hour trips will be added to the local street network due to the proposed development.

² Average Daily Trips

PC-5 Applicant's Submittal 5/23/19



CIVIL ENGINEERS & PLANNERS

DATE: 12-27-2018 **REVISED**: 5/23/2019

PROPERTY OWNER/

DEVLOPER: 22870 Weatherhill, LLC

%Partnership Administrator: Rod Friesen

12810 SW Morningstar Dr.

Tigard, OR 97223 Ph.: (971) 235-3314

E-mail: rod.friesen@frontier.com

CIVIL ENGINEER, PLANNING &

SURVEYOR: Emerio Design, LLC

Attn: Steve Miller

6445 SW Fallbrook Pl., Suite 100

Beaverton, OR 97008

(541) 318-7487

E-mail: stevem@emeriodesign.com

REQUEST: Approval of 12-Lot Subdivision in the R-7 zone.

SITE

LOCATION: 22870 Weatherhill Rd.

ZONING: Single-Family Residential Detached and attached (R-7), City of West Linn, Oregon

SITE SIZE: 2.57 Acres

LEGAL DESCRIPTION: Tax Map 2S1E35B, Tax Lot 405

LIST OF EXHIBITS:

- 1 Detailed Plan Set
- 2 Pre-Application Notes
- 3 Neighborhood Meeting Notice
- 4 Phase I Environmental Report
- 5 Geotechnical Report

- 6 Stormwater Management Report
- 7 Arborist Report

WEST LINN APPLICABLE COMMUNITY DEVELOPMENT CODE (CDC) SECTIONS

CDC Chapter 12: (R-7 Zone)

CDC Chapter 32: Water Resource Area Protection

CDC Chapter 48: Access, Egress and Circulation

CDC Chapter 85: Land Division

CDC Chapter 92: Required Improvements

I. <u>INTRODUCTION</u>

The applicant is applying to subdivide an approximately 2.57 – acre property in a manner that allows the applicant to provide a variety of lot sizes and housing types. The subject property was recently annexed into the City of West Linn pursuant to File No. ANX-17-01 and Ordinance #1671. A pre-application conference was held with the City to discuss the subdivision of this property on September 6, 2018 by the Applicant.

The subject property is located on the south side of Weatherhill Road approximately 180-feet east Satter Street. The property is located on a hill and the site slopes gently downward to the south/southeast. There is one existing single-family residential home on the property, as well as the presence of a headwater to a small ephemeral stream on the southern edge of the property. The home will be removed with the development of the subdivision. There are trees, planted fields and grass, and a defined garden area on the property.

Adjacent properties to the south, east and west are within the West Linn City limits and are zoned R-7. These properties are developed with residential dwellings. There are two (2) properties located immediately to the north and across Weatherhill Road. One is located within the City and is developed with the Tanner Springs Assisted Living facility, while the other is located in unincorporated Clackamas County and is developed with a single-family residence.

II. CONFORMANCE WITH CITY OF WEST LINN CODE APPROVAL CRITERIA

CHAPTER 12 SINGLE-FAMILY RESIDENTIAL DETACHED AND ATTACHED, R-7

12.030 PERMITTED USES

The following uses are permitted outright in this zone.

1. Single-family detached residential unit.

RESPONSE: The proposed use is single-family detached residential units, a use permitted outright in the R-7 zone. The applicant's proposal satisfies the requirements of this section.

12.070 DIMENSIONAL REQUIREMENTS, USES PERMITTED OUTRIGHT AND USES PERMITTED UNDER PRESCRIBED CONDITIONS

Except as may be otherwise provided by the provisions of this code, the following are the requirements for uses within this zone:

- A. The minimum lot size shall be:
 - 1. For a single-family detached unit, 7,000 square feet.
- B. The minimum front lot line length or the minimum lot width at the front lot line shall be 35 feet.
- C. The average minimum lot width shall be 35 feet.

RESPONSE: The sizes of the twelve (12) lots proposed in the subdivision are between 7,020 square feet, and 9,302 square feet, with an average lot size of 7,395 square feet. As such, all twelve (12) lots meet or exceed the 7,000-square foot minimum lot size. All proposed front lot lines will meet or exceed the 35-foot minimum front lot line length, as well as the minimum average lot width of 35 feet. Therefore, all twelve (12) lots comply with the above criteria.

- E. The minimum yard dimensions or minimum building setback areas from the lot line shall be:
 - 1. For the front yard, 20 feet, except for steeply sloped lots where the provisions of CDC 41.010 shall apply.
 - 2. For an interior side yard, seven and one-half feet.
 - 3. For a side yard abutting a street, 15 feet.
 - 4. For a rear yard, 20 feet.
- F. The maximum building height shall be 35 feet, except for steeply sloped lots in which case the provisions of CDC 41.010 shall apply.
- G. The maximum lot coverage shall be 35 percent.
- H. The minimum width of an accessway to a lot which does not abut a street or a flag lot shall be 15 feet.
- I. The maximum floor area ratio shall be 0.45. Type I and II lands shall not be counted toward lot area when determining allowable floor area ratio, except that a minimum floor area ratio of 0.30 shall be allowed regardless of the classification of lands within the property. That 30 percent shall be based upon the entire property including Type I and II lands. Existing residences in excess of this standard may be replaced to their prior dimensions when damaged without the requirement that the homeowner obtain a non-conforming structures permit under Chapter 66 CDC.
- J. The sidewall provisions of Chapter 43 CDC shall apply.

RESPONSE: No homes are being proposed at this time. All Yard dimensions, building height, lot coverage, floor area ratios and sidewall provisions will be verified at time of building permit submittal.

CHAPTER 48 – ACCESS, EGRESS AND CIRCULATION

48.025 ACCESS CONTROL

- A. Purpose. The following access control standards apply to public, industrial, commercial and residential developments including land divisions. Access shall be managed to maintain an adequate level of service and to maintain the functional classification of roadways as required by the West Linn Transportation System Plan.
- B. Access control standards.
- 1. Traffic impact analysis requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements.

RESPONSE: The City has not required a traffic impact analysis due to the small size and low impacts of the proposed development.

2. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

RESPONSE: Each lot on the property will include a driveway to provide access to/from either Weahterhill Rd. and/or Satter St., which are both public streets adjacent to the site with a local designation. The City's spacing standards for driveways along residential streets has been maintained for all new driveway access locations. The proposed configuration will create a safe and efficient access configuration for each new driveway.

- 3. <u>Access options.</u> When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (planned access shall be consistent with adopted public works standards and TSP). These methods are "options" as approved by the City Engineer.
 - a) <u>Option 1.</u> Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.
 - b) Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.

c) Option 3. Access is from a public street adjacent to the development lot or parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in subsection (B)(6) of this section.

RESPONSE: The Applicant is proposing access to the site via Option 3. The proposed design limits curb cuts for access to the new lots proposed within this development. Each lot will take access to either Weatherhill Rd. or Satter St. via individual driveways. The City's spacing standards for driveways along residential streets has been maintained for all new driveway access locations. The proposed configuration will create a safe and efficient access configuration for each new driveway.

4. Subdivisions fronting onto an arterial street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).

RESPONSE: The proposed development does not front onto an arterial street. The requirements of this section do not apply.

5. Double-frontage lots. When a lot or parcel has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street. When a lot or parcel has frontage opposite that of the adjacent lots or parcels, access shall be provided from the street with the lowest classification.

RESPONSE: No double fronted lots will be created as part of this subdivision.

- 6. Access spacing.
 - a. The access spacing standards found in the adopted Transportation System Plan (TSP) shall be applicable to all newly established public street intersections and non-traversable medians. Deviation from the access spacing standards may be granted by the City Engineer if conditions are met as described in the access spacing variances section in the adopted TSP.
 - b. Private drives and other access ways are subject to the requirements of CDC 48.060.

RESPONSE: The Applicant's proposed driveway locations are shown on the site plan (see Sheet 7). The City's access spacing requirements for new driveways onto a residential local street have been maintained.

7. Number of access points. For single-family (detached and attached), two-family, and duplex housing types, one street access point is permitted per lot or parcel, when alley access cannot otherwise be provided; except that two access points may be permitted corner lots (i.e., no more than one access per street), subject to the access spacing standards in subsection (B)(6) of this section. The number of street access points for multiple family, commercial, industrial, and public/institutional

developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with subsection (B)(8) of this section, in order to maintain the required access spacing, and minimize the number of access points.

RESPONSE: The Applicant is proposing only one access point for each single-family lot. New driveways will be created for all 12 lots.

- 8. Shared driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:
 - a. Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line, but may be extended in the future as the adjacent lot or parcel develops. "Developable" means that a lot or parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).
 - b. Access easements (i.e., for the benefit of affected properties) shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.
 - c. Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, lot or parcel configuration, and similar conditions) prevent extending the street/driveway in the future.

RESPONSE: The Applicant is proposing a shared driveway for Lots 6 and 7. In addition, the shared driveway will also function as a temporary fire truck turnaround until Satter St. is extended through the neighboring parcel. An access easement and limited fire turnaround will be recorded with the final plat.

- C. Street connectivity and formation of blocks required. In order to promote efficient vehicular and pedestrian circulation throughout the City, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:
 - 1. Block length and perimeter. The maximum block length shall not exceed 800 feet or 1,800 feet along an arterial.
 - Street standards. Public and private streets shall also conform to Chapter 92 CDC, Required Improvements, and to any other applicable sections of the West Linn Community Development Code and approved TSP.
 - 3. Exception. Exceptions to the above standards may be granted when blocks are divided by one or more pathway(s), in conformance with the provisions of CDC

85.200(C), Pedestrian and Bicycle Trails, or cases where extreme topographic (e.g., slope, creek, wetlands, etc.) conditions or compelling functional limitations preclude implementation, not just inconveniences or design challenges.

RESPONSE: No new roads are being proposed as part of the subdivision. Satter Street is currently stubbed at the western boundary of the site. With this proposal the applicant will be extending Satter Street through the site from west to east and stubbing the street at the eastern boundary of the site for future extension.

The existing block length along Weatherhill Rd. between the center-line of Satter Street and De Vries Way is 584 feet. With the extension of Satter Street through the site, it will allow for the future extension of the street through the neighbor's property where it will be connected with the existing Satter Street stub located in the Weatherhill Estates subdivision. Once Satter Street is connected between the Weatherhill Subdivision and the Weatherhill Estates Subdivision, a block length will be established that is 926 feet in length. When the property to the east of the subject property redevelops, there will be an opportunity to establish a new block length of 800-feet by creating a new street connection with Weatherhill Road.

Existing development patterns and topographic conditions preclude the extension of any new roadways through the site or within close proximity which could logically provide for future connectivity. Furthermore, Figure 12 of the West Linn Transportation System Plan – Recommended Local Street Connectivity Projects – does not identify a new street connection within or adjacent to this site. All street standards will be met as shown in the submitted plan set.

48.030 MINIMUM VEHICULAR REQUIREMENTS FOR RESIDENTIAL USES

A. Direct individual access from single-family dwellings and duplex lots to an arterial street, as designated in the transportation element of the Comprehensive Plan, is prohibited for lots or parcels created after the effective date of this code where an alternate access is either available or is expected to be available by imminent development application. Evidence of alternate or future access may include temporary cul-de-sacs, dedications or stubouts on adjacent lots or parcels, or tentative street layout plans submitted at one time by adjacent property owner/developer or by the owner/developer, or previous owner/developer, of the property in question.

In the event that alternate access is not available as determined by the Planning Director and City Engineer, access may be permitted after review of the following criteria:

- 1. Topography.
- 2. Traffic volume to be generated by development (i.e., trips per day).
- 3. Traffic volume presently carried by the street to be accessed.
- 4. Projected traffic volumes.

- 5. Safety considerations such as line of sight, number of accidents at that location, emergency vehicle access, and ability of vehicles to exit the site without backing into traffic.
- 6. The ability to consolidate access through the use of a joint driveway.
- 7. Additional review and access permits may be required by State or County agencies.

RESPONSE: The Applicant is not proposing new access to any arterials; therefore, this subsection does not apply.

- B. When any portion of any house is less than 150 feet from the adjacent right-of-way, access to the home is as follows:
 - One single-family residence, including residences with an accessory dwelling unit as defined in CDC 02.030, shall provide 10 feet of unobstructed horizontal clearance. Dualtrack or other driveway designs that minimize the total area of impervious driveway surface are encouraged.
 - 2. Two to four single-family residential homes equals a 14- to 20-foot-wide paved or all weather surface. Width shall depend upon adequacy of line of sight and number of homes.
 - 3. Maximum driveway grade shall be 15 percent. The 15 percent shall be measured along the centerline of the driveway only. Variations require approval of a Class II variance by the Planning Commission pursuant to Chapter 75 CDC. Regardless, the last 18 feet in front of the garage shall be under 12 percent grade as measured along the centerline of the driveway only. Grades elsewhere along the driveway shall not apply.
 - 4. The driveway shall include a minimum of 20 feet in length between the garage door and the back of sidewalk, or, if no sidewalk is proposed, to the paved portion of the right-ofway.
- C. When any portion of one or more homes is more than 150 feet from the adjacent right-of-way, the provisions of subsection B of this section shall apply in addition to the following provisions.
 - 1. A turnaround may be required as prescribed by the Fire Chief.
 - 2. Minimum vertical clearance for the driveway shall be 13 feet, six inches.
 - 3. A minimum centerline turning radius of 45 feet is required unless waived by the Fire Chief.
 - 4. There shall be sufficient horizontal clearance on either side of the driveway so that the total horizontal clearance is 20 feet.
- D. Access to five or more single-family homes shall be by a street built to full construction code standards. All streets shall be public. This full street provision may only be waived by variance.

- E. Access and/or service drives for multi-family dwellings shall be fully improved with hard surface pavement:
 - 1. With a minimum of 24-foot width when accommodating two-way traffic; or
 - 2. With a minimum of 15-foot width when accommodating one-way traffic. Horizontal clearance shall be two and one-half feet wide on either side of the driveway.
 - 3. Minimum vertical clearance of 13 feet, six inches.
 - 4. Appropriate turnaround facilities per Fire Chief's standards for emergency vehicles when the drive is over 150 feet long. Fire Department turnaround areas shall not exceed seven percent grade unless waived by the Fire Chief.
 - 5. The grade shall not exceed 10 percent on average, with a maximum of 15 percent.
 - 6. A minimum centerline turning radius of 45 feet for the curve.
- F. Where on-site maneuvering and/or access drives are necessary to accommodate required parking, in no case shall said maneuvering and/or access drives be less than that required in Chapters 46 and 48 CDC.
- G. The number of driveways or curb cuts shall be minimized on arterials or collectors. Consolidation or joint use of existing driveways shall be required when feasible.
- H. In order to facilitate through traffic and improve neighborhood connections, it may be necessary to construct a public street through a multi-family site.
- Gated accessways to residential development other than a single-family home are prohibited.

RESPONSE: Access to each lot will be provided to/from either Weatherhill Rd. or Satter St., which are both local residential streets, and will meet the minimum vehicular requirements of this subsection.

48.060 WIDTH AND LOCATION OF CURB CUTS AND ACCESS SEPARATION REQUIREMENTS

- A. Minimum curb cut width shall be 16 feet.
- B. Maximum curb cut width shall be 36 feet, except along Highway 43 in which case the maximum curb cut shall be 40 feet. For emergency service providers, including fire stations, the maximum shall be 50 feet.
- C. No curb cuts shall be allowed any closer to an intersecting street right-of-way line than the following:
 - 1. On an arterial when intersected by another arterial, 150 feet.
 - 2. On an arterial when intersected by a collector, 100 feet.

- 3. On an arterial when intersected by a local street, 100 feet.
- 4. On a collector when intersecting an arterial street, 100 feet.
- 5. On a collector when intersected by another collector or local street, 35 feet.
- 6. On a local street when intersecting any other street, 35 feet.
- D. There shall be a minimum distance between any two adjacent curb cuts on the same side of a public street, except for one-way entrances and exits, as follows:
 - 1. On an arterial street, 150 feet.
 - 2. On a collector street, 75 feet.
 - 3. Between any two curb cuts on the same lot or parcel on a local street, 30 feet.
- E. A rolled curb may be installed in lieu of curb cuts and access separation requirements.
- F. Curb cuts shall be kept to the minimum, particularly on Highway 43. Consolidation of driveways is preferred. The standard on Highway 43 is one curb cut per business if consolidation of driveways is not possible.
- G. Adequate line of sight pursuant to engineering standards should be afforded at each driveway or accessway.

RESPONSE: All streets serving the subdivision are local residential streets. All proposed curb cuts will meet the spacing requirements of this section and will be confirmed during the construction plan review prior to commencing construction of the subdivision.

CHAPTER 85 GENERAL PROVISIONS

85.170 SUPPLEMENTAL SUBMITTAL REQUIREMENTS FOR TENTATIVE SUBDIVISION OR PARTITION PLAN

- B. <u>Transportation</u>.
 - Centerline profiles with extensions shall be provided beyond the limits of the proposed subdivision to the point where grades meet, showing the finished grade of streets and the nature and extent of street construction. Where street connections are not proposed within or beyond the limits of the proposed subdivision on blocks exceeding 330 feet, or for cul-de-sacs, the tentative plat or partition shall indicate the location of easements that provide connectivity for bicycle and pedestrian use to accessible public rights-of-way.
 - 2. Traffic Impact Analysis (TIA).
 - a. <u>Purpose</u>. The purpose of this section of the code is to implement Section 660-012-0045(2)(e) of the State Transportation Planning Rule that requires the City to adopt a

process to apply conditions to development proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Analysis must be submitted with a development application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Study; and who is qualified to prepare the study.

- b. <u>Typical average daily trips.</u> The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as the standards by which to gauge average daily vehicle trips.
- c. Traffic impact analysis requirements.
 - 1) Preparation. A Traffic Impact Analysis shall be prepared by a professional engineer qualified under OAR 734-051-0040. The City shall commission the traffic analysis and it will be paid for by the applicant.
 - 2) Transportation Planning Rule compliance. See CDC 105.050(D), Transportation Planning Rule Compliance.
 - 3) Pre-application conference. The applicant will meet with West Linn Public Works prior to submitting an application that requires a traffic impact application. This meeting will determine the required elements of the TIA and the level of analysis expected.

RESPONSE: The Applicant is not proposing a change in zoning or a plan amendment designation as a part of this land use application, therefore a Traffic Impact Analysis (TIA) is not required per this subsection.

C. Grading.

- 1. If areas are to be graded, a plan showing the location of cuts, fill, and retaining walls, and information on the character of soils shall be provided. The grading plan shall show proposed and existing contours at intervals per CDC 85.160(E)(2).
- 2. The grading plan shall demonstrate that the proposed grading to accommodate roadway standards and create appropriate building sites is the minimum amount necessary.
- 3. The grading plan must identify proposed building sites and include tables and maps identifying acreage, location and type of development constraints due to site characteristics such as slope, drainage and geologic hazards. For Type I, II, and III lands (refer to definitions in Chapter O2 CDC), the applicant must provide a geologic report, with text, figures and attachments as needed to meet the industry standard of practice, prepared by a certified engineering geologist and/or a geotechnical professional engineer, that includes:

- a. Site characteristics, geologic descriptions and a summary of the site investigation conducted;
- b. Assessment of engineering geological conditions and factors;
- c. Review of the City of West Linn's Natural Hazard Mitigation Plan and applicability to the site; and
- d. Conclusions and recommendations focused on geologic constraints for the proposed land use or development activity, limitations and potential risks of development, recommendations for mitigation approaches and additional work needed at future development stages including further testing and monitoring.

RESPONSE: As part of the application materials, the applicant has provided a grading and erosion control plan (see Sheet 10) showing the locations of cuts, fills, and retaining walls. The Applicant has also provided a detailed Geotechnical report that provides information on the character of the soils. Together, these documents demonstrate that the proposed grading plan to accommodate roadway standards and create appropriate building sites is the minimum amount necessary given the sites topographic and soil conditions. The Applicant's proposal satisfies the above criteria and will be further reviewed with the civil plans prior to commencing any construction.

D. Water.

- A plan for domestic potable water supply lines and related water service facilities, such as reservoirs, etc., shall be prepared by a licensed engineer consistent with the adopted Comprehensive Water System Plan and most recently adopted updates and amendments.
- 2. Location and sizing of the water lines within the development and off-site extensions. Show on-site water line extensions in street stubouts to the edge of the site, or as needed to complete a loop in the system.
- 3. Adequate looping system of water lines to enhance water quality.
- 4. For all non-single-family developments, calculate fire flow demand of the site and demonstrate to the Fire Chief. Demonstrate to the City Engineer how the system can meet the demand.

RESPONSE: A utility plan has been submitted by the Applicant as part of the overall application materials. The utility plan shows the location and sizing of the water lines, as well as on-site water line extensions in street stubouts to the edge of the site, or as needed to complete a loop in the system. All proposed water improvements are included on the utility plan (see Sheet 11) of the land use application.

E. Sewer.

 A plan prepared by a licensed engineer shall show how the proposal is consistent with the Sanitary Sewer Master Plan and subsequent updates and amendments.
 Agreement with that plan must demonstrate how the sanitary sewer proposal will be accomplished and how it is efficient. The sewer system must be in the correct zone.

- Sanitary sewer information will include plan view of the sanitary sewer lines, including manhole locations and depths. Show how each lot or parcel would be sewered.
- 3. Sanitary sewer lines shall be located in the public right-of-way, particularly the street, unless the applicant can demonstrate why the alternative location is necessary and meets accepted engineering standards.
- 4. Sanitary sewer line should be at a depth that can facilitate connection with downsystem properties in an efficient manner.
- 5. The sanitary sewer line should be designed to minimize the amount of lineal feet in the system.
- 6. The sanitary sewer line shall minimize disturbance of natural areas and, in those cases where that is unavoidable, disturbance shall be mitigated pursuant to the appropriate chapters (e.g., Chapter 32 CDC, Water Resource Area Protection).
- Sanitary sewer shall be extended or stubbed out to the next developable subdivision or a
 point in the street that allows for reasonable connection with adjacent or nearby
 properties.
- 8. The sanitary sewer system shall be built pursuant to Department of Environmental Quality (DEQ), City, and Tri-City Service District sewer standards. This report should be prepared by a licensed engineer, and the applicant must be able to demonstrate the ability to satisfy these submittal requirements or standards at the pre-construction phase.

RESPONSE: A utility plan has been submitted by the Applicant as part of the overall application materials. The utility plan shows the location and sizing of the sewer lines. Sanitary sewer will be extended or stubbed out to the next developable subdivision or to a point in the street that allows for reasonable connection with adjacent or nearby properties. The proposed sanitary sewer lines will be located to minimize disturbance of natural areas; however, in those cases where that is unavoidable, disturbances will be kept to a minimum and mitigated pursuant to Chapter 32 of the Community Development Code (CDC), Water Resource Area Protection.

All proposed sewer improvements will be built pursuant to DEQ, City, and Tri-City Service District standards, and those improvements are included on the utility plan (see Sheet 11) of the land use application.

F. <u>Storm</u>. A proposal shall be submitted for storm drainage and flood control including profiles of proposed drainageways with reference to the most recently adopted Storm Drainage Master Plan.

RESPONSE: A utility plan has been submitted by the Applicant as part of the overall application materials. The utility plan shows the location and sizing of the stormwater lines. The public stormwater

plan will include a water quality facility (i.e. pond) located at the southeastern portion of the site where Satter St. will be stubbed to the adjacent property. Individual LIDA planters will also be located on each lot for the treatment/detention of the future homes according to City requirements. All proposed storm drainage improvements are included on the utility plan (see Sheet 11) of the land use application.

85.180 REDIVISION PLAN REQUIREMENT

A redivision plan shall be required for a partition or subdivision, where the property could be developed at a higher density, under existing/proposed zoning, if all services were available and adequate to serve the use.

RESPONSE: The property is being developed at the highest density allowed under applicable zoning, therefore a redivision plan is not required.

85.200 APPROVAL CRITERIA

No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to provide service to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.

A. Streets.

1. General. The location, width and grade of streets shall be considered in their relation to existing and planned streets, to the generalized or reasonable layout of streets on adjacent undeveloped lots or parcels, to topographical conditions, to public convenience and safety, to accommodate various types of transportation (automobile, bus, pedestrian, bicycle), and to the proposed use of land to be served by the streets. The functional class of a street aids in defining the primary function and associated design standards for the facility. The hierarchy of the facilities within the network in regard to the type of traffic served (through or local trips), balance of function (providing access and/or capacity), and the level of use (generally measured in vehicles per day) are generally dictated by the functional class. The street system shall assure an adequate traffic or circulation system with intersection angles, grades, tangents, and curves appropriate for the traffic to be carried. Streets should provide for the continuation, or the appropriate projection, of existing principal streets in surrounding areas and should not impede or adversely affect development of adjoining lands or access thereto.

To accomplish this, the emphasis should be upon a connected continuous pattern of local, collector, and arterial streets rather than discontinuous curvilinear streets and cul-de-sacs. Deviation from this pattern of connected streets should only be permitted in cases of extreme topographical challenges including excessive slopes (35 percent-plus), hazard areas, steep drainageways, wetlands, etc. In such cases, deviations may be allowed but the connected continuous pattern must be reestablished once the topographic challenge is passed. Streets should be oriented with consideration of the sun, as site conditions allow, so that over 50 percent of the front building lines of homes are oriented within 30 degrees of an east-west axis.

Internal streets are the responsibility of the developer. All streets bordering the development site are to be developed by the developer with, typically, half-street improvements or to City standards prescribed by the City Engineer. Additional travel lanes may be required to be consistent with adjacent road widths or to be consistent with the adopted Transportation System Plan (TSP) and any adopted updated plans.

An applicant may submit a written request for a waiver of abutting street improvements if the TSP prohibits the street improvement for which the waiver is requested. Those areas with numerous (particularly contiguous) under-developed or undeveloped tracts will be required to install street improvements. When an applicant requests a waiver of street improvements and the waiver is granted, the applicant shall pay an in-lieu fee equal to the estimated cost, accepted by the City Engineer, of the otherwise required street improvements. As a basis for this determination, the City Engineer shall consider the cost of similar improvements in recent development projects and may require up to three estimates from the applicant. The amount of the fee shall be established prior to the Planning Commission's decision on the associated application. The in-lieu fee shall be used for in kind or related improvements.

Streets shall also be laid out to avoid and protect tree clusters and significant trees, but not to the extent that it would compromise connectivity requirements per this subsection (A)(1), or bring the density below 70 percent of the maximum density for the developable net area. The developable net area is calculated by taking the total site acreage and deducting Type I and II lands; then up to 20 percent of the remaining land may be excluded as necessary for the purpose of protecting significant tree clusters or stands as defined in CDC 55.100(B)(2).

RESPONSE: This site is located along Weatherhill Road between Satter Street to the west and De Vries Way to the east. All streets, whether existing or proposed, are designated as local streets. The development of this site will not affect the connectivity of these two streets. Aside from the extension of Satter Street through the site, Figure 12 of the West Linn Transportation System Plan – Recommended Local Street Connectivity Projects – does not identify a new street connection within or adjacent to this site.

2. Right-of-way widths shall depend upon which classification of street is proposed. The right-of-way widths are established in the adopted TSP.

RESPONSE: The site abuts Weatherhill Road along the northern property boundary. Satter Street is stubbed to the sites western property boundary. Both streets are designated as local streets. As part of the proposed development, the Applicant will be dedicating 13-feet of right-of-way for Weatherhill street to make necessary improvements along Weatherhill Road. Satter Street is a local street with a 52-foot right-of-way. The applicant will be continuing the extension of Satter Street through the site in a 52-foot wide right-of-way. There will be two (2) 14-foot travel lanes, 5.5-foot planter strips, and 6.5-feet sidewalks located within the 52-foot right-of-way. On-street parking will be provided on one side of Satter Street. Right-of-way for both streets meet the width requirements as determined by their functional classifications.

3. <u>Street widths</u>. Street widths shall depend upon which classification of street is proposed. The classifications and required cross sections are established in the

adopted TSP. The following table identifies appropriate street width (curb to curb) in feet for various street classifications. The desirable width shall be required unless the applicant or his or her engineer can demonstrate that site conditions, topography, or site design require the reduced minimum width. For local streets, a 12-foot travel lane may only be used as a shared local street when the available right of-way is too narrow to accommodate bike lanes and sidewalks.

RESPONSE: No new streets or roads are proposed with this land use application. Weatherhill Road and Satter Street are existing streets and they will continue to meet street width requirements for residential local streets.

- 4. The decision-making body shall consider the City Engineer's recommendations on the desired right-of-way width, pavement width and street geometry of the various street types within the subdivision after consideration by the City Engineer of the following criteria:
 - a. The type of road as set forth in the Transportation Master Plan.
 - b. The anticipated traffic generation.
 - c. On-street parking requirements.
 - d. Sidewalk and bikeway requirements.
 - e. Requirements for placement of utilities.
 - f. Street lighting.
 - g. Drainage and slope impacts.
 - h. Street trees.
 - i. Planting and landscape areas.
 - j. Existing and future driveway grades
 - k. Street geometry.
 - I. Street furniture needs, hydrants.

RESPONSE: Aside from the 13-foot right-of-way dedication along Weatherhill Rd. and the associated improvements (i.e. sidewalk, planter strip and paving), the pre-application conference notes do not identify the need for any further improvements along Weatherhill Road. Satter Street has been designed to comply with all City standards and specification for a local residential street.

5. Additionally, when determining appropriate street width, the decision-making body shall consider the following criteria:

- a. When a local street is the only street serving a residential area and is expected to carry more than the normal local street traffic load, the designs with two travel and one parking lane are appropriate.
- b. Streets intended to serve as signed but unstriped bike routes should have the travel lane widened by two feet.
- c. Collectors should have two travel lanes and may accommodate some parking. Bike routes are appropriate.
- d. Arterials should have two travel lanes. On-street parking is not allowed unless part of a Street Master Plan. Bike lanes are required as directed by the Parks Master Plan and Transportation Master Plan.

RESPONSE: The proposed development will result in twelve (12) new homes taking access to the existing surrounding transportation system. No arterial streets are adjacent to this proposal.

6. <u>Reserve strips.</u> Reserve strips or street plugs controlling the access to streets are not permitted unless owned by the City.

RESPONSE: The Applicant does not propose reserve strips or street plugs with this application. All rights-of-way will be dedicated to the edge of the adjoining properties.

7. <u>Alignment.</u> All streets other than local streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuations of the centerlines thereof. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the centerlines of streets having approximately the same direction and otherwise shall not be less than 100 feet.

RESPONSE: Except for extending Satter Street through the site, which will be the continuation of an existing street stub, no new streets or roads are proposed as part of this application.

8. <u>Future extension of streets.</u> Where necessary to give access to or permit a satisfactory future subdivision of adjoining land, streets shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without turnarounds. (Temporary turnarounds built to Fire Department standards are required when the dead-end street is over 100 feet long.)

RESPONSE: As noted above, Satter Street will be extended through the site as part of the development and stubbed to the sites eastern property boundary to permit the satisfactory subdivision of adjoining land. The Applicant's proposal satisfies this criterion.

9. Intersection angles. Streets shall be laid out to intersect angles as near to right angles as practical, except where topography requires lesser angles, but in no case less than 60 degrees unless a special intersection design is approved. Intersections which are not at right angles shall have minimum corner radii of 15 feet along right-of-way lines which form acute angles. Right-of-way lines at intersections with arterial streets shall have minimum curb radii of not less than 35 feet. Other street intersections shall have curb radii

of not less than 25 feet. All radii shall maintain a uniform width between the roadway and the right-of-way lines. The intersection of more than two streets at any one point will not be allowed unless no alternative design exists.

RESPONSE: No new intersections are being proposed as part of the Applicant's proposal, therefore, the above criterion does not apply to the Applicant's request.

10. Additional right-of-way for existing streets. Wherever existing street rights-of-way adjacent to or within a tract are of inadequate widths based upon the standards of this chapter, additional right-of-way shall be provided at the time of subdivision or partition.

RESPONSE: The applicant will be dedicating 13-feet of right-of-way for Weatherhill Rd. along the sites frontage.

11. Cul-de-sacs.

- a. New cul-de-sacs and other closed-end streets (not including stub streets intended to be connected) on sites containing less than five acres, or sites accommodating uses other than residential or mixed use development, are not allowed unless the applicant demonstrates that there is no feasible alternative due to:
 - 1) Physical constraints (e.g., existing development, the size or shape of the site, steep topography, or a fish bearing stream or wetland protected by Chapter 32 CDC), or
 - 2) Existing easements or leases.
- b. New cul-de-sacs and other closed-end streets, consistent with subsection (A)(11)(a) of this section, shall not exceed 200 feet in length or serve more than 25 dwelling units unless the design complies with all adopted Tualatin Valley Fire and Rescue (TVFR) access standards and adequately provides for anticipated traffic, consistent with the Transportation System Plan (TSP).
- c. New cul-de-sacs and other closed-end streets (not including stub streets intended to be connected) on sites containing five acres or more that are proposed to accommodate residential or mixed use development are prohibited unless barriers (e.g., existing development, steep topography, or a fish bearing stream or wetland protected by Chapter 32 CDC, or easements, leases or covenants established prior to May 1, 1995) prevent street extensions. In that case, the street shall not exceed 200 feet in length or serve more than 25 dwelling units, and its design shall comply with all adopted TVFR access standards and adequately provide for anticipated traffic, consistent with the TSP.
- d. Applicants for a proposed subdivision, partition or a multifamily, commercial or industrial development accessed by an existing cul-de-sac/closed-end street shall demonstrate that the proposal is consistent with all applicable traffic standards and TVFR access standards.

- e. All cul-de-sacs and other closed-end streets shall include direct pedestrian and bicycle accessways from the terminus of the street to an adjacent street or pedestrian and bicycle accessways unless the applicant demonstrates that such connections are precluded by physical constraints or that necessary easements cannot be obtained at a reasonable cost.
- f. All cul-de-sacs/closed-end streets shall terminate with a turnaround built to one of the following specifications (measurements are for the traveled way and do not include planter strips or sidewalks).

RESPONSE: No cul-de-sacs are proposed as part of this land use application.

12. Street names. No street names shall be used which will duplicate or be confused with the names of existing streets within the City. Street names that involve difficult or unusual spellings are discouraged. Street names shall be subject to the approval of the Planning Commission or Planning Director, as applicable. Continuations of existing streets shall have the name of the existing street. Streets, drives, avenues, ways, boulevards, and lanes shall describe through streets. Place and court shall describe cul-de-sacs. Crescent, terrace, and circle shall describe loop or arcing roads.

RESPONSE: No new streets are proposed as part of this land use application.

13. Grades and curves. Grades and horizontal/vertical curves shall meet the West Linn Public Works Design Standards.

RESPONSE: Any grades and/or horizontal/vertical curves will be designed to meet West Linn Public Works Design Standards.

14. Access to local streets. Intersection of a local residential street with an arterial street may be prohibited by the decision-making authority if suitable alternatives exist for providing interconnection of proposed local residential streets with other local streets. Where a subdivision or partition abuts or contains an existing or proposed major arterial street, the decision-making authority may require marginal access streets, reverse-frontage lots with suitable depth, visual barriers, noise barriers, berms, no-access reservations along side and rear property lines, and/or other measures necessary for adequate protection of residential properties from incompatible land uses, and to ensure separation of through traffic and local traffic.

RESPONSE: The property does not abut nor contain an existing or proposed arterial street.

15. Alleys. Alleys shall be provided in commercial and industrial districts unless other permanent provisions for access to off-street parking and loading facilities are made as approved by the decision-making authority. While alley intersections and sharp changes in alignment should be avoided, the corners of necessary alley intersections shall have radii of not less than 10 feet. Alleys may be provided in residential subdivisions or multi-family projects. The decision to locate alleys shall consider the relationship and impact of the alley to adjacent land uses. In determining whether it is appropriate to require alleys in a subdivision or partition, the following factors and design criteria should be considered:

- a. The alley shall be self-contained within the subdivision. The alley shall not abut undeveloped lots or parcels which are not part of the project proposal. The alley will not stub out to abutting undeveloped parcels which are not part of the project proposal.
- b. The alley will be designed to allow unobstructed and easy surveillance by residents and police.
- c. The alley should be illuminated. Lighting shall meet the West Linn Public Works Design Standards.
- d. The alley should be a semi-private space where strangers are tacitly discouraged.
- e. Speed bumps may be installed in sufficient number to provide a safer environment for children at play and to discourage through or speeding traffic.
- f. Alleys should be a minimum of 14 feet wide, paved with no curbs.

RESPONSE: No alleys are proposed as part of this land use application.

16. Sidewalks. Sidewalks shall be installed per CDC 92.010(H), Sidewalks. The residential sidewalk width is six feet plus planter strip as specified below. Sidewalks in commercial zones shall be constructed per subsection (A)(3) of this section. See also subsection C of this section. Sidewalk width may be reduced with City Engineer approval to the minimum amount (e.g., four feet wide) necessary to respond to site constraints such as grades, mature trees, rock outcroppings, etc., or to match existing sidewalks or right-of-way limitations.

RESPONSE: The applicant proposes to install a sidewalk along the sites Weatherhill Rd. frontage, as well as provide sidewalks along both sides of Satter St. with the extension of the street through the site.

17. Planter strip. The planter strip is between the curb and sidewalk providing space for a grassed or landscaped area and street trees. The planter strip shall be at least 6 feet wide to accommodate a fully matured tree without the boughs interfering with pedestrians on the sidewalk or vehicles along the curbline. Planter strip width may be reduced or eliminated, with City Engineer approval, when it cannot be corrected by site plan, to the minimum amount necessary to respond to site constraints such as grades, mature trees, rock outcroppings, etc., or in response to right-of-way limitations.

RESPONSE: The applicant proposes to install a planter strip along the sites Weatherhill Rd. frontage, as well as provide planter strips along both sides of Satter St. with the extension of the street through the site.

18. Streets and roads shall be dedicated without any reservations or restrictions.

RESPONSE: No reservations or restrictions are being proposed with the street dedications.

19. All lots in a subdivision shall have access to a public street. Lots created by partition may have access to a public street via an access easement pursuant to the standards and limitations set forth for such accessways in Chapter 48 CDC.

RESPONSE: All proposed lots created by the subdivision in this land use application will have access to a public street per City requirements.

20. Gated streets. Gated streets are prohibited in all residential areas on both public and private streets. A driveway to an individual home may be gated.

RESPONSE: No gated streets are being proposed as part of this land use application.

- 21. Entryway treatments and street isle design. When the applicant desires to construct certain walls, planters, and other architectural entryway treatments within a subdivision, the following standards shall apply:
 - a. All entryway treatments except islands shall be located on private property and not in the public right-of-way.
 - b. Planter islands may be allowed provided there is no structure (i.e., brick, signs, etc.) above the curbline, except for landscaping. Landscaped islands shall be set back a minimum of 24 feet from the curbline of the street to which they are perpendicular.
 - c. All islands shall be in public ownership. The minimum aisle width between the curb and center island curbs shall be 14 feet. Additional width may be required as determined by the City Engineer.
 - d. Brick or special material treatments are acceptable at intersections with the understanding that the City will not maintain these sections except with asphalt overlay, and that they must meet the Americans with Disabilities Act (ADA) standards. They shall be laid out to tie into existing sidewalks at intersections.
 - e. Maintenance for any common areas and entryway treatments (including islands) shall be guaranteed through homeowners association agreements, CC&Rs, etc.
 - f. Under Chapter 52 CDC, subdivision monument signs shall not exceed 32 square feet in area.

RESPONSE: No entryway treatments are being proposed as part of this land use application; therefore, the above criteria do not apply to the applicant's request.

22. Based upon the determination of the City Manager or the Manager's designee, the applicant shall construct or cause to be constructed, or contribute a proportionate share of the costs, for all necessary off-site improvements identified by the transportation analysis commissioned to address CDC 85.170(B)(2) that are required to mitigate impacts from the proposed subdivision. The proportionate share of the costs shall be determined by the City Manager or Manager's designee, who shall assume that the proposed subdivision provides improvements in rough proportion to identified impacts of the

subdivision. Off-site transportation improvements will include bicycle and pedestrian improvements as identified in the adopted City of West Linn TSP.

RESPONSE: The City Manager has not identified the need for any off-site improvements related to the development of this property; therefore, the above criterion does not apply to the applicant's proposal.

B. Blocks and lots.

General. The length, width, and shape of blocks shall be designed with due regard for the
provision of adequate building sites for the use contemplated; consideration of the need
for traffic safety, convenience, access, circulation, and control; and recognition of
limitations and opportunities of topography and solar access.

RESPONSE: No new roads are proposed as part of this land use application and the block pattern is already established.

2. Sizes. The recommended block size is 400 feet in length to encourage greater connectivity within the subdivision. Blocks shall not exceed 800 feet in length between street lines, except for blocks adjacent to arterial streets or unless topographical conditions or the layout of adjacent streets justifies a variation. Designs of proposed intersections shall demonstrate adequate sight distances to the City Engineer's specifications. Block sizes and proposed accesses must be consistent with the adopted TSP. Subdivisions of five or more acres that involve construction of a new street shall have block lengths of no more than 530 feet. If block lengths are greater than 530 feet, accessways on public easements or right-of-way for pedestrians and cyclists shall be provided not more than 330 feet apart. Exceptions can be granted when prevented by barriers such as topography, rail lines, freeways, pre-existing development, leases, easements or covenants that existed prior to May 1, 1995, or by requirements of Titles 3 and 13 of the UGMFP. If streets must cross water features protected pursuant to Title 3 UGMFP, provide a crossing every 800 to 1,200 feet unless habitat quality or the length of the crossing prevents a full street connection.

RESPONSE: No new roads are proposed as part of this land use application and the block pattern is already established.

3. Lot size and shape. Lot or parcel size, width, shape, and orientation shall be appropriate for the location of the subdivision or partition, for the type of use contemplated, for potential utilization of solar access, and for the protection of drainageways, trees, and other natural features. No lot or parcel shall be dimensioned to contain part of an existing or proposed street. All lots or parcels shall be buildable. "Buildable" describes lots that are free of constraints such as wetlands, drainageways, etc., that would make home construction impossible. Lot or parcel sizes shall not be less than the size required by the zoning code unless as allowed by planned unit development (PUD).

RESPONSE: The proposed lots created through this subdivision are each a minimum of 7,000 square feet in size to accommodate single family detached dwelling units in the R-7 zone. All proposed lots meet or exceed the minimum requirements for front lot line length, lot width and lot depth.

4. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street parking and service facilities required by the type of use proposed.

RESPONSE: The applicant is proposing residential development for this site, so the above criterion is not applicable to the proposal.

5. Access. Access to subdivisions, partitions, and lots shall conform to the provisions of Chapter 48 CDC, Access, Egress and Circulation.

RESPONSE: The subdivision, as proposed, conforms to the provisions of Chapter 48 CDC.

6. Double frontage lots and parcels. Double frontage lots and parcels have frontage on a street at the front and rear property lines. Double frontage lots and parcels shall be avoided except where they are essential to provide separation of residential development from arterial streets or adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. A planting screen or impact mitigation easement at least 10 feet wide, and across which there shall be no right of access, may be required along the line of building sites abutting such a traffic artery or other incompatible use.

RESPONSE: This land use application does not include double frontage lots.

Lot and parcel side lines. The lines of lots and parcels, as far as is practicable, should run at
right angles to the street upon which they face, except that on curved streets they should
be radial to the curve.

RESPONSE: All proposed lot lines and side parcel lines run at right angles to the street as far as is practicable.

- 8. Flag lots. Flag lots can be created where it can be shown that no other reasonable street access is possible to achieve the requested land division. A single flag lot shall have a minimum street frontage of 15 feet for its accessway. Where two to four flag lots share a common accessway, the minimum street frontage and accessway shall be eight feet in width per lot. Common accessways shall have mutual maintenance agreements and reciprocal access and utility easements. The following dimensional requirements shall apply to flag lots:
 - a. Setbacks applicable to the underlying zone shall apply to the flag lot.
 - b. Front yard setbacks may be based on the rear property line of the lot or parcel which substantially separates the flag lot from the street from which the flag lot gains access. Alternately, the house and its front yard may be oriented in other directions so long as some measure of privacy is ensured, or it is part of a pattern of development, or it better fits the topography of the site.
 - c. The lot size shall be calculated exclusive of the accessway; the access strip may not be counted towards the area requirements.

- d. The lot depth requirement contained elsewhere in this code shall be measured from the rear property line of the lot or parcel which substantially separates the flag lot from the street from which the flag lot gains access.
- e. As per CDC 48.030, the accessway shall have a minimum paved width of 12 feet.
- f. If the use of a flag lot stem to access a lot is infeasible because of a lack of adequate existing road frontage, or location of existing structures, the proposed lot(s) may be accessed from the public street by an access easement of a minimum 15-foot width across intervening property.

RESPONSE: The land use application proposes two (2) flag lots as part of the subdivision. Lots 6 and 7 will be configured as a flag lots because no other reasonable street access is possible given the irregular shape of the parent parcel. The proposed flag lots will have 19.2-feet and 20.9-feet of street frontage, respectively. As proposed the flag lot complies with all city requirements.

- 9. Large lots or parcels. In dividing tracts into large lots or parcels which, at some future time, are likely to be redivided, the approval authority may:
 - a. Require that the blocks be of such size and shape, and be so divided into building sites, and contain such easements and site restrictions as will provide for extension and opening of streets at intervals which will permit a subsequent division of any tract into lots or parcels of smaller size; or
 - Alternately, in order to prevent further subdivision or partition of oversized and constrained lots or parcels, restrictions may be imposed on the subdivision or partition plat.

RESPONSE: The proposed lots are not likely to be re-divided as the density proposed and the lot sizes proposed are consistent with the maximum allowable density per the site's zoning.

- C. Pedestrian and bicycle trails.
 - 1. Trails or multi-use pathways shall be installed, consistent and compatible with federal ADA requirements and with the Oregon Transportation Planning Rule, between subdivisions, cul-de-sacs, and streets that would otherwise not be connected by streets due to excessive grades, significant tree(s), and other constraints natural or manmade. Trails shall also accommodate bicycle or pedestrian traffic between neighborhoods and activity areas such as schools, libraries, parks, or commercial districts. Trails shall also be required where designated by the Parks Master Plan.
 - 2. The all-weather surface (asphalt, etc.) trail should be eight feet wide at minimum for bicycle use and six feet wide at minimum for pedestrian use. Trails within 10 feet of a wetland or natural drainageway shall not have an all-weather surface, but shall have a soft surface as approved by the Parks Director. These trails shall be contained within a corridor dedicated to the City that is wide enough to provide trail users with a sense of defensible space. Corridors that are too narrow, confined, or with vegetative cover may be

threatening and discourage use. Consequently, the minimum corridor width shall be 20 feet. Sharp curves, twists, and blind corners on the trail are to be avoided as much as possible to enhance defensible space. Deviations from the corridor and trail width are permitted only where topographic and ownership constraints require it.

- 3. Defensible space shall also be enhanced by the provision of a three- to four-foot-high matte black chain link fence or acceptable alternative along the edge of the corridor. The fence shall help delineate the public and private spaces.
- 4. The bicycle or pedestrian trails that traverse multi-family and commercial sites should follow the same defensible space standards but do not need to be defined by a fence unless required by the decision-making authority.
- 5. Except for trails within 10 feet of a wetland or natural drainageway, soft surface or gravel trails may only be used in place of a paved, all-weather surface where it can be shown to the Planning Director that the principal users of the path will be recreational, non-destination-oriented foot traffic, and that alternate paved routes are nearby and accessible.
- 6. The trail grade shall not exceed 12 percent except in areas of unavoidable topography, where the trail may be up to a 15 percent grade for short sections no longer than 50 feet. In any location where topography requires steeper trail grades than permitted by this section, the trail shall incorporate a short stair section to traverse the area of steep grades.

RESPONSE: Sidewalks are provided along the frontages of the property. No pedestrian or bicycle trails are required.

D. Transit facilities.

- 1. The applicant shall consult with Tri-Met and the City Engineer to determine the appropriate location of transit stops, bus pullouts, future bus routes, etc., contiguous to or within the development site. If transit service is planned to be provided within the next two years, then facilities such as pullouts shall be constructed per Tri-Met standards at the time of development. More elaborate facilities, like shelters, need only be built when service is existing or imminent. Additional rights-of-way may be required of developers to accommodate buses.
- 2. The applicant shall make all transit-related improvements in the right-of-way or in easements abutting the development site as deemed appropriate by the City Engineer.
- Transit stops shall be served by striped and signed pedestrian crossings of the street
 within 150 feet of the transit stop where feasible. Illumination of the transit stop and
 crossing is required to enhance defensible space and safety. ODOT approval may be
 required.

4. Transit stops should include a shelter structure bench plus eight feet of sidewalk to accommodate transit users, non-transit-related pedestrian use, and wheelchair users. Tri-Met must approve the final configuration.

RESPONSE: No transit facilities have been identified by Tri-Met or the City Development Engineer adjacent to this property. The above criteria do not apply to the Applicant's proposal.

- E. Grading. Grading of building sites shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:
 - 1. All cuts and fills shall comply with the excavation and grading provisions of the Uniform Building Code and the following:
 - a. Cut slopes shall not exceed one and one-half feet horizontally to one foot vertically (i.e., 67 percent grade).
 - b. Fill slopes shall not exceed two feet horizontally to one foot vertically (i.e., 50 percent grade). Please see the following illustration.
 - 2. The character of soil for fill and the characteristics of lot and parcels made usable by fill shall be suitable for the purpose intended.
 - 3. If areas are to be graded (more than any four-foot cut or fill), compliance with CDC 85.170(C) is required.
 - 4. The proposed grading shall be the minimum grading necessary to meet roadway standards, and to create appropriate building sites, considering maximum allowed driveway grades.
 - 5. Type I lands shall require a report submitted by an engineering geologist, and Type I and Type II lands shall require a geologic hazard report.
 - 6. Repealed by Ord. 1635.
 - 7. On land with slopes in excess of 12 percent, cuts and fills shall be regulated as follows:
 - a. Toes of cuts and fills shall be set back from the boundaries of separate private ownerships at least three feet, plus one-fifth of the vertical height of the cut or fill. Where an exception is required from that requirement, slope easements shall be provided.
 - b. Cuts shall not remove the toe of any slope where a severe landslide or erosion hazard exists (as described in subsection (G)(5) of this section).
 - c. Any structural fill shall be designed by a registered engineer in a manner consistent with the intent of this code and standard engineering practices, and certified by that engineer that the fill was constructed as designed.

- d. Retaining walls shall be constructed pursuant to Section 2308(b) of the Oregon State Structural Specialty Code.
- e. Roads shall be the minimum width necessary to provide safe vehicle access, minimize cut and fill, and provide positive drainage control.
- 8. Land over 50 percent slope shall be developed only where density transfer is not feasible. The development will provide that:
 - a. At least 70 percent of the site will remain free of structures or impervious surfaces.
 - b. Emergency access can be provided.
 - c. Design and construction of the project will not cause erosion or land slippage.
 - d. Grading, stripping of vegetation, and changes in terrain are the minimum necessary to construct the development in accordance with subsection J of this section.

RESPONSE: A geotechnical engineering report is included with this submittal. A grading plan has been included in the submitted plans which complies with all criteria of this subsection.

F. Water.

- 1. A plan for domestic water supply lines or related water service facilities shall be prepared consistent with the adopted Comprehensive Water System Plan, plan update, March 1987, and subsequent superseding revisions or updates.
- 2. Adequate location and sizing of the water lines.
- 3. Adequate looping system of water lines to enhance water quality.
- 4. For all non-single-family developments, there shall be a demonstration of adequate fire flow to serve the site.
- 5. A written statement, signed by the City Engineer, that water service can be made available to the site by the construction of on-site and off-site improvements and that such water service has sufficient volume and pressure to serve the proposed development's domestic, commercial, industrial, and fire flows.

RESPONSE: The Applicant proposes new water service connections for all proposed lots off of either Weatherhill Road or Sattter Street, which will be extended through the site as part of this application. This proposal is consistent with the adopted Comprehensive Water System Plan. All proposed water improvements are included on the utility plan of the land use application.

G. Sewer.

1. A plan prepared by a licensed engineer shall show how the proposal is consistent with the Sanitary Sewer Master Plan (July 1989). Agreement with that plan must demonstrate how the sanitary sewer proposal will be accomplished and how it is gravity-efficient. The sewer system must be in the correct basin and should allow for full gravity service.

- 2. Sanitary sewer information will include plan view of the sanitary sewer lines, including manhole locations and depth or invert elevations.
- 3. Sanitary sewer lines shall be located in the public right-of-way, particularly the street, unless the applicant can demonstrate why the alternative location is necessary and meets accepted engineering standards.
- 4. Sanitary sewer line should be at a depth that can facilitate connection with downsystem properties in an efficient manner.
- 5. The sanitary sewer line should be designed to minimize the amount of lineal feet in the system.
- 6. The sanitary sewer line shall avoid disturbance of wetland and drainageways. In those cases where that is unavoidable, disturbance shall be mitigated pursuant to Chapter 32 CDC, Water Resource Area Protection, all trees replaced, and proper permits obtained. Dual sewer lines may be required so the drainageway is not disturbed.
- 7. Sanitary sewer shall be extended or stubbed out to the next developable subdivision or a point in the street that allows for reasonable connection with adjacent or nearby properties.
- 8. The sanitary sewer system shall be built pursuant to DEQ, City, and Tri-City Service District sewer standards. The design of the sewer system should be prepared by a licensed engineer, and the applicant must be able to demonstrate the ability to satisfy these submittal requirements or standards at the pre-construction phase.
- A written statement, signed by the City Engineer, that sanitary sewers with sufficient capacity to serve the proposed development and that adequate sewage treatment plant capacity is available to the City to serve the proposed development.

RESPONSE: The Applicant proposes new sewer service connections for all proposed lots off of either Weatherhill Road or Satter Street, which will be extended through the site as part of this application. All proposed sewer improvements are included on the utility plan of the land use application. The proposed sanitary sewer system is consistent with the Sanitary Sewer Master Plan, is in the correct basin and allows for full gravity service.

H. Storm detention and treatment. All proposed storm detention and treatment facilities comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards, there will be no adverse off-site impacts caused by the development (including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream), and there is sufficient factual data to support the conclusions of the submitted plan.

RESPONSE: The Applicant's proposed stormwater detention and treatment design will include a public storm treatment/detention system consisting of a water quality facility located in the east/southeastern portion of the site. In addition, on lot LIDA storm planters for treatment and detention within the Satter Street right-of-way. The Applicant is also proposing to install individual LIDA planters on each lot for the

future homes according to City requirements. All proposed storm drainage improvements are included on the utility plan Sheet 11 of the land use application.

I. Utility easements. Subdivisions and partitions shall establish utility easements to accommodate the required service providers as determined by the City Engineer. The developer of the subdivision shall make accommodation for cable television wire in all utility trenches and easements so that cable can fully serve the subdivision.

RESPONSE: The applicant will establish utility easements as determined by the City Engineer and shown on the preliminary plat. All required easements will be recorded with the recording of the final plat.

- J. Supplemental provisions.
 - Wetland and natural drainageways. Wetlands and natural drainageways shall be
 protected as required by Chapter 32 CDC, Water Resource Area Protection. Utilities may be
 routed through the protected corridor as a last resort, but impact mitigation is required.

RESPONSE: The proposed subdivision does not impact any wetlands. The site does contain the presence of a headwater to a small ephemeral stream on the southern edge of the property. As part of the submitted application materials, the applicant has provided a Phase I Environmental review for the property, as well as a wetland delineation report. An electronic copy of the wetland delineation report has been sent to Oregon Department of State Lands.

As part of the proposed development, the Applicant is proposing to route some utilities (i.e. stormwater and sewer) through the protected corridor and will provide impact mitigation as required by the City.

2. Willamette and Tualatin Greenways. The Willamette and Tualatin River Greenways shall be protected as required by Chapter 28 CDC, Willamette and Tualatin River Protection.

RESPONSE: No greenways exist on this site or have been identified for dedication on this property. This property is not adjacent to the Willamette or Tualatin River and, therefore, a River Greenway is not feasible on this site.

3. Street trees. Street trees are required as identified in the appropriate section of the municipal code and Chapter 54 CDC.

RESPONSE: There are no existing street trees along the sites frontage of Weatherhill Road. The applicant will install street trees as a component of the frontage improvements on Weatherhill Road, as well as along both sides of Satter Street with the extension of the street through the site.

4. Lighting. All subdivision street or alley lights shall meet West Linn Public Works Design Standards.

RESPONSE: The applicant proposes to install new light fixtures along both the sites Weatherhill Rd. frontage, as well as along Satter St. with the extension of the street through the site. All required street lights will provide adequate lighting per current City standards. A photometric plan has been provided for review. See Sheet 12 for more detail on the lighting plan.

5. Dedications and exactions. The City may require an applicant to dedicate land and/or construct a public improvement that provides a benefit to property or persons outside the property that is the subject of the application when the exaction is roughly proportional. No exaction shall be imposed unless supported by a determination that the exaction is roughly proportional to the impact of development.

RESPONSE: As mentioned previously, the applicant will be dedicating 13-feet of right-of-way along the sites Weatherhill Rd. frontage. Additionally, right-of-way will be dedicated for the extension of Satter St. through the site in accordance with city standards and specifications.

6. Underground utilities. All utilities, such as electrical, telephone, and television cable, that may at times be above ground or overhead shall be buried underground in the case of new development. The exception would be in those cases where the area is substantially built out and adjacent properties have above-ground utilities and where the development site's frontage is under 200 feet and the site is less than one acre. High voltage transmission lines, as classified by Portland General Electric or electric service provider, would also be exempted. Where adjacent future development is expected or imminent, conduits may be required at the direction of the City Engineer. All services shall be underground with the exception of standard above-grade equipment such as some meters, etc.

RESPONSE: The Applicant's proposal complies with the above criterion because all new utility services are proposed to be located underground as part of the subdivision. With the exception of standard above-grade equipment, all services will be located underground pursuant to city standards and specifications.

7. Density requirement. Density shall occur at 70 percent or more of the maximum density allowed by the underlying zoning. These provisions would not apply when density is transferred from Type I and II lands as defined in CDC 02.030. Development of Type I or II lands are exempt from these provisions. Land divisions of three lots or less would also be exempt.

RESPONSE: The R-7 zone permits a maximum density of 6.4 dwelling units per net acre. Net acre is defined as "the total gross acres less the public right-of-way and other acreage deductions, as applicable. The net acreage of this site after removal of dedicated right-of- way is 92,276 sq. ft. or 2.11 acres. At 6.4 dwelling units per net acre, the maximum number of dwelling units on this site is 13.50. This proposal is for a 12-lot subdivision. The proposed density for the site is within 70 percent of the maximum allowable density. The requirements of this section have been satisfied.

8. Mix requirement. The "mix" rule means that developers shall have no more than 15 percent of the R-2.1 and R-3 development as single-family residential. The intent is that the majority of the site shall be developed as medium high density multi-family housing.

RESPONSE: This property is zoned R-7 and, therefore, the use of the parcel as an entirely residential development is permitted.

9. Heritage trees/significant tree and tree cluster protection. All heritage trees, as defined in the municipal code, shall be saved. Diseased heritage trees, as determined by the City Arborist, may be removed at his/her direction. All non-heritage trees and clusters of trees

(three or more trees with overlapping dripline; however, native oaks need not have an overlapping dripline) that are considered significant by virtue of their size, type, location, health, or numbers shall be saved pursuant to CDC 55.100(B)(2). Trees are defined per the municipal code as having a trunk six inches in diameter or 19 inches in circumference at a point five feet above the mean ground level at the base of the trunk.

RESPONSE: The applicant has inventoried all trees on site and has consulted with the City's arborist to determine which trees on site are significant. The applicant is proposing tree preservation consistent with these requirements, as detailed in the tree protection plan (Sheet 3). The trees identified as significant on this site will be retained with the development of the subdivision.

CHAPTER 92 REQUIRED IMPROVEMENTS FOR ALL DEVELOPMENT

The following improvements shall be installed at the expense of the developer and meet all City codes and standards:

A. Streets within subdivisions.

- All streets within a subdivision, including alleys, shall be graded for the full right-of-way width and improved to the City's permanent improvement standards and specifications which include sidewalks and bicycle lanes, unless the decision-making authority makes the following findings:
 - a. The right-of-way cannot be reasonably improved in a manner consistent with City road standards or City standards for the protection of wetlands and natural drainageways.
 - b. The right-of-way does not provide a link in a continuous pattern of connected local streets, or, if it does provide such a link, that an alternative street link already exists or the applicant has proposed an alternative street which provides the necessary connectivity, or the applicant has proven that there is no feasible location on the property for an alternative street providing the link.
- 2. When the decision-making authority makes these findings, the decision-making authority may impose any of the following conditions of approval:
 - a. A condition that the applicant initiate vacation proceedings for all or part of the right-of-way.
 - b. A condition that the applicant build a trail, bicycle path, or other appropriate way.

If the applicant initiates vacation proceedings pursuant to subsection (A)(2)(a) of this section, and the right-of-way cannot be vacated because of opposition from adjacent property owners, the City Council shall consider and decide whether to process a City-initiated street vacation pursuant to Chapter 271 ORS.

Construction staging area shall be established and approved by the City Engineer. Clearing, grubbing, and grading for a development shall be confined to areas that have been granted approval in the land use approval process only. Clearing, grubbing, and grading outside of land use approved areas can only be approved through a land use approval modification and/or an approved Building Department

grading permit for survey purposes. Catch basins shall be installed and connected to pipe lines leading to storm sewers or drainageways.

RESPONSE: No vacation proceedings are being requested by the Applicant, nor are they being required by the City for the proposed 12-lot subdivision. All proposed streets within the subdivision, will be graded for the full right-of-way width and improved to the City's permanent improvement standards and specifications which include sidewalks and bicycle lanes, unless the decision-making authority determines otherwise.

B. <u>Extension of streets to subdivisions</u>. The extension of subdivision streets to the intercepting paving line of existing streets with which subdivision streets intersect shall be graded for the full right-of-way width and improved to a minimum street structural section and width of 24 feet.

RESPONSE: With the proposed 12-lot subdivision, the applicant will be extending Satter St. through the site and stubbing it to the sites south/southeastern property boundary for its future extension. The extension of Satter St. will not include intercepting of an existing paving line as there will be no new intersections created as part of the applicant's proposal. As such, the above criterion does not apply to the applicant's proposal.

C. Local and minor collector streets within the rights-of-way abutting a subdivision shall be graded for the full right-of-way width and approved to the City's permanent improvement standards and specifications. The City Engineer shall review the need for street improvements and shall specify whether full street or partial street improvements shall be required. The City Engineer shall also specify the extent of storm drainage improvements required. The City Engineer shall be guided by the purpose of the City's systems development charge program in determining the extent of improvements which are the responsibility of the subdivider.

RESPONSE: There are no collector streets abutting the proposed subdivision, therefore, the above criterion does not apply to the Applicant's request.

D. Monuments. Upon completion of the first pavement lift of all street improvements, monuments shall be installed and/or reestablished at every street intersection and all points of curvature and points of tangency of street centerlines with an iron survey control rod. Elevation benchmarks shall be established at each street intersection monument with a cap (in a monument box) with elevations to a U.S. Geological Survey datum that exceeds a distance of 800 feet from an existing benchmark.

RESPONSE: All required monuments will be installed with the development of the subdivision consistent with the City Standards and Specification pursuant to the above criterion.

E. <u>Storm detention and treatment.</u> For Type I, II and III lands (refer to definitions in Chapter <u>02</u> CDC), a registered civil engineer must prepare a storm detention and treatment plan, at a scale sufficient to evaluate all aspects of the proposal, and a statement that demonstrates:

- The location and extent to which grading will take place indicating general contour lines, slope ratios, slope stabilization proposals, and location and height of retaining walls, if proposed.
- 2. All proposed storm detention and treatment facilities comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards.
- 3. There will be no adverse off-site impacts, including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream.
- 4. There is sufficient factual data to support the conclusions of the plan.
- 5. Per CDC <u>99.035</u>, the Planning Director may require the information in subsections (E)(1), (2), (3) and (4) of this section for Type IV lands if the information is needed to properly evaluate the proposed site plan.

RESPONSE: The subject property does not contain any Type I, II, III and/or IV lands per the City's definitions in Chapter 02 of the CDC. As such, the above criteria do not apply to the Applicant's proposal.

- F. <u>Sanitary sewers</u>. Sanitary sewers shall be installed to City standards to serve the subdivision and to connect the subdivision to existing mains.
 - If the area outside the subdivision to be directly served by the sewer line has reached a
 state of development to justify sewer installation at the time, the Planning Commission
 may recommend to the City Council construction as an assessment project with such
 arrangement with the subdivider as is desirable to assure financing his or her share of the
 construction.
 - 2. If the installation is not made as an assessment project, the City may reimburse the subdivider an amount estimated to be a proportionate share of the cost for each connection made to the sewer by property owners outside of the subdivision for a period of 10 years from the time of installation of the sewers. The actual amount shall be determined by the City Administrator considering current construction costs.

RESPONSE: As mentioned previously in this narrative, the sanitary sewer lines will be installed to meet all City Standards and Specifications to serve the subdivision. As part of the submitted application materials, the Applicant has provided a detailed composite utility plan on Sheet 11 of the plan set that shows the line sizing and location for the proposed sewer lines.

G. <u>Water system</u>. Water lines with valves and fire hydrants providing service to each building site in the subdivision and connecting the subdivision to City mains shall be installed. Prior to starting building construction, the design shall take into account provisions for extension beyond the subdivision and to adequately grid the City system. Hydrant spacing is to be based on accessible area served according to the City Engineer's recommendations and City standards. If required water mains will directly serve property outside the subdivision, the City may reimburse the developer an amount estimated to be the proportionate share of the cost

for each connection made to the water mains by property owners outside the subdivision for a period of 10 years from the time of installation of the mains. If oversizing of water mains is required to areas outside the subdivision as a general improvement, but to which no new connections can be identified, the City may reimburse the developer that proportionate share of the cost for oversizing. The actual amount and reimbursement method shall be as determined by the City Administrator considering current or actual construction costs.

RESPONSE: As mentioned previously in this narrative, the water lines will be installed to meet all City Standards and Specifications to serve the subdivision. As part of the submitted application materials, the Applicant has provided a detailed composite utility plan on Sheet 11 of the plan set that shows the line sizing and location for the proposed water lines. Prior to starting building construction, the Applicant will work with the City's Engineering and Fire Departments to assure the design for the water system takes into account provisions for extension beyond the subdivision and to adequately grid the City system. Hydrant spacing will also be addressed at that time to make sure they are located in an accessible area pursuant to City Standards.

H. Sidewalks.

- Sidewalks shall be installed on both sides of a public street and in any special pedestrian way within the subdivision, except that in the case of primary or secondary arterials, or special type industrial districts, or special site conditions, the Planning Commission may approve a subdivision without sidewalks if alternate pedestrian routes are available. In the case of the double-frontage lots, provision of sidewalks along the frontage not used for access shall be the responsibility of the developer. Providing front and side yard sidewalks shall be the responsibility of the land owner at the time a request for a building permit is received. Additionally, deed restrictions and CC&Rs shall reflect that sidewalks are to be installed prior to occupancy and it is the responsibility of the lot or homeowner to provide the sidewalk, except as required above for double-frontage lots.
- 2. On local streets serving only single-family dwellings, sidewalks may be constructed during home construction, but a letter of credit shall be required from the developer to ensure construction of all missing sidewalk segments within four years of final plat approval pursuant to CDC 91.010(A)(2).
- 3. The sidewalks shall measure at least six feet in width and be separated from the curb by a six-foot minimum width planter strip. Reductions in widths to preserve trees or other topographic features, inadequate right-of-way, or constraints, may be permitted if approved by the City Engineer in consultation with the Planning Director.
- 4. Sidewalks should be buffered from the roadway on high volume arterials or collectors by landscape strip or berm of three and one-half-foot minimum width.
- 5. The City Engineer may allow the installation of sidewalks on one side of any street only if the City Engineer finds that the presence of any of the factors listed below justifies such waiver:
 - a. The street has, or is projected to have, very low volume traffic density;

- b. The street is a dead-end street:
- c. The housing along the street is very low density; or
- d. The street contains exceptional topographic conditions such as steep slopes, unstable soils, or other similar conditions making the location of a sidewalk undesirable.

RESPONSE: The Applicant will be installing a sidewalk along the sites Weahterhill Rd. frontage, as well as along both sides of Satter Street with the extension of the street through the site. All proposed and required sidewalks will be installed pursuant to the City's design standards and specifications. Should the developer choose to install the sidewalks with the construction of the homes, then a letter of credit will be provided to the City to ensure construction of all missing sidewalks within four years of the final plat approval.

I. <u>Bicycle routes</u>. If appropriate to the extension of a system of bicycle routes, existing or planned, the Planning Commission may require the installation of separate bicycle lanes within streets and separate bicycle paths.

RESPONSE: Per the City's Transportation System Plan (TSP) there are no bicycle routes identified, either existing or planned, for the subject property.

J. <u>Street name signs</u>. All street name signs and traffic control devices for the initial signing of the new development shall be installed by the City with sign and installation costs paid by the developer.

RESPONSE: All required street signs, whether street names or traffic control signs, will be installed pursuant to the City's Standards and Specifications as outlined in the above criterion. The Applicant is agreeable to paying the installation costs associated with the installation of the required signage.

K. <u>Dead-end street signs</u>. Signs indicating "future roadway" shall be installed at the end of all discontinued streets. Signs shall be installed by the City per City standards, with sign and installation costs paid by the developer.

RESPONSE: The Applicant is proposing the terminate Weatherhill Rd. in a "stubbed" street design. A barricade will be installed at the end of the street and any required signage will be installed consistent with the City's development codes.

L. <u>Signs indicating future use</u> shall be installed on land dedicated for public facilities (e.g., parks, water reservoir, fire halls, etc.). Sign and installation costs shall be paid by the developer.

RESPONSE: No public facilities are being proposed as part of this development request, therefore, the above criterion does not apply to the Applicant's proposal.

M. <u>Street lights</u>. Street lights shall be installed and shall be served from an underground source of supply. The street lighting shall meet IES lighting standards. The street lights shall be the shoe-box style light (flat lens) with a 30-foot bronze pole in residential (non-intersection) areas. The street light shall be the cobra head style (drop lens) with an approximate 50-foot (sized for intersection width) bronze pole. The developer shall submit to the City Engineer for

approval of any alternate residential, commercial, and industrial lighting, and alternate lighting fixture design. The developer and/or homeowners association is required to pay for all expenses related to street light energy and maintenance costs until annexed into the City.

RESPONSE: All required street lights will be installed and will be served from an underground source of supply. All required street lighting will meet IES lighting standards and the street light will be the "shoebox" style light (i.e. flat lens).

N. <u>Utilities</u>. The developer shall make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, shall be placed underground.

RESPONSE: Consistent with the above criterion, the Applicant's developer will make all necessary arrangements with the franchised utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, will be placed underground as required by the City's Community Development Code (CDC).

O. <u>Curb cuts and driveways</u>. Curb cuts and driveway installations are not required of the subdivider at the time of street construction, but, if installed, shall be according to City standards. Proper curb cuts and hard-surfaced driveways shall be required at the time buildings are constructed.

RESPONSE: All curb cuts and driveway installations will be installed at the time buildings are constructed on the lots. However, should the developer decide to install some curb cuts and driveways at the time of street construction, then, if installed, they will be installed according to City standards.

P. <u>Street trees</u>. Street trees shall be provided by the City Parks and Recreation Department in accordance with standards as adopted by the City in the Municipal Code. The fee charged the subdivider for providing and maintaining these trees shall be set by resolution of the City Council.

RESPONSE: The Applicant agrees to install all required street trees pursuant to the above criterion by working with the City's Parks and Recreation Department to obtain the necessary street trees. Additionally, the Applicant is agreeable to paying the fees set by resolution of the City Council for providing and maintain the requires street trees.

Q. <u>Joint mailbox facilities</u> shall be provided in all residential subdivisions, with each joint mailbox serving at least two, but no more than eight, dwelling units. Joint mailbox structures shall be placed in the street right-of-way adjacent to roadway curbs. Proposed locations of joint mailboxes shall be designated on a copy of the tentative plan of the subdivision, and shall be approved as part of the tentative plan approval. In addition, sketch plans for the joint mailbox structures to be used shall be submitted and approved by the City Engineer prior to final plat approval.

RESPONSE: The Applicant will work with the US Postal Service (USPS) to identify a strategic location for two (2) joint mailbox facilities to serve the proposed 12-lot subdivision. The joint mailbox facilities will

be installed in the street right-of-way adjacent to the roadway curbs. As part of the tentative plan approval, the Applicant requests, as a condition of any final approval, that the required sketch plans for the joint mailbox structures to be used shall be submitted and approved by the City Engineer prior to final plat approval.

92.030 IMPROVEMENT PROCEDURES

In addition to other requirements, improvements installed by the developer, either as a requirement of these regulations or at the developer's own option, shall conform to the requirements of this title and permanent improvement standards and specifications adopted by the City and shall be installed in accordance with the following procedure:

- A. Improvement work shall not be commenced until plans have been checked for adequacy and approved by the City. To the extent necessary for evaluation of the proposal, the improvement plans may be required before approval of the tentative plan of a subdivision or partition. Plans shall be prepared in accordance with the requirements of the City.
- B. Improvement work shall not be commenced until the City has been notified in advance, and if work has been discontinued for any reason, it shall not be resumed until the City has been notified.
- C. Improvements shall be constructed under the Engineer. The City may require changes in typical sections and details in the public interest if unusual conditions arise during construction to warrant the change.
- D. All underground utilities, sanitary sewers, and storm drains installed in streets by the subdivider or by any utility company shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed to a length obviating the necessity for disturbing the street improvements when service connections are made.
- E. A digital and mylar map showing all public improvements as built shall be filed with the City Engineer upon completion of the improvements.

RESPONSE: All requirements and improvements installed by the developer, either as a requirement of the City's CDC regulations or at the developer's own option, will conform to the requirements of this title and permanent improvement standards and specifications adopted by the City and will be installed in accordance with the above procedures. The Applicant is agreeable, as a condition of any final approval, that all improvements be installed in accordance with all City standards and specifications adopted by the City.

SUMMARY AND CONCLUSION

Based upon the application materials submitted herein, the Applicant respectfully requests approval from the City's Planning Department of this application for a 12-lot residential subdivision.

WEATHERHILL ROAD SUBDIVISION

12 LOT SUBDIVISION NW 1/4 SECTION 13, T. 3S, R. 1W, W.M. CITY OF WEST LINN, OREGON

GENERAL LEGEND

SIGNIFICANT RESOURCE OVERLAY ZONE (SROZ

OVERHEAD UTILITIES LINE UNDERGROUND UTILITIES LINE ELECTRIC LINE FIRE HYDRANT AIR RELEASE WATER BLOWOFF WATER METER/SERVICE

WATER VAULT IRRIGATION SPRINKLER HEAD CULVERT / OUTFALL STORM DRAIN MANHOLE CATCH BASIN / AREA DRAIN SANITARY SEWER MANHOLE UTILITY MANHOLE UTILITY CLEAN OUT UTILITY VALVE UTILITY POLE UTILITY GUY POLE UTILITY GUY WIRE UTILITY/LIGHT POLE LIGHT POLE

LIGHT POLE WITH ARM LIGHT SIGNAL JUNCTION BOX JUNCTION BOX ELECTRIC METER/SERVICE ELECTRIC PEDESTAL ELECTRIC VAULT TELEPHONE MANHOLE COMMUNICATIONS PEDESTAL COMMUNICATIONS VAULT GAS METER/SERVICE GAS PEDESTAL

DECIDOUS TREE EVERGREEN TREE SIGN POST

禁

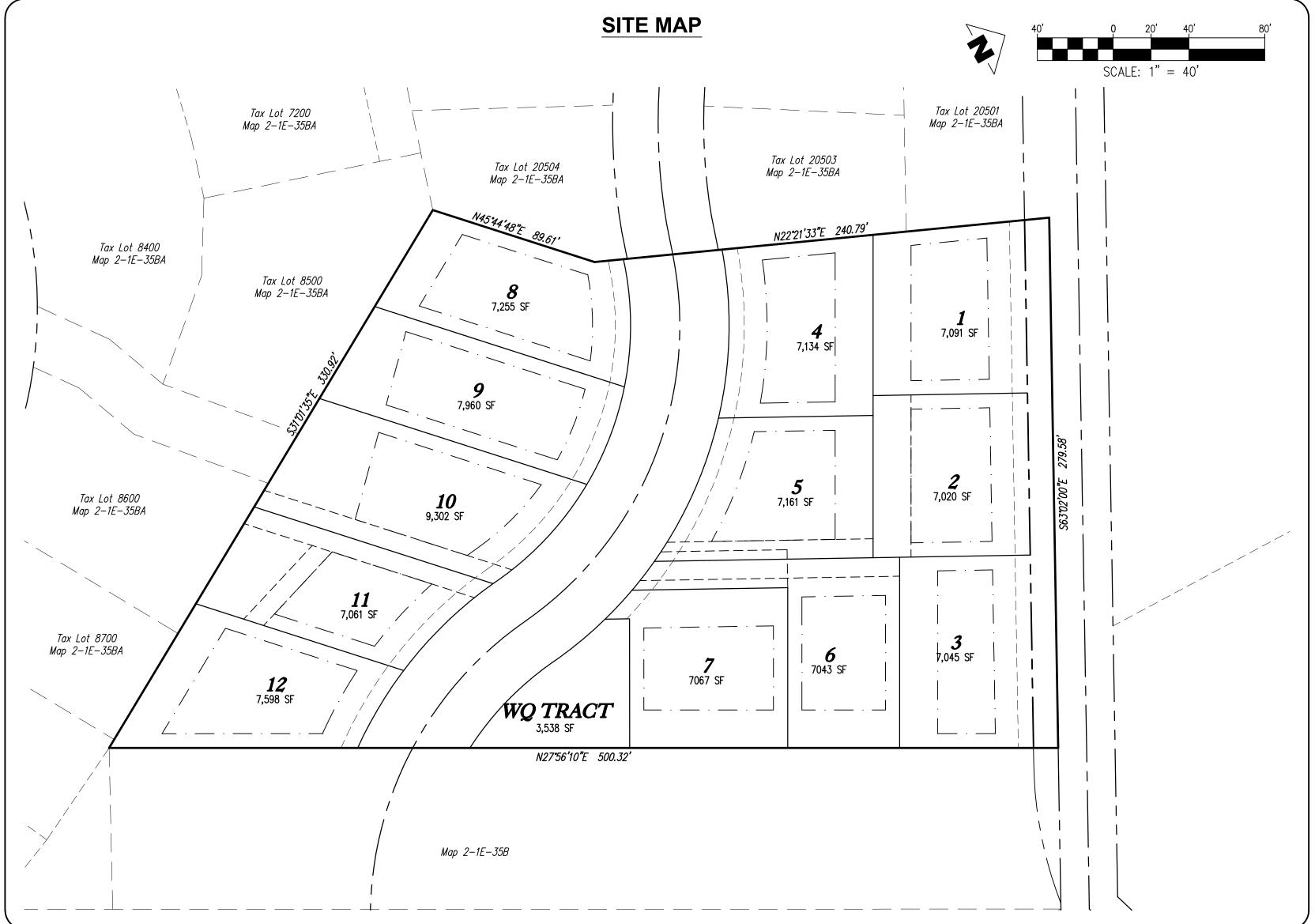
MAILBOX SIDEWALK TO BE INSTALLED AT TIME OF STREET CONSTRUCTION

ENGINEER'S NOTE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS.

THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF



BENCHMARK INFORMATION

THE DATUM FOR THIS SURVEY IS BASED UPON OREGON REAL-TIME GNSS NETWORK (ORGN).

DATUM = NAVD 88

SITE DATA

2.57 Ac. ZONING: R-7 T2SR1E35B TAX MAP: TAX LOT: NO. OF LOTS:

NOTICE TO EXCAVATORS:

ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER.

(NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503)-232-1987).

POTENTIAL UNDERGROUND FACILITY OWNERS

Dig Safely.

Call the Oregon One-Call Center DIAL 811 or 1-800-332-2344

EMERGENCY TELEPHONE NUMBERS

NW NATURAL GAS 503-226-4211 Ext.4313 M-F 7am-6pm AFTER HOURS 503-226-4211 503-464-7777 CENTURY LINK 1-800-491-0118 1-800-921-8101

CITY OF WEST LINN PUBLIC WORKS 503-635-0238

PROJECT CONTACTS

APPLICANT:

ROD FREISEN 22870 WEATHERHILL, LLC WEST LINN, OR 97068 (971) 235-3314 ROD.FRIESEN@FRONTIER.COM

22870 WEATHERHILL, LLC PARTINERSHIP ADMINISTRATOR: ROD FREISEN (971) 235-3314

LAND USE, CIVIL ENGINEER

AND SURVEYOR:

EMERIO DESIGN, LLC 6445 SW FALLBROOK PL, SUITE 100 BEAVERTON, OR 97008 LAND USE CONTACT: STEVE MILLER ENGINEER CONTACT: ERIC EVANS SURVEYOR CONTACT: KING PHELPS (503) 746-8812 (P) (503) 639-9592 (F)

VICINITY MAP

DRAWING INDEX

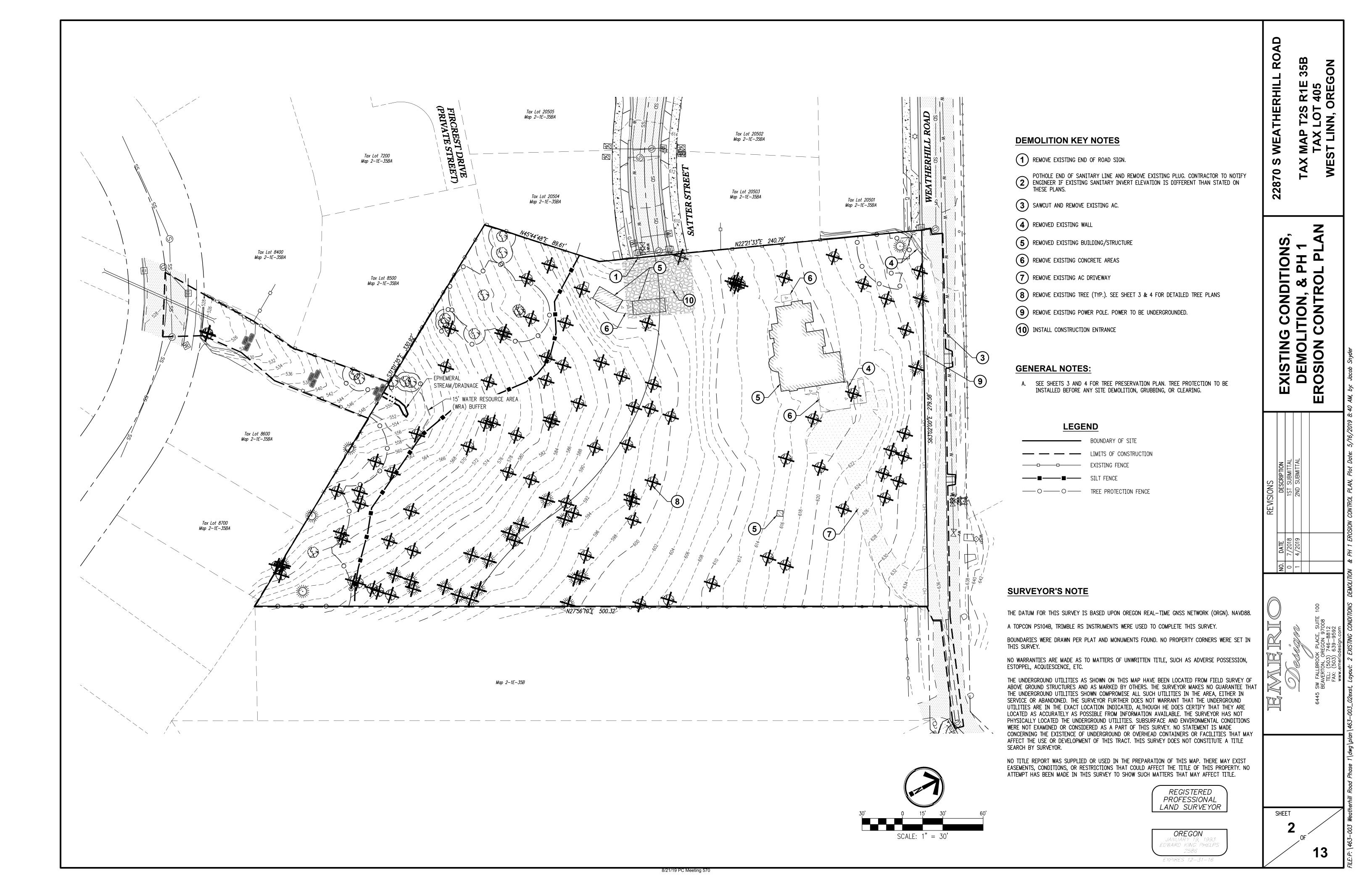
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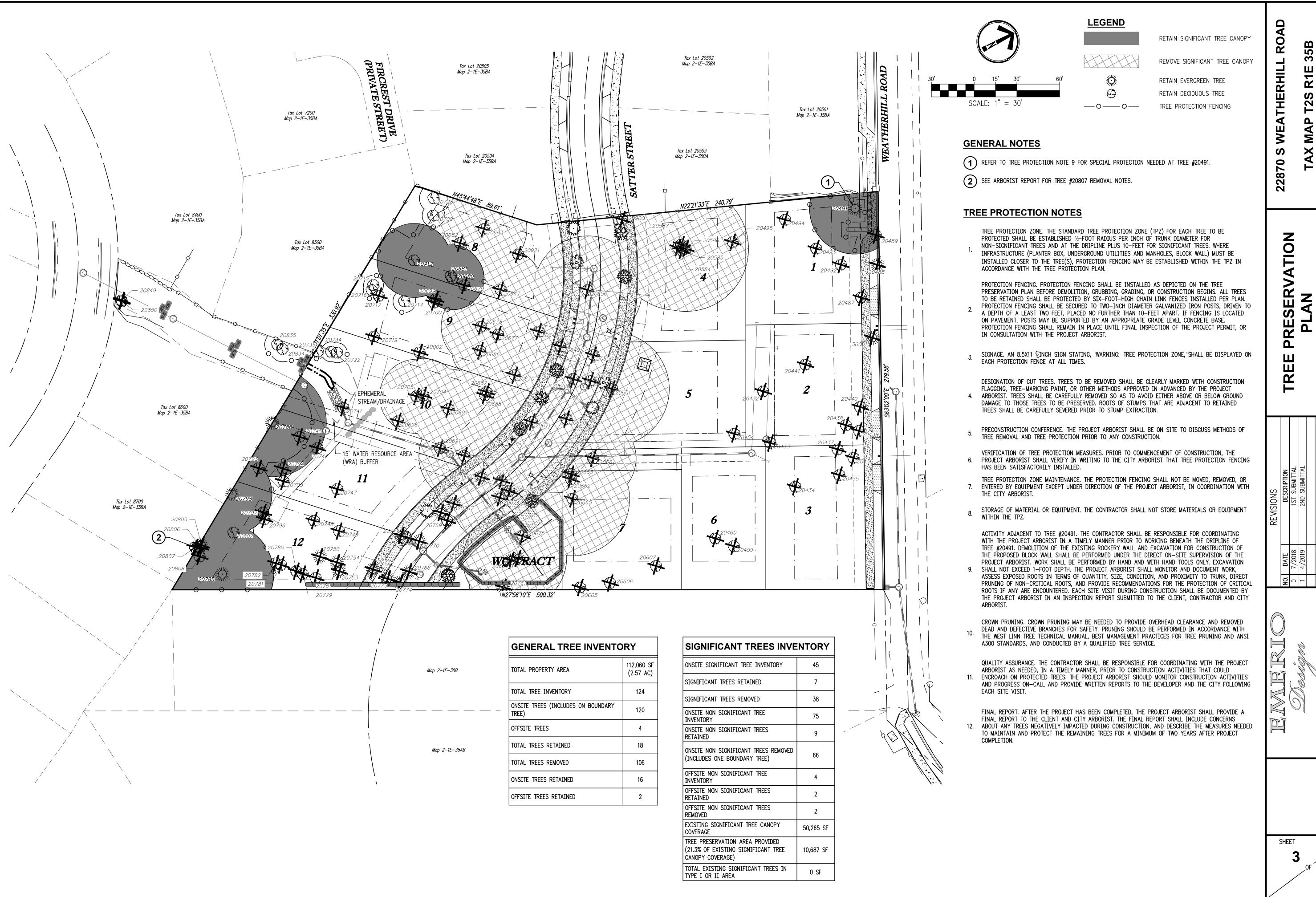
- COVER SHEET
- EXISTING CONDITIONS, DEMOLITION, & PH 1 EROSION CONTROL

- 4 TREE PRESERVATION DETAILS
- 5 SLOPE ANALYSIS PLAN 6 PRELIMINARY PLAT
- 7 PRELIMINARY SITE PLAN
- 8 SATTER STREET PLAN, PROFILE, AND STORM LINE
- 9 WEATHERHILL ROAD PLAN, PROFILE, AND STORM LINE
- 10 PHASE 2 GRADING & EROSION CONTROL PLAN
- 11 COMPOSITE UTILITY PLAN
- 12 LIGHTING PLAN
- 13 WATER QUALITY POND & DETAILS

** LOTS 4 THROUGH 12 TO BE CONSTRUCTED WITH FIRE SPRINKLERS UNLESS SATTER STREET IS CONNECTED THROUGH FROM THE EAST PRIOR TO HOME SHEE COVER

22870





/19 PC Meeting 571

MHA18060 22870 Weatherhill Road - Tree Data 9-26-18 Rev. 12-16-18.xlsx

No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond*	Comments	Sig?	Treatment
							Storm damage, codominant stem failure, open		
20432	Dec	Coral Bark maple	Acer palmatum 'Sango-kaku'	3x5	12	F	wound	No	Remove
						_		l	
20433		English hawthorn	Crataegus monogyna	4x10		F	Invasive species, moderate structure, crown decay	-	Remove
20434		English hawthorn	Crataegus monogyna	7x8	25	G	Invasive species	No	Remove
20435		river birch	Betula nigra	23		F	Moderate structure, twig dieback	No	Remove
20436	_	river birch	Betula nigra	17	16	F	Moderate structure, twig dieback	No	Remove
20437		river birch	Betula nigra	16		D	Mostly dead	-	Remove
20438		river birch	Betula nigra	15		F	Moderate structure, twig dieback	No	Remove
20439	_	river birch	Betula nigra	14	16	F	Moderate structure, twig dieback	No	Remove
20440		river birch	Betula nigra	18		F	Moderate structure, twig dieback	No	Remove
20441	Dec	cherry	Prunus spp.	14	18	G	Well-maintained	No	Remove
20454		English hawthorn	Crataegus monogyna	4x8	18	F	Invasive species, moderate structure, crown decay	_	Remove
20459	Dec	English hawthorn	Crataegus monogyna	5,6,2x8	18	G	Invasive species	No	Remove
20460		English hawthorn	Crataegus monogyna	5,2x8		G	Invasive species	No	Remove
20487	Con	incense cedar	Calocedrus decurrens	22	12	G	Some crown asymmetry	-	Remove
20488	Con	Douglas-fir	Pseudotsuga menziesii	30	26	F	Topped	No	Remove
							Moderate structure, previously topped, some		
20489		bigleaf maple	Acer macrophyllum	13,21	26	F	trunk decay	_	Remove
20491	Con	Douglas-fir	Pseudotsuga menziesii	34	_	G	Spur leader, no major defects	Yes	Retain
20492	Dec	paper birch	Betula papyrifera	11	10	G		No	Remove
20493	Dec	paper birch	Betula papyrifera	2x10	16	G		No	Remove
20494	Dec	English hawthorn	Crataegus monogyna	5x10	20	G	Invasive species	No	Remove
20495		English hawthorn	Crataegus monogyna	3x12	20	G	Invasive species	No	Remove
20584	Dec	Oregon white oak	Quercus garryana	12,16		G	Dense group	Yes	Remove
20585	Dec	Oregon white oak	Quercus garryana	6	22	F	Dense group	Yes	Remove
20586	Dec	Oregon white oak	Quercus garryana	19	34	G	Dense group	Yes	Remove
20587	Dec	Oregon white oak	Quercus garryana	16	34	G	Dense group	Yes	Remove
20605	Dec	Scouler's willow	Salix scouleriana	2x12	16	F	Previous leader failure, dead and broken branches	No	Remove
20606	Dec	English hawthorn	Crataegus monogyna	14	13	F	Invasive species	No	Remove
							Invasive species, moderate structure, dead and		
20607	_	sweet cherry	Prunus avium	22	22	F	broken branches		Remove
20647		Oregon white oak	Quercus garryana	2x18	20	G	Oak grove	Yes	Remove
20648	Dec	Oregon white oak	Quercus garryana	14	16	F	Oak grove, few dead and broken branches	Yes	Remove
20649	Dec	Oregon white oak	Quercus garryana	12	15	G	Oak grove	Yes	Remove
				11,14,					
		Oregon white oak	Quercus garryana	16			Oak grove	_	Remove
20651	Dec	Oregon white oak	Quercus garryana	14,16	30	G	Oak grove	Yes	Remove
				8,3x14,	1		Oak grove, hornets nest, old steel brace		
20656		Oregon white oak	Quercus garryana	17			compartmentalized in trunk	-	Remove
20658	_	Oregon white oak	Quercus garryana	3x10			Oak grove	-	Remove
20659		Oregon white oak	Quercus garryana	14		G	Oak grove, one-sided to south	-	Remove
20660	Dec	Oregon white oak	Quercus garryana	8	_	G	Oak grove	Yes	Remove
				8,10,					
20661	Dec	Oregon white oak	Quercus garryana	14,15	20	G	Oak grove	Yes	Remove
				5,2x6,			Oak grove, very upright high live crown, small		
20662	Dec	Oregon white oak	Quercus garryana	11	12	F	diameter stems are completely dead	Yes	Remove
				5,6,					
20663	Dec	Oregon white oak	Quercus garryana	7,14,18	15	F	Oak grove, moderate one-sided crown structure	Yes	Remove
				10,2x12,					
20665	Dec	Oregon white oak	Quercus garryana	18,20	30	G	Oak grove, few dead and broken branches	Yes	Remove
20666	Con	Douglas-fir	Pseudotsuga menziesii	32	24	G	Codominant crown class, ivy up lower trunk	Yes	Remove

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No.	Туре	Common Name	Species Name	DBH*	C-Rad^	Cond*	Comments	Sig?	Treatment
20667	Con	Douglas-fir	Pseudotsuga menziesii	28	24	G	Codominant crown class, ivy up lower trunk	Yes	Remove
20670	Dec	Oregon white oak	Quercus garryana	8,10,12	16	G	Oak grove	Yes	Remove
20671	Dec	Oregon white oak	Quercus garryana	4x12	18	G	Oak grove	Yes	Remove
20672	Dec	Oregon white oak	Quercus garryana	14	20	F	One-sided to west	Yes	Remove
							One-sided to north, few dead and broken		
20673	Dec	Oregon white oak	Quercus garryana	14	30	F	branches	Yes	Remove
							Codominant crown class, few dead and broken		
20674	Con	Douglas-fir	Pseudotsuga menziesii	36	24	G	branches	Yes	Remove
20675	Dec	apple	Malus spp.	8,10	20	Р	Very poor structure, dieback, decay	No	Remove
							Oak grove, one-sided to north, few dead and		
20677	Dec	Oregon white oak	Quercus garryana	14	14	F	broken branches	Yes	Remove
20678	Dec	Oregon white oak	Quercus garryana	8,9,14	18	G	Oak grove, few dead and broken branches	Yes	Remove
							Oak grove, few dead and broken branches, ivy up		
20679	Dec	Oregon white oak	Quercus garryana	12	12	F	lower trunk	Yes	Remove
							Oak grove, few dead and broken branches, ivy up		
20680	Dec	Oregon white oak	Quercus garryana	12	12	F	lower trunk	Yes	Retain
							Oak grove, few dead and broken branches, ivy up		
20681	Dec	Oregon white oak	Quercus garryana	14	12	F	lower trunk	Yes	Retain
20682	Dec	Oregon white oak	Quercus garryana	7,2x10	16	G	Oak grove, some ivy	_	Remove
20683	Dec	Oregon white oak	Quercus garryana	10,12,14	20	F	Oak grove, few dead and broken branches	Yes	Remove
20686	Dec	Oregon white oak	Quercus garryana	6,8	10	F	Oak grove, few dead and broken branches	Yes	Remove
20687	Dec	Oregon white oak	Quercus garryana	6	10	F	Oak grove, few dead and broken branches	Yes	Remove
20688	Dec	Oregon white oak	Quercus garryana	10	10	F	Oak grove, few dead and broken branches	Yes	Remove
20689	Con	Douglas-fir	Pseudotsuga menziesii	26	22	F	Codominant crown class, broken top, new leaders	Yes	Remove
20691	Dec	Oregon ash	Fraxinus latifolia	7	14	F	Moderate structure	No	Remove
20694	Dec	Oregon white oak	Quercus garryana	16,18	18	G	Oak grove	Yes	Remove
20696	Dec	Oregon white oak	Quercus garryana	2x14	12	P	Half dead	No	Remove
20699	Dec	Oregon white oak	Quercus garryana	10	5	Р	Oak grove, suppressed	No	Remove
20700	Dec	Oregon white oak	Quercus garryana	14	12	Р	Oak grove, severe ivy infestation, small live crown	No	Remove
20704	Dec	Oregon white oak	Quercus garryana	2x14	16	G	Oak grove	Yes	Remove
20705	Dec	Oregon white oak	Quercus garryana	16	16	G	Oak grove	Yes	Remove
20709	Dec	madrone	Arbutus menziesii	16	14	F	Crown dieback, trunk decay	No	Retain
20712	Dec	Oregon white oak	Quercus garryana	18	16	G	Oak grove, ivy up lower trunk	Yes	Retain
20714	Dec	Scouler's willow	Salix scouleriana	4x8	12	F	Inaccessible	No	Retain
20715	_	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Retain
20716	Dec	Scouler's willow	Salix scouleriana	12	12	F	Inaccessible	No	Retain
20717	_	Scouler's willow	Salix scouleriana	10	12	F	Inaccessible	No	Remove
20719	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Remove
20722	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Retain
							Moderate structure, additional codominant stem		
							failed in past and has advanced decay, remaining		
20728	Dec	bigleaf maple	Acer macrophyllum	3x20	24	F	stems are mostly one-sided to east	-	Retain
20734	Dec	Scouler's willow	Salix scouleriana	14	12	F	Inaccessible	No	Retain
20735	Dec	bigleaf maple	Acer macrophyllum	10		F	Inaccessible	No	Retain
20741	Dec	Scouler's willow	Salix scouleriana	14	10	F	Inaccessible	No	Remove
20744	Dec	bigleaf maple	Acer macrophyllum	7	12	F	Poor structure	No	Remove
							History of branch failure, crown decay, trunk		
20745	Dec	Scouler's willow	Salix scouleriana	16	8	Р	decay with hollow	No	Remove
20747	Dec	bigleaf maple	Acer macrophyllum	8	16	F	Poor structure	No	Remove
20748	Dec	English holly	Ilex aquifolium	8	8	F	Invasive species	No	Remove
20749		bigleaf maple	Acer macrophyllum	8	8	F	Poor structure	No	Remove
20750	Con	Douglas-fir	Pseudotsuga menziesii	18	14	F	Codominant crown class, old broken top	No	Remove

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^C-Rad is the average crown radius measured in feet.

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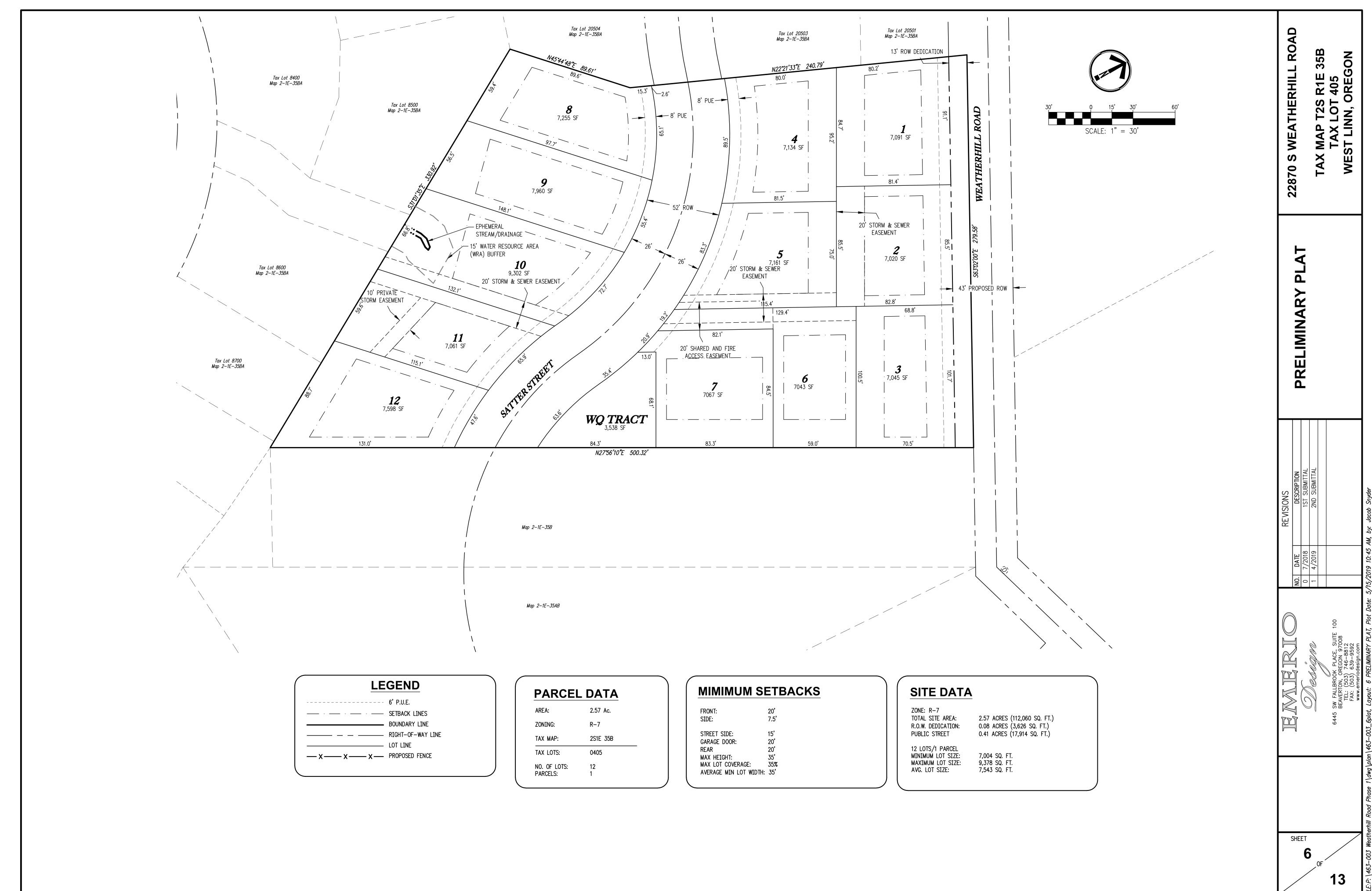
Dec					Cond			Treatment
	bigleaf maple	Acer macrophyllum	10	16	F	Poor structure	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	16	14	F	Codominant crown class, ivy	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	7	3	Р	Suppressed, mostly dead	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	18	14	G	Ivy up trunk, codominant crown class	Yes	Remove
Con	Douglas-fir	Pseudotsuga menziesii	12	10	F	Codominant crown class, some ivy	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	18	14	F	Pistolbutt, sweep in upper trunk	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	19	14	F	One-sided to south, sweep in upper trunk	No	Remove
						Codominant stems with seam, dead and broken		
Dec	Oregon white oak	Quercus garryana	16,20	12	F	branches, crown decay, upright crown	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	20	15	F	Old broken top, forked leaders, twig dieback	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	16	14	F	Codominant crown class	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	12	10	F	Codominant crown class, ivy up trunk	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	16	8	F	Codominant crown class, ivy up trunk	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	10	6	Р	Suppressed, extensive ivy	No	Remove
Dec	bigleaf maple	Acer macrophyllum	8	16	F	Very poor structure	No	Remove
Dec	bigleaf maple	Acer macrophyllum	2x6	10	F	Very poor structure	No	Remove
Dec	bigleaf maple	Acer macrophyllum	10	10	F	Very poor structure	No	Remove
Dec	bigleaf maple	Acer macrophyllum	8	10	F	Very poor structure	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	47	26	G	Forked leaders	Yes	Retain
Con	Douglas-fir	Pseudotsuga menziesii	36	28	G	Limited assessment	Yes	Retain
Con	Scouler's willow	Salix scouleriana	14	8	Р	Multiple leader failures, vigorous sprouting	No	Remove
Dec	bigleaf maple	Acer macrophyllum	9	16	F	Poor structure	No	Retain
Dec	bigleaf maple	Acer macrophyllum	2x6	10	Р	Very poor structure	No	Remove
Dec	bigleaf maple	Acer macrophyllum	8	12	F	Poor structure	No	Remove
Dec	bigleaf maple	Acer macrophyllum	7	14	F	Poor structure	No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	23	18	G	Limited assessment	Yes	Retain
Dec	bigleaf maple	Acer macrophyllum	16	18	G		No	Remove
Con	Douglas-fir	Pseudotsuga menziesii	8	6	P	Suppressed, growing into 20806	No	Remove
Dec	bigleaf maple	Acer macrophyllum	15	16	Р		No	Remove
		, ,				<u> </u>		Remove with
								adjacent owner's
Dec	bigleaf maple	Acer macrophyllum	8	14	Р	adjacent hazard tree 20806	No	consent
-	<u> </u>	1,7					T	
Dec	madrone	Arbutus menziesii	15	18	Р	Crown difficult to assess but advanced basal decay	No	Remove
		Salix scouleriana	18	12	F	1	No	Retain
					F		No	Retain
					G		No	Remove
						, , , , ,	_	Remove
Dec							No	Remove
		· · ·		$\overline{}$			 	Remove
							_	Remove
	'					Low vigor, dieback	_	Remove
	J. Sport Willie Ouk	and garryana	,,,,,1				1	
Con	Douglas-fir	Pseudotsuga menziesii	32	24	G		Vec	Remove
	Con	Con Douglas-fir Dec bigleaf maple Dec bigleaf maple Dec bigleaf maple Con Douglas-fir Con Scouler's willow Dec bigleaf maple Con Douglas-fir Dec bigleaf maple Dec bigleaf maple Con Douglas-fir Dec bigleaf maple Con Douglas-fir Dec bigleaf maple Dec Scouler's willow Dec Scouler's willow Dec Scouler's willow Dec Scouler's willow Con western redcedar Dec bigleaf maple Dec bigleaf maple Dec Digleaf maple Dec Douglas-fir	Con Douglas-fir	Con Douglas-fir Pseudotsuga menziesii 12 Con Douglas-fir Pseudotsuga menziesii 18 Con Douglas-fir Pseudotsuga menziesii 19 Dec Oregon white oak Quercus garryana 16,20 Con Douglas-fir Pseudotsuga menziesii 20 Con Douglas-fir Pseudotsuga menziesii 16 Con Douglas-fir Pseudotsuga menziesii 12 Con Douglas-fir Pseudotsuga menziesii 10 Con Douglas-fir Pseudotsuga menziesii 10 Dec bigleaf maple Acer macrophyllum 2x6 Dec bigleaf maple Acer macrophyllum 8 Dec bigleaf maple Acer macrophyllum 8 Con Douglas-fir Pseudotsuga menziesii 47 Con Douglas-fir Pseudotsuga 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Douglas-fir Pseudotsuga menziesii 20 15 F Oold broken top, forked leaders, twig dieback Con Douglas-fir Pseudotsuga menziesii 16 14 F Codominant crown class, ivy up trunk Con Douglas-fir Pseudotsuga menziesii 16 B F Codominant crown class, ivy up trunk Con Douglas-fir Pseudotsuga menziesii 16 B F Codominant crown class, ivy up trunk Con Douglas-fir Pseudotsuga menziesii 16 B F Codominant crown class, ivy up trunk Con Douglas-fir Pseudotsuga menziesii 16 B F Codominant crown class, ivy up trunk Con Douglas-fir Pseudotsuga menziesii 10 F P Suppressed, extensive ivy Con Douglas-fir Pseudotsuga menziesii 10 F P Very poor structure Con Douglas-fir Pseudotsuga menziesii 10 F Very poor structure Cobec bigleaf maple Acer macrophyllum 2x6 10 F Very poor structure Cobec bigleaf maple Acer macrophyllum 10 10 F Very poor structure Con Douglas-fir Pseudotsuga menziesii 47 26 G Forked leaders Con Douglas-fir Pseudotsuga menziesii 36 B F P Multiple leader failures, vigorous sprouting Con Douglas-fir Pseudotsuga menziesii 36 F P Nor structure Con Couglas-fir Pseudotsuga menziesii 36 F P Multiple leader failures, vigorous sprouting Con Couglas-fir Pseudotsuga menziesii 36 F P Multiple leader failures, vigorous sprouting Con Couglas-fir Pseudotsuga menziesii 36 F P Nor structure Con Couglas-fir Pseudotsuga menziesii 37 F Poor structure Con Couglas-fir Pseudotsuga menziesii 38 F P Nultiple leader failures, vigorous sprouting Con Couglas-fir Pseudotsuga menziesii 38 F P Nultiple leader failures, vigorous sprouting Con Couglas-fir Pseudotsuga menziesii 39 F Poor structure Con Douglas-fir Pseudotsuga menziesii 48 F P Nultiple leader failures, vigorous sprouting Con Couglas-fir Pseudotsuga menziesii 51 F Poor structure Con Douglas-fir Pseudotsuga menziesii 51 F Poor structure Con Couglas-f	Con Douglas-fir Pseudotsuga menziesii 12 10 F Codominant crown class, some Ivy No Douglas-fir Pseudotsuga menziesii 18 14 F Pistolibutt, sweep in upper trunk No No Douglas-fir Pseudotsuga menziesii 19 14 F One-sided to south, sweep in upper trunk No No Douglas-fir Pseudotsuga menziesii 16 14 F Codominant stems with seam, dead and broken Douglas-fir Pseudotsuga menziesii 20 15 F Oid broken top, forked leaders, twig dieback No Douglas-fir Pseudotsuga menziesii 16 14 F Codominant crown class, ly up trunk No Douglas-fir Pseudotsuga menziesii 16 No F Codominant crown class, ly up trunk No Douglas-fir Pseudotsuga menziesii 16 No Pseudotsuga menziesii 16 No No Douglas-fir Pseudotsuga menziesii 16 No No Douglas-fir Pseudotsuga menziesii 16 No No Douglas-fir Pseudotsuga menziesii 16 No No No Douglas-fir Pseudotsuga menziesii 10 No

"Cond is an arborist assigned rating to generally describe the condition of individual trees as follows- <u>Dead; Poor; Fair; Good; or Excellent condition.</u> Sig? asks whether or not individual trees are considered potentially significant, either Yes (likely significant) or No (not considered significant).

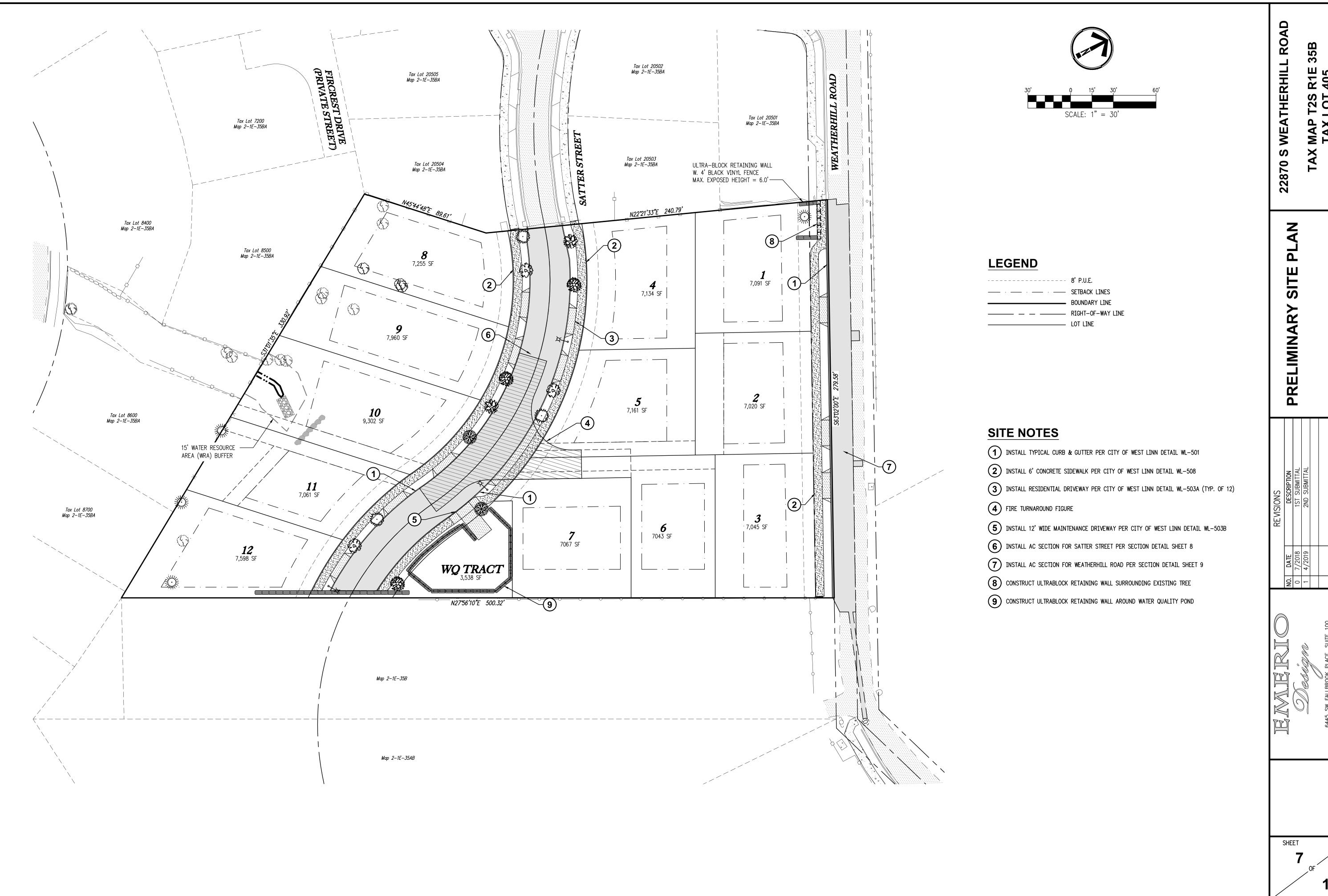
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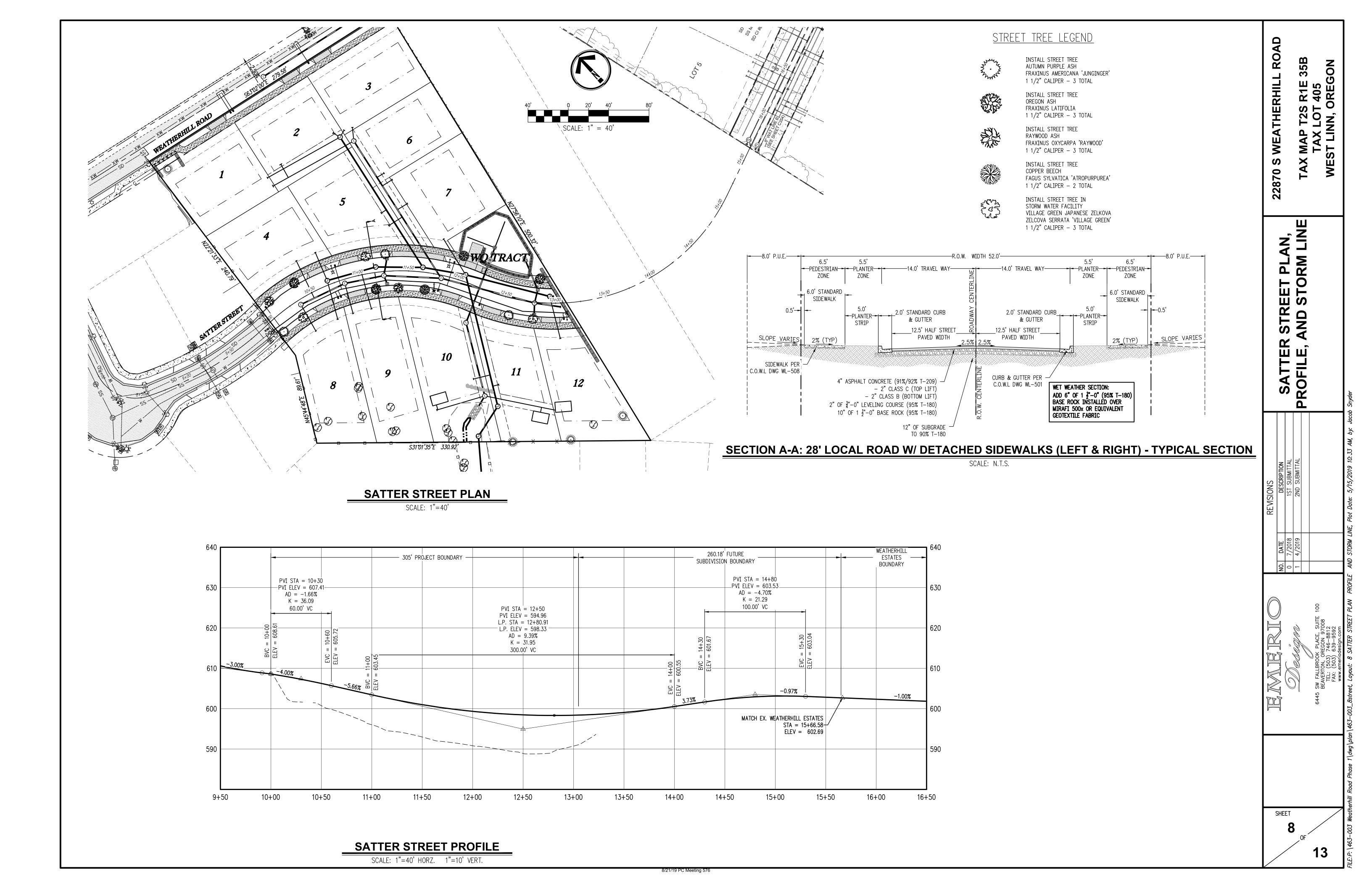
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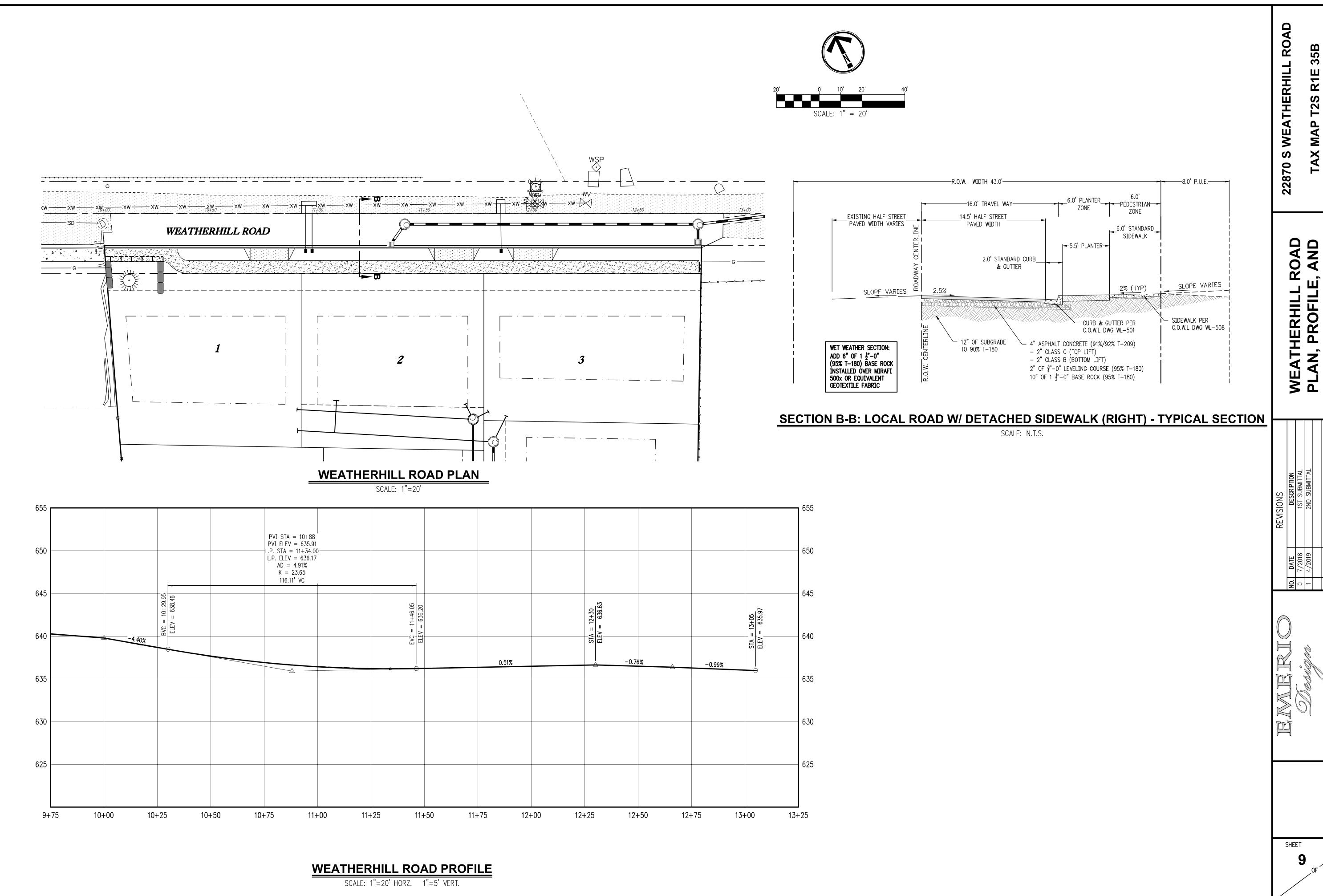


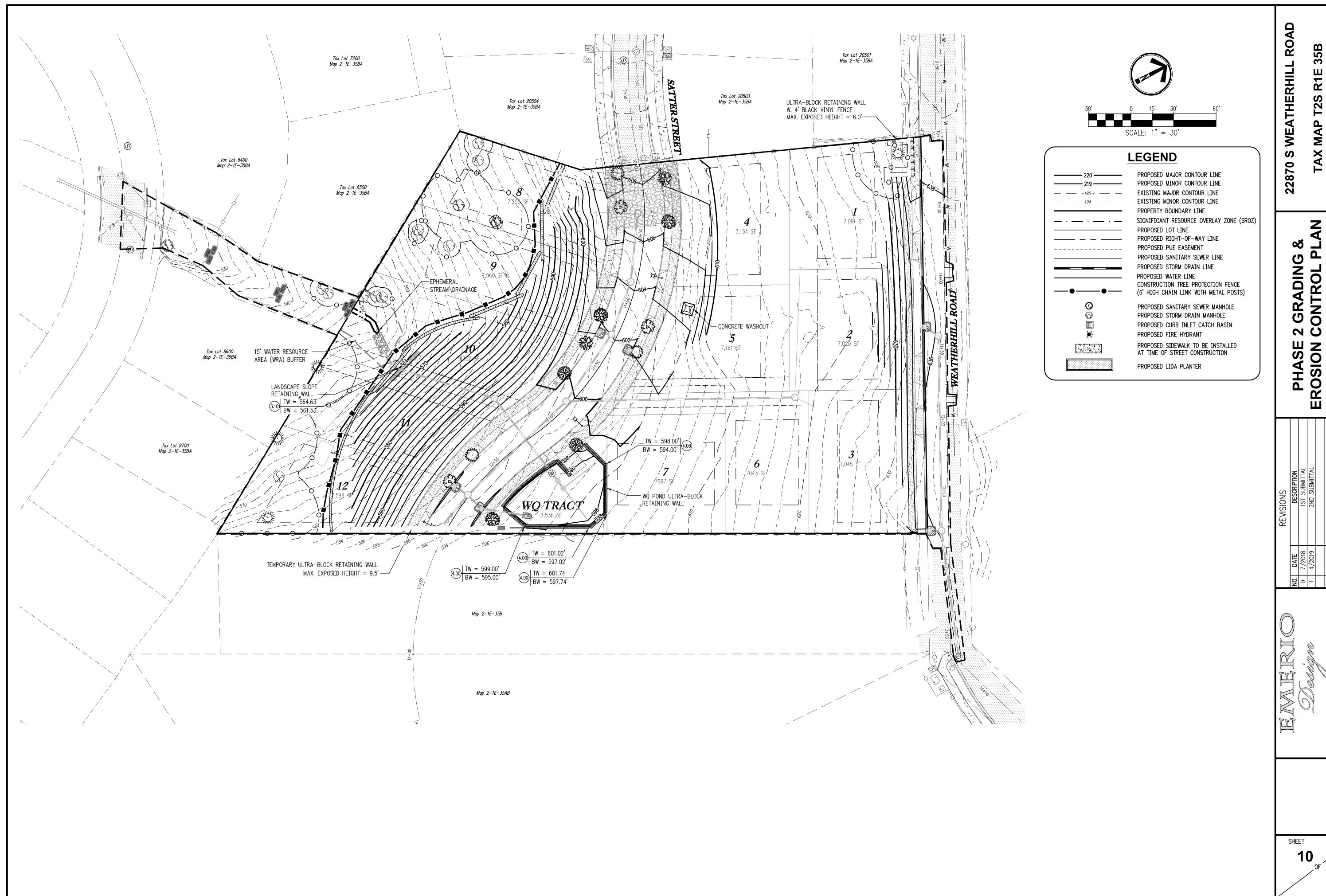


8/21/19 PC Meeting 574





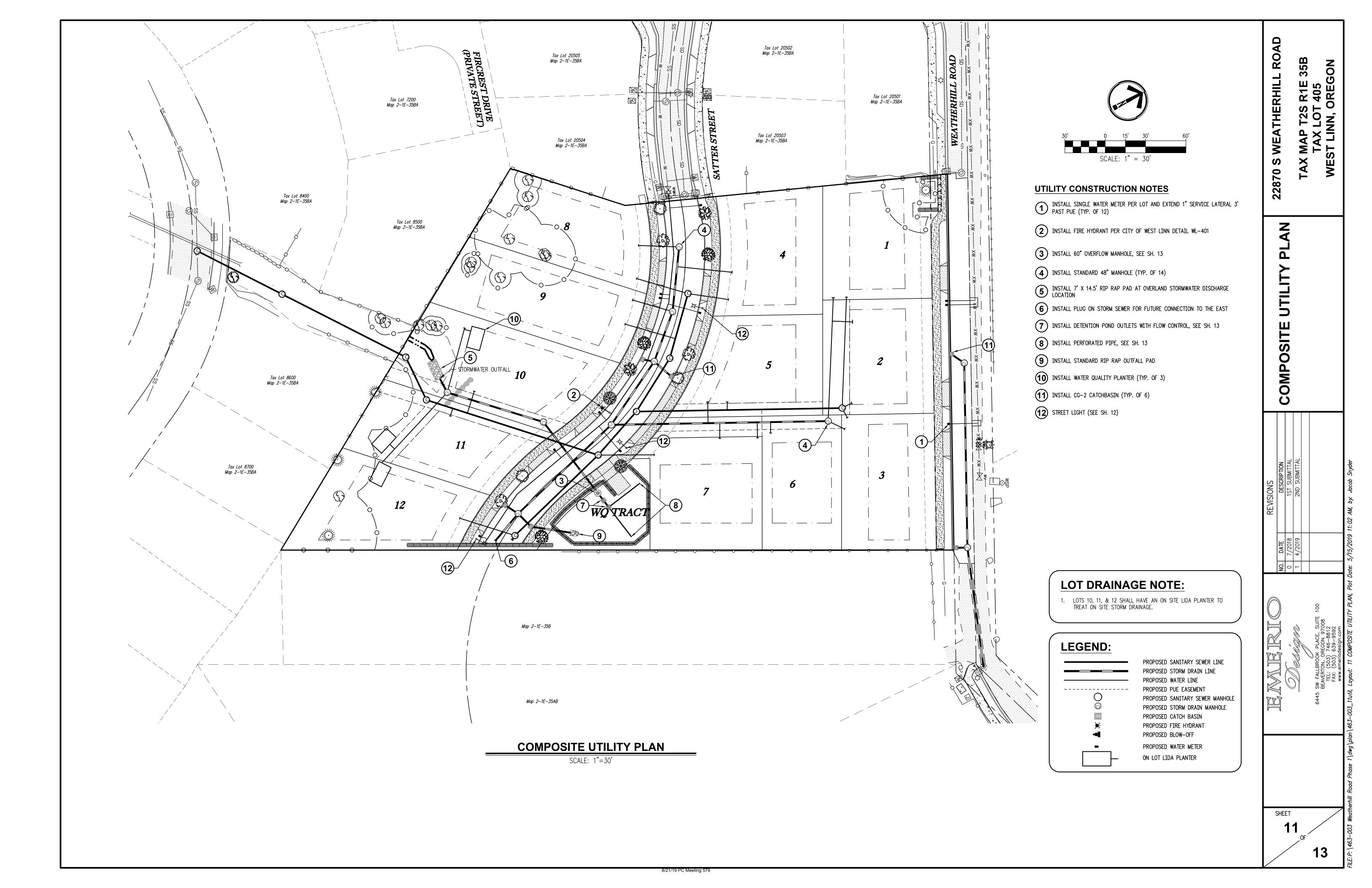


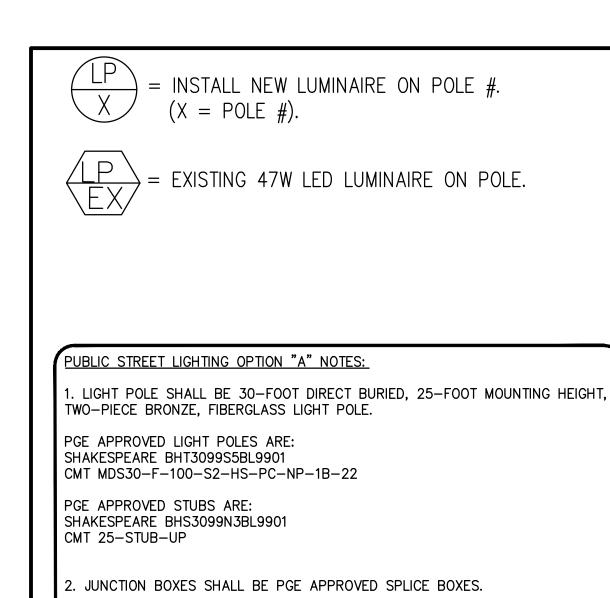


S R1E 35B OT 405 , OREGON 35B

GRADING CONTROL P 0 7

13





PGE APPROVED JUNCTION BOXES ARE:

PGE APPROVED SHOEBOX LUMINAIRES ARE:

PGE APPROVED PHOTOELECTRIC CONTROLS ARE:

"ELECTRIC" OR "POWER" SHALL BE IN THE LID MARKING AREA.

47W CREE STR-LWY-2M-HT-02-E-UL-BZ-700-40K-R-UTL

FOR 240-VOLT APPLICATIONS, THE PGE WIRING CONFIGURATION IS:

LIGHT POLES AND STREET LIGHTS TO BE INSTALLED BY P.G.E.

NEWBASIS FCA132418T-00043

ARMORCAST A6001946TAX18-PGE

QUAZITE A4213418A017

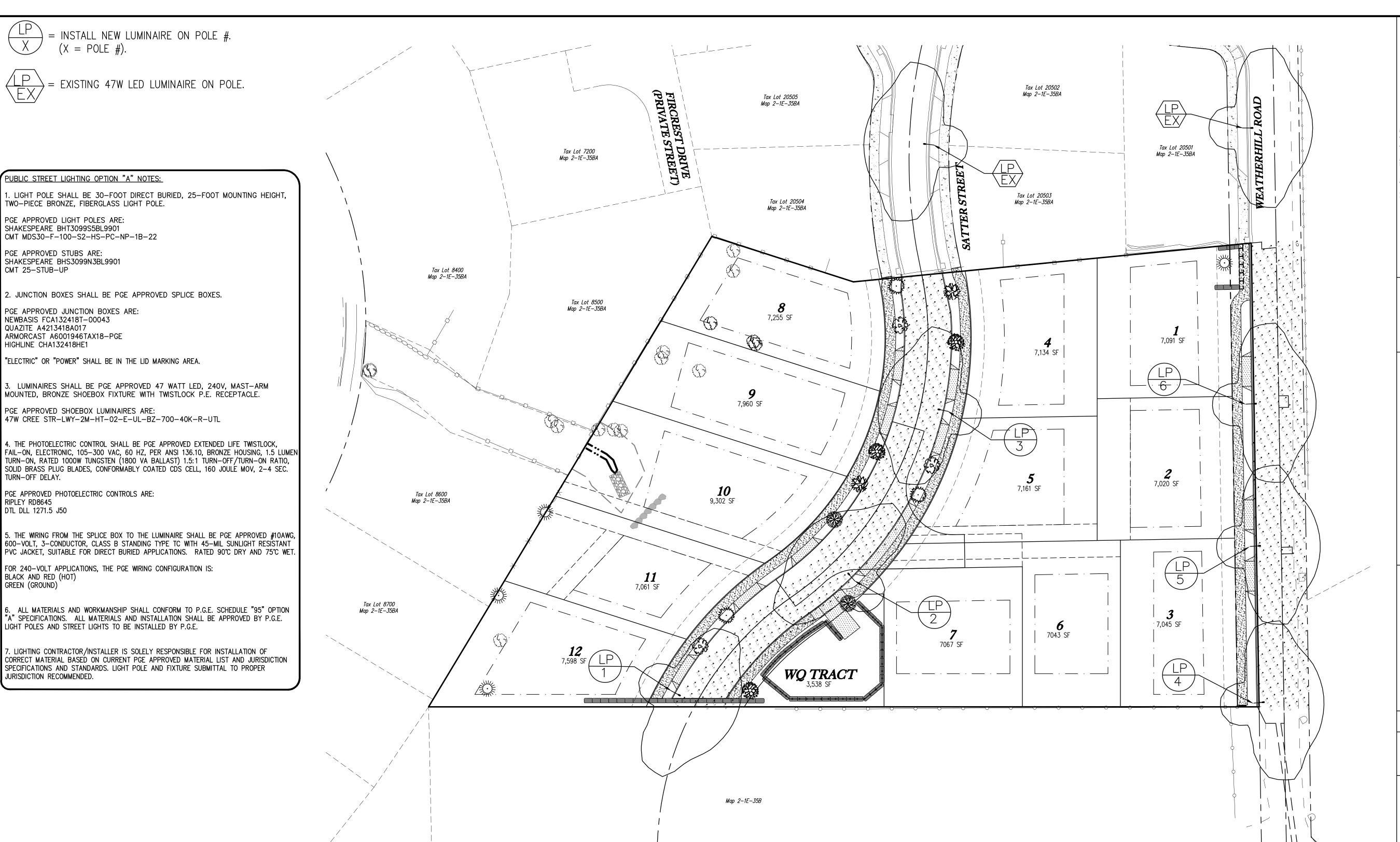
HIGHLINE CHA132418HE1

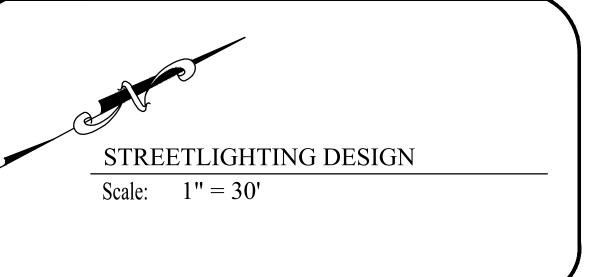
TURN-OFF DELAY.

RIPLEY RD8645 DTL DLL 1271.5 J50

BLACK AND RED (HOT) GREEN (GROUND)

JURISDICTION RECOMMENDED.





NUMERIC SUMMARY									
PROJECT: WEATHERHILL									
LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN			
SATTER STREET	ILLUMINANCE	FC	0.47	0.90	0.10	4.70			
SW WEATHERHILL ROAD	ILLUMINANCE	FC	0.58	0.90	0.10	5.80			

DWG. NO 13

3

THERHIL

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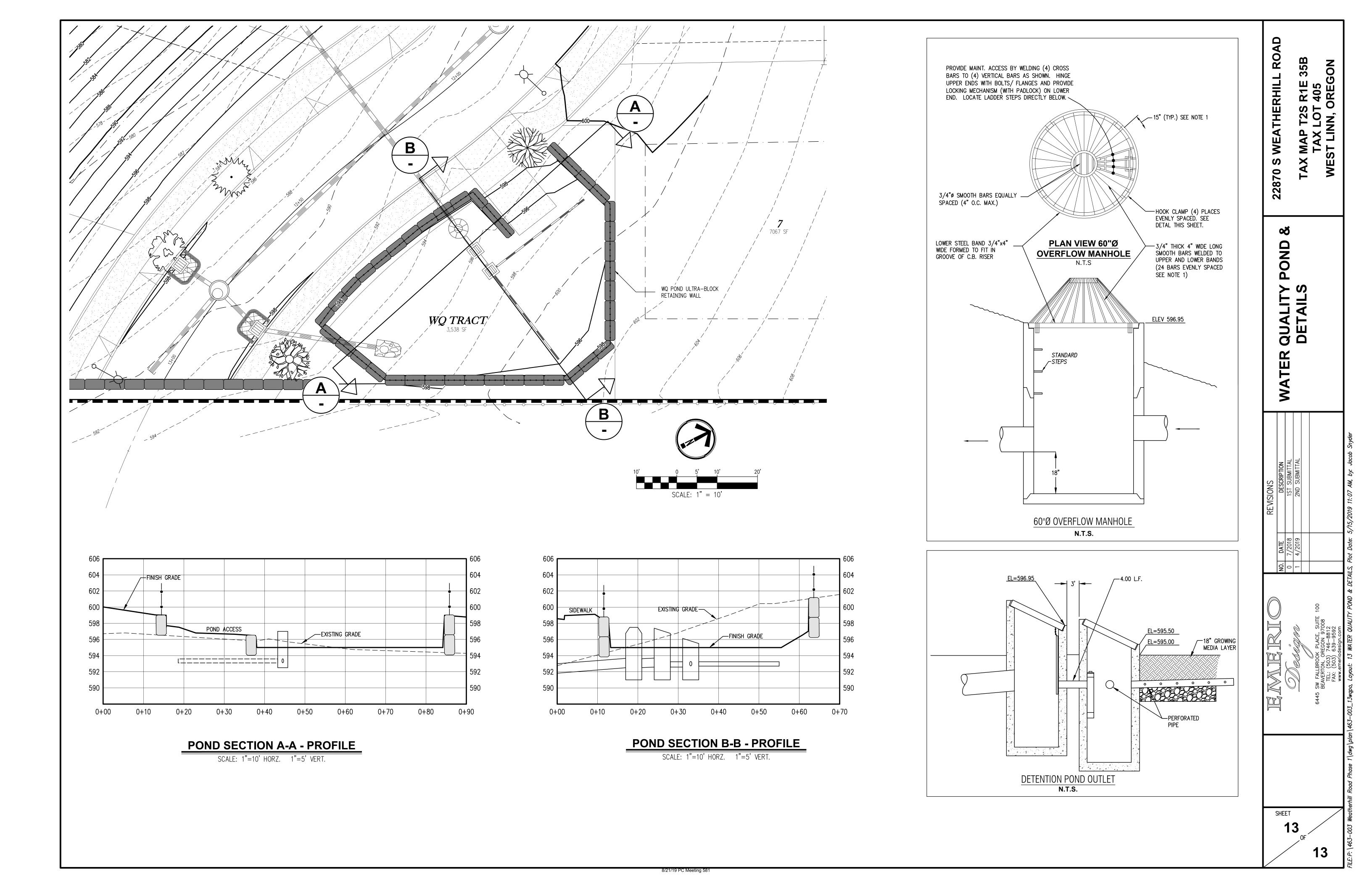
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LIGHTING

THERHII

S R1E)T 405 , OREG





CIVIL ENGINEERS & PLANNERS

Stormwater Management Report Weatherhill Road Subdivision 12-Lot Subdivision at 22870 Weatherhill Road West Linn, Oregon

Emerio Project Number: 463-003

City of West Linn Permit Numbers: SUB-18-04

Date: 12/19/2018

Rev. 1: 02/07/2019 Rev. 2: 05/16/2019



Prepared For: Rod Friesen & Bob Schultz 22870 Weatherhill, LLC 12810 SW Morningstar Dr. Tigard, OR 97223 rod.friesen@frontier.com duke.pdx@gmail.com Prepared By: Eric Evans, PE Emerio Design, LLC 6445 SW Fallbrook PI, Suite 100 Beaverton, Oregon 97008 eric@emeriodesign.com (503) 746-8812

Table of Contents:

APPENDIX A

(1) Vicinity Map

APPENDIX B

(1) Soils Maps-"Soils Survey for Clackamas County"

APPENDIX C

- (1) Basin Area Tabulated Data
- (2) HydroCAD Output Water Quality Volume
- (3) HydroCAD Output Detention Storm Events
- (4) HydroCAD Output Conveyance Flow

APPENDIX D

- (1) Pre-Developed Site Map
- (2) Post-Developed Site Map
- (3) WES Detail SWM FC-6.0

Project Overview and Description:

Size and location of project site (vicinity map): The current site is located in the south part of West Linn on the south side of Weatherhill Road, approximately 120 feet east of the intersection of Satter Street & Weatherhill Road. One large lot will be divided into 12 lots. The proposed site is 2.57 acres and will encompass roughly 45,105 SF of impervious onsite improvements and 6,560 SF offsite impervious improvement. Reference the vicinity map provided in Appendix A(1).

Property Zoning: The property is zoned R7 (Residential 7,000 SF lots).

Type of Development/Proposed Improvements: The proposed development will consist of a public street, a tract for stormwater, and new homes and driveways will be constructed on each lot.

Existing vs. post-construction conditions: The current (existing) site condition consists of an under-developed forested lot with one house, attached garage, and associated driveway.

Watershed Description: The site drainage area presently sheet flows south toward adjacent lots and into Crestview Drive. There is an existing ephemeral stream/drainage at the south line of the site along the middle of the property line where onsite flows collect and flow south through an existing easement to a culvert routing under Crestview Drive. In the post-developed condition, the site impervious flows will be treated onsite and discharged at the existing ephemeral stream location. Drainage basin areas are shown in Appendix D(2).

Soil Classification:

The NRCS soil survey of Clackamas County, Oregon classifies the onsite soils as Cascade-urban land complex soil. The associated hydrologic group of this soil is C, see Appendix B(1). A curve number of 74 is used for pre-developed pervious surfaces and 98 and 86 are used for impervious and pervious surfaces.

Methodology:

To satisfy stormwater requirements, a combination of on-lot planter boxes and a water quality/quantity pond will be used. Placing a pond at the south portion of the site was not feasible due to slope requirements for a maintenance access road to a pond. A pond will be placed at the east side of the site adjacent to Satter Street, uphill of lots 10 to 12.

Table 1	Basin	Water Quality	Detention	Basin Routing
A	Satter Street	Growing Media Layer of	Volume in Pond	Pond to Site
	Lots 1 through 9	Pond		Discharge
В	Lots 10 – 12	Growing Media Layer of	Storage of Flow-	Planter to Site
	1013 10 - 12	Flow-Through Planters	Through Planters	Discharge

Refer to overall methodology description here and the routing description in Table 1: **(A.)** A pond to provide water quality for the proposed right-of-way (ROW) and lots 1 through 9, and **(B.)** On-lot LIDA flow-through planter boxes on lots 10 through 12 for water quality. Detention for the site will be provided by a combination of the detention effects of the LIDA planters, and the storage volume of the proposed onsite pond.

The proposed grading will retain the general existing drainage pattern for pervious areas of the site. Three private on-lot planters and the onsite pond will all be routed to the same site discharge location at the existing southwest ephemeral stream drainage.

Water Quality:

Water quality/quantity pond:

The proposed pond is based on the standard City of Portland detention pond and the Water Environment Services (WES) standard detail SWM FC-6.0 (see Appendix D(3)). Stormwater runoff will enter the pond, slowly filter down through an 18" layer of amended soil before reaching a perf pipe within a 12" section of drain rock to be routed to the orifice control structure for the pond. The peak water surface elevation during the water quality storm for the pond is below the first ditch inlet; therefore, the volume of runoff during the water quality design storm will be fully treated (Appendix C(2)).

City of Portland LIDA flow-through planter boxes:

Stormwater runoff will enter the planter boxes by from roof drain systems. The planter boxes are open bottomed allowing infiltration to native soil; however, for the purposes of analysis, this infiltration amount into low-infiltration rate soils is omitted. A 6" standpipe overflow is set with the rim 12" above the planter surface to allow higher detention storm events to be conveyed directly to the planter underdrain/outlet pipe. As shown in the HydroCAD output, the peak water surface elevation during the water quality storm for the planters is below the overflow/bypass orifice; therefore, the volume of runoff during the water quality design storm will be fully treated.

Quantity Control/Detention:

As required by the City of West Linn, detention will be provided for the 2, 5, 10, and 25-year design storms. A combined detention effect is accomplished by the pond and planter boxes. The full volume of runoff during the water quality storm over the design treatment area will be allowed to infiltrate through a topsoil/growing media layer before collecting in a perforated pipe within the drain rock section. The pond volumes are shown in Table 2:

Table	Table 2: Extended Wet Pond Storage								
Elevation (ft)	Area (SF)	Cumulative Detention Storage (CF)							
594.00	1,689	0							
594.50	1,795	873							
595.00	1,901	1,795							
595.50	2,007	2,772							
596.00	2,113	3,806							

Table 3: Total Site Detention Peak Flow Rates						
Return Period	Pre-Developed Site Discharge (CFS)	Post-Developed Site Discharge (CFS)				
2-Year	0.15	0.15				
5-Year	0.27	0.23				
10-Year	0.37	0.34				
25-Year	0.52	0.52				

The outflow rate of the pond is controlled for the 2-year through 25-year design storm events via two orifices in a flow control structure: a 1.6" diameter orifice set at an elevation of 590.32' and a 4.0" orifice set at an elevation of 596.30'. Both orifices are set in an orifice plate between two ditch inlets per City of West Linn standard drawing number WL-610 and 611. The first ditch inlet is set at the peak water surface elevation of the water quality design storm. The second ditch inlet is set at 596.95' in the event of flows greater than the

25-year design storm. The pond will have a minimum of 1 foot of freeboard above the 25-year peak water surface elevation. In the event of flows during the 100-year storm event and/or failure of the flow control and secondary ditch inlet structures, an emergency overflow manhole with a metal cage trash rack set at the 25-year peak water surface elevation will allow for conveyance of the pond. See conveyance section this page.

Planter boxes for the three lots downstream of the pond will be sized using SBUH storm modeling with the HydroCAD V.10 program allowing for some detention effects by storing up to 12 inches of water as described under the Water Quality section of this report.

As shown in the Table 3, the cumulative effects of the on-lot flow-through planters and the water quality/quantity pond limit the post developed peak flow rates to the pre-developed peak flow rates for corresponding storm events.

Weatherhill Road Frontage:

Note that impervious area added to the frontage of Weatherhill road will not be treated or detained onsite by this project due to grading constraints. The project at 23190 Bland Circle will factor in the Weatherhill frontage basin in stormwater analysis of the regional stormwater facility at the corner of Bland Circle & Salamo Road.

Stormwater Conveyance:

Onsite conveyance will be by means of 12" storm water pipe in Satter Street routing all the way to the discharge point in the existing utility easement south of this site. For conservatism, the total post-developed flow rate with no detention within proposed stormwater pipe was used to analyze the lowest potential pipe design slope at 0.5% during the conveyance design storm. See Appendix C(4) for HydroCAD flow rates developed during the 100-year 24-hr conveyance design storm event.

Analysis:

The following design assumptions were utilized in this design.

Design Storm: Water quality storm = **0.83"** in **24 hours**

2-year 24-hour storm = **2.5"** in **24** hours 5-year 24-hour storm = **3.0"** in **24** hours 10-year 24-hour storm = **3.4"** in **24** hours 25-year 24-hour storm = **3.9"** in **24** hours 100-year 24-hour storm = **4.5"** in **24** hours

Computation methods and software utilized in the design were from HydroCAD V-10.

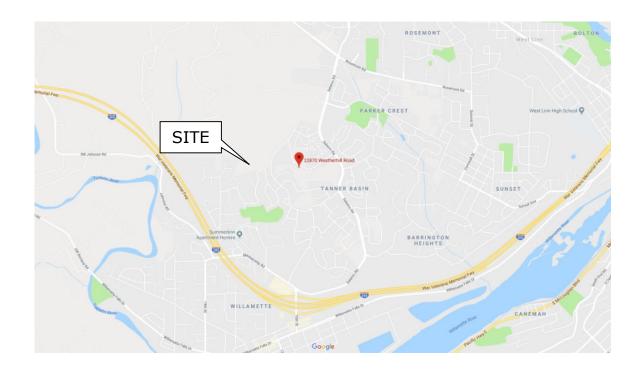
Curve numbers utilized in the design were 98 for impervious areas, 86 for pervious areas, and 74 for predeveloped pervious areas.

Engineering Conclusions:

The design of the proposed stormwater management facilities satisfies the pollution reduction, conveyance and detention standards required by the 2010 City of West Linn Public Works Design Standards.

Appendix A:

Appendix A(1) Vicinity Map



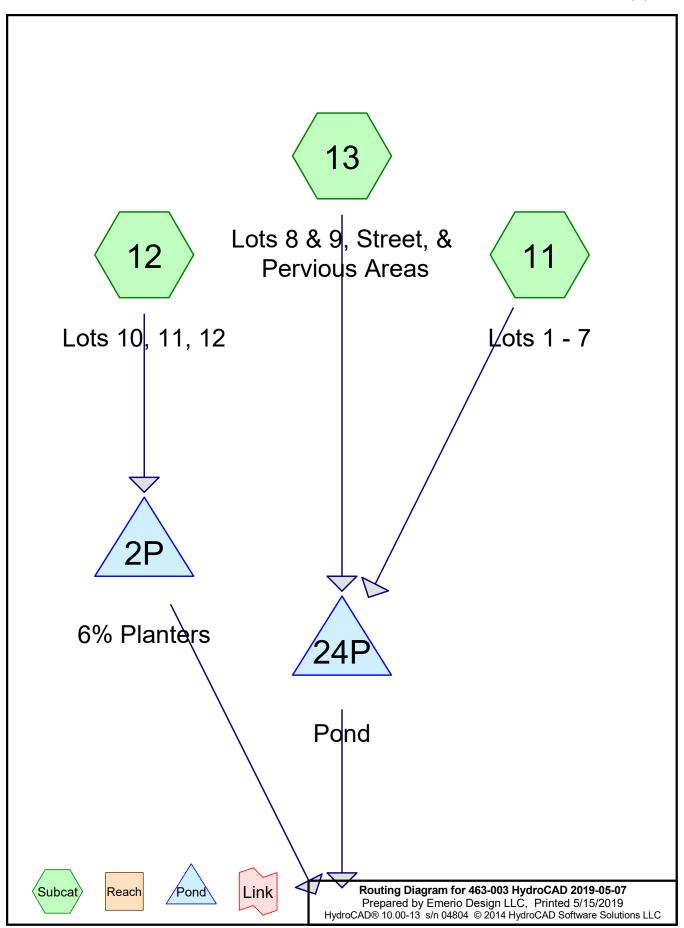
Appendix B:

Appendix B(1) Soil Classification



Appendix C:

Basin #	Name	Total Area SF	Total Area Acres	Qty of Lots	Lot Impervious SF	ROW/Tract Imp SF	Total Impervious SF	Total Pervious (Calc'd) SF
100	Pre-Developed Onsite	79,151	1.82	1	2,500	0	2,500	76,651
11	Lot 1 through 7	17,500	0.40	7	17,500		17,500	0
12	Lots 10, 11, & 12	7,500	0.17	3	7,500		7,500	0
13	Lots 8 & 9, Satter Street	54,151	1.24	2	5,000	15,444	20,444	33,707



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Page 2

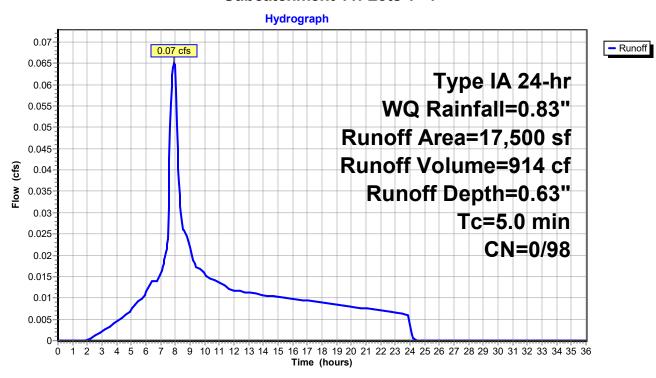
Summary for Subcatchment 11: Lots 1 - 7

Runoff = 0.07 cfs @ 7.93 hrs, Volume= 914 cf, Depth= 0.63"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr WQ Rainfall=0.83"

_	Α	rea (sf)	CN	Description			
*		17,500	98	_ots 1 - 7			
_		17,500	98	100.00% Impervious Area			
	Тс	Length	Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.0					Direct Entry,	

Subcatchment 11: Lots 1 - 7



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Page 3

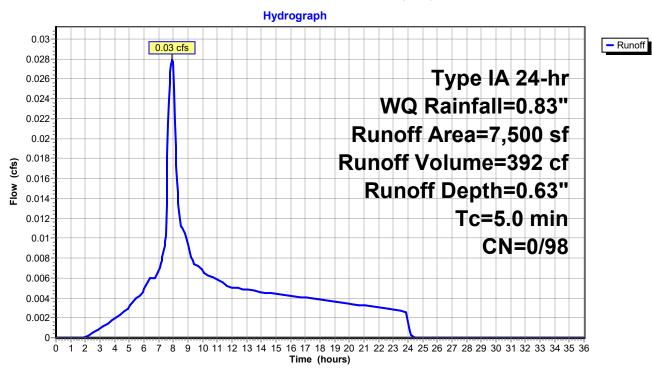
Summary for Subcatchment 12: Lots 10, 11, 12

Runoff = 0.03 cfs @ 7.93 hrs, Volume= 392 cf, Depth= 0.63"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr WQ Rainfall=0.83"

_	Α	rea (sf)	CN	Description			
*		7,500	98	3 lots			
_		7,500	98	100.00% Impervious Area			
		Length		,		Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.0					Direct Entry,	

Subcatchment 12: Lots 10, 11, 12



Page 4

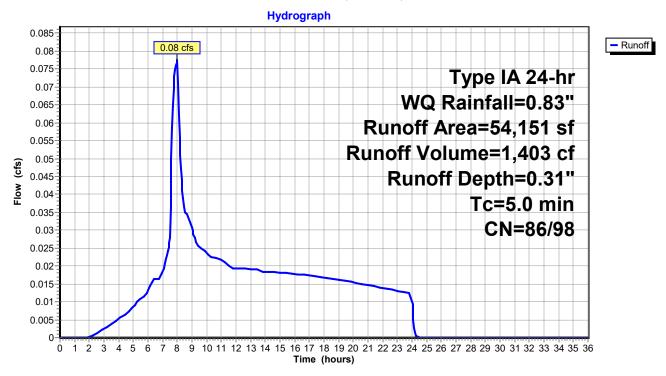
Summary for Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas

Runoff = 0.08 cfs @ 7.98 hrs, Volume= 1,403 cf, Depth= 0.31"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr WQ Rainfall=0.83"

	Area (sf)	CN	Description					
*	15,444	98	streets & cu	rb				
*	5,000	98	Lots 8 & 9					
	33,707	86	<50% Grass	cover, Po	Poor, HSG C			
	54,151	91	Weighted A	Weighted Average				
	33,707	86	62.25% Per	vious Area	a			
	20,444	98	37.75% Imp	ervious Ar	ırea			
(n	Tc Length	Slop (ft/f	,	Capacity (cfs)	·			
	5.0				Direct Entry,			

Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas



463-003 HydroCAD 2019-05-07

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Summary for Pond 2P: 6% Planters

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 0.63" for WQ event

Inflow 0.03 cfs @ 7.93 hrs. Volume= 392 cf

7.75 hrs, Volume= Outflow 0.02 cfs @ 392 cf, Atten= 25%, Lag= 0.0 min

Primary 0.02 cfs @ 7.75 hrs, Volume= 392 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 603.03' @ 8.12 hrs Surf.Area= 450 sf Storage= 13 cf

Plug-Flow detention time= 4.5 min calculated for 391 cf (100% of inflow)

Center-of-Mass det. time= 4.5 min (729.4 - 724.9)

Volume	Inve	ert Avail.Sto	rage Storage l	Description		
#1	603.0	0' 49	95 cf planters	(Prismatic) Listed	l below (Recalc)	x 3
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
603.0	00	150	0	0		
604.1	10	150	165	165		
Device	Routing	Invert	Outlet Devices	3		
#1	Primary	600.50'	6.0" Round C	Sulvert X 3.00		
	·		L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 600.50' / 600.45' S= 0.0050 '/' Cc= 0.90 n= 0.013, Flow Area= 0.20 sf			
#2	Device 1	603.00'	2.000 in/hr Ex	filtration over Sui	rface area	
#3	Device 1	604.00'		ifice/Grate X 3.00 flow at low heads		

Primary OutFlow Max=0.02 cfs @ 7.75 hrs HW=603.01' (Free Discharge)

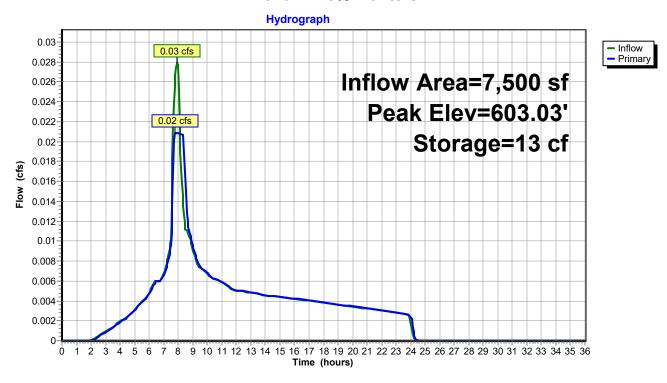
-1=Culvert (Passes 0.02 cfs of 4.27 cfs potential flow)

2=Exfiltration (Exfiltration Controls 0.02 cfs)

-3=Orifice/Grate (Controls 0.00 cfs)

Page 6

Pond 2P: 6% Planters



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Page 7

Summary for Pond 24P: Pond

Inflow Area =	71,651 sf,	52.96% Impervious,	Inflow Depth = 0.39" for	WQ event
Inflow =	0.14 cfs @	7.95 hrs, Volume=	2,318 cf	
Outflow =	0.09 cfs @	8.20 hrs, Volume=	2,318 cf, Atten= 35	5%, Lag= 14.9 min
Primary =	0.09 cfs @	8.20 hrs, Volume=	2,318 cf	-
Secondary =	0.00 cfs @	0.00 hrs, Volume=	0 cf	
Tertiary =	0.00 cfs @	0.00 hrs, Volume=	0 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 595.06' @ 8.20 hrs Surf.Area= 1,984 sf Storage= 117 cf

Plug-Flow detention time= 11.7 min calculated for 2,315 cf (100% of inflow)

Center-of-Mass det. time= 11.7 min (772.3 - 760.5)

Volume	Invert	Avail.Stor	age Storage	e Description	
#1	595.00'	6,88	1 cf Custom	n Stage Data (Prismatic) Listed below (Recalc)	
	_				
Elevation		rf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
595.0	00	1,968	0	0	
596.0	00	2,230	2,099	2,099	
597.0	00	2,410	2,320	4,419	
598.0	00	2,513	2,462	6,881	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	592.50'	15.0" Round	d Culvert	
	•		L= 20.0' RC	CP, square edge headwall, Ke= 0.500	
			Inlet / Outlet I	Invert= 592.50' / 592.40' S= 0.0050 '/' Cc= 0.900	
			n= 0.013, Flo	ow Area= 1.23 sf	
#2	Device 1	590.32'	1.6" Vert. Lo	w Orifice C= 0.600	
#3	Device 2	595.00'	2.000 in/hr E	xfiltration over Surface area	
#4	Device 2	595.79'	24.0" x 24.0"	'Horiz. Ditch Inlet #1 C= 0.600	
			Limited to we	eir flow at low heads	
#5	Device 1	596.30'	4.0" Vert. Hig	gh Orifice C= 0.600	
#6	Secondary	596.95'	24.0" x 24.0"	Horiz. Ditch Inlet #2 C= 0.600	
			Limited to we	eir flow at low heads	
#7	Tertiary	596.95'	48.0" Horiz. (Overflow Manhole C= 0.600	

Limited to weir flow at low heads

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Page 8

Primary OutFlow Max=0.09 cfs @ 8.20 hrs HW=595.06' (Free Discharge)

1=Culvert (Passes 0.09 cfs of 8.22 cfs potential flow)

2=Low Orifice (Passes 0.09 cfs of 0.11 cfs potential flow)

3=Exfiltration (Exfiltration Controls 0.09 cfs)

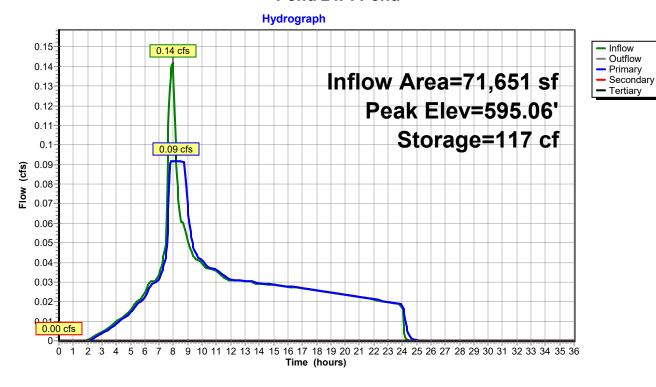
4=Ditch Inlet #1 (Controls 0.00 cfs)

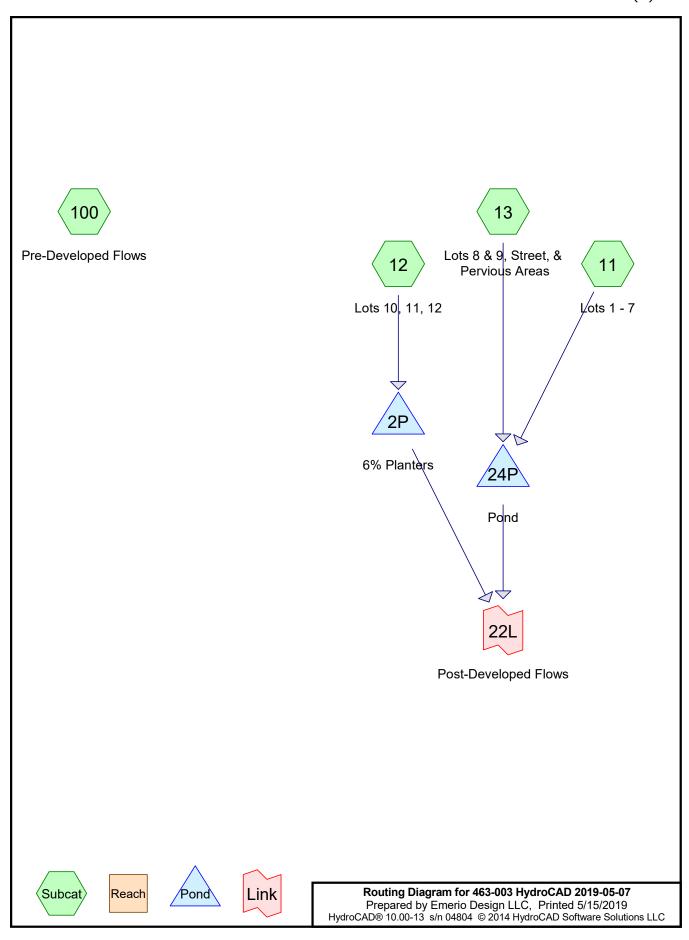
5=High Orifice (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge)
6=Ditch Inlet #2 (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge) 7=Overflow Manhole (Controls 0.00 cfs)

Pond 24P: Pond





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Page 2

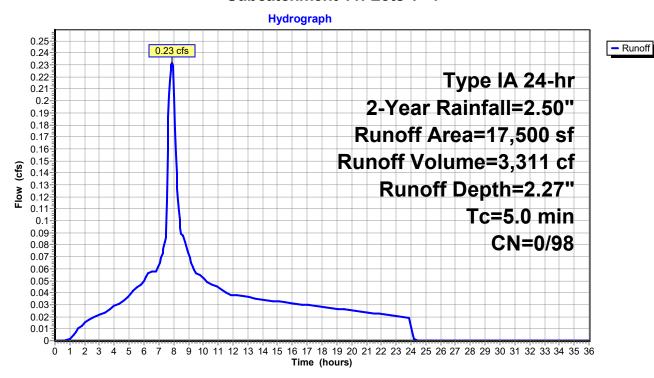
Summary for Subcatchment 11: Lots 1 - 7

Runoff = 0.23 cfs @ 7.90 hrs, Volume= 3,311 cf, Depth= 2.27"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 2-Year Rainfall=2.50"

	Α	rea (sf)	CN	Description		
*		17,500	98	Lots 1 - 7		
		17,500	98	100.00% Im	pervious A	Area
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry,

Subcatchment 11: Lots 1 - 7



Page 3

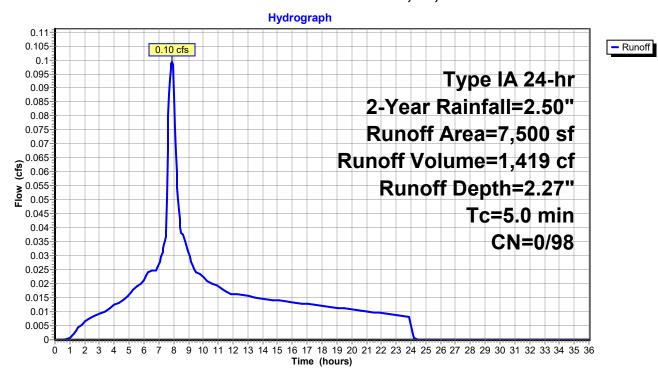
Summary for Subcatchment 12: Lots 10, 11, 12

Runoff = 0.10 cfs @ 7.90 hrs, Volume= 1,419 cf, Depth= 2.27"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 2-Year Rainfall=2.50"

_	Α	rea (sf)	CN	Description		
*		7,500	98	3 lots		
_		7,500 98 100.00% Impervious Area			Area	
		Length		,		Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry,

Subcatchment 12: Lots 10, 11, 12



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Page 4

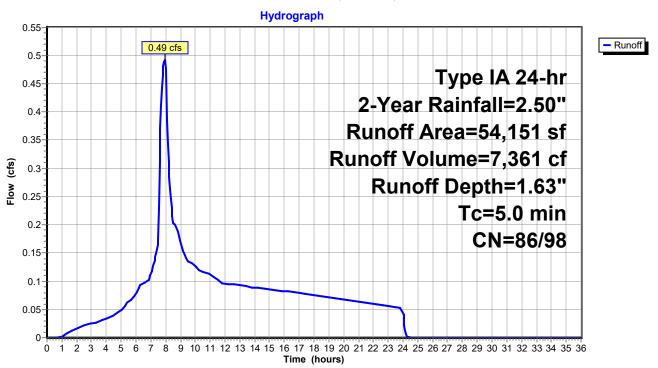
Summary for Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas

Runoff = 0.49 cfs @ 7.94 hrs, Volume= 7,361 cf, Depth= 1.63"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 2-Year Rainfall=2.50"

	Α	rea (sf)	CN	Description					
4	+	15,444	98	streets & curb					
4	ŧ.	5,000	98	Lots 8 & 9	Lots 8 & 9				
_		33,707	86	<50% Gras	<50% Grass cover, Poor, HSG C				
		54,151	91	Weighted Average					
		33,707	86	62.25% Pervious Area					
		20,444	98	37.75% Impervious Area					
	Tc	Length	Slop	,	Capacity	Description			
_	(min)	(feet)	(ft/f	ft) (ft/sec)	(cfs)				
	5.0					Direct Entry,			

Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas



Page 5

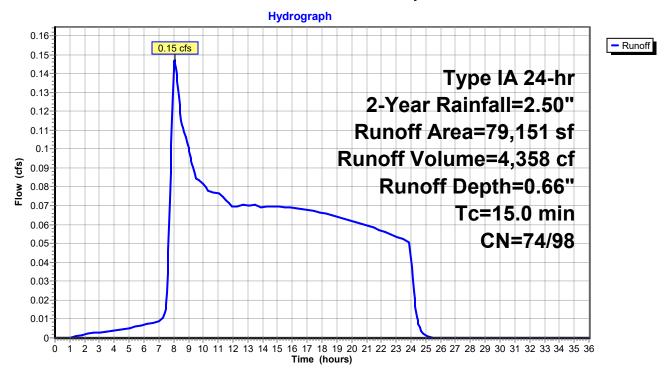
Summary for Subcatchment 100: Pre-Developed Flows

Runoff = 0.15 cfs @ 8.06 hrs, Volume= 4,358 cf, Depth= 0.66"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 2-Year Rainfall=2.50"

_	Area (sf)	CN	Description				
*	2,500	98	roofs				
_	76,651	74	>75% Grass	cover, Go	ood, HSG C		
	79,151	79,151 75 Weighted Average					
	76,651	74	96.84% Perv	ious Area	l		
	2,500	2,500 98 3.16% Impervious Area			a		
	Tc Length (min) (feet)	Slo _l (ft/	,	Capacity (cfs)	Description		
	15.0				Direct Entry,		

Subcatchment 100: Pre-Developed Flows



463-003 HydroCAD 2019-05-07

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Summary for Pond 2P: 6% Planters

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 2.27" for 2-Year event

Inflow 0.10 cfs @ 7.90 hrs. Volume= 1.419 cf

6.05 hrs, Volume= Outflow 0.02 cfs @ 1,419 cf, Atten= 79%, Lag= 0.0 min

Primary 0.02 cfs @ 6.05 hrs, Volume= 1,419 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 603.58' @ 10.26 hrs Surf.Area= 450 sf Storage= 263 cf

Plug-Flow detention time= 98.6 min calculated for 1,419 cf (100% of inflow)

Center-of-Mass det. time= 98.6 min (772.4 - 673.8)

Volume	Inve	rt Avail.Sto	rage Storage l	Description			
#1	603.0	0' 49	95 cf planters	(Prismatic) Listed	d below (Recalc)	x 3	
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)			
603.0	00	150	0	0			
604.1	10	150	165	165			
Device	Routing	Invert	Outlet Devices	3			
#1	Primary	600.50'	6.0" Round C	Sulvert X 3.00			
	·		Inlet / Outlet In	or, square edge hea Novert= 600.50' / 60 Nove Area= 0.20 sf	•		
#2	Device 1	603.00'	2.000 in/hr Ex	filtration over Sui	rface area		
#3	Device 1	604.00'		ifice/Grate X 3.00 flow at low heads			

Primary OutFlow Max=0.02 cfs @ 6.05 hrs HW=603.01' (Free Discharge)

-1=Culvert (Passes 0.02 cfs of 4.27 cfs potential flow)

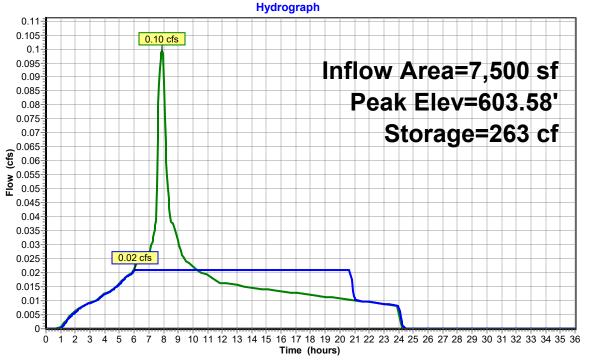
2=Exfiltration (Exfiltration Controls 0.02 cfs)

-3=Orifice/Grate (Controls 0.00 cfs)

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Pond 2P: 6% Planters





Page 7

Invert

Volume

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Page 8

Summary for Pond 24P: Pond

Inflow Area = 71,651 sf, 52.96% Impervious, Inflow Depth = 1.79" for 2-Year event Inflow 0.72 cfs @ 7.93 hrs, Volume= 10.673 cf 0.13 cfs @ 12.67 hrs, Volume= Outflow 10,673 cf, Atten= 82%, Lag= 284.4 min 0.13 cfs @ 12.67 hrs, Volume= Primary = 10,673 cf Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 596.28' @ 12.67 hrs Surf.Area= 2,281 sf Storage= 2,733 cf

Plug-Flow detention time= 244.6 min calculated for 10,673 cf (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 244.5 min (960.5 - 716.0)

VOIGITIO	IIIVOIT	7 (Vall.Otol	age eterage	Decomplion			
#1	595.00'	6,88	1 cf Custom	Stage Data (Prisn	natic) Listed below (Recalc)		
Elevation		rf.Area	Inc.Store	Cum.Store			
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)			
595.0	00	1,968	0	0			
596.0	00	2,230	2,099	2,099			
597.0	00	2,410	2,320	4,419			
598.0	00	2,513	2,462	6,881			
Device	Routing	Invert	Outlet Devices	S			
#1	Primary	592.50'	15.0" Round	Culvert			
					adwall, Ke= 0.500		
					2.40' S= 0.0050 '/' Cc= 0.900		
			n= 0.013, Flo	w Area= 1.23 sf			
#2	Device 1	590.32'	1.6" Vert. Low	v Orifice C= 0.60	00		
#3	Device 2	595.00'	2.000 in/hr Exfiltration over Surface area				
#4	Device 2	595.79'					
				r flow at low heads			
#5	Device 1	596.30'	•	h Orifice C= 0.6			
#6	Secondary	596.95'	-	Horiz. Ditch Inlet #			
				r flow at low heads			
#7 Tertiary		596.95'	48.0" Horiz. C	verflow Manhole	C= 0.600		

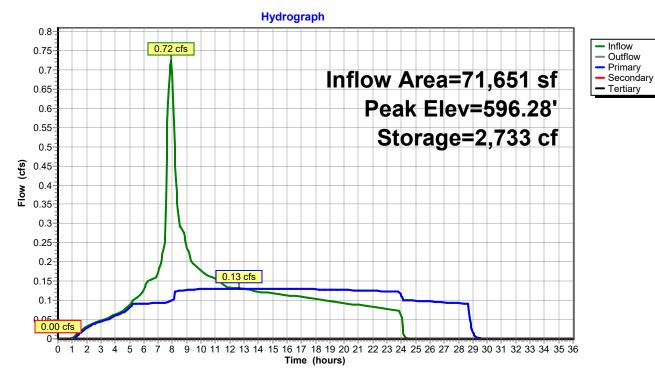
Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 12.67 hrs HW=596.28' (Free Discharge) **-1=Culvert** (Passes 0.13 cfs of 10.50 cfs potential flow) -2=Low Orifice (Orifice Controls 0.13 cfs @ 9.36 fps) -3=Exfiltration (Passes < 0.11 cfs potential flow) -4=Ditch Inlet #1 (Passes < 9.00 cfs potential flow) -5=High Orifice (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge) **6-Ditch Inlet #2** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge) 7=Overflow Manhole (Controls 0.00 cfs)

Pond 24P: Pond



Printed 5/15/2019 Page 10

Summary for Link 22L: Post-Developed Flows

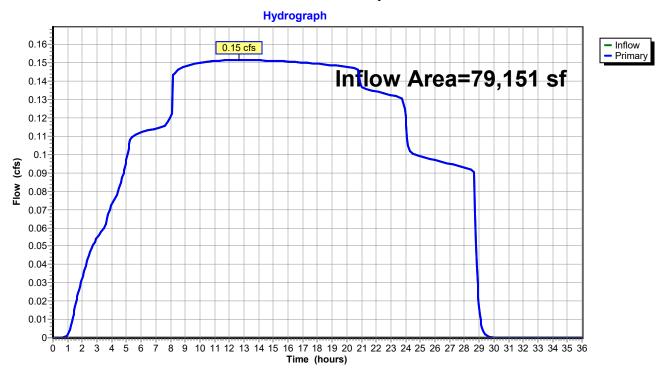
Inflow Area = 79,151 sf, 57.41% Impervious, Inflow Depth = 1.83" for 2-Year event

Inflow = 0.15 cfs @ 12.67 hrs, Volume= 12,092 cf

Primary = 0.15 cfs @ 12.67 hrs, Volume= 12,092 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 22L: Post-Developed Flows



Printed 5/15/2019 Page 11

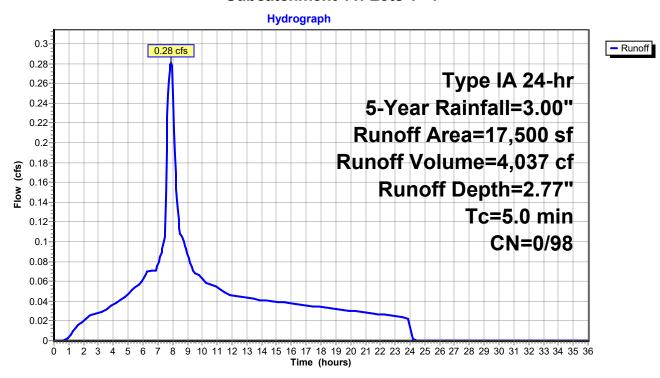
Summary for Subcatchment 11: Lots 1 - 7

Runoff = 0.28 cfs @ 7.90 hrs, Volume= 4,037 cf, Depth= 2.77"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 5-Year Rainfall=3.00"

	Α	rea (sf)	CN I	Description		
*		17,500	98	_ots 1 - 7		
		17,500	98	100.00% Im	npervious A	Area
	Тс	Length		•		Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry,

Subcatchment 11: Lots 1 - 7



Page 12

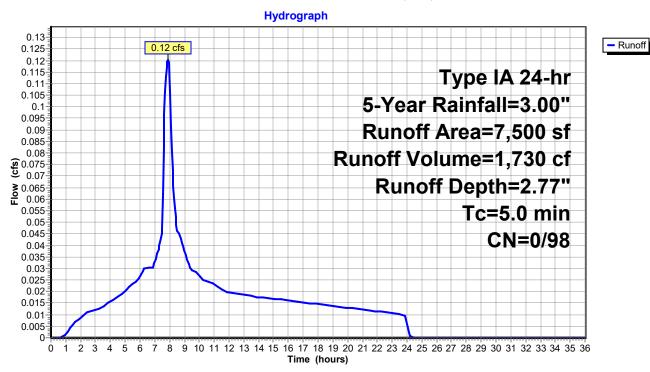
Summary for Subcatchment 12: Lots 10, 11, 12

Runoff = 0.12 cfs @ 7.90 hrs, Volume= 1,730 cf, Depth= 2.77"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 5-Year Rainfall=3.00"

	Area (sf)	CN [Description		
*	7,500	98 3	3 lots		
	7,500	98	100.00% Im	pervious A	Area
T (min	c Length) (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	, , ,	(10/10)	(11/360)	(013)	Direct Entry,

Subcatchment 12: Lots 10, 11, 12



Page 13

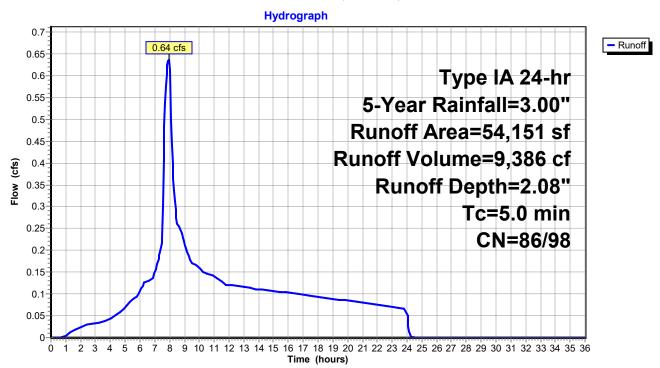
Summary for Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas

Runoff = 0.64 cfs @ 7.94 hrs, Volume= 9,386 cf, Depth= 2.08"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 5-Year Rainfall=3.00"

_	Α	rea (sf)	CN	Description					
*		15,444	98	streets & cu	ırb				
*		5,000	98	Lots 8 & 9					
_		33,707	86	<50% Gras	<50% Grass cover, Poor, HSG C				
		54,151	91	Weighted A	verage				
		33,707	86	62.25% Per	vious Area				
		20,444	98	37.75% Imp	ervious Ar	ea			
	Tc	Length	Slop	,	Capacity	Description			
_	(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)				
	5.0					Direct Entry,			

Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas



Page 14

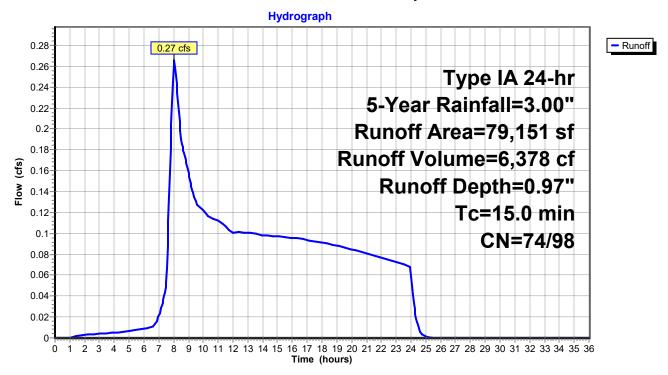
Summary for Subcatchment 100: Pre-Developed Flows

Runoff = 0.27 cfs @ 8.04 hrs, Volume= 6,378 cf, Depth= 0.97"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 5-Year Rainfall=3.00"

	Area (sf)	CN	Description				
*	2,500	98	roofs				
	76,651	74	>75% Grass	>75% Grass cover, Good, HSG C			
	79,151	75	Weighted A	verage			
	76,651	74	96.84% Per	vious Area	ì		
	2,500	98	3.16% Impe	rvious Are	ea		
	Tc Length (min) (feet)	Slo _l (ft/	,	Capacity (cfs)	Description		
	15.0				Direct Entry,		

Subcatchment 100: Pre-Developed Flows



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Page 15

Summary for Pond 2P: 6% Planters

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 2.77" for 5-Year event

Inflow 0.12 cfs @ 7.90 hrs. Volume= 1.730 cf

5.15 hrs, Volume= Outflow 0.02 cfs @ 1,730 cf, Atten= 83%, Lag= 0.0 min

Primary 0.02 cfs @ 5.15 hrs, Volume= 1,730 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 603.90' @ 11.54 hrs Surf.Area= 450 sf Storage= 405 cf

Plug-Flow detention time= 187.3 min calculated for 1,728 cf (100% of inflow)

Center-of-Mass det. time= 187.2 min (855.4 - 668.2)

Volume	Inve	rt Avail.Sto	rage Storage D	Description		
#1	603.00)' 49	95 cf planters	of planters (Prismatic) Listed below (Recalc) x 3		
Elevation (fee 603.0 604.7	et) 00	Surf.Area (sq-ft) 150 150	Inc.Store (cubic-feet) 0 165	Cum.Store (cubic-feet) 0 165		
Device	Routing	Invert	Outlet Devices			
#1	Primary	600.50'	Inlet / Outlet In	, square edge hea	adwall, Ke= 0.500 0.45' S= 0.0050 '/'	Cc= 0.900
#2 #3	Device 1 Device 1	603.00' 604.00'	6.0" Horiz. Ori	filtration over Suffice/Grate X 3.00 flow at low heads	C= 0.600	

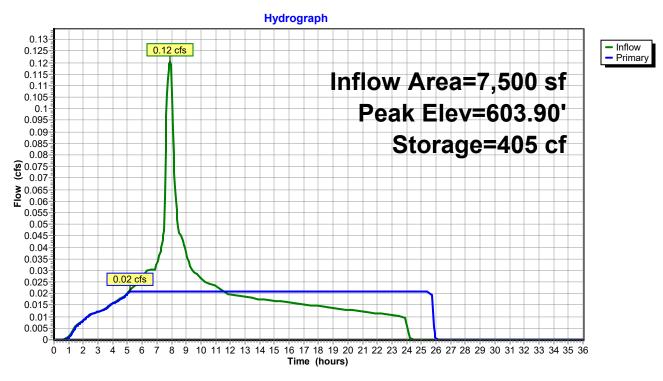
Primary OutFlow Max=0.02 cfs @ 5.15 hrs HW=603.01' (Free Discharge)

-1=Culvert (Passes 0.02 cfs of 4.26 cfs potential flow)

2=Exfiltration (Exfiltration Controls 0.02 cfs)

-3=Orifice/Grate (Controls 0.00 cfs)

Pond 2P: 6% Planters





Invert

Volume

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<u>Page 17</u>

Summary for Pond 24P: Pond

Inflow Area =	71,651 sf,	52.96% Impervious,	Inflow Depth = 2.25" for 5-Year event
Inflow =	0.92 cfs @	7.93 hrs, Volume=	13,423 cf
Outflow =	0.23 cfs @	9.76 hrs, Volume=	13,423 cf, Atten= 74%, Lag= 109.9 min
Primary =	0.23 cfs @	9.76 hrs, Volume=	13,423 cf
Secondary =	0.00 cfs @	0.00 hrs, Volume=	0 cf
Tertiary =	0.00 cfs @	0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 596.52' @ 9.76 hrs Surf.Area= 2,324 sf Storage= 3,287 cf

Plug-Flow detention time= 249.9 min calculated for 13,404 cf (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 250.1 min (959.0 - 708.9)

VOIGITIO	IIIVOIT	7 (Vall.Otol	age eterage	Decomplion	
#1	595.00'	6,88	1 cf Custom	Stage Data (Prisn	natic) Listed below (Recalc)
Elevation		rf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
595.0	00	1,968	0	0	
596.0	00	2,230	2,099	2,099	
597.0	00	2,410	2,320	4,419	
598.0	00	2,513	2,462	6,881	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	592.50'	15.0" Round	Culvert	
			L= 20.0' RCF	P, square edge hea	adwall, Ke= 0.500
			Inlet / Outlet Ir	nvert= 592.50' / 59	2.40' S= 0.0050 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 1.23 sf	
#2	Device 1	590.32'	1.6" Vert. Low	v Orifice C= 0.60	00
#3	Device 2	595.00'		filtration over Su	
#4	Device 2	595.79'		Horiz.Ditch Inlet #	
				r flow at low heads	
#5	Device 1	596.30'	•	h Orifice C= 0.6	
#6	Secondary	596.95'	-	Horiz. Ditch Inlet #	
				r flow at low heads	
#7	Tertiary	596.95'	48.0" Horiz. C	verflow Manhole	C= 0.600

Limited to weir flow at low heads

Printed 5/15/2019 Page 18

Primary OutFlow Max=0.23 cfs @ 9.76 hrs HW=596.52' (Free Discharge)

1=Culvert (Passes 0.23 cfs of 10.89 cfs potential flow)

2=Low Orifice (Orifice Controls 0.13 cfs @ 9.66 fps)

3=Exfiltration (Passes < 0.11 cfs potential flow)

4=Ditch Inlet #1 (Passes < 16.38 cfs potential flow)

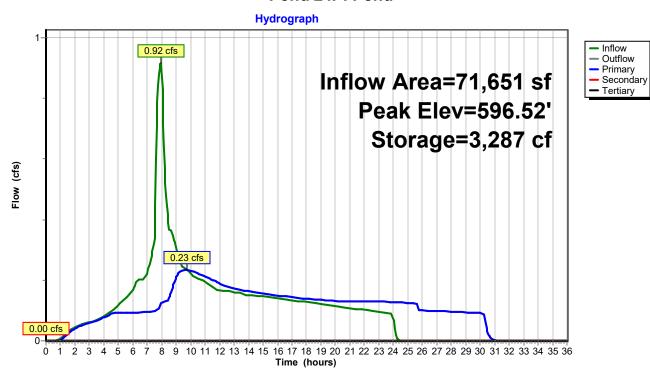
5=High Orifice (Orifice Controls 0.10 cfs @ 1.60 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge)
6=Ditch Inlet #2 (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge)

7=Overflow Manhole (Controls 0.00 cfs)

Pond 24P: Pond



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Page 19

Summary for Link 22L: Post-Developed Flows

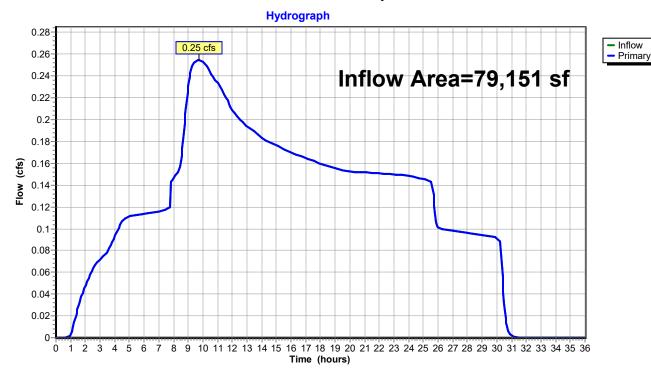
Inflow Area = 79,151 sf, 57.41% Impervious, Inflow Depth = 2.30" for 5-Year event

Inflow = 0.25 cfs @ 9.76 hrs, Volume= 15,153 cf

Primary = 0.25 cfs @ 9.76 hrs, Volume= 15,153 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 22L: Post-Developed Flows



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Page 20

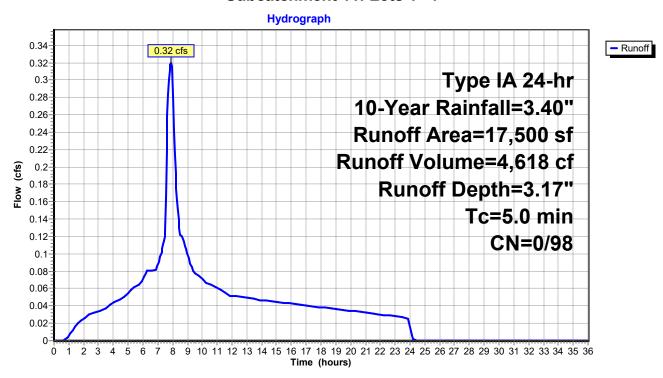
Summary for Subcatchment 11: Lots 1 - 7

Runoff = 0.32 cfs @ 7.90 hrs, Volume= 4,618 cf, Depth= 3.17"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 10-Year Rainfall=3.40"

	Α	rea (sf)	CN I	Description		
*		17,500	98	_ots 1 - 7		
		17,500	98	100.00% Im	npervious A	Area
	Тс	Length		•		Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry,

Subcatchment 11: Lots 1 - 7



Page 21

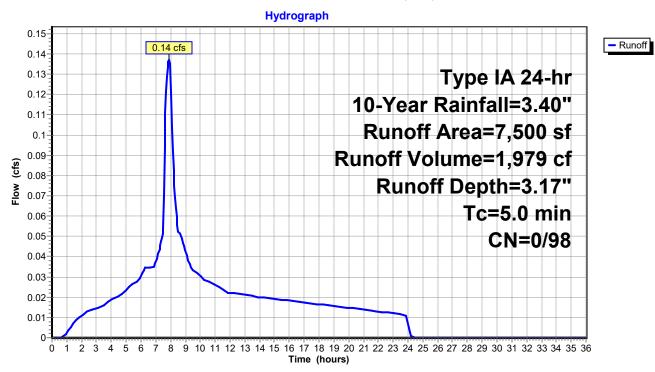
Summary for Subcatchment 12: Lots 10, 11, 12

Runoff = 0.14 cfs @ 7.90 hrs, Volume= 1,979 cf, Depth= 3.17"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 10-Year Rainfall=3.40"

	Area (sf)	CN [Description		
*	7,500	98 3	3 lots		
	7,500	98	100.00% Im	pervious A	Area
T (min	c Length) (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	, , ,	(10/10)	(11/360)	(013)	Direct Entry,

Subcatchment 12: Lots 10, 11, 12



Printed 5/15/2019 Page 22

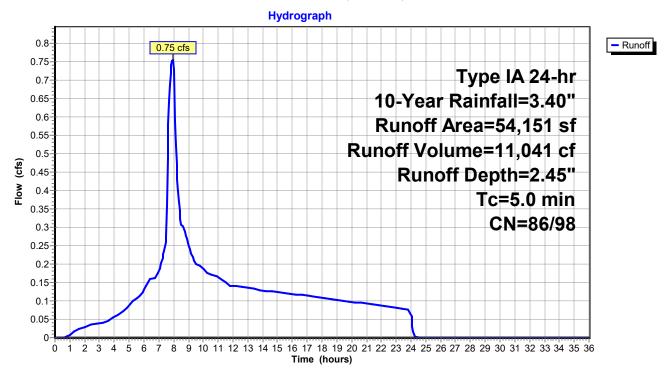
Summary for Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas

Runoff = 0.75 cfs @ 7.93 hrs, Volume= 11,041 cf, Depth= 2.45"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 10-Year Rainfall=3.40"

	Α	rea (sf)	CN	Description					
*		15,444	98	streets & cu	ırb				
*		5,000	98	Lots 8 & 9					
		33,707	86	<50% Gras	<50% Grass cover, Poor, HSG C				
		54,151	91	Weighted A	verage				
		33,707	86	62.25% Per	vious Area				
		20,444	98	37.75% Imp	pervious Ar	ea			
	Тс	Longth	Slop	e Velocity	Capacity	Description			
		Length		,		Description			
	(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)				
	5.0					Direct Entry,			

Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas



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Page 23

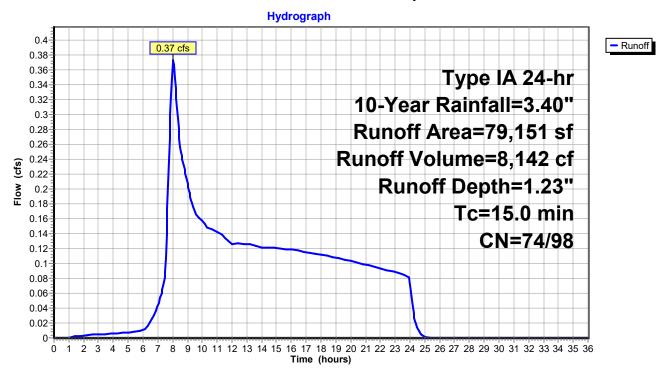
Summary for Subcatchment 100: Pre-Developed Flows

8,142 cf, Depth= 1.23" Runoff 0.37 cfs @ 8.04 hrs, Volume=

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 10-Year Rainfall=3.40"

	Area (sf)	CN	Description				
*	2,500	98	roofs				
	76,651	74	>75% Grass	>75% Grass cover, Good, HSG C			
	79,151	75	Weighted A	verage			
	76,651	74	96.84% Per	vious Area	ì		
	2,500	98	3.16% Impe	rvious Are	ea		
	Tc Length (min) (feet)	Slo _l (ft/	,	Capacity (cfs)	Description		
	15.0				Direct Entry,		

Subcatchment 100: Pre-Developed Flows



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Summary for Pond 2P: 6% Planters

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 3.17" for 10-Year event

Inflow 0.14 cfs @ 7.90 hrs. Volume= 1.979 cf

0.04 cfs @ 9.21 hrs, Volume= Outflow 1,979 cf, Atten= 72%, Lag= 78.8 min

Primary 0.04 cfs @ 9.21 hrs, Volume= 1,979 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 604.01' @ 9.21 hrs Surf.Area= 450 sf Storage= 455 cf

Plug-Flow detention time= 216.9 min calculated for 1,976 cf (100% of inflow)

Center-of-Mass det. time= 216.9 min (881.7 - 664.8)

Volume	Inve	rt Avail.Sto	rage Storage	Description		
#1	603.0	0' 49	95 cf planters	(Prismatic) Listed	d below (Recalc)	x 3
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
603.0	00	150	0	0		
604.1	10	150	165	165		
Device	Routing	Invert	Outlet Devices	5		
#1	Primary	600.50'	6.0" Round C	Culvert X 3.00		
	•		L= 10.0' CPF	, square edge hea	adwall, Ke= 0.500)
			Inlet / Outlet Ir	overt= 600.50' / 60	0.45' S= 0.0050	'/' Cc= 0.900
			n= 0.013, Flo	w Area= 0.20 sf		
#2	Device 1	603.00'	2.000 in/hr Ex	filtration over Sui	rface area	
#3	Device 1	604.00'		ifice/Grate X 3.00 rflow at low heads	• 0.000	

Primary OutFlow Max=0.04 cfs @ 9.21 hrs HW=604.01' (Free Discharge)

-1=Culvert (Passes 0.04 cfs of 5.12 cfs potential flow)

2=Exfiltration (Exfiltration Controls 0.02 cfs)

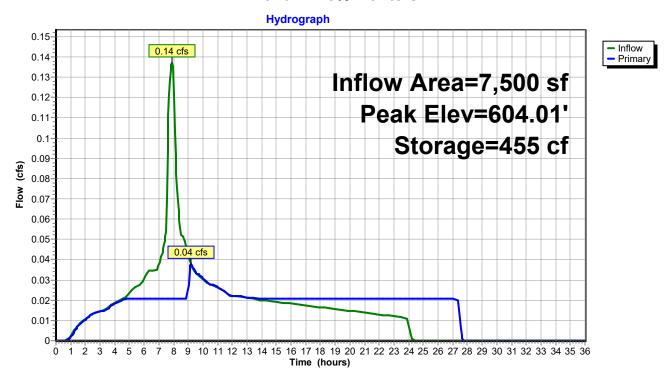
-3=Orifice/Grate (Weir Controls 0.02 cfs @ 0.33 fps)

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Page 25

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Pond 2P: 6% Planters



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Page 26

Summary for Pond 24P: Pond

Inflow Area =	71,651 sf,	52.96% Impervious,	Inflow Depth = 2.62"	for 10-Year event
Inflow =	1.07 cfs @	7.92 hrs, Volume=	15,660 cf	
Outflow =	0.33 cfs @	9.10 hrs, Volume=	15,660 cf, Atte	n= 69%, Lag= 70.8 min
Primary =	0.33 cfs @	9.10 hrs, Volume=	15,660 cf	
Secondary =	0.00 cfs @	0.00 hrs, Volume=	0 cf	
Tertiary =	0.00 cfs @	0.00 hrs, Volume=	0 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 596.68' @ 9.10 hrs Surf.Area= 2,353 sf Storage= 3,661 cf

Plug-Flow detention time= 234.7 min calculated for 15,660 cf (100% of inflow)

Center-of-Mass det. time= 234.6 min (938.8 - 704.2)

Volume	Invert	Avail.Stor	age Storage	e Description	
#1	595.00'	6,88	1 cf Custom	n Stage Data (Prismatic) Listed below (Recalc)	
	_				
Elevation		rf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
595.0	00	1,968	0	0	
596.0	00	2,230	2,099	2,099	
597.0	00	2,410	2,320	4,419	
598.0	00	2,513	2,462	6,881	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	592.50'	15.0" Round	d Culvert	
	•		L= 20.0' RC	CP, square edge headwall, Ke= 0.500	
			Inlet / Outlet I	Invert= 592.50' / 592.40' S= 0.0050 '/' Cc= 0.900	
			n= 0.013, Flo	ow Area= 1.23 sf	
#2	Device 1	590.32'	1.6" Vert. Lo	w Orifice C= 0.600	
#3	Device 2	595.00'	2.000 in/hr E	xfiltration over Surface area	
#4	Device 2	595.79'	24.0" x 24.0"	'Horiz. Ditch Inlet #1 C= 0.600	
			Limited to we	eir flow at low heads	
#5	Device 1	596.30'	4.0" Vert. Hig	gh Orifice C= 0.600	
#6	Secondary	596.95'	24.0" x 24.0"	Horiz. Ditch Inlet #2 C= 0.600	
			Limited to we	eir flow at low heads	
#7	Tertiary	596.95'	48.0" Horiz. (Overflow Manhole C= 0.600	

Limited to weir flow at low heads

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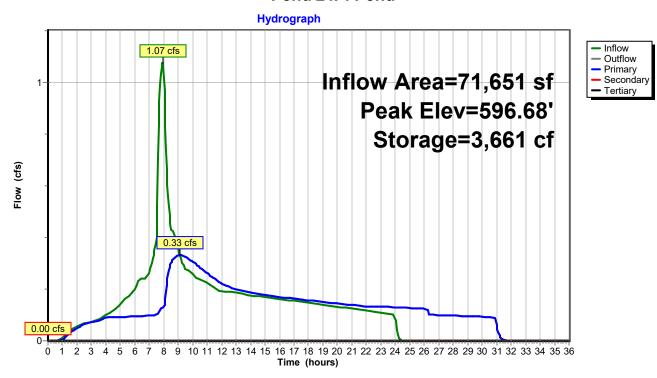
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Primary OutFlow Max=0.33 cfs @ 9.10 hrs HW=596.68' (Free Discharge) **1=Culvert** (Passes 0.33 cfs of 11.14 cfs potential flow) -2=Low Orifice (Orifice Controls 0.14 cfs @ 9.85 fps) **-3=Exfiltration** (Passes < 0.11 cfs potential flow) -4=Ditch Inlet #1 (Passes < 18.19 cfs potential flow) -5=High Orifice (Orifice Controls 0.19 cfs @ 2.23 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge) **6-Ditch Inlet #2** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge) 7=Overflow Manhole (Controls 0.00 cfs)

Pond 24P: Pond



Page 28

Summary for Link 22L: Post-Developed Flows

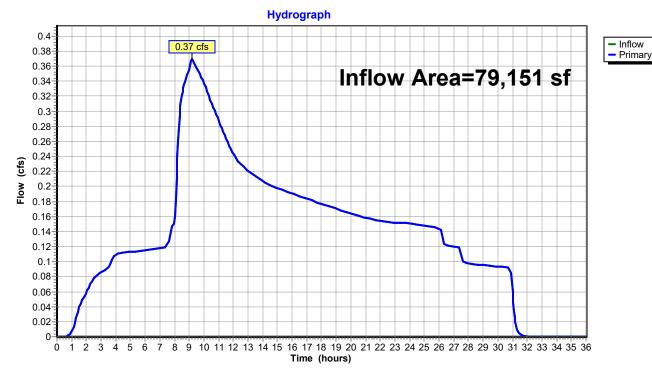
Inflow Area = 79,151 sf, 57.41% Impervious, Inflow Depth = 2.67" for 10-Year event

Inflow = 0.37 cfs @ 9.18 hrs, Volume= 17,639 cf

Primary = 0.37 cfs @ 9.18 hrs, Volume= 17,639 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 22L: Post-Developed Flows



Printed 5/15/2019 Page 29

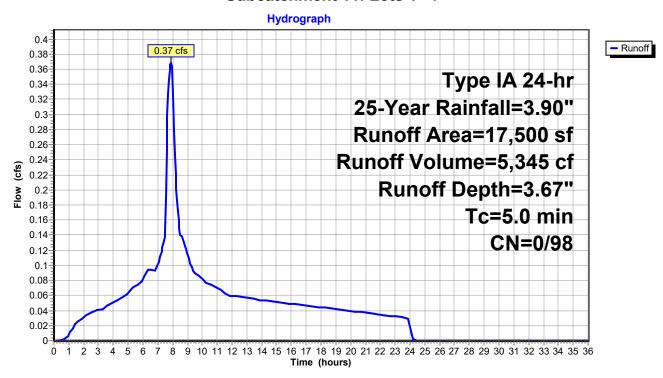
Summary for Subcatchment 11: Lots 1 - 7

Runoff = 0.37 cfs @ 7.90 hrs, Volume= 5,345 cf, Depth= 3.67"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 25-Year Rainfall=3.90"

_	Α	rea (sf)	CN	Description		
*		17,500	98	_ots 1 - 7		
_		17,500	98	100.00% Im	pervious A	Area
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry,

Subcatchment 11: Lots 1 - 7



Page 30

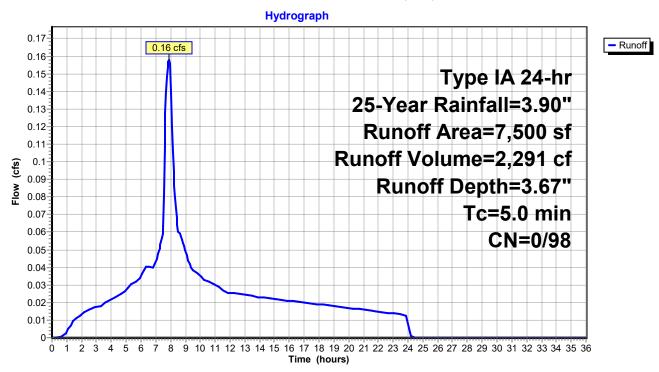
Summary for Subcatchment 12: Lots 10, 11, 12

Runoff = 0.16 cfs @ 7.90 hrs, Volume= 2,291 cf, Depth= 3.67"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 25-Year Rainfall=3.90"

_	Α	rea (sf)	CN	Description		
*		7,500	98	3 lots		
_		7,500	98	100.00% Im	npervious A	Area
		Length		,		Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry,

Subcatchment 12: Lots 10, 11, 12



Page 31

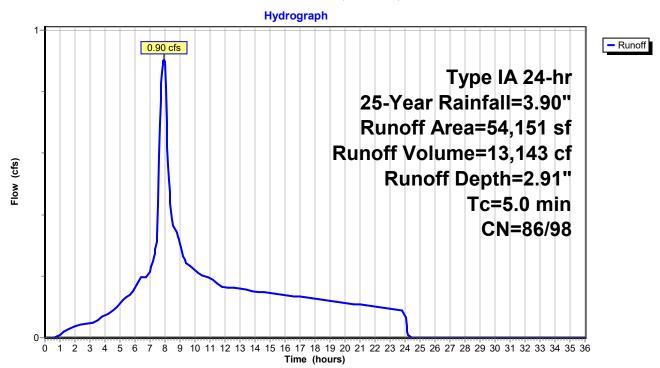
Summary for Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas

Runoff = 0.90 cfs @ 7.93 hrs, Volume= 13,143 cf, Depth= 2.91"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 25-Year Rainfall=3.90"

_	Α	rea (sf)	CN	Description						
*		15,444	98	streets & cu	ırb					
*		5,000	98	Lots 8 & 9	Lots 8 & 9					
_		33,707	86	<50% Gras	50% Grass cover, Poor, HSG C					
		54,151	91	Weighted A	Weighted Average					
		33,707	86	62.25% Per	62.25% Pervious Area					
		20,444	98	37.75% Imp	ervious Ar	ea				
	Tc	Length	Slop	,	Capacity	Description				
_	(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)					
	5.0					Direct Entry,				

Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas



Page 32

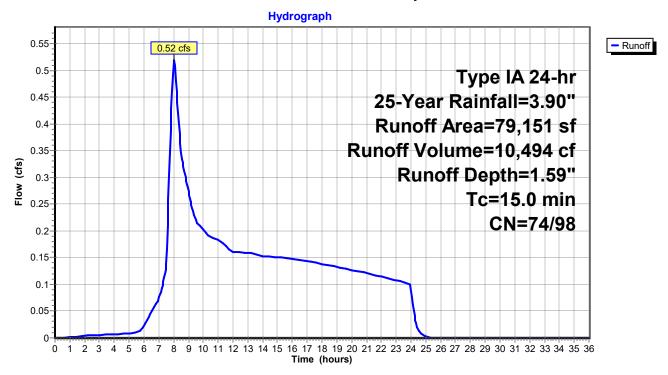
Summary for Subcatchment 100: Pre-Developed Flows

Runoff = 0.52 cfs @ 8.03 hrs, Volume= 10,494 cf, Depth= 1.59"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 25-Year Rainfall=3.90"

	Area (sf)	CN	Description					
*	2,500	98	roofs	roofs				
	76,651	74	>75% Grass	75% Grass cover, Good, HSG C				
	79,151	75	Weighted A	eighted Average				
	76,651	74	96.84% Per	96.84% Pervious Area				
	2,500	98	3.16% Impe	rvious Are	ea			
	Tc Length (min) (feet)	Slo _l (ft/	,	Capacity (cfs)	Description			
	15.0				Direct Entry,			

Subcatchment 100: Pre-Developed Flows



463-003 HydroCAD 2019-05-07

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Page 33

Summary for Pond 2P: 6% Planters

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 3.67" for 25-Year event

Inflow 0.16 cfs @ 7.90 hrs. Volume= 2.291 cf

0.08 cfs @ 8.31 hrs, Volume= Outflow 2,291 cf, Atten= 49%, Lag= 24.9 min

Primary 0.08 cfs @ 8.31 hrs, Volume= 2,291 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 604.02' @ 8.31 hrs Surf.Area= 450 sf Storage= 461 cf

Plug-Flow detention time= 210.6 min calculated for 2,288 cf (100% of inflow)

Center-of-Mass det. time= 210.7 min (872.1 - 661.3)

Volume	Inve	rt Avail.Sto	rage Storage	Description		
#1	603.0	0' 49	95 cf planters	(Prismatic) Listed	d below (Recalc)	x 3
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
603.0	00	150	0	0		
604.1	10	150	165	165		
Device	Routing	Invert	Outlet Devices	5		
#1	Primary	600.50'	6.0" Round C	Culvert X 3.00		
	•		L= 10.0' CPF	, square edge hea	adwall, Ke= 0.500)
			Inlet / Outlet Ir	overt= 600.50' / 60	0.45' S= 0.0050	'/' Cc= 0.900
			n= 0.013, Flo			
#2	Device 1	603.00'	2.000 in/hr Ex	filtration over Sui	rface area	
#3	Device 1	604.00'		ifice/Grate X 3.00 rflow at low heads	• 0.000	

Primary OutFlow Max=0.08 cfs @ 8.31 hrs HW=604.02' (Free Discharge)

-1=Culvert (Passes 0.08 cfs of 5.13 cfs potential flow)

2=Exfiltration (Exfiltration Controls 0.02 cfs)

-3=Orifice/Grate (Weir Controls 0.06 cfs @ 0.51 fps)

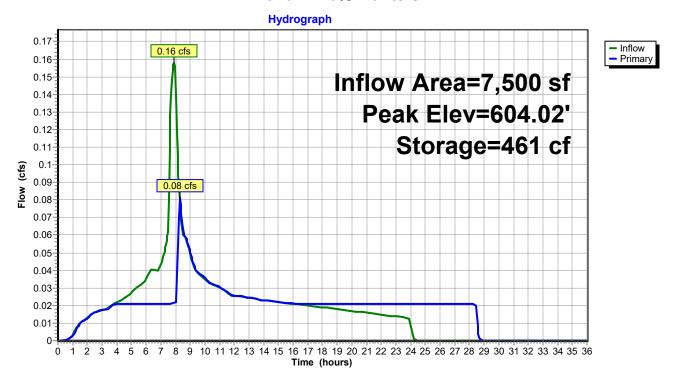
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Page 34

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Pond 2P: 6% Planters



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Page 35

Summary for Pond 24P: Pond

Inflow Area =	71,651 sf,	52.96% Impervious,	Inflow Depth = 3.10"	for 25-Year event
Inflow =	1.27 cfs @	7.92 hrs, Volume=	18,488 cf	
Outflow =	0.43 cfs @	8.94 hrs, Volume=	18,488 cf, Atte	n= 66%, Lag= 61.0 min
Primary =	0.43 cfs @	8.94 hrs, Volume=	18,488 cf	
Secondary =	0.00 cfs @	0.00 hrs, Volume=	0 cf	
Tertiary =	0.00 cfs @	0.00 hrs, Volume=	0 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 596.94' @ 8.94 hrs Surf.Area= 2,400 sf Storage= 4,281 cf

Plug-Flow detention time= 216.8 min calculated for 18,463 cf (100% of inflow)

Center-of-Mass det. time= 217.1 min (916.2 - 699.1)

Volume	Invert	Avail.Sto	rage Storage	Description	
#1	595.00'	6,88	1 cf Custon	n Stage Data (Pri	smatic) Listed below (Recalc)
Elevation	on Su	rf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
595.0	00	1,968	0	0	
596.0	00	2,230	2,099	2,099	
597.0	00	2,410	2,320	4,419	
598.0	00	2,513	2,462	6,881	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	592.50'	15.0" Round	d Culvert	
			L= 20.0' RC	P, square edge h	neadwall, Ke= 0.500
			Inlet / Outlet	Invert= 592.50' /	592.40' S= 0.0050 '/' Cc= 0.900
			n= 0.013, Flo	ow Area= 1.23 sf	
#2	Device 1	590.32'	1.6" Vert. Lo	w Orifice C= 0.	.600
#3	Device 2	595.00'		xfiltration over S	
#4	Device 2	595.79'	24.0" x 24.0"	Horiz. Ditch Inle	et #1 C= 0.600
				eir flow at low hea	
#5	Device 1	596.30'		gh Orifice C= 0	
#6	Secondary	596.95'	24.0" x 24.0"	Horiz. Ditch Inle	et #2 C= 0.600
			Limited to we	eir flow at low hea	ds
#7	Tertiary	596.95'	48.0" Horiz.	Overflow Manho	le C= 0.600

Limited to weir flow at low heads

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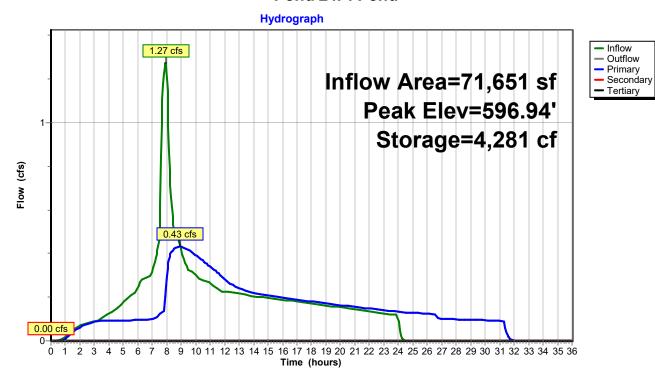
Page 36

Primary OutFlow Max=0.43 cfs @ 8.94 hrs HW=596.94' (Free Discharge) -1=Culvert (Passes 0.43 cfs of 11.55 cfs potential flow) -2=Low Orifice (Orifice Controls 0.14 cfs @ 10.15 fps) **-3=Exfiltration** (Passes < 0.11 cfs potential flow) -4=Ditch Inlet #1 (Passes < 20.68 cfs potential flow) -5=High Orifice (Orifice Controls 0.29 cfs @ 3.32 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge) **6-Ditch Inlet #2** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=595.00' (Free Discharge) 7=Overflow Manhole (Controls 0.00 cfs)

Pond 24P: Pond



Page 37

Summary for Link 22L: Post-Developed Flows

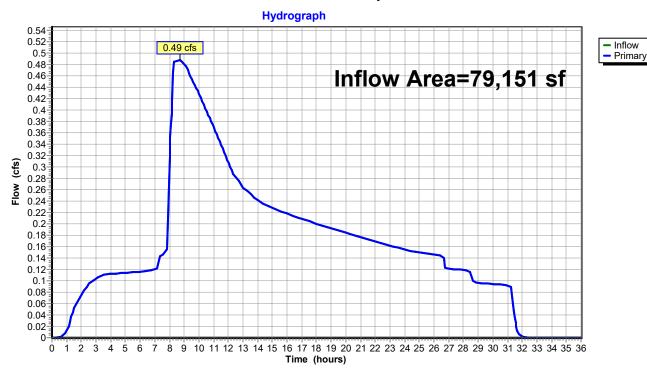
Inflow Area = 79,151 sf, 57.41% Impervious, Inflow Depth = 3.15" for 25-Year event

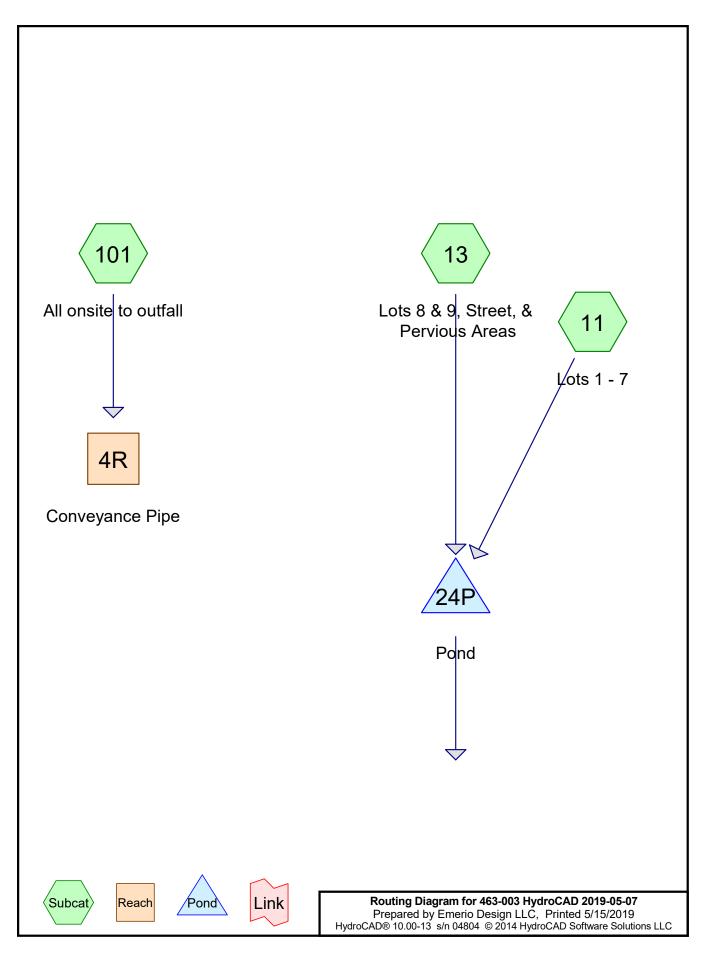
Inflow = 0.49 cfs @ 8.74 hrs, Volume= 20,779 cf

Primary = 0.49 cfs @ 8.74 hrs, Volume= 20,779 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 22L: Post-Developed Flows





Page 2

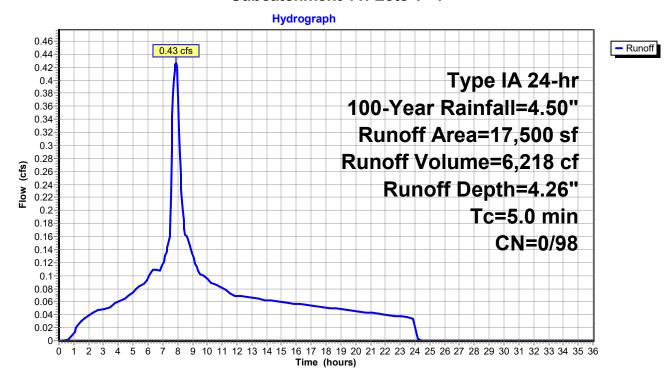
Summary for Subcatchment 11: Lots 1 - 7

Runoff = 0.43 cfs @ 7.90 hrs, Volume= 6,218 cf, Depth= 4.26"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 100-Year Rainfall=4.50"

_	Α	rea (sf)	CN	Description		
*		17,500	98	_ots 1 - 7		
_		17,500	98	100.00% Im	pervious A	Area
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry,

Subcatchment 11: Lots 1 - 7



Page 3

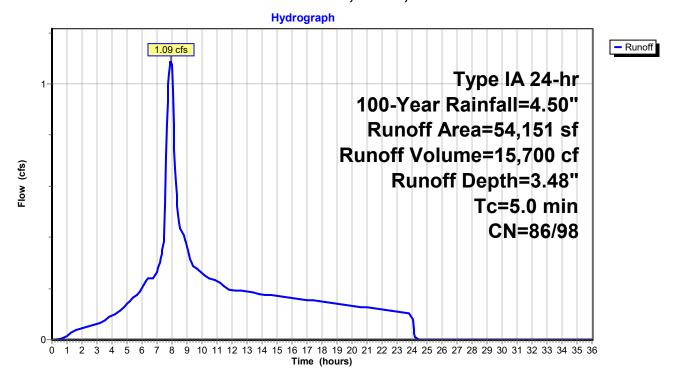
Summary for Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas

Runoff = 1.09 cfs @ 7.92 hrs, Volume= 15,700 cf, Depth= 3.48"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 100-Year Rainfall=4.50"

_	Α	rea (sf)	CN	Description					
k	•	15,444	98	streets & cu	ırb				
*	•	5,000	98	Lots 8 & 9	_ots 8 & 9				
_		33,707	86	<50% Gras	50% Grass cover, Poor, HSG C				
		54,151	91	Weighted Average					
		33,707	86	62.25% Per	62.25% Pervious Area				
		20,444	98	37.75% Imp	ervious Ar	ea			
	Тс	Length	Slop	,	Capacity	Description			
_	(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)				
	5.0					Direct Entry,			

Subcatchment 13: Lots 8 & 9, Street, & Pervious Areas



Page 4

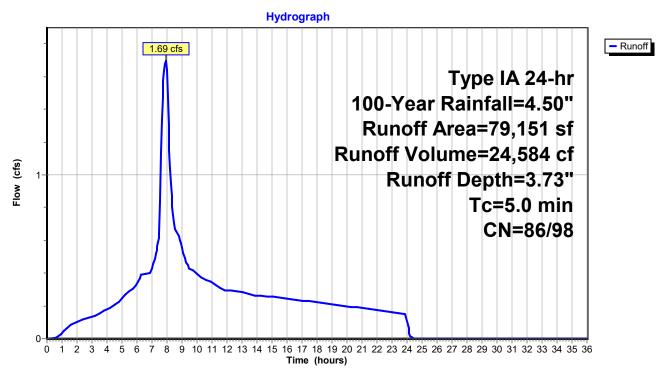
Summary for Subcatchment 101: All onsite to outfall

Runoff = 1.69 cfs @ 7.91 hrs, Volume= 24,584 cf, Depth= 3.73"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 100-Year Rainfall=4.50"

_	Α	rea (sf)	CN	Description						
k	ŧ .	15,444	98	streets & cu	ırb					
*	ŧ	30,000	98	12 lots	12 lots					
_		33,707	86	<50% Gras	50% Grass cover, Poor, HSG C					
		79,151	93	Weighted A	/eighted Average					
		33,707	86	42.59% Per	12.59% Pervious Area					
		45,444	98	57.41% lmp	ervious Ar	ea				
	Tc	9	Slop	,	Capacity	Description				
_	(min)	(feet)	(ft/f	ft) (ft/sec)	(cfs)					
	5.0					Direct Entry,				

Subcatchment 101: All onsite to outfall



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Page 5

Summary for Reach 4R: Conveyance Pipe

Inflow Area = 79,151 sf, 57.41% Impervious, Inflow Depth = 3.73" for 100-Year event

Inflow = 1.69 cfs @ 7.91 hrs, Volume= 24,584 cf

Outflow = 1.69 cfs @ 7.92 hrs, Volume= 24,584 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Max. Velocity= 3.44 fps, Min. Travel Time= 0.1 min Avg. Velocity = 1.99 fps, Avg. Travel Time= 0.2 min

Peak Storage= 10 cf @ 7.92 hrs

Average Depth at Peak Storage= 0.60'

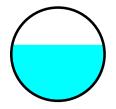
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.52 cfs

12.0" Round Pipe

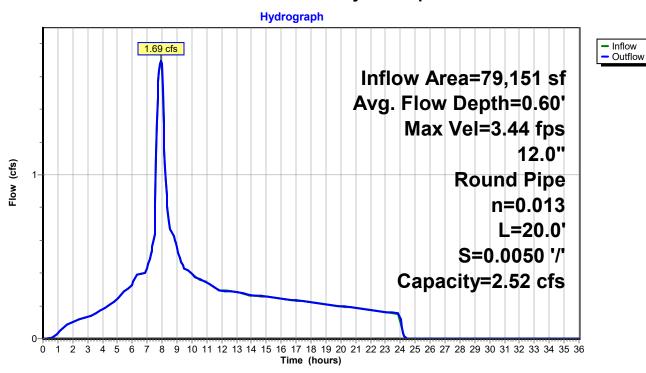
n = 0.013

Length= 20.0' Slope= 0.0050 '/'

Inlet Invert= 100.00', Outlet Invert= 99.90'



Reach 4R: Conveyance Pipe



Invert

Volume

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Page 6

Summary for Pond 24P: Pond

Inflow Area =	71,651 sf,	52.96% Impervious,	Inflow Depth = 3.67"	for 100-Year event
Inflow =	1.51 cfs @	7.92 hrs, Volume=	21,919 cf	
Outflow =	1.27 cfs @	8.08 hrs, Volume=	21,919 cf, Atte	n= 16%, Lag= 9.6 min
Primary =	0.45 cfs @	8.08 hrs, Volume=	20,778 cf	
Secondary =	0.32 cfs @	8.08 hrs, Volume=	444 cf	
Tertiary =	0.50 cfs @	8.08 hrs, Volume=	697 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Peak Elev= 597.00' @ 8.08 hrs Surf.Area= 2,410 sf Storage= 4,427 cf

Plug-Flow detention time= 195.6 min calculated for 21,888 cf (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 195.9 min (889.9 - 694.0)

VOIGITIO	IIIVOIT	7 (Vall.Otol	age eterage	Decomplion	
#1	595.00'	6,88	1 cf Custom	Stage Data (Prisn	natic) Listed below (Recalc)
Elevation		rf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
595.0	00	1,968	0	0	
596.0	00	2,230	2,099	2,099	
597.0	00	2,410	2,320	4,419	
598.0	00	2,513	2,462	6,881	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	592.50'	15.0" Round	Culvert	
					adwall, Ke= 0.500
					2.40' S= 0.0050 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 1.23 sf	
#2	Device 1	590.32'	1.6" Vert. Low	v Orifice C= 0.60	00
#3	Device 2	595.00'		filtration over Sui	
#4	Device 2	595.79'		Horiz.Ditch Inlet #	
				r flow at low heads	
#5	Device 1	596.30'	•	h Orifice C= 0.6	
#6	Secondary	596.95'	-	Horiz. Ditch Inlet #	
				r flow at low heads	
#7	Tertiary	596.95'	48.0" Horiz. C	verflow Manhole	C= 0.600

Limited to weir flow at low heads

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Page 7

Primary OutFlow Max=0.45 cfs @ 8.08 hrs HW=597.00' (Free Discharge)

1=Culvert (Passes 0.45 cfs of 11.64 cfs potential flow)

2=Low Orifice (Orifice Controls 0.14 cfs @ 10.22 fps)

3=Exfiltration (Passes < 0.11 cfs potential flow)

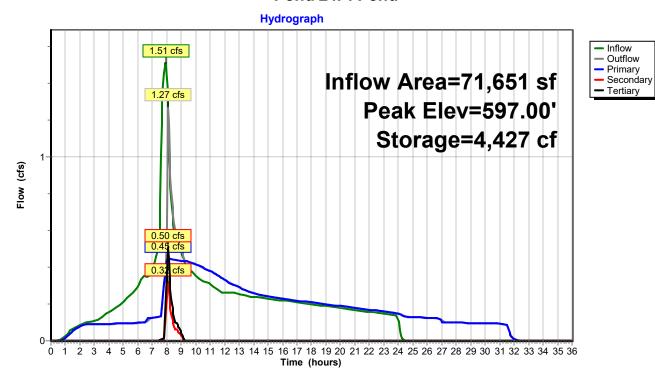
4=Ditch Inlet #1 (Passes < 21.21 cfs potential flow)

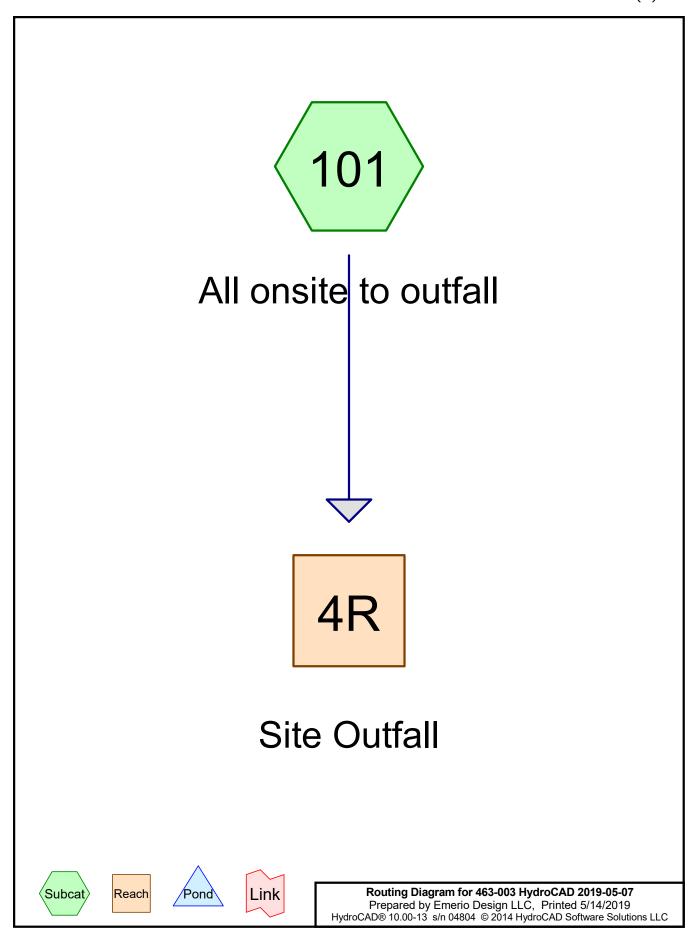
5=High Orifice (Orifice Controls 0.31 cfs @ 3.52 fps)

Secondary OutFlow Max=0.31 cfs @ 8.08 hrs HW=597.00' (Free Discharge)
6=Ditch Inlet #2 (Weir Controls 0.31 cfs @ 0.75 fps)

Tertiary OutFlow Max=0.49 cfs @ 8.08 hrs HW=597.00' (Free Discharge) **7=Overflow Manhole** (Weir Controls 0.49 cfs @ 0.75 fps)

Pond 24P: Pond





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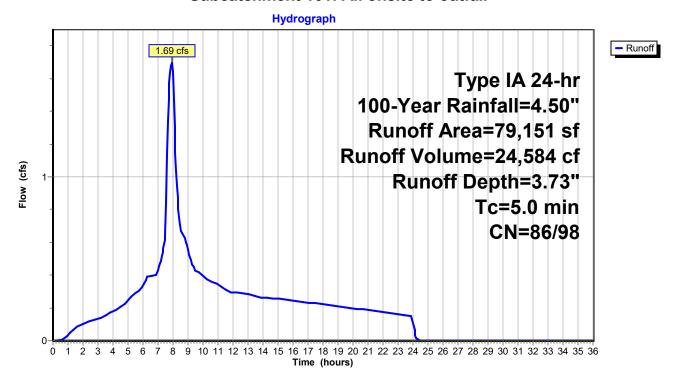
Summary for Subcatchment 101: All onsite to outfall

Runoff = 1.69 cfs @ 7.91 hrs, Volume= 24,584 cf, Depth= 3.73"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type IA 24-hr 100-Year Rainfall=4.50"

	Area (sf)	CN	Description				
*	15,444	98	streets & curb				
*	30,000	98	12 lots				
	33,707	86	<50% Grass cover, Poor, HSG C				
•	79,151	93	Weighted Average				
	33,707	86	42.59% Pervious Area				
	45,444	98	57.41% Impervious Area				
	Tc Length	Slop					
(min) (feet)	(ft/	(ft) (ft/sec) (cfs)				
	5.0		Direct Entry.				

Subcatchment 101: All onsite to outfall



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Page 3

Summary for Reach 4R: Site Outfall

Inflow Area = 79,151 sf, 57.41% Impervious, Inflow Depth = 3.73" for 100-Year event

Inflow = 1.69 cfs @ 7.91 hrs, Volume= 24,584 cf

Outflow = 1.69 cfs @ 7.92 hrs, Volume= 24,584 cf, Atten= 0%, Lag= 0.2 min

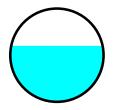
Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Max. Velocity= 3.44 fps, Min. Travel Time= 0.1 min Avg. Velocity = 1.99 fps, Avg. Travel Time= 0.2 min

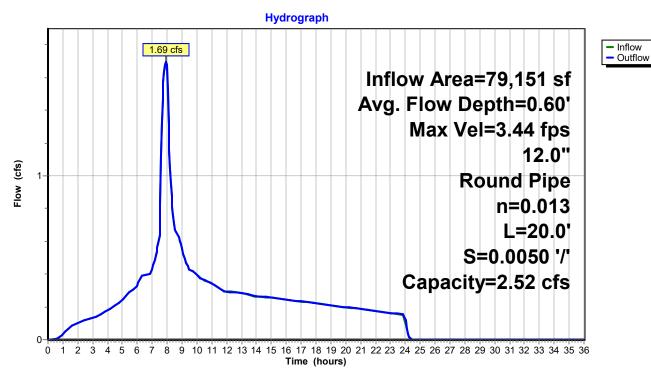
Peak Storage= 10 cf @ 7.92 hrs Average Depth at Peak Storage= 0.60'

Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.52 cfs

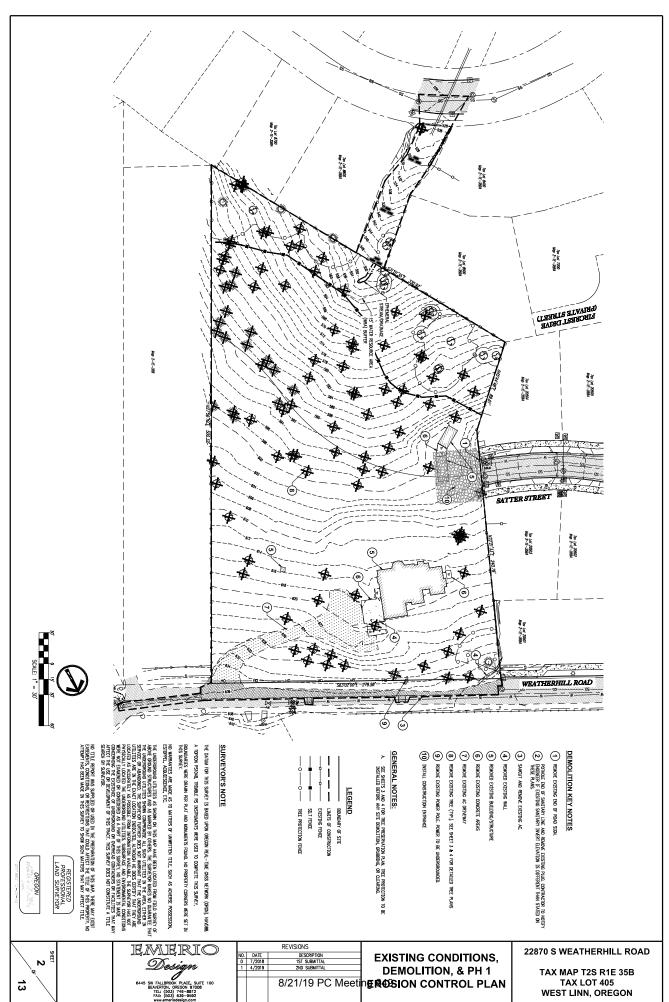
12.0" Round Pipe n= 0.013 Length= 20.0' Slope= 0.0050 '/' Inlet Invert= 100.00', Outlet Invert= 99.90'

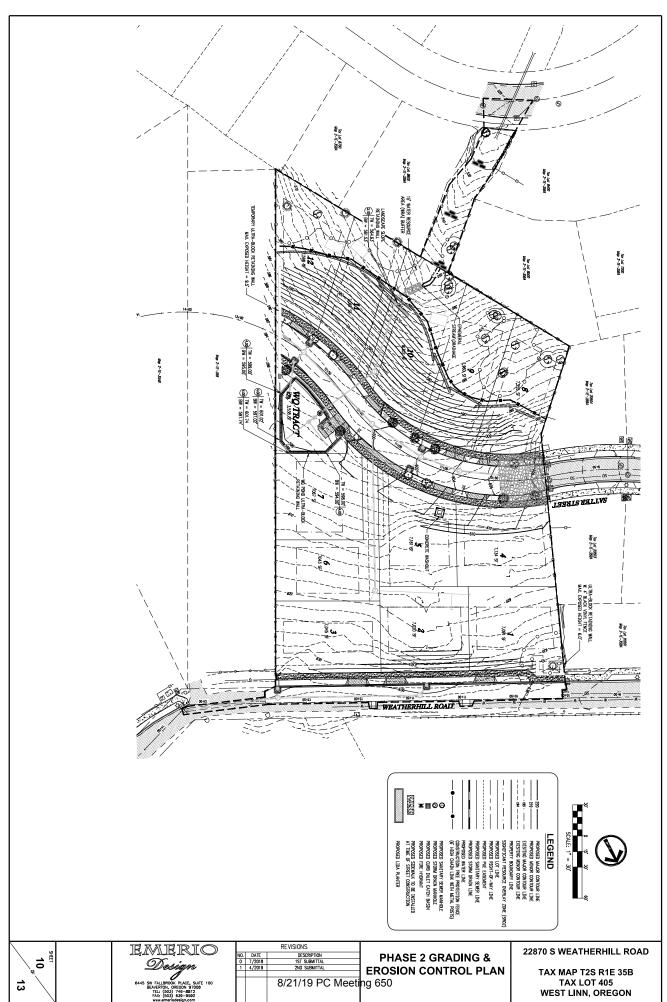


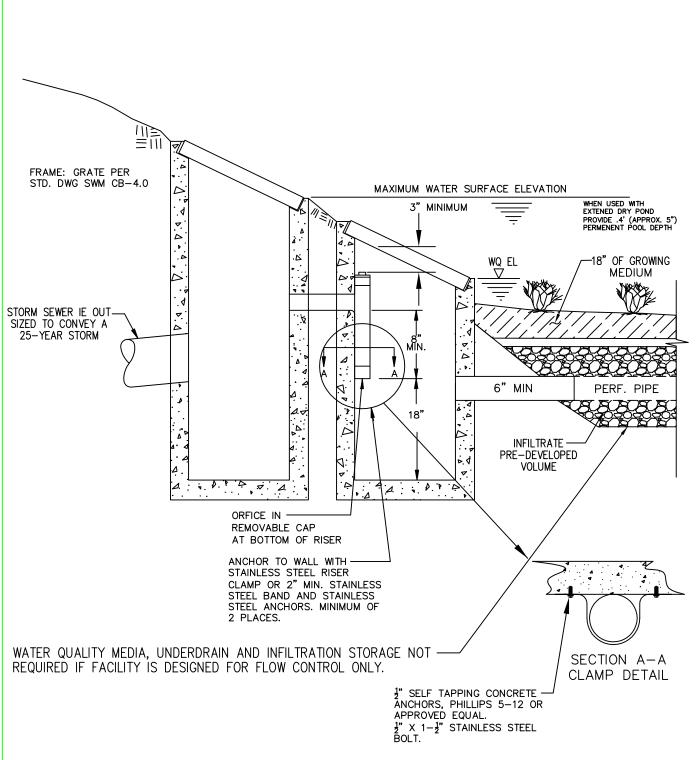
Reach 4R: Site Outfall



Appendix D:







NOTES:

- 1. CONNECTING PIPE AND TEE SHALL BE 4", 6", OR 8" AWWA C-900 OR ASTM 3034 PVC, AND ONE SIZE LARGER THAN THE ORIFICE OPENING.
- MAXIMUM ORIFICE OPENING SHALL BE 6" DIAMETER.
- 3. STRUCTURES TYPE AND SIZE SHALL CONFORM WITH DETAIL SWM FC-5.0.
- 4. FRAME AND GRATE SHALL CONFORM TO CATCH BASIN-FRAME AND GRATE (DETAIL SWM CB-4.0).
- 5. SUBMERGED ORFICE AND RISER SHALL BE SECURED FLUSH AGAINST WALL OF STRUCTURE AS APPROVED.
- 6. MAINTAINANCE ACCESS REQUIRED TO WITHIN 10' OF CENTER OF BOTH STRUCTURES AND EDGE OF MAINTENANCE ACCESS ROAD.



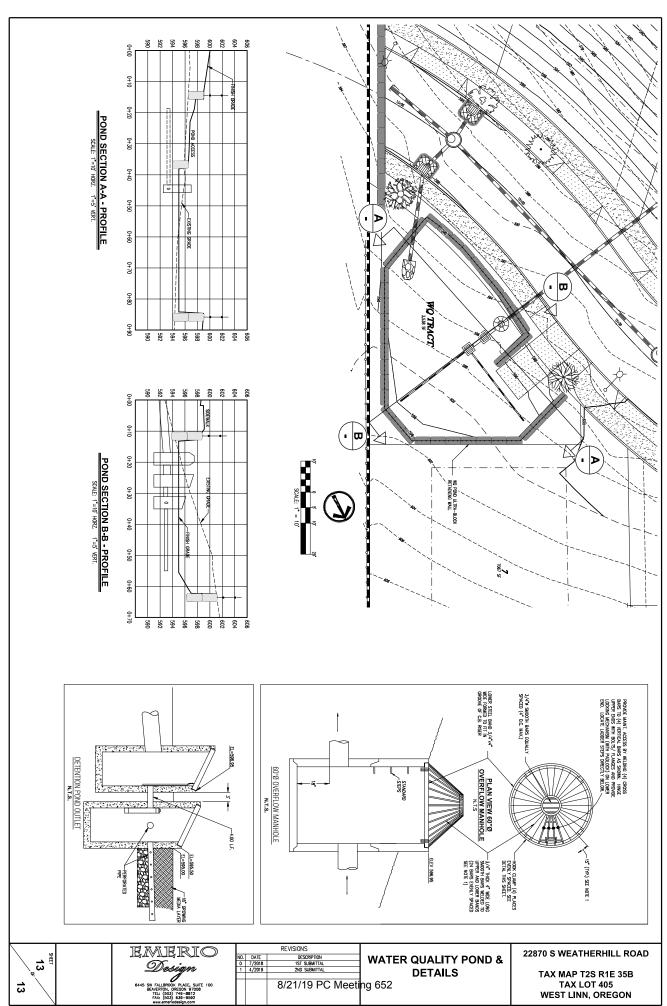
CLACKAMAS COUNTY 150 BEAVERCREEK ROAD OREGON CITY, OR 97045 APPROVAL DATE:

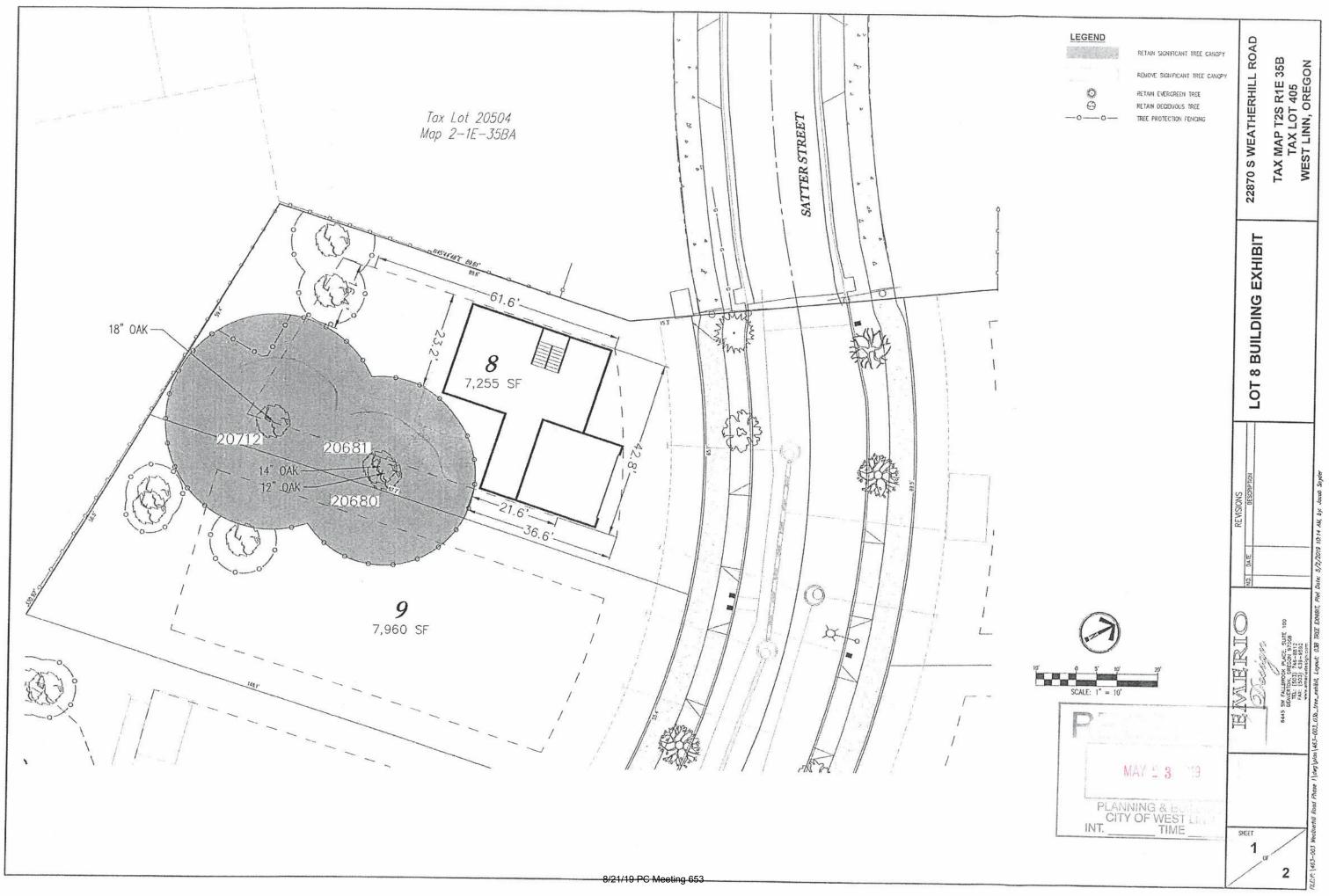
2013

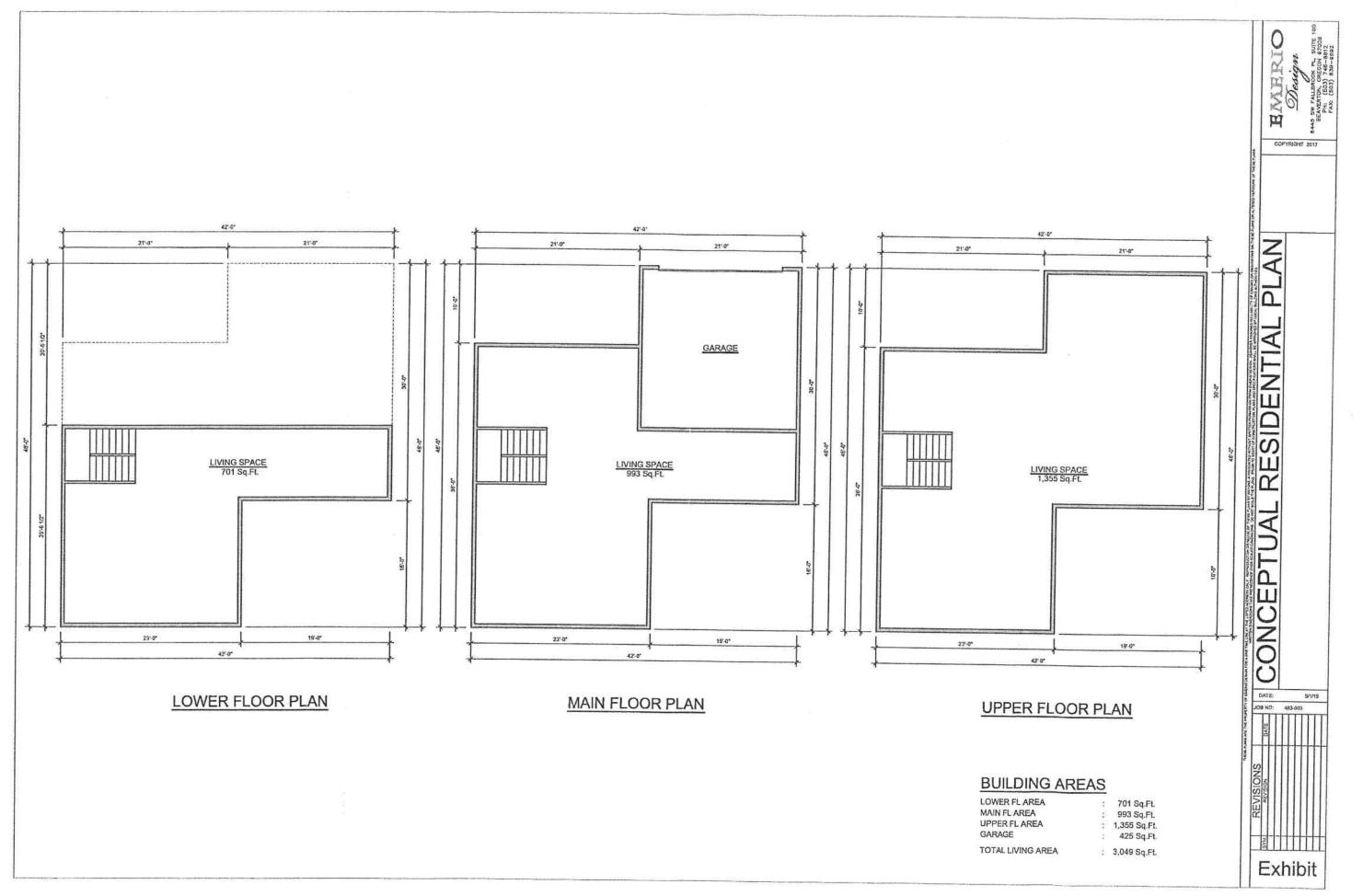
SCALE: N.T.S.

STANDARD DRAWING SWM FC-6.0

FLOW CONTROL-OR 97045 8/21/19 PC Meeting 65 STRUCTURE TYPE 3







PC-6 Public Testimony

Arnold, Jennifer

From:

Mollusky, Kathy

Sent:

Monday, January 07, 2019 8:37 AM

To:

Arnold, Jennifer

Subject:

FW: Weatherhill Subdivision Plans

From: VICTORIA STEELE [mailto:victoriask@comcast.net]

Sent: Saturday, January 05, 2019 1:22 PM

To: City Council <citycouncil@westlinnoregon.gov>
Cc: Roberta Schwarz <roberta.schwarz@comcast.net>

Subject: Weatherhill Subdivision Plans

Hello.

I have attended two City Council Planning meetings to hear what is being discussed about the future of our neighborhood and am not happy to hear that money is dictating the direction this town will go - I understand that the city receives money for every improved lot from the developer and/or builder.

We moved here because we liked the conforming properties on 10,000+ sq ft lots with well-built one and two story homes with two and three car garages. The plans for the one of the areas to be built within 30 yards of our house show 11 lots on what should only be 6, some of which have only 25 ft frontages (!!!!), and narrow streets that do not allow for parked cars. What is going on?! This is ridiculous for a town known for having higher property values because of its *conformity*, safety and good schools.

By allowing builders to continue to slap together cheaply made homes that are forced to be built *up* instead of out, as is the norm in West Linn, not only will it decrease property values, it will add far too much traffic to already difficult to navigate neighborhood streets. In addition, by building up, in order to allow for a reasonable amount of square footage, it will take *three* stories with *one* car garages due to the narrow lot sizes, which will also eliminate views from most of the homes already built, again reducing property values for existing homes.

As a Certified Real Estate Appraiser and Home Stager, I see just about every neighborhood in the Portland area and truly dislike those areas where they cram in as many homes as possible. In addition to looking cheap, the property values decrease dramatically as a result, *including* established neighborhoods near them. We don't want West Linn to become another Bethany or Happy Valley where you can reach out and touch a neighbor's house.

Please put the desirability of West Linn first and foremost in any decision making. Don't let greed of developers and builders (and the City of West Linn?) take over the West Linn landscape. *Please* do not allow West Linn to be over-built.

Thank you,

ςιχτορια Στεελε Κελλερ | Φυρνιση Ηομε Σταγινγ $\underline{\omega\omega\omega}.\underline{\phiυρνισησταγινγ.χομ}$ 503-307-0585



PC-7 STAFF MEMORANDOM

CITY HALL 22500 Salamo Rd, West Linn, OR 97068



Telephone: (503) 742-6060

Fax: (503) 742-8655

Memorandum

Date:

August 9, 2019

To:

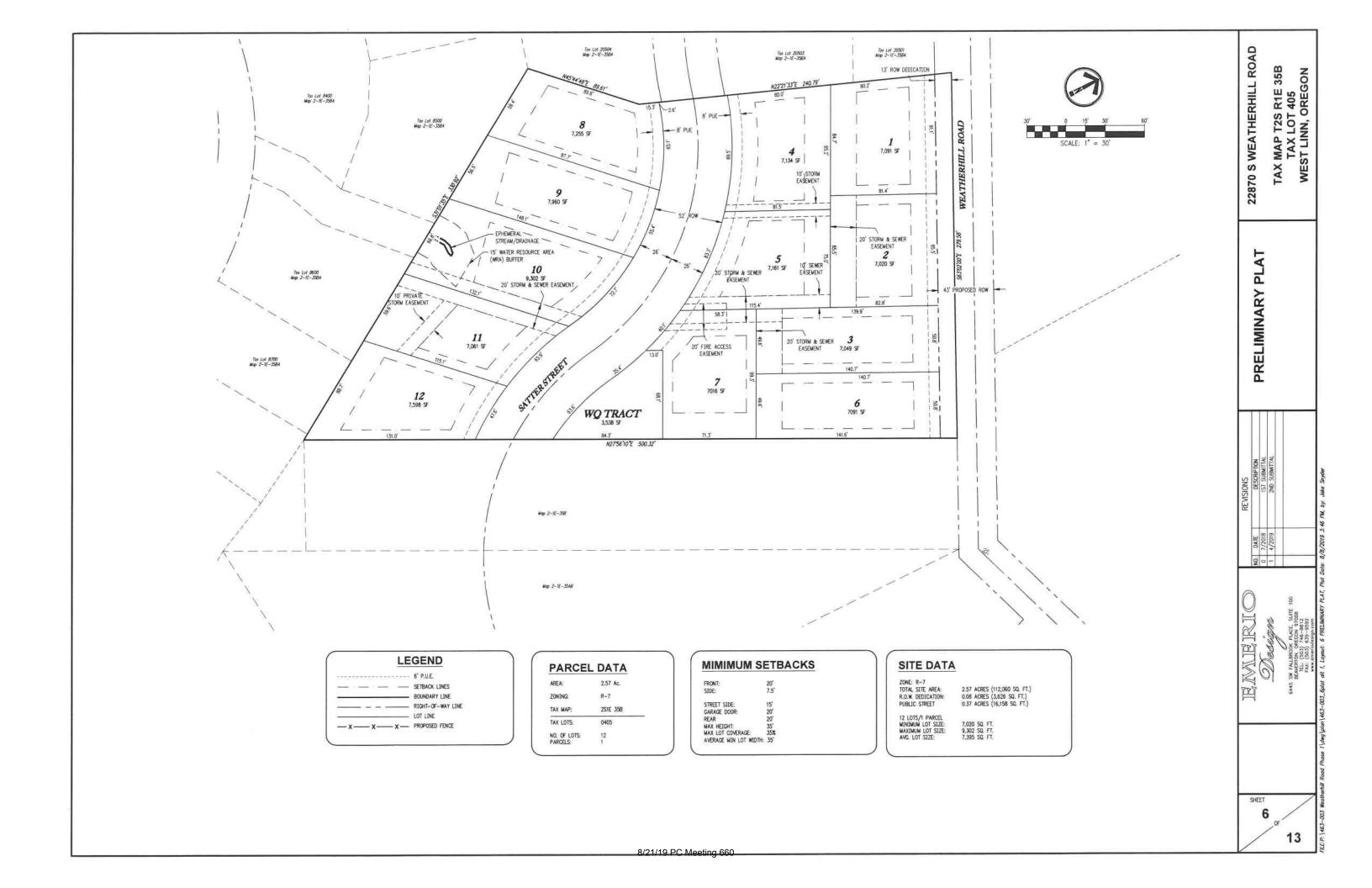
West Linn Planning Commission

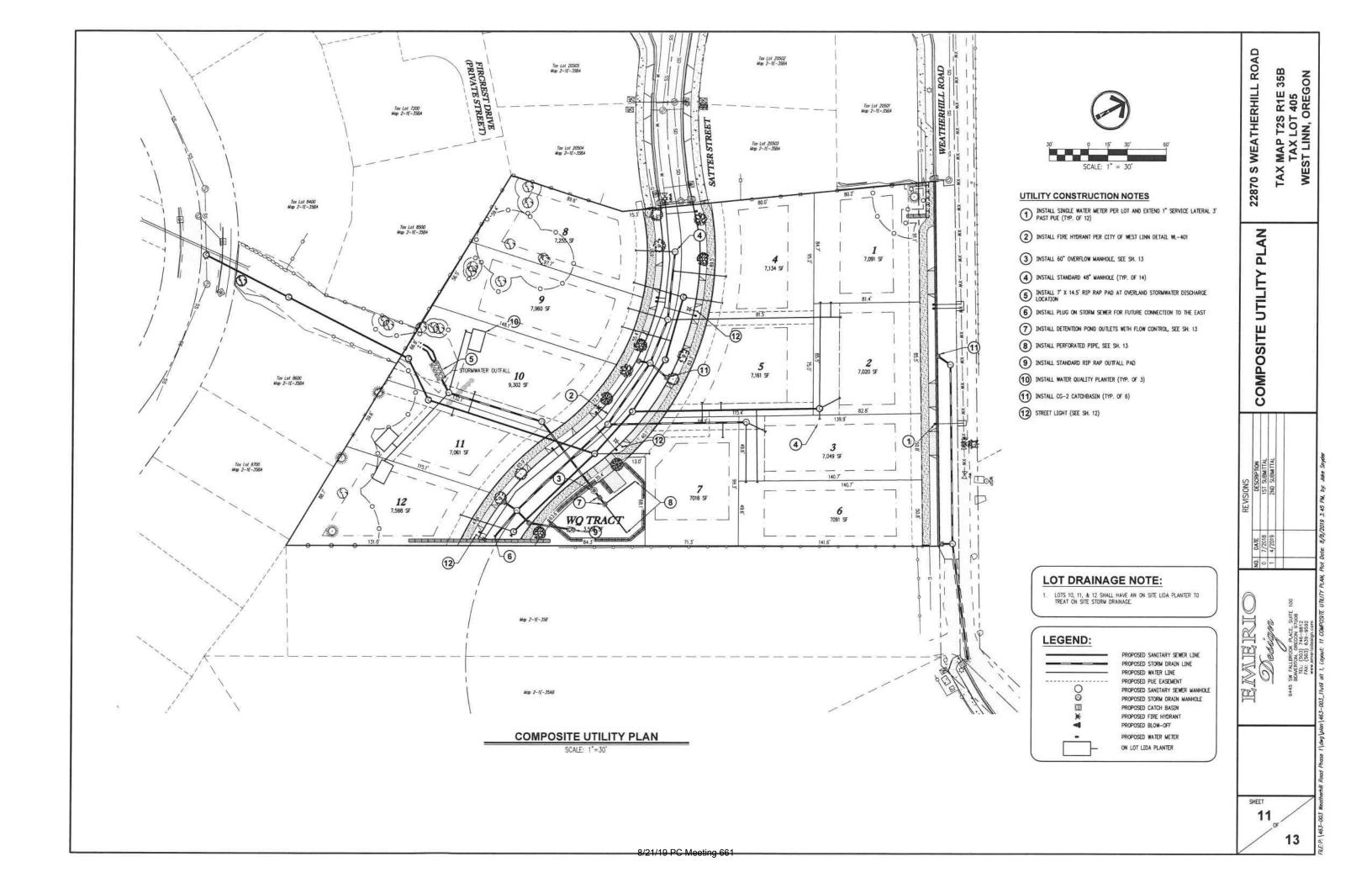
From:

Jennifer Arnold, Associate Planner

Subject: SUB-18-04 Proposed Lot 6 Reconfiguration

In response to the staff report regarding the proposed flag lot for SUB-18-04 (22870 Weatherhill Road), the applicant has submitted an alternative layout removing the proposed flag lot. Proposed lot 6 will take direct access via Weatherhill Road with 50.8 feet of street frontage.





PC-8 TVFR COMMENTS



August 8, 2019

Jennifer Arnold Associate Planner City of West Linn 22500 Salamo Rd West Linn, Oregon 97068

Re: SUB-18-04, 12-Lot Subdivision 22870 Weatherhill Drive

Tax Lot I.D: 21E35B 00405

Jennifer,

Thank you for the opportunity to review the land use application surrounding the above named development project. These notes are provided in regards to the completeness review request sent on August 6, 2019. Tualatin Valley Fire & Rescue will endorse this proposal predicated on the following criteria and conditions of approval.

FIREFIGHTING WATER SUPPLIES:

- FIREFIGHTING WATER SUPPLY FOR INDIVIDUAL ONE- AND TWO-FAMILY DWELLINGS: The minimum available fire flow for one and two-family dwellings served by a municipal water supply shall be 1,000 gallons per minute. If the structure(s) is (are) 3,600 square feet or larger, the required fire flow shall be determined according to OFC Appendix B. (OFC B105.2)
- 2. FIRE FLOW WATER AVAILABILITY: Applicants shall provide documentation of a fire hydrant flow test or flow test modeling of water availability from the local water purveyor if the project includes a new structure or increase in the floor area of an existing structure. Tests shall be conducted from a fire hydrant within 400 feet for commercial projects, or 600 feet for residential development. Flow tests will be accepted if they were performed within 5 years as long as no adverse modifications have been made to the supply system. Water availability information may not be required to be submitted for every project. (OFC Appendix B)

FIRE HYDRANTS:

FIRE HYDRANTS – ONE- AND TWO-FAMILY DWELLINGS & ACCESSORY STRUCTURES: Where the most remote
portion of a structure is more than 600 feet from a hydrant on a fire apparatus access road, as measured in an approved
route around the exterior of the structure(s), on-site fire hydrants and mains shall be provided. (OFC 507.5.1)

4. FIRE HYDRANT(S) PLACEMENT: (OFC C104)

- Existing hydrants in the area may be used to meet the required number of hydrants as approved. Hydrants that are up to 600 feet away from the nearest point of a subject building that is protected with fire sprinklers may contribute to the required number of hydrants. (OFC 507.5.1)
- Hydrants that are separated from the subject building by railroad tracks shall not contribute to the required number of hydrants unless approved by the Fire Marshal.

- Hydrants that are separated from the subject building by divided highways or freeways shall not contribute to the required number of hydrants. Heavily traveled collector streets may be considered when approved by the Fire Marshal.
- Hydrants that are accessible only by a bridge shall be acceptable to contribute to the required number of hydrants only if approved by the Fire Marshal.
- 5. <u>REFLECTIVE HYDRANT MARKERS</u>: Fire hydrant locations shall be identified by the installation of blue reflective markers. They shall be located adjacent and to the side of the center line of the access roadway that the fire hydrant is located on. In the case that there is no center line, then assume a center line and place the reflectors accordingly. (OFC 507)
- 6. PREMISES IDENTIFICATION: New and existing buildings shall have approved address numbers; building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property, including monument signs. These numbers shall contrast with their background. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch. (OFC 505.1)

If you have questions or need further clarification, please feel free to contact me at 503-259-1510.

Sincerely,

Jason arn

Jason Arn Deputy Fire Marshal II

Email Jason.arn@tvfr.com

Cc: File

A full copy of the New Construction Fire Code Applications Guide for Residential Development is available at http://www.tvfr.com/DocumentCenter/View/1438