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Department of Transportation and Development

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www.clackamas.us/planning

STAFF REPORT TO HEARINGS OFFICER FOR:

PROPOSED 15-LOT PLANNED UNIT DEVELOPMENT (PUD) SUBDIVISION IN THE HABITAT CONSERVATION AREA DISTRICT (HCAD)

HABITAT CONSERVATION AREA (HCA) REVIEW
FILE NOS. Z0523-19-HDB; Z0524-19-CMP; AND Z0525-19-HMV

CONSOLIDATED AND PROCESSED CONCURRENTLY
WITH SUBDIVISION FILE NO. Z0001-20-SL

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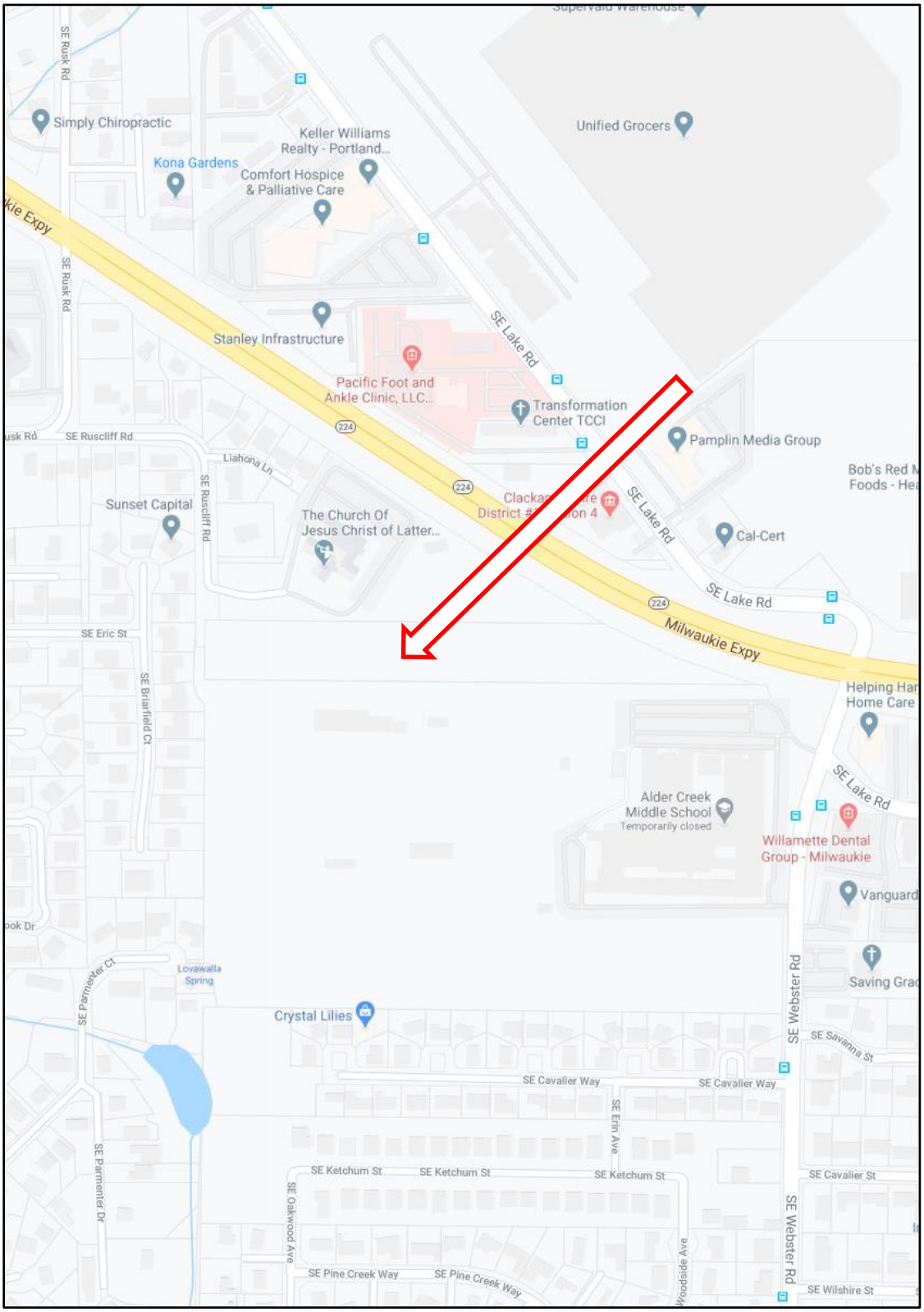
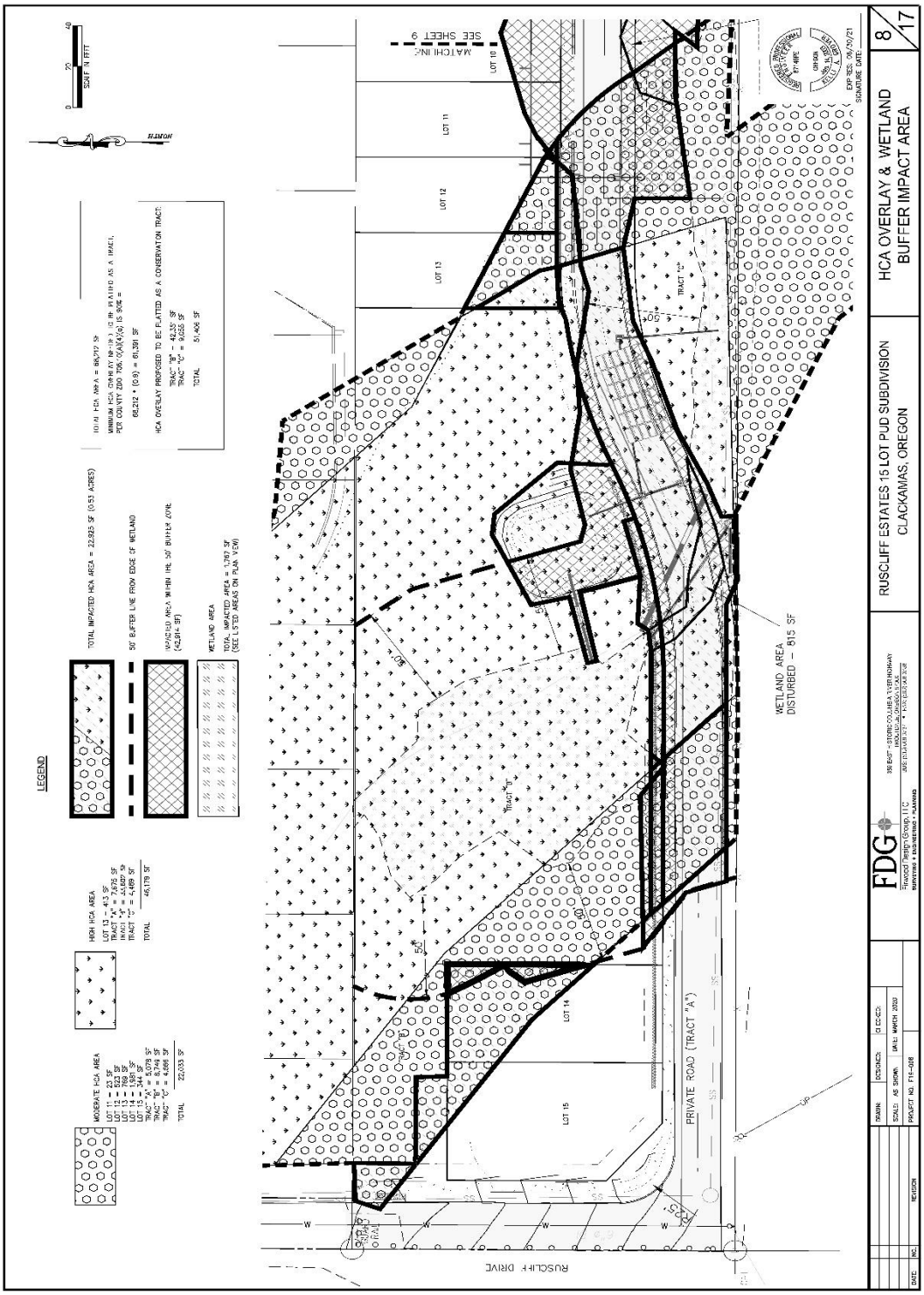
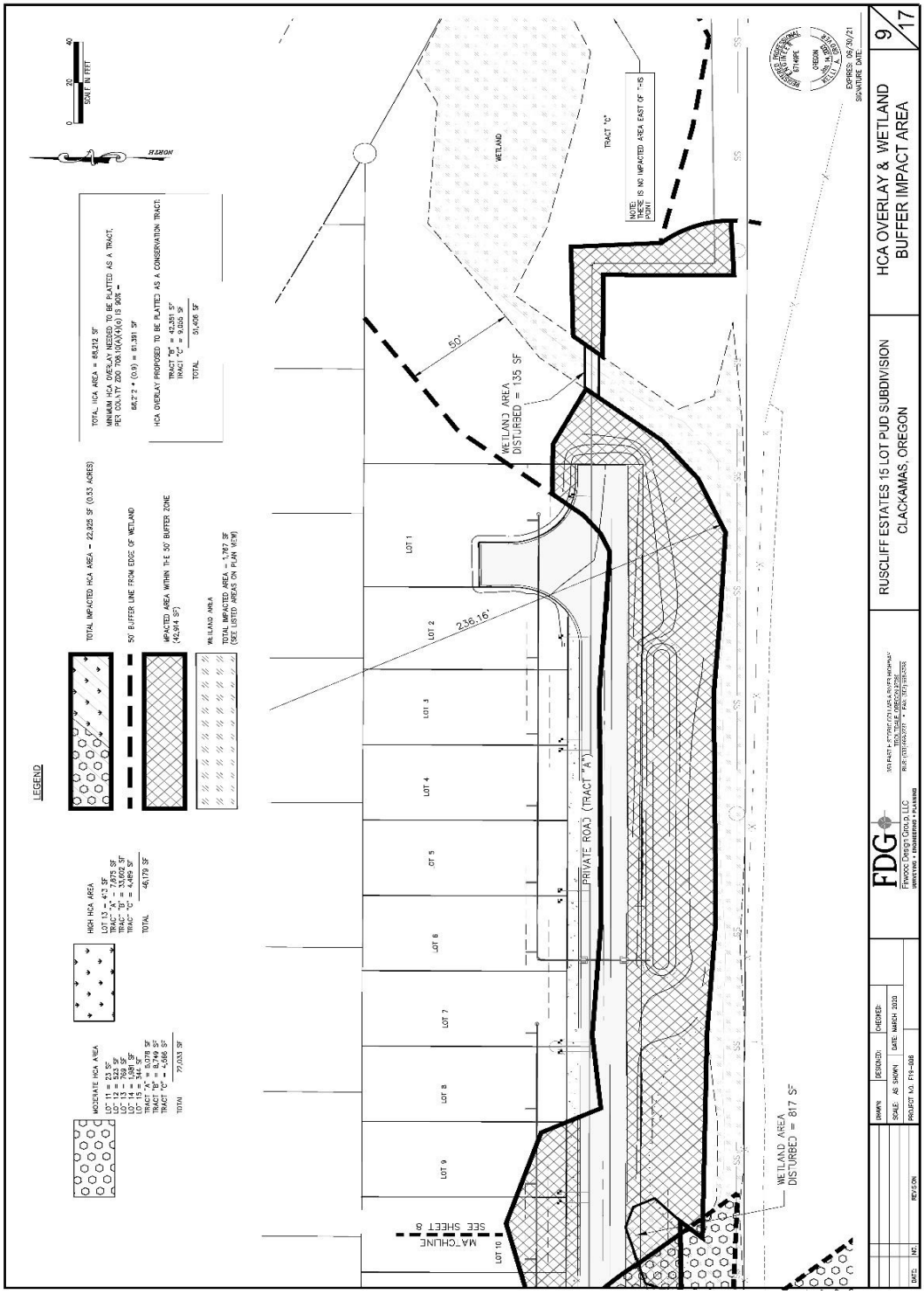


Site Plan Westerly Sector



Site Plan Easterly Sector



LIST OF EXHIBITS

Ex. No.	*Date Received*	*Author or Source*	*Subject & Date of Document*
HCA-1.	06/10/2020	Steve Hanschka. Sr. Planner, CFM	Staff Report | 06/10/2020
HCA-2.	March 2020	Dept. of Assessment & Taxation	Tax Assessor's Map | Precise Date Unknown
HCA-3.	January 2009	Metro	Nature in Neighborhoods HCA Title 13 Map for Subject Area | 09/10/2008
HCA-4.	04/03/3030	Firwood Design Group (FDG)	HCA Narrative | March 2020
HCA-5.	04/03/3030	FDG	HCA Impact Evaluation & Alternatives Analysis | March 2020
HCA-6.	04/03/3030	FDG	Plan Set | March 2020
HCA-7.	December 2015	Oregon Dept. of State Lands (DSL)	Wetland Delineation (WD) No. 2015-0231 — Concurrence | 12/14/2015
HCA-8.	04/21/2020	U.S. Fish & Wildlife Service	National Wetland Inventory (NWI) for Subject Area | 04/22/2020
HCA-9.	04/21/2020 and 04/24/2020	Oregon Dept. of State Lands	Wetland Land Use Notice (WLUN) and Response | 04/21/2020 and 04/24/2020
HCA-10.	05/07/2019 & 05/16/2020	Planning and WES Staff	Pre-Application Conference Comments | 05/07/2019 & 05/16/2020
HCA-11.	04/03/3030	FDG	Preliminary Plat Plan | 02/06/2020
HCA-12.	04/03/3030	FDG	Utility Plan | 02/06/2020
HCA-13.			
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SUMMARY

This document represents the Staff Report to the County Hearings Officer by the Planning & Zoning Division Staff that contains Findings and Proposed Conditions for Land Use Applications, File Nos. Z0523-19-HDB, Z0524-19-CMP and Z0525-19-HMV, consolidated and processed concurrently with PUD Subdivision File No. Z0001-20-SL.

DATE OF REPORT: June 10, 2020

CASE FILE NOS: Z0523-19-HDA, Z0524-19-CMP & Z0525-19-HMV

STAFF CONTACT: Steve Hanschka

MAP & TAXLOT(S): T2S R2E Section 5CB Tax Lot 600

SITE ADDRESS(ES): None

APPLICANT: Brian D' Ambrosio

OWNER OF PROPERTY: Same as Applicant

TOTAL AREA INVOLVED: Roughly 5 Acres

ZONING: Urban Low Density Residential District (R-10)

CITIZENS PLANNING ORGANIZATION FOR AREA:
Oak Grove Community Council
Joseph Edge | (503) 974-6422 | mailto:contact@oakgrovecpo.org

PROPOSAL: Development of a 15-lot Planned Unit Development (PUD) subdivision, being reviewed concurrently under File No. Z0001-20-SL, within the Habitat Conservation Area District (HCAD).

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR OR SELLER: ORS Chapter 215 requires that if you receive this notice, you must promptly forward it to the purchaser.

OPPORTUNITY TO REVIEW THE RECORD: The complete application file is available for review online by accessing the following link: https://accela.clackamas.us/citizenaccess/ . If you are unable to access the file online, contact the staff person listed on the front page of this decision for assistance. Copies of all documents may be purchased at the rate of $1.00 for the first page and 10-cents per page thereafter.

APPLICABLE APPROVAL CRITERIA: This application is subject to Clackamas County Zoning and Development Ordinance (ZDO) Sections(s) 202, 315, 706 and 1307.

Clackamas County is committed to providing meaningful access and will make reasonable accommodations, modifications, or provide translation, interpretation or other services upon request. Please contact us at 503-742-4545 or email DRenhard@clackamas.us. 503-742-4696: ¿Traducción e interpretación? |Требуется ли вам устный или письменный перевод?
翻译或口译？| Cần Biên dịch hoặc Phiên dịch? | 번역 또는 통역?

PROJECT OVERVIEW

The roughly 5-acre, vacant subject property is located on the east side of SE Ruscliff Road at its southerly terminus, and the south side of SE Highway 224. The applicant is proposing a 15-lot Planned Unit Development (PUD) Subdivision under File No. Z0001-20-SL, which is being concurrently reviewed with this application. See Exhibits HCA-6 and HCA-11. The subject property contains Habitat Conservation Area (HCA) in its westerly sector, overlaid on a wetland complex on a portion of Alder Creek. Therefore, the property is located within the Habitat Conservation Area District (HCAD). An overall discussion of the onsite sensitive areas and associated regulatory standards follows, all of which are of course interrelated, including the HCA, which is the primary regulatory feature of this report.

As outlined in Exhibits HCA-6, HCA-7 and HCA-8, Alder Creek, an intermittent tributary to Kellogg Creek, enters the property in the northeast sector near the highway, then flows mostly along the southerly lot line in a westerly direction, though it turns northwest near the westerly end of the site, where it drains into a wooded jurisdictional wetland before exiting the property near the northwest corner. As outlined on Exhibit HCA-7, a December 15, 2015 wetland delineation concurrence (WD No. 2015-0231, still valid) by the Oregon Department of State Lands (DSL) determined that most of the Alder Creek riparian area on the property did not contain associated jurisdictional wetlands. As such, the jurisdictional wetlands begin in the wetland complex in the westerly sector of the site, downstream of a 24-inch culvert, through the southern portion of which the private road will cross and in which a stormwater / water quality feature is proposed (Exhibit HCA-12). As outlined in the Recommended Conditions of Approval below, disturbance to the jurisdictional wetland is subject to DSL review and approval.

At the same time, all of the wetlands, including non-jurisdictional wetlands, outlined throughout Exhibit HCA-6 and on Page 5 of Exhibit HCA-7, are subject to a 50-ft.-wide Title 3 Water Quality Buffer, administered under the Rules and Regulations of Water Environment Services (WES), into which southerly elements of the proposed development will encroach. In comments dated May 7 and May 16, 2019, WES determined with Planning Staff that submittal of a Natural Resource Assessment is not required because the wetland delineation from WD No. 2015-0231 is still valid. A WES Buffer Variance, however, that addresses encroachment into the WES Water Quality Buffer by those southerly elements is required as outlined in the Recommended Conditions of Approval below. See Exhibit HCA-10.

Much of the wetland complex area, as previously noted, is also overlaid with about 1.6 acres of Moderate and High Habitat Conservation Area (HCA), of which about 23,000 sq. ft. will be disturbed, largely through construction of the Tract A private road that will provide access from SE Ruscliff Road into the development. See Exhibits HCA-3, HCA-5 and Pages 8 and 9 of HCA-6. This negates the ability to leave undisturbed, and preserve within a tract, at least 90 percent of the HCA (which is predominantly High HCA), which prevents the applicant from following the so-called prescriptive path for an HCA Development Permit under Subsection 706.10(A), specifically Subsection 706.10(A)(4) for a subdivision. As such, the applicant is submitting the HCA Development Permit under the more discretionary and higher performance standards, in terms of mitigating detrimental impacts to the HCA, of Subsection 706.10(B). Among other things, an HCA Development Permit under Subsection 706.10(B) requires the preparation of an Impact Evaluation & Alternative Analysis (See Subsection 706.07[D][4]), which the applicant has provided as Exhibit HCA-5.

In addition to the proposed Tract A for the private road, the project will create two (2) additional open space tracts: 1) Tract B, a 44,418-sq.-ft. open space tract that will contain the jurisdictional wetland and much of the HCA; and 2) Tract C, an 83,825-sq.-ft. open space tract located south of the private road and continuing east beyond the proposed lots to the easterly boundary of the site. See Exhibit HCA-11. Mitigation for encroachment into both the HCA and WES Water Quality Buffer will be planted within these tracts, consisting of a total of 375 native trees and 680 native shrubs. See pages 12 through 15 of Exhibit 6.

Because the subject property contains HCA, it is located within the HCAD, as noted above, and regulated under Zoning & Development Ordinance (ZDO) Section 706, the Habitat Conservation Area District. Therefore, the proposed 15-lot PUD Subdivision is subject to review under the applicable standards and permitting of Section 706 as outlined below, which in brief summary are as follows:

1. ***File No. Z0524-19-CMP — HCA Construction Management Plan:*** *This application is essentially a plan that augments erosion control, flags the resource areas, while managing and staging construction activities in a manner that best protects the HCA — and, in this case, all of the sensitive areas including those outside of the HCA — throughout site development and construction activities.*
2. ***File No. Z0525-19-HMV — HCA Map Verification:*** *This application provides opportunities to modify or challenge the official, adopted HCA Map produced by Metro, while also allowing an applicant to accept the HCA Map as is. In this case, the applicant is accepting the HCA Map as is.*
3. ***File No. Z0523-19-HDB — HCA Development Permit:*** *This application is required whenever there is disturbance to the HCA that, in turn, necessitates mitigation. It is also required for a subdivision as discussed above — where there is a prescriptive alternative outlined under Subsection 706.10(A)(4) or a more discretionary, higher performance alternative outlined under Subsection 706.10(B) — regardless of whether there is disturbance to the HCA. In this case, more than 10 percent, or about 23,000 sq. ft. of 1.6 acres of HCA, will be disturbed, which requires the applicant to address the HCA Development standards of Subsection 706.10(B).*

I. HCAD RECOMMENDATION

The Planning & Zoning Division recommends approval of these application (File Nos. Z0523-19-HDB, Z0524-19-CMP & Z0525-19-HMV) for development within the Habitat Conservation Area District (HCAD), subject to the recommended Conditions of Approval outlined below:

II. RECOMMENDED HCAD CONDITIONS OF APPROVAL

1. **General Conditions:**

   A) Approval of these land use permits is based on the submitted written narrative and plans submitted up through April 3, 2020. No work shall occur under these permits beyond that specified in this decision. It shall be the responsibility of the property owner(s) to comply with this document and the limitation of approval described herein.

   B) The applicant shall obtain all necessary permits from the Oregon Department of State Lands (DSL), along with providing any additional analysis as may be required by DSL, regarding the road crossing, culverting or other disturbance in the area of the jurisdictional wetland in the westerly sector of the site as outlined on Exhibit HCA-7.

   C) A Water Environment Services (WES) Buffer Variance is required for encroachment into the WES Title 3 Water Quality Buffers.

      i. The WES Buffer Variance shall be submitted separately to, and processed by, the Planning & Zoning Division.

      ii. Preliminary construction plan review by WES shall be required prior to approval of the Buffer Variance.

   D) The proposed development is also subject to the Findings and Conditions of File No. Z0001-20-SL.

1. **Construction Management Plan Conditions:**

   A) Pursuant to Subsection 706.08, the proposed Construction Management Plan (CMP) shall meet the following standards:

      i. The CMP shall be implemented as outlined on the Construction Management Plan, Grading and Erosion Control Plan, Sheets 10 and 11, of the submitted HCA Development / Construction Management Permit Plans, prepared by Firwood Design Group, LLC and dated March 2020. See Pages 10 and 11 of Exhibit HCA-6.

      ii. Erosion prevention and sediment control (EPSC) measures shall be required and shall comply with the standards of WES.

      iii. Orange construction fencing (i.e. safety fencing, snow fencing, or a comparable product) shall be installed in such a manner as to protect the

area of the HCA and other sensitive areas that are not authorized for disturbance.

iv. Trees in the HCA shall not be used as anchors for stabilizing construction equipment.

v. Native soils disturbed during development shall be conserved on the subject property.

vi. Development shall not commence until the EPSC measures and fencing required pursuant to Subsections 706.08(A) and (B) are in place.

vii. Compliance with the Construction Management Plan shall be maintained until the development, including home construction on the individual lots, is complete.

2. **Map Verification Conditions:**

A) Approval Period: The approval of this HCA Map Verification shall be valid for four (4) years from the date of the final written decision. If the County's final written decision is appealed, the approval period shall commence on the date of the final appellate decision. During this four-year period, the approval shall be implemented, or the approval will become void.

i. "Implemented" has the meaning set forth in Subsection 706.06(D)(1) and (2).

ii. If this approved HCA Map Verification is not implemented within the initial approval period established by Subsection 706.06(D), a two-year time extension may be approved pursuant to Section 1310.

iii. This HCA Map Verification, if valid on the date when the final plat for the subdivision (File No. Z0001-20-SL) records with the County Clerk, shall remain valid for subsequent development on the lots created by the subdivision (Z0001-20-SL).

B) Pursuant to Subsection 706.09(A), the HCA Boundary is established as mapped on the Metro Nature in Neighborhoods Title 13 Map for T2S R2E Section 5 (Exhibit HCA-3).

3. **Development Permit (Subsection 706.10[B]) Conditions:**

A) Development that is approved within the HCA through this decision shall not result in the removal of the developed areas from the HCA and shall not change the applicable HCA categories.

B) Approval Period: The approval of this HCA Development Permit shall be valid for four (4) years from the date of the final written decision. If the County's final written decision is appealed, the approval period shall commence on the date of the final appellate decision. During this four-year period, the approval shall be implemented, or the approval will become void.

i. In this case, "implemented" means that the final plat of the subdivision (File No. Z0001-20-SL) shall be recorded with the County Clerk.

ii. If this approved HCA Development Permit is not implemented within the initial approval period established by Subsection 706.06(D), a two-year time extension may be approved pursuant to Section 1310.

C) Mitigation Standards: Mitigation for the development within the HCA shall be as outlined on the Mitigation Plan, Sheets 12 through 14, and on the Planting Notes & Details, Sheet 15, of the submitted HCA Development / Construction Management Permit Plans, prepared by Firwood Design Group, LLC and dated March 2020, with plantings themselves consisting of 375 native trees and 680 native shrubs. See Pages 12 through 15 of Exhibit HCA-6.

i. **Plant Size:** Replacement trees shall be at least one-half inch in caliper, measured at six inches above the ground level for field grown trees or above the soil line for container grown trees (the one-half inch minimum size may be an average caliper measure, recognizing that trees are not uniformly round), unless they are oak or madrone which may be one-gallon size. Shrubs shall be in at least a one-gallon container or the equivalent in ball and burlap and shall be at least 12 inches in height.

ii. **Plant Spacing:** Trees shall be planted between eight and 12 feet on center, and shrubs shall be planted between four and five feet on center, or clustered in single species groups of no more than four plants, with each cluster planted between eight and 10 feet on center. When planting near existing trees, the drip line of the existing tree shall be the starting point for plant spacing measurements.

iii. **Plant Diversity:** Shrubs shall consist of at least two different species. If 10 trees or more are planted, then no more than 50 percent of the trees may be of the same genus.

iv. **Invasive Vegetation:** Invasive non-native or noxious vegetation shall be removed within the mitigation area prior to planting, and shall be removed or controlled for five years following the date that the mitigation planting is completed.

v. **Mulching:** Mulch shall be applied around new plantings at a minimum of three inches in depth and 18 inches in diameter.

vi. **Tree and Shrub Survival:** Trees and shrubs that die shall be replaced in kind to the extent necessary to ensure that a minimum of 80 percent of the trees initially required and 80 percent of the shrubs initially required shall remain alive on the fifth anniversary of the date that the mitigation planting is completed.

vii. **Planting Timeframe:** The required mitigation shall be planted as soon as it is reasonably feasible within the parameters of on-site construction activities and seasonal requirements for the plantings.

viii. **Monitoring and Reporting:** Monitoring of the mitigation site shall be the ongoing responsibility of the property owner. For a period of five years following the date that the mitigation planting is completed, the property owner shall submit an annual report to the Planning Director documenting

the survival of the trees and shrubs on the mitigation site. In lieu of complying with the monitoring and reporting requirement, the property owner may post with the County a performance bond, or other surety acceptable to the County, in an amount sufficient to cover costs of plant material and labor associated with site preparation, planting, and maintenance. An applicant who elects to post a surety shall be subject to Subsections 1104.03 through 1104.05.

ix. All vegetation shall be planted on the subject property, either within the HCA or in an area contiguous to the HCA, provided, however, that if the vegetation is planted in an area contiguous to the HCA, such area shall be protected from development within an open space tract.

4. **Lot Line Setback Conditions:**

A) For only the resulting platted lots that will contain HCA: In cases where a reduction in the underlying setback standards of the R-10 zone, as permitted within a PUD, would move development further from the HCA, or prevent encroachment nearer to or into the HCA, the minimum front, rear, and side yard setbacks shall be zero, except:

i. Garages and carports shall comply with the minimum front yard setback of the underlying zoning district; and

ii. A greater setback may be required to comply with applicable fire or life safety requirements.

III. HCAD FINDINGS

This application is subject to Section 706 of the Clackamas County Zoning and Development Ordinance (ZDO). Section 706 of the ZDO, the Habitat Conservation Area District (HCAD), sets forth the process, standards and requirements for reviewing development in the HCAD. The Planning Division has reviewed these sections of the ZDO in conjunction with this proposal and makes the following findings:

706.02 AREA OF APPLICATION

A. Section 706 applies in the Habitat Conservation Area District (HCAD). The HCAD applies to all parcels containing a Habitat Conservation Area (HCA). The HCAD also applies to any area that is less than 100 feet outside the boundary of an HCA even if the area is not located on the same parcel as the HCA. HCAs are identified on maps adopted by reference in Chapter 3 of the Comprehensive Plan (hereinafter referred to as the HCA Map) and are categorized as High, Moderate, or Low HCA. Notwithstanding the HCA Map, however, Section 706 does not apply to areas that are outside both the Metropolitan Service District Boundary (MSDB) and the Portland Metropolitan Urban Growth Boundary (UGB).

The subject parcel contains HCA and is located in the MSDB and Portland Metropolitan UGB. Therefore, Section 706 applies.

B. An applicant may dispute the location of an HCA by submitting an application for HCA Map Verification pursuant to Subsection 706.06(B) or by applying for a Comprehensive Plan amendment to modify the HCA Map. HCA Map Verification does not amend the Comprehensive Plan.

The applicant is not disputing the location of the HCA

706.03 DEFINITIONS

The criteria, requirements, standards and text of ZDO Section 706 are subject to the definitions outlined in Subsection 706.03.

706.04 EXEMPT USES

The following uses and activities are exempt from the requirements of Section 706, except that if the use or activity requires a building or grading permit, a Construction Management Plan shall be required pursuant to Subsection 706.06(A). Notwithstanding the requirement for HCA Map Verification under Subsection 706.06(B), the HCA Map shall be deemed reliable for the purpose of administering Subsection 706.04 unless an approved HCA Map Verification exists for the subject property, in which case the approved HCA Map Verification shall be used to administer Subsection 706.04.

S. Facilities that infiltrate stormwater onsite, including the associated piping, provided that forest canopy and areas within the drip lines of trees are not disturbed and that only native vegetation is planted in these facilities. Such facilities may include, but are not limited to, vegetated swales, rain gardens, vegetated filter strips, and vegetated infiltration basins.

As outlined on Exhibits HCA-6 and HCA-12, these facilities will be installed in the open space tracts, in part to address the standards of Subsection 706.10(B)(1), as outlined in Exhibit HCA-5.

706.05 PROHIBITED USES

No Prohibited Uses are permitted or proposed.

706.06 DEVELOPMENT REVIEW REQUIREMENTS

The following review requirements are applicable to development in the Habitat Conservation Area District (HCAD) unless such development is exempt pursuant to Subsection 706.04.

A. A Construction Management Plan (CMP), consistent with Subsection 706.08, shall be required for development in the HCAD, regardless of whether development will occur within an HCA. However, if an area is in the HCAD solely because it is less than 100 feet outside the boundary of an HCA located

on a different parcel, Subsection 706.06(A) shall not apply unless HCA Map Verification required pursuant to Subsection 706.06(B) determines that an HCA exists on the same parcel as the area for which development is proposed. An application for a CMP shall be reviewed pursuant to one of the following processes:

Development is proposed in both the HCA and HCAD. Therefore an HCA CMP is required.

2. The application shall be filed concurrently with an application for review under Subsection 706.06(B) or 706.06(C), in which case the applications will be consolidated and reviewed pursuant to the process required by Subsection 706.06(B)(4) or 706.06(C)(3), respectively;

The CMP application is being filed concurrently with applications referenced above, and consolidated and reviewed with the other applications pursuant to the process outlined above.

B. In order to confirm the location of an HCA, HCA Map Verification, consistent with Subsection 706.09, shall be required or allowed as follows:

1. HCA Map Verification shall be required for:

a. Development that is proposed to be either in an HCA or less than 100 feet outside of the boundary of an HCA, as shown on the HCA Map; or

A parcel that:

i. Either contains an HCA, or any part of which is less than 100 feet outside the boundary of an HCA, as shown on the HCA Map; and

ii. Is the subject of a land use application for a partition, subdivision, or any other land use application the approval of which would authorize new development on the subject parcel.

Development is proposed in an HCA on a parcel that is the subject of a land use application for a subdivision that would authorize new development. Therefore HCA Map Verification is required.

2. An application for HCA Map Verification may be submitted even if one is not required pursuant to Subsection 706.06(B)(1).

HCA Map Verification is required.

3. If a parcel is subject to Subsection 706.06(B)(1)(b), an application for HCA Map Verification shall be filed concurrently with the other land use application referenced in Subsection 706.06(B)(1)(b)(ii) unless a previously approved HCA Map Verification for the subject property remains valid.

The HCA Map Verification application is being submitted concurrently with the Subdivision application, File No. Z0001-20-SL. There is no valid, previously approved HCA Map Verification for the subject property.

4. An application for HCA Map Verification shall be reviewed as a Type II application pursuant to Section 1307 unless the application is filed concurrently with another land use application that requires review as a Type III application, in which case the applications will be consolidated and reviewed as a Type III application pursuant to Section 1307.

The application for HCA Map Verification is being filed with a Subdivision application (File No. Z0001-20-SL) that requires review as a Type III application and, therefore, is being consolidated and reviewed with the other applications as a Type III application pursuant to Section 1307.

C. An HCA Development Permit, consistent with Subsection 706.10, shall be required for:

1. Development in an HCA or for a parcel that:

   a. Contains an HCA; and

   b. Is the subject of a land use application for a partition or subdivision.

Development is proposed in an HCA on a parcel that is the subject of a land use application for a subdivision. Therefore, an HCA Development Permit is required.

2. If a parcel is subject to Subsections 706.06(C)(1)(a) and (b), an application for an HCA Development Permit shall be filed concurrently with the application for a partition or subdivision.

The HCA Development Permit application is being filed concurrently with the application for a subdivision (File No. Z0001-20-SL).

3. An application for an HCA Development Permit shall be reviewed as a Type II application pursuant to Section 1307 unless the application is filed concurrently with another land use application that requires review as a Type III application, in which case the applications will be consolidated and reviewed as a Type III application pursuant to Section 1307.

The application for an HCA Development Permit is being filed with a Subdivision application (File No. Z0001-20-SL) that requires review as a Type III application and, therefore, is being consolidated and reviewed with the other applications as a Type III application pursuant to Section 1307.

706.07 SUBMITTAL REQUIREMENTS

In addition to the submittal requirements identified in Subsection 1307.07(C), applications filed pursuant to Section 706 shall comply with the following submittal requirements.

A. An application for a Construction Management Plan shall include:

The applicant has provided the necessary submittal materials for the proposed Construction Management Plan.

B. An application for HCA Map Verification shall include:

The applicant has provided the necessary submittal materials for the proposed HCA Map Verification, filed pursuant to Subsection 706.09(A)(1).

D. An application for an HCA Development Permit under Subsection 706.10(B) shall include:

The applicant has provided the necessary submittal materials for the proposed HCA Development Permit, filed pursuant to Subsection 706.10(B), including the Impact Evaluation & Alternatives Analysis required under Subsection 706.07(D)(4).

706.08 CONSTRUCTION MANAGEMENT PLANS

A Construction Management Plan (CMP) shall comply with the following criteria.

The applicable standards of this Subsection are outlined above under the Recommended Conditions of Approval.

706.09 HCA MAP VERIFICATION

HCA Map Verification shall be subject to the following criteria.

A. An applicant for HCA Map Verification shall use one or more of the following methods to verify the Habitat Conservation Area (HCA) boundary and, if applicable, the boundary between High, Moderate, and Low HCA.

1. The applicant may concur with the accuracy of the HCA Map of the subject property;

The applicant is concurring with the accuracy of the HCA Map of the subject property.

B. The location of any HCA on the subject property shall be determined by considering information submitted by the applicant, information collected during any site visit that may be made to the subject property, information generated by prior HCA Map Verification that has occurred on adjacent properties, and any other relevant information that has been provided.

All applicable information has been considered.

C. For applications filed pursuant to Subsection 706.09(A)(1) or (2), the HCA Map shall be deemed to be accurate unless, as described in Subsection 706.09(A)(2), there was a computer mapping error (e.g., an alignment error) made in the creation of the HCA map.

The HCA Map is deemed to be accurate.

706.10 HABITAT CONSERVATION AREA DEVELOPMENT PERMITS

A Habitat Conservation Area (HCA) Development Permit shall be approved if the applicant provides evidence substantiating compliance with either Subsection 706.10(A) or (B). However, if the proposed development is in a Water Quality Resource Area (WQRA) regulated pursuant to Section 709, it shall comply with either Subsection 706.10(B) or 709.10, except that if the subject parcel contains an HCA and a WQRA and is the subject of a land use application for a partition or subdivision, the partition or subdivision shall comply with the requirements of Subsections 706.10 and 709.11, and if the provisions conflict, the most restrictive standard shall apply.

The applicant is providing evidence that substantiates compliance with Subsection 706.10(B), while there will be no development in a WQRA. As previously noted, the applicant has submitted an Impact Evaluation & Alternatives Analysis, prepared by Firwood Design Group, LLC and dated March 2020 (Exhibit HCA-5) that Staff finds sufficiently addresses the applicable standards of this Subsection.

B. Development in an HCA that does not comply with Subsection 706.10(A) shall be permitted subject to the following criteria:

As previously noted, the proposed development does not comply with the prescriptive subdivision standards of Subsection 706.10(A)(4) and is, therefore, subject to the criteria of Subsection 706.10(B).

1. Development in the HCA shall be avoided to the extent practicable. If there is more than one category (High, Moderate, or Low) of HCA on the subject property, then the applicant shall first avoid the intrusion of development into the higher-valued HCA, to the extent practicable. To comply with these requirements, the following approaches shall be used, to the extent practicable:

    a. Multi-story construction;

    b. Minimizing building and development footprint;

    c. Maximizing the use of native landscaping materials and meeting applicable landscaping requirements by preservation of the HCA as permitted by Section 1009;

    d. Minimal excavation foundation systems (e.g., pier, post, or piling foundation);

e. Transfer of density from the HCA to another part of the subject property as permitted by Section 1012;

f. Placing facilities that are required to infiltrate stormwater onsite, including associated piping, within the HCA, provided that such facilities comply with Subsection 706.04(R); and

g. Complying with the setback standards of Subsection 706.11 rather than those of the underlying zoning district.

As outlined in the aforementioned Impact & Alternatives Analysis, the bulk of the development is located outside of the High HCA, except for a portion of the Tract A private road that disturbs about 7,600 square feet of High HCA, then about another 5,000 square feet of Moderate HCA. The road is of course necessary to provide access into the development, and the width of the road has been reduced from 24 feet to 20 feet and crosses through the narrowest / southerly segment of the wetland.

The original proposal (and allowable density) provided for 16 lots, which has been reduced to the 15-lot current proposal by removing a lot that would have contained the most HCA. Only one lot now contains High HCA (413 square feet on Lot 13), while five lots contain about 3,600 square feet of Moderate HCA, and overall minimization of building and development footprint is achieved through density transfer away from the sensitive areas, and developing the lot as a PUD. Ultimately, lots 11 through 15 will contain HCA, and recommended conditions provide for complying with the setback standards of Subsection 706.11 to move home construction on those lots away from the HCA.

Additionally, the installation of stormwater infiltration facilities is proposed within the HCA, and the overall stormwater management system is designed to infiltrate as much as possible into the HCA and wetland areas. Also, the use of native landscaping materials is being maximized through the planting of 375 native trees and 680 native shrubs.

2. If there is no practicable alternative that will avoid disturbance of the HCA, then significant detrimental impacts to the HCA shall be minimized as follows:

a. The proposed development shall minimize loss of habitat as compared to other practicable alternatives, including significantly different practicable alternatives that would result in less development within the HCA.

b. The proposed development shall minimize significant detrimental impacts to ecological functions of the HCA on the subject property as compared to other practicable alternatives, including significantly different practicable alternatives that would result in less development within the HCA. The ecological functions that shall be considered are:

i. Connectivity of the habitat to water;

ii. Connectivity of the habitat to other habitat areas; and

iii. The functions identified in Table 706-7.

c. If there is more than one category of HCA on the subject property, then development within a higher-valued HCA shall be considered more detrimental than development within a lower-valued HCA.

d. To the extent practicable, development in the HCA shall be designed, located, and constructed to:

i. Minimize grading, removal of native vegetation, and disturbance and removal of native soils by using the approaches required by Subsection 706.08, reducing building footprints, and using minimal excavation foundation systems (e.g., pier, post, or piling foundation);

ii. Minimize adverse hydrological impacts on water resources, such as by using the techniques described in Part (a) of Table 706-8, unless their use is prohibited by an applicable and required state or federal permit issued to a unit of local government having jurisdiction in the area, such as a permit required under the federal Clean Water Act, 33 U.S.C. §§1251 et seq., or the federal Safe Drinking Water Act, 42 U.S.C. §§300f et seq., and including conditions or plans required by such permit;

iii. Minimize impacts on wildlife corridors and fish passage, such as by using the techniques described in Part (b) of Table 706-8; and

iv. Consider using the techniques described in Part (c) of Table 706-8.

As outlined in the aforementioned Impact & Alternatives Analysis, the ecological functions of the HCA are primarily related to the connectivity of habitat to the wetland and to the Alder Creek drainage way to the south. The jurisdictional and non-jurisdictional wetlands provide streamflow moderation and water storage for the site and surrounding areas. The forested area serves a key role in providing shade and regulating the microclimate of the wetland area, while all vegetation provides bank stabilization, sediment, and pollution control for the wetlands.

At the same time, all adjacent properties have been developed, therefore the onsite HCA does not serve a key role in connectivity to adjacent habitat areas, and while the subject site contains valuable forest canopy and wetland area, it is isolated and standalone in its connectivity to surrounding natural habitats.

Additionally, site visits by Staff have observed that Alder Creek leading up to the wetland complex is in a somewhat degraded condition.

Arguably, the proposed development will minimize significant detrimental impacts to the HCA by improving habitat and ecological functions. With the exception of the road construction, the majority of the development is located outside of the HCA and wetland, and beyond the Alder Creek drainage way. More than 60 percent of the trees onsite will be preserved, while an additional 375 native trees and 680 native shrubs will be planted in the roughly 3 acres of open space tracts that will contain the undisturbed areas of the HCA, wetland and Alder Creek. Stormwater will be infiltrated onsite into the areas of the HCA and wetland, recharging groundwater, providing natural water quality treatment and supplying water to the vegetation and habitat in the open space areas. In sum, Staff finds that through the proposed mitigation measures, stormwater system design, and nearly 3 acres of open space, the proposed development can meet the performance standards for developing within the HCAD under Subsection 706.10(B).

3. If development in an HCA is approved pursuant to Subsection 706.10(B), compliance with the following mitigation standards shall be required, except that the mitigation standards for development in a wetland (as distinct from an HCA that is adjacent to a wetland) shall be only those required by federal and state law.

The applicant has proposed development within the HCA, pursuant to Subsection 706.10(B). The mitigation standards of this Subsection are outlined above under the Recommended Conditions of Approval, where mitigation is subject to the Mitigation Plan, Sheets 12 through 14, and on the Planting Notes & Details, Sheet 15, of the submitted HCA Development / Construction Management Permit Plans, prepared by Firwood Design Group, LLC and dated March 2020, where the plantings themselves consist of 375 native trees and 680 native shrubs. See Pages 12 through 15 of Exhibit HCA-6.

706.11 SETBACKS

The standards of this Subsection are dimensional standards that are applied as Conditions of Approval to parcels that contain an HCA and are located inside the Portland Metropolitan UGB, as will be the case with several of the platted lots.

This map was prepared for assessment purpose only.

N.W.1/4 S.W.1/4 SEC.5 T.2S. R.2E. W.M.
CLACKAMAS COUNTY
1"=100'

2 2E 5CB

RUSCLIFF RD.

6200 6400 6700

13400

CANCELLED TAX LOTS
500
302

SEE MAP 2 2E 5B

100
1.53Ac.
6596
6600

303
0.34Ac.
13450

300
0.27 Ac.

301
5.90 Ac.
13520

400
0.55 Ac.
13480

501
0.07 Ac.

200
0.07Ac.

App. 1/16 Cor.

PACIFIC HIGHWAY EAST

224

CASCADE HIGHWAY SECT.

LAKE ROAD

O.C.

COUNTY 74-8511

600
4.95 Ac.

700
34.39Ac.
13797
13801
13803

13600

R-10

12-51

OSM

SEE MAP 2 2E 6 & INDEX

WEBSTER ROAD

13900

SEE MAP 2 2E 5CA

SE PARMENTER CT.
SE Cor. DLC 54
NE Cor. DLC 55

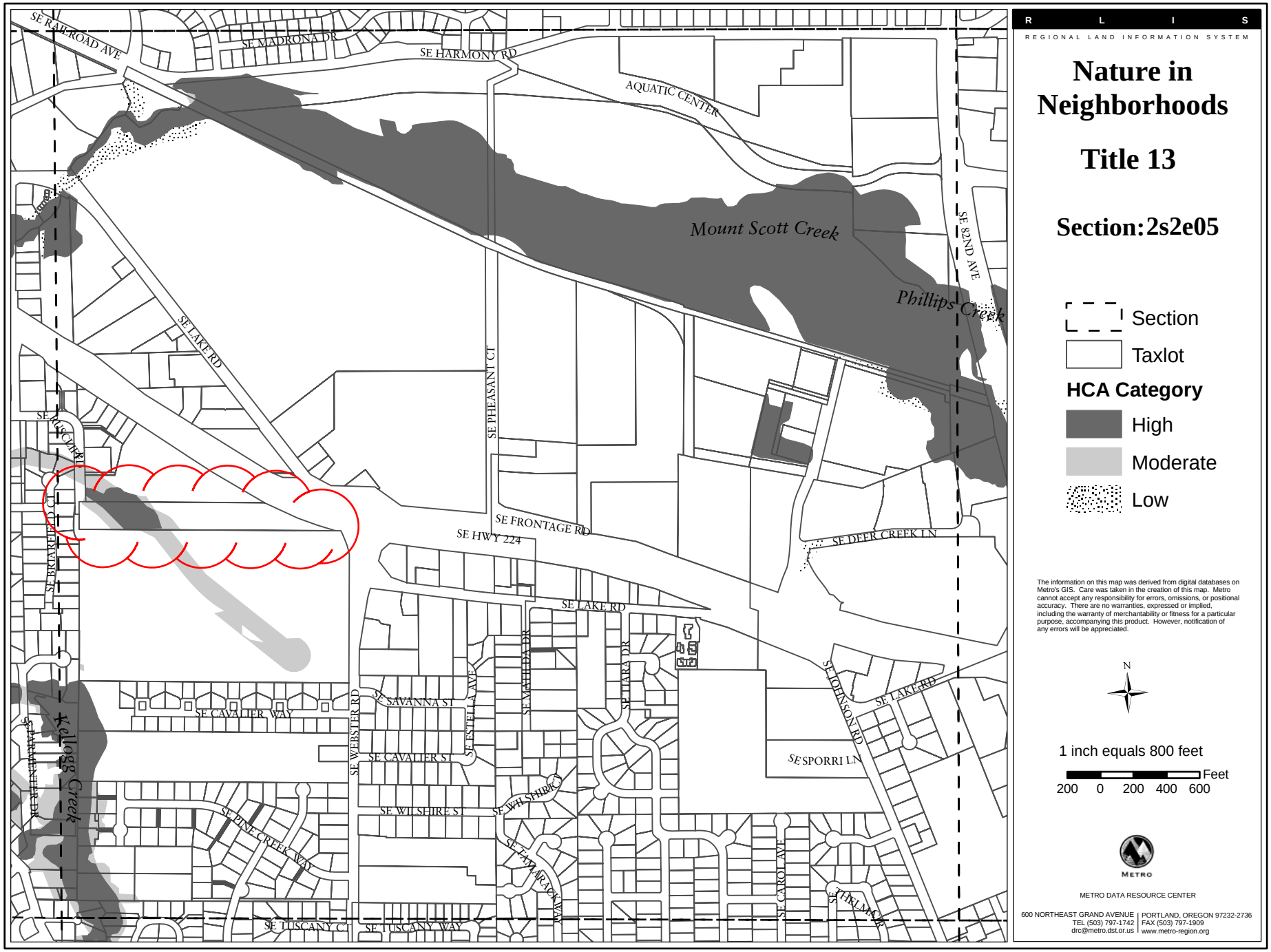
App. 1/16 Cor.

SEE MAP 2 2E 5CC

App. 1/16 Cor.

2 2E 5CB

BOOK 15



Plot date: 10 Sept 08 M:\plan\arc\08098_Title13_Sections\Title13_layout.mxd

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Ruscliff PUD HCAD NARRATIVE

File No.: ZPAC0049-19 | Ruscliff PUD | 22E05CB00600 | WES0401-15

Project Owner/ Applicant:

Brian D'Ambrosio
8800 SE Sunnyside RD ste 211S, Clackamas, OR 97015
brianambrosio1@gmail.com
503-758-3866

Project Location:

The existing 5.0-acre site is located at the terminus of Ruscliff Drive, 22E05CB00600

Project Consultant:

FDG (Firwood Design Group)
359 E. Historic Columbia River Highway
Troutdale, OR 97060
Kelli Grover, Project Manager/Engineer
503-668-3737, kg@firwooddesign.com

Proposed Land Use Applications:

Applicant proposes to sub-divide the existing parcel into 15 Lots and two conservation tracts for environmental protection area. A private street connecting from SE Ruscliff Rd is proposed to provide access into the lots. The lots will be served by public water and sanitary sewer services.

The lot is encumbered by existing wetlands with a DSL concurrence and the lot also has an HCA overlay. The roadway will cross over a portion of the HCA and wetland area and mitigation will be implemented to off-set this impact. The proposed lot layout will also result in development within the HCA. The applicant has provided a site plan illustrating the proposed development and the HCA Overlay boundaries per the Clackamas County overlay maps.

Per Sec 706.06 the applicant submits a **Construction Management Plant** (CMP) for review as related to the proposed development in the HCA overlay area. See sheets 10-11 in the enclosed plan set.

Per Section 706.07(A) a site plan with the requisite information and an erosion prevention sediment control plan is included in the application materials.

The applicant accepts the HCA Maps per Section 706.09 (A)(1), and requests for the **HCA Map Verification** review as part of this submittal.

Per Section 706.07(B) a summer 2002 aerial photograph of the subject property is included in the application materials. See sheet **2** in the enclosed plan set.

EX. HCA-4 | Z0523-19-HDA; Z0524-19-CMP & Z0525-19-HMV | PG. 1 of 2

Per Section 706.06 (.C) the applicant submits the application materials included herein for a **HCA Development Permit Review** per Subsection 706.10(A)

Per Section 706.07(C), a site plan, topographic plan, tree preservation plan, grading plan and mitigation plan with the requisite information is included in the application materials.

See the enclosed plan set.

A spreadsheet providing information related to the mitigation plan and corresponding shrub and tree planting quantities per Table 706-6 is included for reference and supplemental material.

Table 706-6: Tree Replacement

Size of Tree to be Removed (inches in diameter at breast height)	Number of Trees and Shrubs to be Planted
6 to 12	2 trees and 3 shrubs
over 12 to 18	3 trees and 6 shrubs
over 18 to 24	5 trees and 12 shrubs
over 24 to 30	7 trees and 18 shrubs
over 30	10 trees and 30 shrubs

Items Submittal with this application:

- General Application Form (see original submittal)
- Application Narrative - updated
- Supplemental Application Forms for: (see original forms)
  - HCA Map Verification
  - HCAD Permit
  - Construction Management Plan
- Proposed Development Permit Plans - updated
- HCA Permit Plans – updated
- Alternatives and Impact Analysis Report - New
- Vegetation Mitigation Calculation Spreadsheet - updated
- Approved Wetland Determination (see original submittal)

FIRWOOD DESIGN GROUP, LLC

IMPACT EVALUATION AND ALTERNATIVES ANALYSIS

Submitted:	March 2020
Submitted To:	Clackamas County Planning Division 150 Beavercreek Rd Oregon City, OR 97045
Applicant/Owner:	Brian D'ambrosio 8800 SE Sunnyside Rd Ste 2118 Clackamas, OR 97015
Applicant's Consultant:	Firwood Design Group Contact: Kelli Grover kg@firwooddesign.com 359 E. Historic Columbia River Highway Troutdale, OR 97060 (503) 668 - 3788
Site Address:	No Situs
Assessor's Information:	Clackamas County Assessor's Map Map 2 2E 5CB, Tax Lot 600

FDG
Firwood Design Group, LLC
SURVEYING • ENGINEERING • PLANNING

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I. PROJECT OVERVIEW

The project site is located at the end of SE Ruscliff Rd in unincorporated Clackamas County. Alder Creek Middle School borders the site to the south and Highway 224 runs along the east boundary of the site. The 5.05-acre property is Tax Lot 600 of County Assessor's Map 2-2E-05CB, with no site address.

The project proposes to subdivide the property and construct a 1,200 lf (approximate) private dead-end road with access from Ruscliff Road. The road will provide access to the 15 new single-family residential lots. A sidewalk will be constructed on the north side of the road and utility improvements include potable water, storm water, and sanitary sewer improvements. Three tracts will be created through the subdivision; the first, A, will contain the private road and sidewalk, while the other two, B and C, will be environmental conservation tracts to remain undeveloped.

Both conservation tracts will have stormwater detention and infiltration facilities that will collectively manage all stormwater runoff from future improvements on Tract A and each newly created lot. This is consistent with Clackamas County Zoning and Development Ordinance (ZDO) 706.10(B)(1)(f), "Placing facilities that are required to infiltrate stormwater onsite, including associated piping, within the HCA, provided that such facilities comply with Subsection 706.04(R)".

II. SITE EXISTING CONDITIONS

The site has a small intermittent drainageway along the southerly border, which flows east to west into a larger wooded wetland that is classified as a jurisdictional wetland. The area is a part of the Kellogg - Mt. Scott Creek watershed, which encompasses about 16 square miles from its headwaters in Johnson City and Happy Valley to the waterway's confluence with the Willamette River in downtown Milwaukee.

On December 30, 2005, Pacific Habitat Services, Inc. conducted a wetland delineation for the project site. The following is a summary of their findings, which provides a detailed description of the existing site conditions:

> "PHS identified 0.78 acres of jurisdictional wetland/waters of the state/US within the property. The wetland consists of a combination of palustrine forested (PFO) wetland within the western portion of the site, palustrine emergent (PEM) wetland within the

central portion of the property, and palustrine scrub-shrub (PSS) wetland within the eastern portion of the site. The wetland also encompasses an intermittent drainageway, which enters the northeastern portion of the property near Hwy 224, extends south to the southern property boundary where it continues westward along the southern boundary and then angles northward and continues off-site in a northwesterly direction.

"Three types of vegetation communities are present on site, including a wooded area at the western end of the site; an open filed in the central portion of the property; and a scrub-shrub area at the eastern end of the site. The canopy layer of the wooded area includes big-leaf maple, red alder, and Oregon ash; the understory shrubs and woody vines include Pacific ninebark, vine maple, snowberry, Douglas spiraea, English hawthorn, red-osier dogwood, English holly, Indian plum, English ivy, and Himalayan blackberry; the herbaceous understory is primarily composed of sword fern, and also includes species such as large-leaf avens, fringecup, colonial bentgrass, and tall fescue.

"The open field in the central portion of the site primarily consists of pasture grasses and weedy species, such as tall fescue, oxeye daisy, common vetch, colonial bentgrass, and English plantain. The drainageway along the southern edge of the field also includes soft rush, reed canarygrass, and creeping bentgrass.

"The scrub-shrub area in the eastern portion of the site includes English hawthorn, red alder, English holly, Scot's broom, Douglas spiraea, clustered rose, Pacific dewberry, Himalayan blackberry, evergreen blackberry, soft rush, creeping bentgrass, reed canarygrass, Canada thistle, St. John's wort, cleavers bedstraw, tall fescue, colonial bentgrass, spreading rush, oxeye daisy, dovefoot geranium, and annual bluegrass."

See sheets 2 and 3 of the HCA Development Plans for more on the site's existing conditions.

III. DESCRIPTION OF SITE HCA

The site contains a total of 1.57 acres of Habitat Conservation Area (HCA) overlay, as designated by Clackamas County. Of this, 68% is designated "High" value, while the rest is "Moderate" value. The High HCA consists of an approximately 250'-wide band that runs through the width of property, including the jurisdictional wetland and forested area on the western portion of the site. The Moderate HCA consists of approximately 60'-wide bands on both sides of the High HCA. The vegetated area on the eastern portion of the property is non-

HCA but does contain a significant portion of the jurisdictional wetland. See sheets 8 and 9 of the HCA Development Plans.

The ecological function of the HCA is primarily related to the connectivity of habitat to the wetland and drainageway to the south of the property. The jurisdictional and non-jurisdictional wetlands provide streamflow moderation and water storage for the site and surrounding areas. The forested area serves a key role in providing shade and regulating the microclimate of the wetland area, while all vegetation provides bank stabilization, sediment, and pollution control for the wetlands.

All adjacent properties have been developed, so the site's HCA does not serve a key role in connectivity to adjacent habitat areas. Highway 224 runs along the east of the property, a middle school campus borders the property to the south, a church complex borders the property to the east, and residential lots populate much of the surrounding neighborhood. While the subject site contains valuable forest canopy and wetland area, it is isolated and stand-alone in its connectivity to surrounding natural habitats.

IV. ALTERNATIVES ANALYSIS

A. "TRACT A" DESIGN

The key source of impact to the site's HCA is Tract A, which will contain the private road, curbs and north sidewalk. Construction of the road is necessary to provide access to the new lots. Since the HCA runs north to south through the entire width of the property, there is no possible way for the road to be built around or avoid the HCA. Additionally, 13 of the 15 proposed lots are on the eastern half of the lot, making them only accessible via a road connecting to SE Ruscliff Road that traverses through the HCA.

The footprint of the road was minimized by reducing its width to 20' from an originally proposed 24' wide road. Furthermore, the road alignment was designed to go through the narrowest part of the wetland. These design considerations minimize impacts to the wetland and HCA to the maximum extent practicable. This resulted in the design of a 32' wide tract that impacts a length of 380' within the HCA, a total of 12,160 sf, or 17.8% of the site's HCA. This impact alone fails to meet the requirements of Section 706.10(A)(4), subdivision of property containing an HCA, which states that 90% of the HCA shall be placed within a tract that is protected from development. The construction

of the road and creation of Tract A creates an unavoidable significant impact to the HCA.

B. SUBDIVISION & LOT LAYOUT

Impacts to the HCA are also minimized through strategic design of the subdivision's lot layout. None of the lots contain any wetland area, and only one lot contains High HCA, which is minimized such that development on the lot can be limited to non-HCA. Five lots contain Moderate HCA, but, again, all of these are subdivided in such a manner to limit development to non-HCA to the maximum extent practicable. The original design proposed 16 lots but was modified to eliminate the lot which contained the most HCA area.

Additionally, two conservation tracts, B and C, were created to preserve the HCA that is not impacted by Tract A. These two tracts contain 93% of HCA and 100% of wetland area that is not impacted by Tract A. The conservation tracts restrict and prevent future development, and as part of this project, these areas will have mitigation plantings to further enhance the ecological functions, diversity, and overall quality of the habitat.

C. STORMWATER MANAGEMENT

On-site stormwater management design went through multiple iterations to minimize impacts within the HCA. The final design has three stormwater detention and infiltration facilities that will be used to manage all stormwater runoff in the subdivision. The facilities will be in the conservation tracts, with additional sub-surface detention chambers underneath the proposed private road to minimize impacted surface area. The facilities ensure that stormwater runoff from newly created impervious areas will be detained and infiltrate as much as possible into the HCA and wetland areas. By doing this, the role that the wetland areas play in providing streamflow and water storage for the area will be maintained by preserving and enhancing water availability, while also meeting the water needs of the vegetation and wildlife in the unimpacted areas.

Previous design iterations for stormwater management did not utilize sub-surface infiltration, which required a larger detention pond that occupied more area in Tract B, requiring more trees and vegetation to be removed. Additionally, the larger detention

pond was designed to discharge detained water into the wetland rather than divert into the chambers to allow for more infiltration.

V. IMPACT EVALUATION

The design considerations taken that are described in the previous section all contribute to the project's goal of minimizing detrimental impact to the HCA to the maximum extent practicable. The following describes additional steps that will be taken to ensure preservation of HCA and wetland area.

As detailed previously, the road footprint was reduced and re-located through many design iterations with the goal of minimizing impacts. Measures to prevent unnecessary grading, excavation, and other disturbances in Tract A around HCA and wetland areas will be utilized. Additionally, all measures in ZDO Section 706.08 are considered in the project's Construction Management Plan (CMP). See sheets 10 & 11 of the HCA Development Plans for detail on the project's construction management and erosion control plan.

The site has a total of 374 trees of 6" or greater DBH, of which 61% will be retained. The 39% of trees to be removed will be cleared to allow for development in the approved areas outside of the two conservation tracts. Tree removal will follow all applicable guidelines in the ZDO. Additionally, construction fencing will be carefully integrated into the landscape such to protect trees that will be preserved, and to guide animals and other wildlife towards safe animal crossings and around transportation corridors.

To mitigate tree removal and other impacts to the area, native tree and, shrubs will be planted in accordance with the mitigation requirements in Sections 706.10(A)(6) & (7). The new plantings will be located native trees and shrubs will be planted within the HCA on property, and, when necessary, areas contiguous to the HCA. Also, considering the preserved trees, the mitigation plan will require all new plantings to be located outside of the drip line of existing trees to allow for full mature growth. See sheets 12, 13, 14, and 15 of the HCA Development Plans for more information on the mitigation plan proposed for this project.

VI. CONCLUSION

The proposed development cannot feasibly meet the requirements for Section 706.10(A)(4), subdivision of property containing an HCA, which states that 90% of the HCA shall be placed within a tract that is protected from development. As mentioned, the construction of a private

road providing access to the new lots cannot impact less than 10% of the site's HCA, due to the location of this overlay area. Other than this unavoidable impact, all measures to minimize impact elsewhere on the site were considered in this design.

The proposed design minimizes impacts within the HCA to the maximum extent practicable and the mitigation efforts will enhance the overall function and quality of the habitat area through more vegetation variety and a denser coverage.

The HCA development plan set provides further detail of what is discussed in this analysis and should be referenced in conjunction with this report.

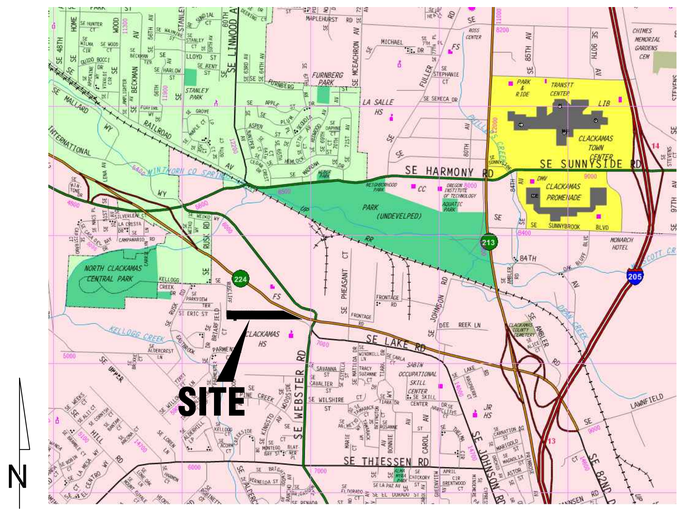
VII. SUMMARY OF CONTRIBUTORS

The evaluation of the impacts and alternatives analysis was prepared by Firwood Design Group Principal Engineer, Kelli Grover, and Engineering Technician, Zachary Adams.

Ms. Grover, a registered Environmental Engineer in the State of Oregon, has over 24 years of engineering experience and has conducted several habitat assessments primarily related to riparian corridors along waterways. Ms. Grover has a Bachelor of Science degree in Environmental Engineering and has completed the course work for a Master of Science degree in Environmental Engineering. Early in her career Ms. Grover conducted habitat inventories while working for ODFW, this provided a strong field background that augmented the academic studies in biology, giving Ms. Grover a strong understanding of the functions of habitat at the micro and macro scale and the interrelations with flora, fauna and aquatic organisms.

Mr. Adams has a Bachelor of Science in Environmental Engineering and is a registered E.I.T. in the State of Oregon. Mr. Adams has previous internship experience working in the environmental health field in manufacturing, complimenting academic studies in environmental science and sustainability. Additionally, Mr. Adams worked on many projects in his undergraduate studies that involved fate and transport of chemicals in the environment, providing a strong background in chemistry, air and water quality, and soil science.

HCA DEVELOPMENT/CONSTRUCTION MANAGEMENT PERMIT PLANS



VICINITY MAP
SCALE: NTS

SHEET INDEX

1 - COVER SHEET
2 - 2002 AERIAL PHOTOGRAPH
3 - EXISTING CONDITIONS
4 - TREE DEMO PLAN
5 - TREE DEMO PLAN
6 - TREE DEMO PLAN
7 - TREE TABLE
8 - HCA OVERLAY & WETLAND BUFFER IMPACT AREA
9 - HCA OVERLAY & WETLAND BUFFER IMPACT AREA
10 - CONSTRUCTION MANAGEMENT, GRADING, AND ESC PLAN
11 - CONSTRUCTION MANAGEMENT, GRADING, AND ESC PLAN
12 - MITIGATION PLAN
13 - MITIGATION PLAN
14 - MITIGATION PLAN
15 - PLANTING NOTES AND DETAILS
16 - ESC NOTES AND DETAILS
17 - ESC NOTES AND DETAILS

CONTACT INFORMATION

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REGISTERED PROFESSIONAL ENGINEER
67149PE
OREGON
JAN. 14, 2003
KELLI A. GROVER

EXPIRES: 06/30/21
SIGNATURE DATE: _____

DATE:	NO.	REVISION

DRAWN: | DESIGNED: | CHECKED:
SCALE: AS SHOWN | DATE: MARCH 2020
PROJECT NO. E19-006

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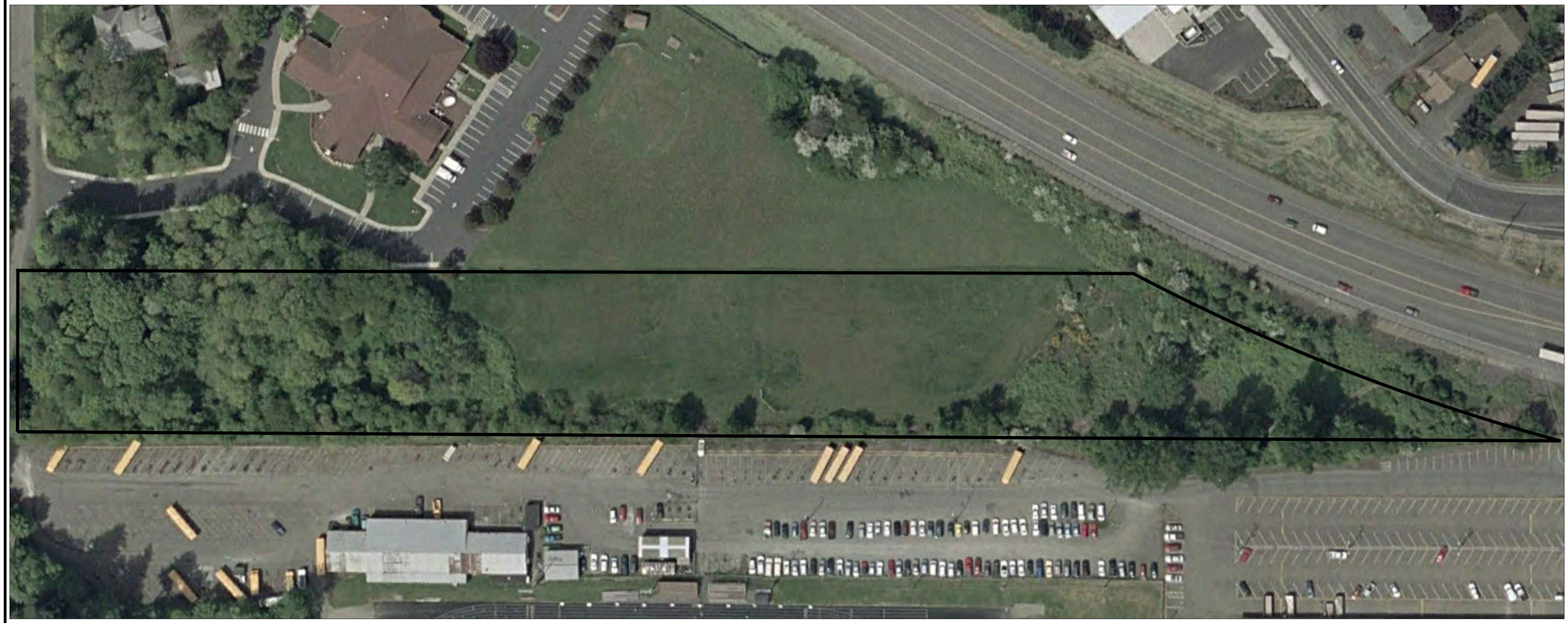
RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

COVER SHEET



NOTES:

1. PHOTOGRAPH SOURCED FROM GOOGLE EARTH HISTORICAL IMAGERY, MAY 2002.
2. IN COMPLIANCE WITH CLACKAMAS COUNTY DEVELOPMENT CODE SECTION 706.07(B)(1), AERIAL SHOWN WITH LOT LINES FOR HCA MAP VERIFICATION.

NORTH

0 50 100
SCALE IN FEET

REGISTERED PROFESSIONAL ENGINEER
67149PE
OREGON
Jan. 14, 2003
KELLI A. GROVER

EXPIRES: 06/30/21
SIGNATURE DATE: _____

DATE:	NO.	REVISION

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: MARCH 2020	
PROJECT NO. E19-006		

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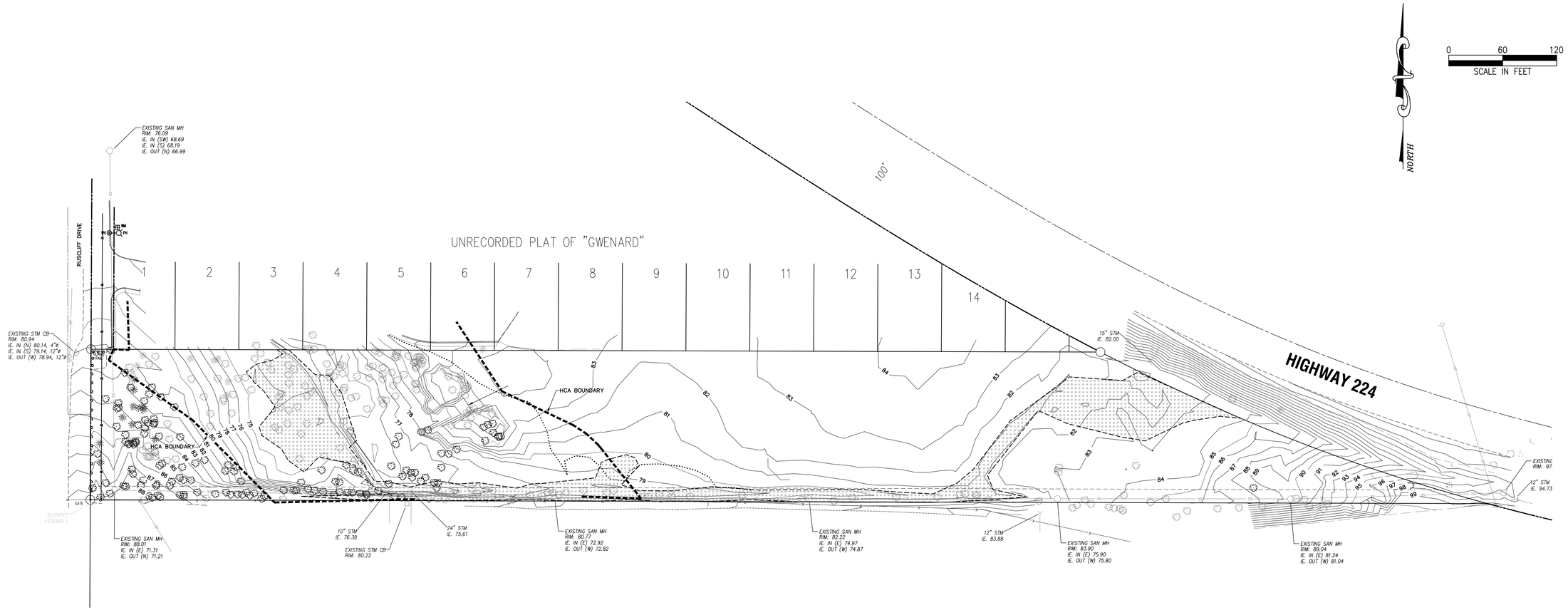
RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

AERIAL PHOTOGRAPH

2/17



LEGEND

- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- EXISTING UTILITY POLE WITH LIGHT
- EXISTING UTILITY PLLE
- EXISTING TELEPHONE RISER/VAULT
- EXISTING GAS METER
- EXISTING MAILBOX
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WATER VALVE

- PROPERTY BOUNDARY
- EXISTING RIGHT-OF-WAY
- EXISTING PROPERTY LINE
- EXISTING CENTERLINE
- EXISTING DITCH
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING FENCE LINE
- G — EXISTING GAS LINE
- STM — EXISTING STORM SEWER LINE
- SAN — EXISTING SANITARY SEWER LINE
- W — EXISTING WATER LINE
- EXISTING VEGETATION LINE
- EXISTING WETLAND AREA PER 2015 DSL CONCURRENCE
- HCA BOUNDARY

REGISTERED PROFESSIONAL ENGINEER
67149PE
OREGON
JAN. 14, 2003
KELLI A. GROVER

EXPIRES: 06/30/21
SIGNATURE DATE: _____

DATE:	NO.	REVISION

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: MARCH 2020	
PROJECT NO. E19-006		

FDG
Firwood Design Group, LLC
SURVEYING ✦ ENGINEERING ✦ PLANNING
359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
BUS: (503) 668-3737 ✦ FAX: (503) 668-3788

RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

EXISTING CONDITIONS

3/17

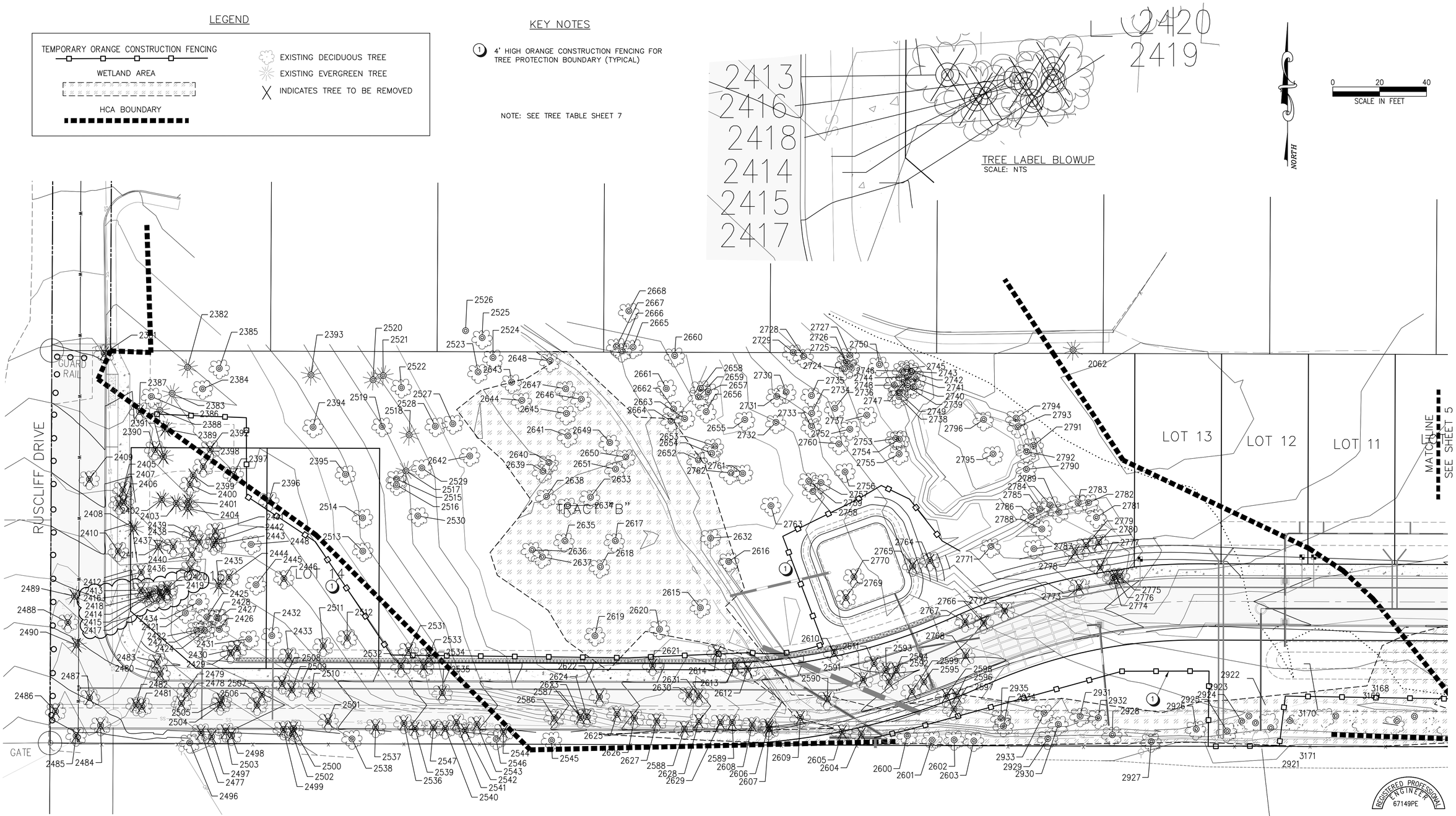
LEGEND

- TEMPORARY ORANGE CONSTRUCTION FENCING
- WETLAND AREA
- HCA BOUNDARY
- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- INDICATES TREE TO BE REMOVED

KEY NOTES

1. 4' HIGH ORANGE CONSTRUCTION FENCING FOR TREE PROTECTION BOUNDARY (TYPICAL)

NOTE: SEE TREE TABLE SHEET 7



REGISTERED PROFESSIONAL ENGINEER
67149PE
OREGON
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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

TREE DEMO AND PRESERVATION PLAN

4/17

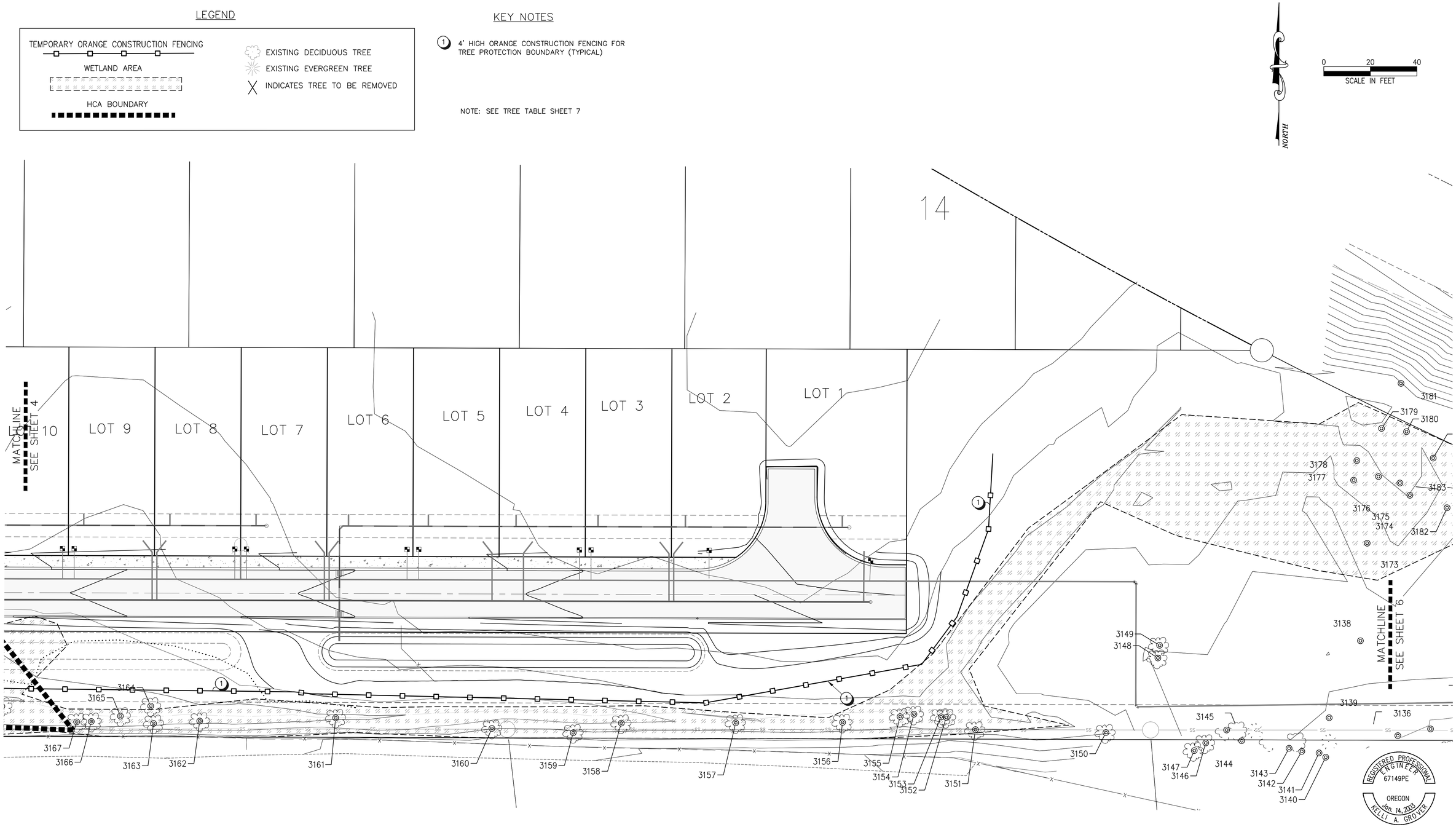
LEGEND

- TEMPORARY ORANGE CONSTRUCTION FENCING
- WETLAND AREA
- HCA BOUNDARY
- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- INDICATES TREE TO BE REMOVED

KEY NOTES

1. 4' HIGH ORANGE CONSTRUCTION FENCING FOR TREE PROTECTION BOUNDARY (TYPICAL)

NOTE: SEE TREE TABLE SHEET 7



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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

TREE DEMO AND PRESERVATION PLAN

5/17

LEGEND

TEMPORARY ORANGE CONSTRUCTION FENCING

WETLAND AREA

HCA BOUNDARY

EXISTING DECIDUOUS TREE

EXISTING EVERGREEN TREE

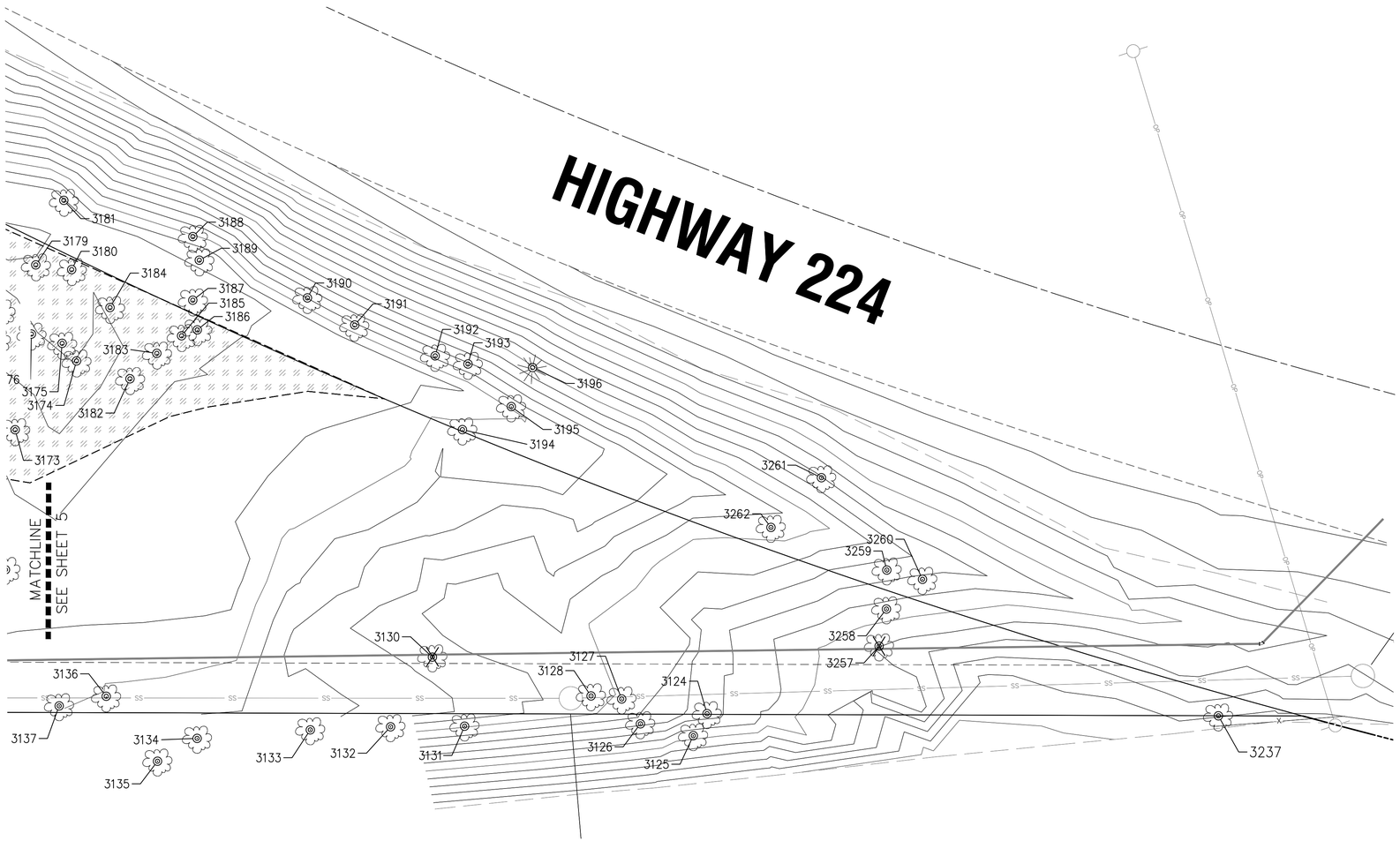
INDICATES TREE TO BE REMOVED

NOTE: SEE TREE TABLE SHEET 7

NORTH

0 20 40

SCALE IN FEET



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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

TREE DEMO AND PRESERVATION PLAN

TREE TABLE

Tree Number	Tree Description	Remove/ Preserve	Tree Number	Tree Description	Remove/ Preserve	Tree Number	Tree Description	Remove/ Preserve	Tree Number	Tree Description	Remove/ Preserve	Tree Number	Tree Description	Remove/ Preserve	Tree Number	Tree Description	Remove/ Preserve	Tree Number	Tree Description	Remove/ Preserve	Tree Number	Tree Description	Remove/ Preserve	Tree Number	Tree Description	Remove/ Preserve	Tree Number	Tree Description	Remove/ Preserve
2062	18" PINE	P	2419	16" MAPLE	R	2486	6" CHERRY	R	2529	14" MAPLE	P	2605	12" ALDER	R	2643	12" MAPLE	P	2736	14" CHERRY	P	2775	8" ALDER	R	3126	18" COTTONWOOD	P	3165	8-10" 3 STEM COTTONWOOD	P
2381	14" ALDER	P	2420	16" MAPLE	R	2487	16" MAPLE	R	2530	18" MAPLE	P	2606	8" ALDER	R	2644	10" MAPLE	P	2737	12" CHERRY	P	2776	8" ALDER	R	3127	8"DOUBLE STEM COTTONWOOD	P	3166	12" COTTONWOOD	P
2382	40" CEDAR	P	2421	MAPLE CLUSTER 3 @8"	P	2488	14" MAPLE	R	2531	14" ALDER	R	2607	8" ALDER	R	2645	8" MAPLE	P	2738	12" CHERRY	P	2777	10" ALDER	R	3128	10" COTTONWOOD	P	3167	12" COTTONWOOD	P
2383	18" CEDAR	P	2422	MAPLE CLUSTER 2 @ 8"	P	2489	26" DOUG-FIR	R	2532	14" ALDER	R	2608	8" ALDER	R	2646	18" MAPLE	P	2739	12" CHERRY	P	2778	8" ALDER	R	3130	24" COTTONWOOD	R	3168	12" COTTONWOOD	P
2384	22" MAPLE	P	2423	12" MAPLE	P	2490	36" DOUG-FIR	R	2533	12" ALDER	R	2609	COTTONWOOD 12-16"	R	2647	14" MAPLE	P	2740	12" CHERRY	P	2779	8" ALDER	R	3131	44" COTTONWOOD	P	3169	8-12" 3 STEM COTTONWOOD	P
2385	22" MAPLE	P	2424	MAPLE CLUSTER 2 @ 8"	P	2496	8" MAPLE	R	2534	12" ALDER	R	2610	16" ALDER	R	2648	14" MAPLE	P	2741	12" CHERRY	P	2780	8" ALDER	R	3132	12" HAWTHORNE	P	3170	12"DOUBLE STEM COTTONWOO	P
2386	18" &12" MAPLE	P	2425	8" MAPLE	P	2497	6" ALDER	R	2535	12" ALDER	R	2611	8" ALDER	R	2649	20" MAPLE	P	2742	12" CHERRY	P	2781	8" ALDER	P	3133	12"DOUBLE STEM COTTONWOOI	P	3171	12" ALDER	P
2387	18" MAPLE	R	2426	16" CHERRY	P	2498	6" ALDER	R	2536	12" ALDER	R	2612	16" ALDER	R	2650	20" MAPLE	P	2743	12" CHERRY	P	2782	8" ALDER	P	3134	36"DOUBLE STEM COTTONWOOI	P	3173	8" HAWTHORNE	P
2388	6" DOUG-FIR	P	2427	CHERRY 10" & 6"	P	2499	6" ALDER	R	2537	12" ALDER	R	2613	16" ALDER	R	2651	20" MAPLE	P	2744	12" CHERRY	P	2783	8" ALDER	P	3135	10" CHERRY	P	3174	8" HAWTHORNE	P
2389	8" CEDAR	R	2428	10" MAPLE	P	2500	6" ALDER	R	2538	8" ALDER	P	2614	10" ALDER	R	2652	20" MAPLE	P	2745	14" CHERRY	P	2784	8" ALDER	P	3136	8" CHERRY	P	3175	8" HAWTHORNE	P
2390	14" MAPLE	R	2429	24" MAPLE	R	2501	8" ALDER	R	2539	8" ALDER	R	2615	12" MAPLE	P	2653	20" MAPLE	P	2746	10" CHERRY	P	2785	8" ALDER	P	3137	12" HAWTHORNE	P	3176	8" HAWTHORNE	P
2391	30" DOUG-FIR	R	2430	14" MAPLE	R	2502	8" ALDER	R	2540	8" ALDER	R	2616	30"&18" MAPLE	P	2654	8" MAPLE	P	2747	10" CHERRY	P	2786	8"ALDER DOUBLE STEM	P	3138	24" COTTONWOOD	P	3177	8" HAWTHORNE	P
2392	8" MAPLE	R	2431	16" MAPLE	P	2503	8" ALDER	R	2541	8" ALDER	R	2617	16" MAPLE	P	2655	10" MAPLE	P	2748	10" CHERRY	P	2787	6" ALDER	P	3139	12" COTTONWOOD	P	3178	6" HAWTHORNE	P
2393	18" DOUG-FIR	P	2432	8" MAPLE	P	2504	8" CHERRY	R	2542	8" ALDER	R	2618	16" MAPLE	P	2656	16"&6" MAPLE	P	2749	10" CHERRY	P	2788	6" ALDER	P	3140	16" COTTONWOOD	P	3179	10" HAWTHORNE	P
2394	32" MAPLE	P	2433	8" MAPLE	R	2505	8" CHERRY	R	2543	8" ALDER	R	2619	24" MAPLE	P	2657	10" MAPLE	P	2750	10" CHERRY	P	2789	6" ALDER	P	3141	12" COTTONWOOD	P	3180	12" DOUBLE STEM HAWTHORNE	P
2395	14" MAPLE TWO STEM	P	2434	16" CHERRY	P	2506	16" CHERRY	R	2544	8" ALDER	R	2620	14" MAPLE	P	2658	10" MAPLE	P	2752	8" CHERRY	P	2790	6" ALDER	P	3142	16" COTTONWOOD	P	3181	12" HAWTHORNE	P
2396	MAPLE CLUSTER 3@1	R	2435	10" CEDAR	R	2507	10" CHERRY	R	2545	10" ALDER	R	2621	14" MAPLE	R	2659	20" MAPLE	P	2753	14" CHERRY	P	2791	6" ALDER	P	3143	16" COTTONWOOD	P	3182	8" HAWTHORNE	P
2398	18" MAPLE	R	2436	8" MAPLE	R	2508	14" CHERRY	R	2546	10" ALDER	R	2622	12" ALDER	R	2660	20" MAPLE	P	2754	10" CHERRY	P	2792	6" ALDER	P	3144	16" COTTONWOOD	P	3183	8" HAWTHORNE	P
2399	12" CEDAR	R	2437	8" MAPLE	R	2509	14" CHERRY	R	2547	10" ALDER	R	2623	8" ALDER	R	2661	8"&6" MAPLE	P	2755	8" MAPLE	P	2793	6" ALDER	P	3145	12" COTTONWOOD	P	3184	8" HAWTHORNE	P
2400	12" ALDER	R	2438	8" MAPLE	R	2510	10" CHERRY	R	2586	10" ALDER	R	2624	8" ALDER	R	2662	6" MAPLE	P	2756	16" CHERRY	P	2794	6" ALDER	P	3146	12" COTTONWOOD	P	3185	12" HAWTHORNE	P
2401	12" CEDAR	R	2439	16" MAPLE	R	2511	14" MAPLE	R	2587	10" ALDER	R	2625	8" ALDER	R	2663	8" MAPLE	P	2757	10" CHERRY	P	2795	6" ALDER	P	3147	12" COTTONWOOD	P	3186	12" HAWTHORNE	P
2402	12" CEDAR	R	2440	16" MAPLE	R	2512	16" MAPLE	R	2588	12" ALDER	R	2626	8" ALDER	R	2664	24" MAPLE	P	2758	8" CHERRY	P	2796	6" ALDER	P	3148	8" CHERRY	P	3187	8" HAWTHORNE	P
2403	8" CEDAR	R	2441	12" MAPLE	R	2513	36" MAPLE	P	2589	12" ALDER	R	2627	6" ALDER	R	2665	14" MAPLE	P	2759	8" CHERRY	P	2921	12" ALDER	P	3149	10" CHERRY	P	3188	10" HAWTHORNE	P
2404	8" CEDAR	R	2442	12" MAPLE	R	2514	12"&10" MAPLE	P	2590	12" ALDER	R	2628	6" ALDER	R	2666	6" MAPLE	P	2760	12" ALDER	P	2922	12" COTTONWOOD	P	3150	12" HAWTHORNE	P	3189	8" HAWTHORNE	P
2405	10" ALDER	R	2443	16" CHERRY	R	2515	12"MAPLE DOUBLE STEI	P	2591	12" ALDER	R	2629	6" ALDER	R	2667	8" MAPLE	P	2761	8"MAPLE DOUBLE STEM	P	2923	12" COTTONWOOD	P	3151	8" COTTONWOOD	P	3190	8" HAWTHORNE	P
2406	14" ALDER	R	2444	MAPLE 2 @ 10"	R	2516	12" MAPLE	P	2592	12" ALDER	R	2630	6" CHERRY	R	2668	8" MAPLE	P	2762	8" MAPLE	P	2925	16" ALDER	P	3152	12" COTTONWOOD	P	3191	8" 3 STEM HAWTHORNE	P
2407	8" ALDER	R	2445	CHERRY CLUSTER 20	P	2517	18" CEDAR	P	2593	6" ALDER	R	2631	16" CHERRY	R	2724	10" CHERRY	P	2763	24" MAPLE	P	2926	16" ALDER	P	3153	12" COTTONWOOD	P	3192	12" HAWTHORNE	P
2408	32" CEDAR	R	2446	CHERRY CLUSTER 12	R	2518	10" CEDAR	P	2594	6" ALDER	R	2632	18" MAPLE	P	2725	10" CHERRY	P	2764	8" ALDER	R	2927	8"-12" 4 STEM COTTONWOOD	P	3154	24" COTTONWOOD	P	3193	8" HAWTHORNE	P
2409	16" ALDER	R	2448	18" MAPLE	P	2519	14" MAPLE	P	2595	6" ALDER	R	2633	12" MAPLE	P	2726	12" CHERRY	P	2765	6" ALDER	R	2928	12" ALDER	P	3155	14" COTTONWOOD	P	3194	14" ALDER	P
2410	12" ALDER	R	2477	16" CHERRY	R	2520	22" CEDAR	P	2596	6" ALDER	R	2634	12" MAPLE	P	2727	8" CHERRY	P	2766	30" COTTONWOOD	R	2929	12" COTTONWOOD	P	3156	18" COTTONWOOD	P	3195	14" ALDER	P
2411	6" CEDAR	R	2478	16" CHERRY	R	2521	24" DOUG-FIR	P	2597	10" ALDER	R	2635	16" MAPLE	P	2728	18" CHERRY	P	2767	6" HOLLY	R	2930	14" COTTONWOOD	P	3157	10" COTTONWOOD	P	3196	12" DOUG-FIR	P
2412	14" MAPLE	R	2479	6" CHERRY	R	2522	16" MAPLE	P	2598	10" ALDER	R	2636	16" MAPLE	P	2729	30" DOUG-FIR	P	2768	8" HAWTHORNE	R	2931	8"DOUBLE STEM COTTONWOOD	P	3158	10" COTTONWOOD	P	3237	12-18" 3 STEM BIRCH	P
2413	6" MAPLE	R	2480	6" CHERRY	R	2523	16"	P	2599	10" ALDER	R	2637	24" MAPLE	P	2730	12"CHERRY DOUBLE STEM	P	2769	12" HAWTHORNE DOUBLE STEI	R	2932	14"DOUBLE STEM COTTONWOOD	P	3159	16" COTTONWOOD	P	3257	12" COTTONWOOD	R
2414	6" MAPLE	R	2481	6" CHERRY	R	2524	12" MAPLE	P	2600	ALDER CLUMP 6"-10"	P	2638	14" MAPLE	P	2731	6"CHERRY	P	2770	8" HAWTHORNE	R	2933	8" ALDER	P	3160	12" HAWTHORNE	P	3258	14" CHERRY	P
2415	10" MAPLE	R	2482	12" CHERRY	R	2525	8" MAPLE	P	2601	6" ALDER	P	2639	12" MAPLE	P	2732	10" CHERRY	P	2771	8" ALDER	P	2934	10" ALDER	P	3161	16" COTTONWOOD	P	3259	8" ALDER	P
2416	16" CEDAR	R	2483	20" CHERRY	R	2526	18" CEDAR	P	2602	6" ALDER	P	2640	12" MAPLE	P	2733	10" CHERRY	P	2772	8" ALDER	R	2935	12" ALDER	P	3162	12-16" 3 STEM COTTONWOOD	P	3260	8" ALDER	P
2417	6" MAPLE	R	2484	6" CHERRY	R	2527	16"	P	2603	6" ALDER	P	2641	14" MAPLE	P	2734	10" CHERRY	P	2773	8" ALDER	R	3124	8" COTTONWOOD	P	3163	12" COTTONWOOD	P	3261	10" MAPLE	P
2418	10" MAPLE	R	2485	6" CHERRY	R	2528	8" MAPLE	P	2604	12" ALDER	R	2642	6"&8" MAPLE	P	2735	12" CHERRY	P	2774	8" ALDER	R	3125	10" COTTONWOOD	P	3164	12" COTTONWOOD	P	3262	6" ALDER	P

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CLACKAMAS, OREGON

TREE TABLE

LEGEND

MODERATE HCA AREA

LOT 11 = 23 SF
LOT 12 = 523 SF
LOT 13 = 769 SF
LOT 14 = 1,981 SF
LOT 15 = 344 SF
TRACT "A" = 5,078 SF
TRACT "B" = 8,749 SF
TRACT "C" = 4,566 SF

TOTAL 22,033 SF

HIGH HCA AREA

LOT 13 = 413 SF
TRACT "A" = 7,675 SF
TRACT "B" = 33,602 SF
TRACT "C" = 4,489 SF

TOTAL 46,179 SF

TOTAL IMPACTED HCA AREA = 22,925 SF (0.53 ACRES)

50' BUFFER LINE FROM EDGE OF WETLAND

IMPACTED AREA WITHIN THE 50' BUFFER ZONE (42,914 SF)

WETLAND AREA

TOTAL IMPACTED AREA = 1,767 SF
(SEE LISTED AREAS ON PLAN VIEW)

TOTAL HCA AREA = 68,212 SF

MINIMUM HCA OVERLAY NEEDED TO BE PLATTED AS A TRACT, PER COUNTY ZDO 706.10(A)(4)(a) IS 90% =

68,212 * (0.9) = 61,391 SF

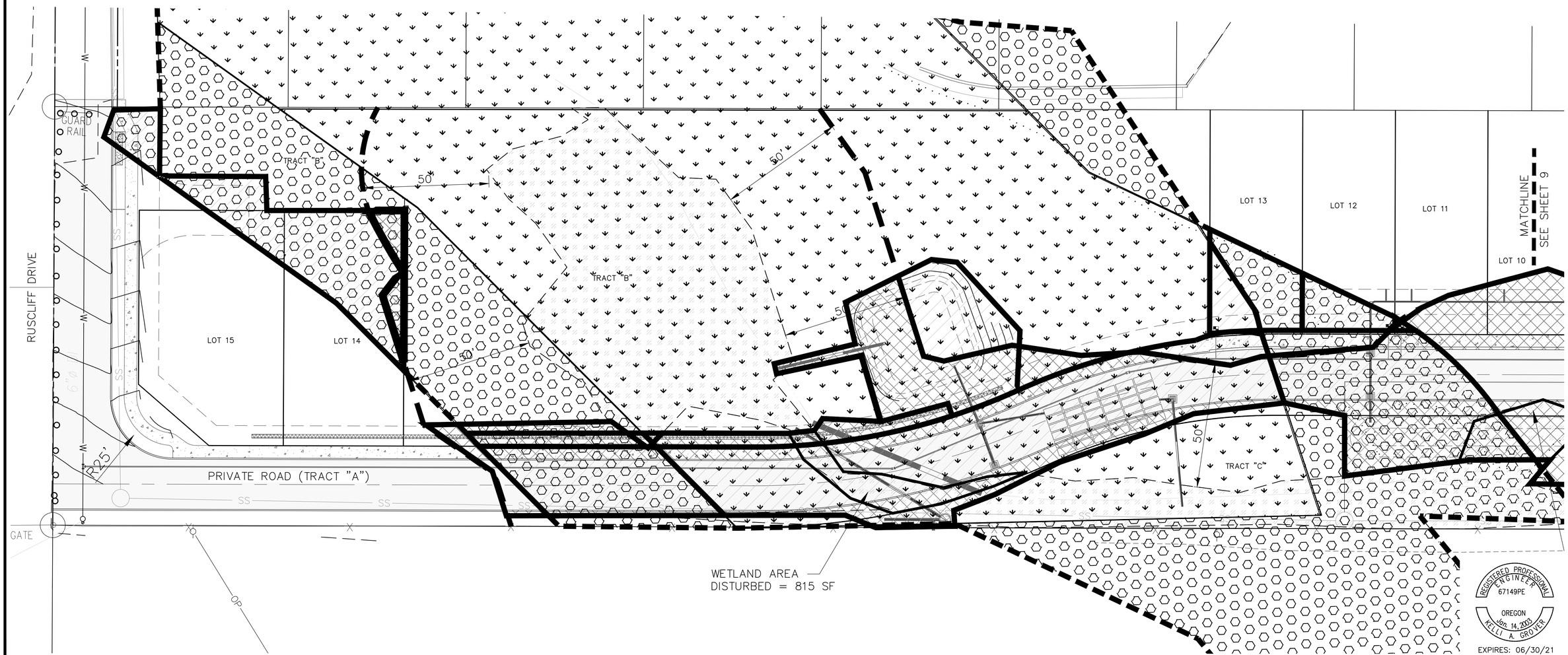
HCA OVERLAY PROPOSED TO BE PLATTED AS A CONSERVATION TRACT:

TRACT "B" = 42,351 SF
TRACT "C" = 9,055 SF

TOTAL 51,406 SF

NORTH

0 20 40
SCALE IN FEET



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HCA OVERLAY & WETLAND BUFFER IMPACT AREA

8/17

LEGEND

MODERATE HCA AREA

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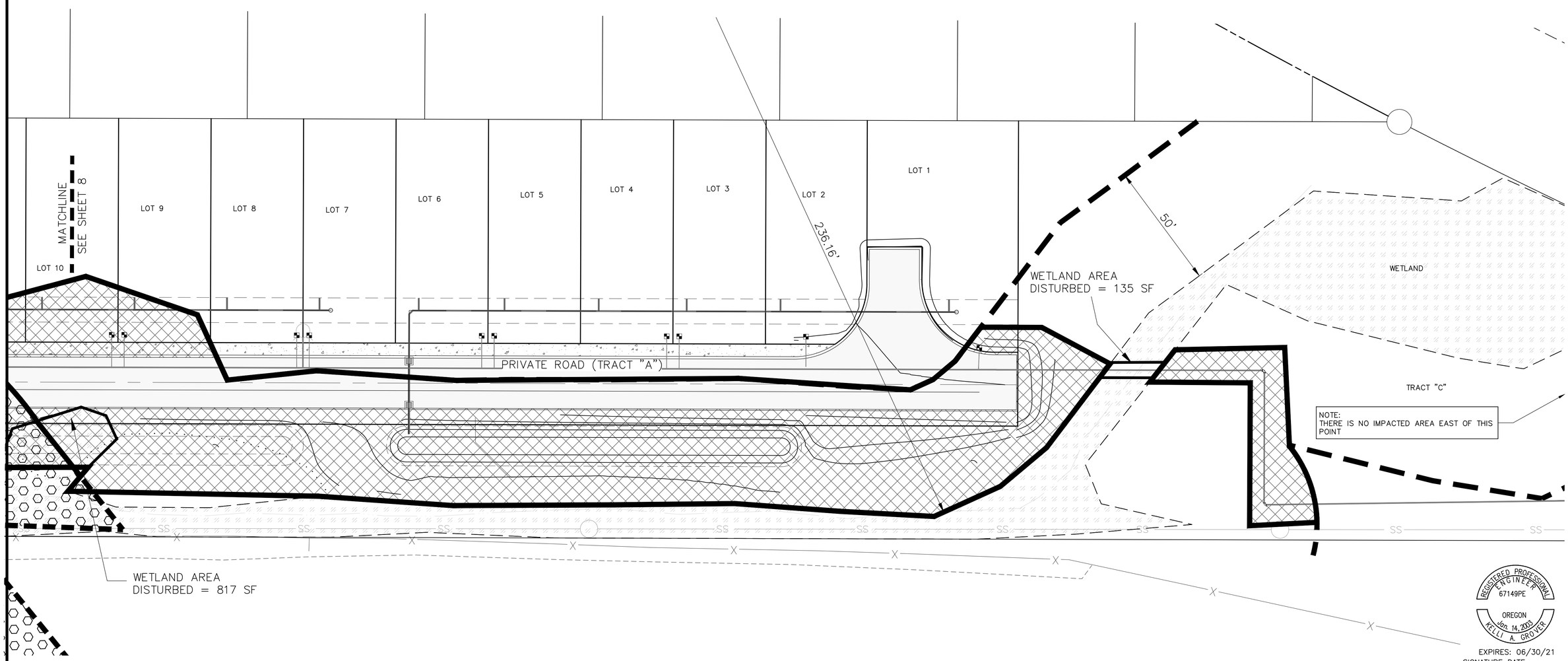

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CLACKAMAS, OREGON

HCA OVERLAY & WETLAND BUFFER IMPACT AREA

9/17

KEY NOTES

1. CB INSERT INLET PROTECTION FOR AREA DRAIN TYPE CATCH BASIN, SEE DETAILS ON SHEET 16 (TYPICAL)
2. INLET PROTECTION FOR DITCH INLET TYPE CATCH BASIN, SEE DETAILS ON SHEET 16 (TYPICAL)
3. ORANGE CONSTRUCTION/SEDIMENT FENCING ALONG THE EDGE OF THE UNDISTURBED HCA BOUNDARY. REMOVE PORTION AS NECESSARY FOR ROAD CONSTRUCTION (TYPICAL)
4. PROPOSED FINISH GRADE CONTOURS (TYPICAL)
5. STOCKPILE AREA (TYPICAL), SEE PLASTIC SHEETING DETAIL ON SHEET 17
6. CONSTRUCTION ENTRANCE, SEE DETAIL ON SHEET 17
7. CONSTRUCT TEMPORARY 3' X 3' X 2' DEEP SUMP AREA TO BE USED AS WASH AREA FOR CONCRETE TRUCKS, AFTER CURBS AND SIDEWALKS ARE INSTALLED AND BEFORE ROADS ARE PAVED, FILL AND COMPACT SUMP AREA PER STRUCTURAL REQUIREMENTS, DO NOT OVERFILL SUMP AREA, CONTRACTOR TO INCREASE SUMP WIDTH AS NECESSARY TO PROVIDE ADEQUATE VOLUME AS (IF) NEEDED

LEGEND

- TEMPORARY SEDIMENT FENCE
- BIO-BAG AND INLET INSERT PROTECTION
- TEMPORARY ORANGE CONSTRUCTION FENCE
- LIMITS OF DISTURBANCE (2.46 ACRES)
- WETLAND AREA
- HCA BOUNDARY
- EXISTING DECIDUOUS TREE TO REMAIN
- EXISTING EVERGREEN TREE TO REMAIN

NOTES

1. TREES IN THE HCA SHALL NOT BE USED AS ANCHORS FOR STABILIZING CONSTRUCTION EQUIPMENT
2. NATIVE SOILS DISTURBED DURING DEVELOPMENT SHALL BE CONSERVED ON THE SUBJECT PROPERTY
3. DEVELOPMENT SHALL NOT COMMENCE UNTIL THE EPSC MEASURES AND FENCING REQUIRED PURSUANT TO SUBSECTIONS 706.08(A) AND (B) ARE IN PLACE
4. COMPLIANCE WITH THE CMP SHALL BE MAINTAINED UNTIL THE DEVELOPMENT IS COMPLETE

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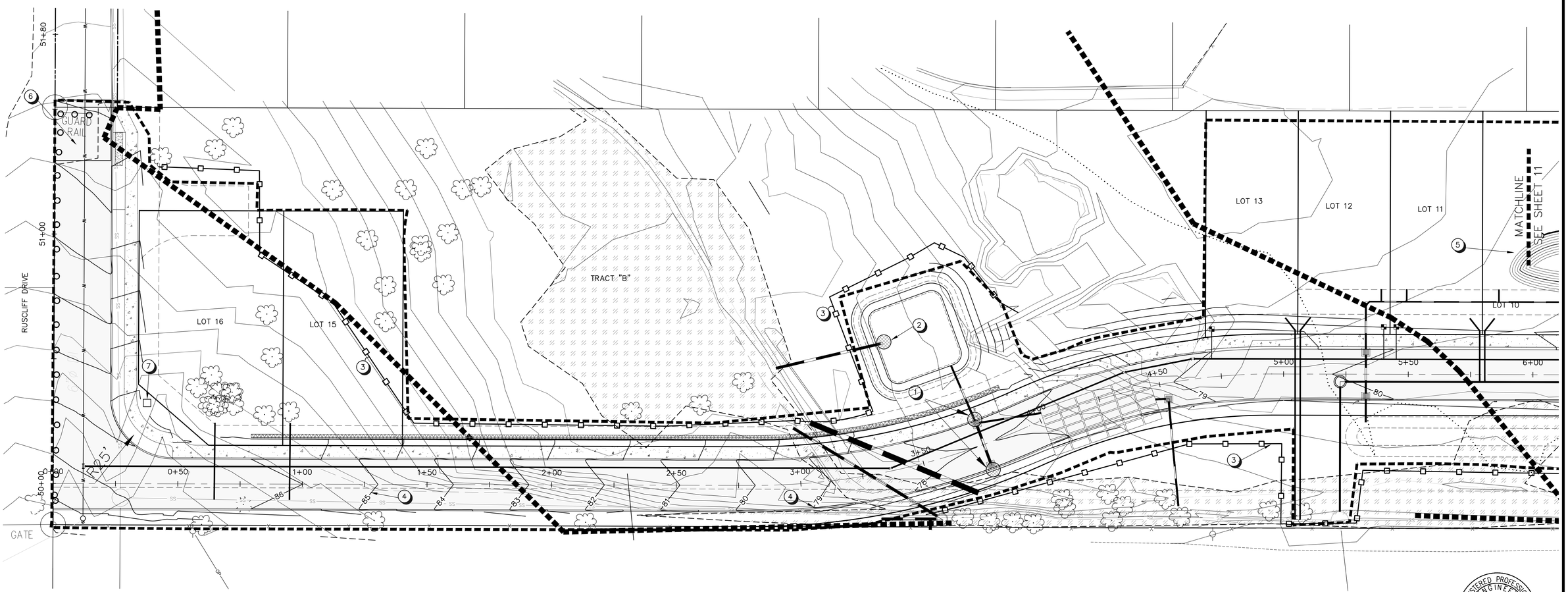
SCALE IN FEET

NORTH

ESTIMATED IN-PLACE QUANTITIES:

CUT = 1,631 CY
FILL = 962 CY



REGISTERED PROFESSIONAL ENGINEER
67149PE
OREGON
JAN. 14, 2003
KELLI A. GROVER

EXPIRES: 06/30/21
SIGNATURE DATE: _____

DATE:	NO.	REVISION
		PROPOSED FINISH GRADE CONTOURS (TYPICAL)

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: MARCH 2020	
PROJECT NO. E19-006		

FDG
Firwood Design Group, LLC
SURVEYING ✦ ENGINEERING ✦ PLANNING
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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

CONSTRUCTION MANAGEMENT, GRADING, AND EROSION CONTROL PLAN

10/17

KEY NOTES

1. CB INSERT INLET PROTECTION FOR AREA DRAIN TYPE CATCH BASIN, SEE DETAILS ON SHEET 16 (TYPICAL)
2. INLET PROTECTION FOR DITCH INLET TYPE CATCH BASIN, SEE DETAILS ON SHEET 16 (TYPICAL)
3. ORANGE CONSTRUCTION/SEDIMENT FENCING ALONG THE EDGE OF THE UNDISTURBED HCA BOUNDARY. REMOVE PORTION AS NECESSARY FOR ROAD CONSTRUCTION (TYPICAL)
4. PROPOSED FINISH GRADE CONTOURS (TYPICAL)
5. STOCKPILE AREA (TYPICAL), SEE PLASTIC SHEETING DETAIL ON SHEET 17

LEGEND

- TEMPORARY SEDIMENT FENCE
- BIO-BAG AND INLET INSERT PROTECTION
- TEMPORARY ORANGE CONSTRUCTION FENCE
- LIMITS OF DISTURBANCE (2.46 ACRES)
- WETLAND AREA
- HCA BOUNDARY
- EXISTING DECIDUOUS TREE TO REMAIN
- EXISTING EVERGREEN TREE TO REMAIN

NOTES

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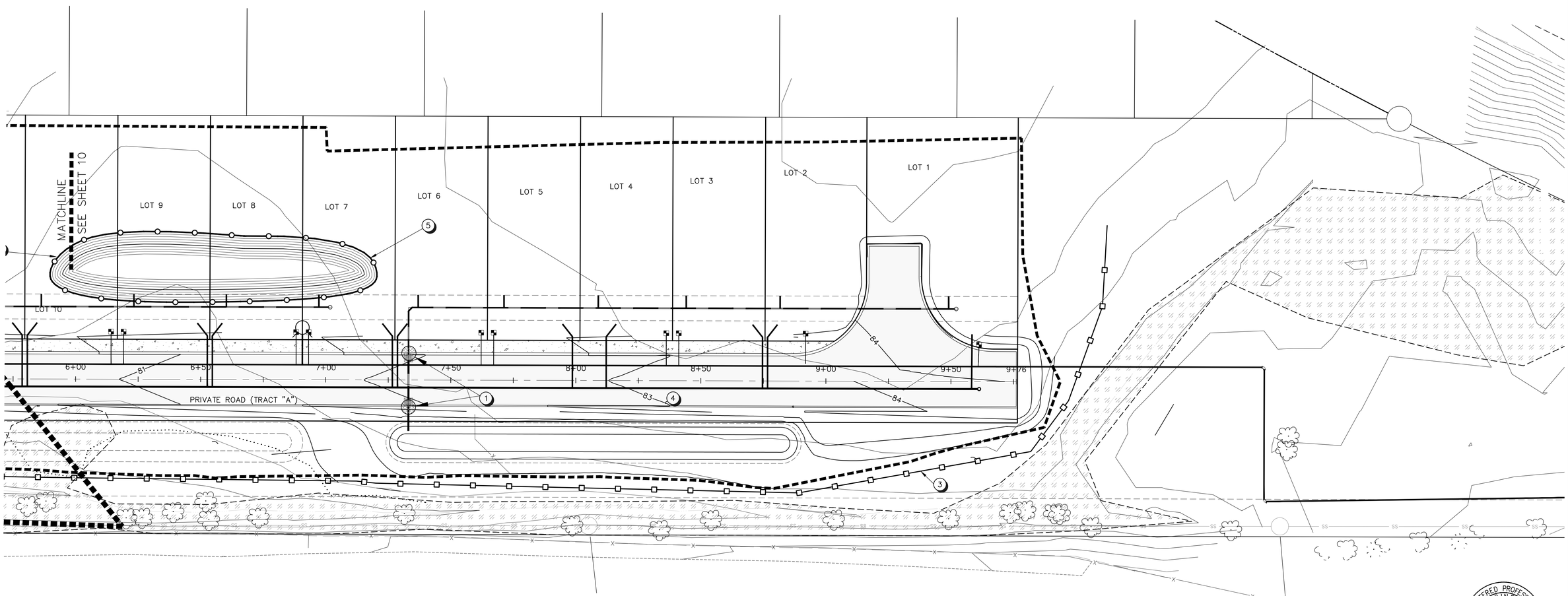

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CLACKAMAS, OREGON

CONSTRUCTION MANAGEMENT, GRADING, AND EROSION CONTROL PLAN

11/17

PLANTING LEGEND

BOTANICAL NAME	COMMON NAME	TYPE	SIZE	SPACING	SPACING FORMAT	QUANTITY	SOIL CONDITION
BERBERIS NERVOSA	CASCADE OREGON GRAPE	SHRUB	1 GALLON	4' – 5' O.C.	CLUSTER	200	MOIST
HOLODISCUS DISCOLOR	OCEANSPRAY	SHRUB	1 GALLON	4' – 5' O.C.	SINGLE	140	DRY
RIBES SANGUINEUM	RED CURRANT	SHRUB	1 GALLON	4' – 5' O.C.	CLUSTER	140	DRY
SPIRAEA DOUGLASII	DOUGLAS' SPIRAEA	SHRUB	1 GALLON	4' – 5' O.C.	CLUSTER	200	WET
CORNUS NUTTALLII	PACIFIC DOGWOOD	TREE	2 GALLON	8' – 12' O.C.	SINGLE	175	MOIST
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	TREE	2 GALLON	8' – 12' O.C.	SINGLE	200	DRY

NOTES

1. MITIGATION PLAN BASED OFF OF NUMBER AND SIZE OF TREES REMOVED, FOLLOWING TABLE 706–6 AND SECTION 706.10(A)(6)(A)(i) IN THE CLACKAMAS COUNTY DEVELOPMENT CODE. THIS MITIGATION OPTION RESULTED IN THE MOST TREE PLANTINGS.
2. WHEN PLANTING NEAR EXISTING TREES, THE DRIP LINE OF THE EXISTING TREES SHALL BE THE STARTING POINT FOR PLANT SPACING MEASUREMENTS.
3. MULCH SHALL BE APPLIED AROUND THE NEW PLANTINGS AT A MINIMUM OF THREE INCHES IN DEPTH AND 18 INCHES IN DIAMETER. (SEE DETAIL ON SHEET 13).
4. MORE INFORMATION ON THE SPECIFIED PLANT SPECIES CAN BE FOUND IN THE CITY OF PORTLAND & CLACKAMAS COUNTY PLANT LISTS.

NORTH

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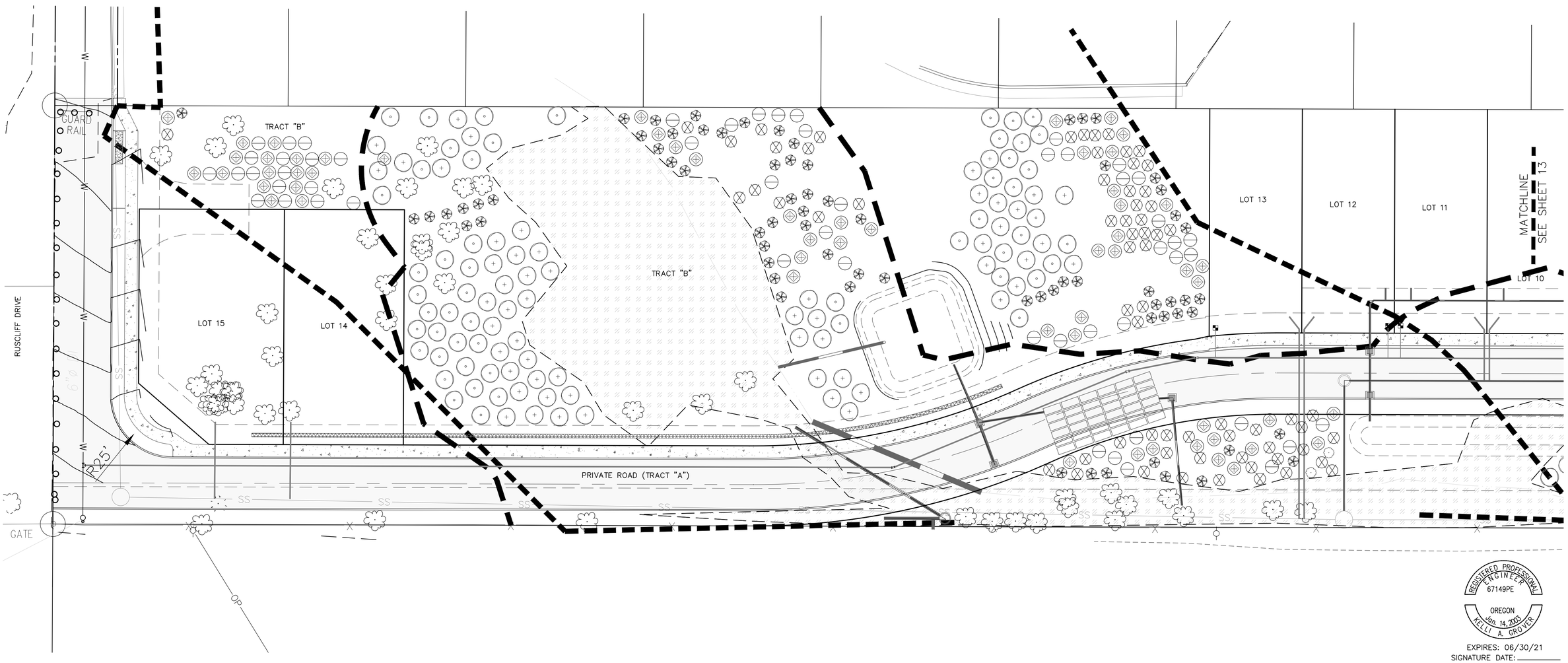
SCALE IN FEET



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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

MITIGATION PLAN

12/17

PLANTING LEGEND

BOTANICAL NAME	COMMON NAME	TYPE	SIZE	SPACING	SPACING FORMAT	QUANTITY	SOIL CONDITION
BERBERIS NERVOSA	CASCADE OREGON GRAPE	SHRUB	1 GALLON	4' – 5' O.C.	CLUSTER	200	MOIST
HOLODISCUS DISCOLOR	OCEANSPRAY	SHRUB	1 GALLON	4' – 5' O.C.	SINGLE	140	DRY
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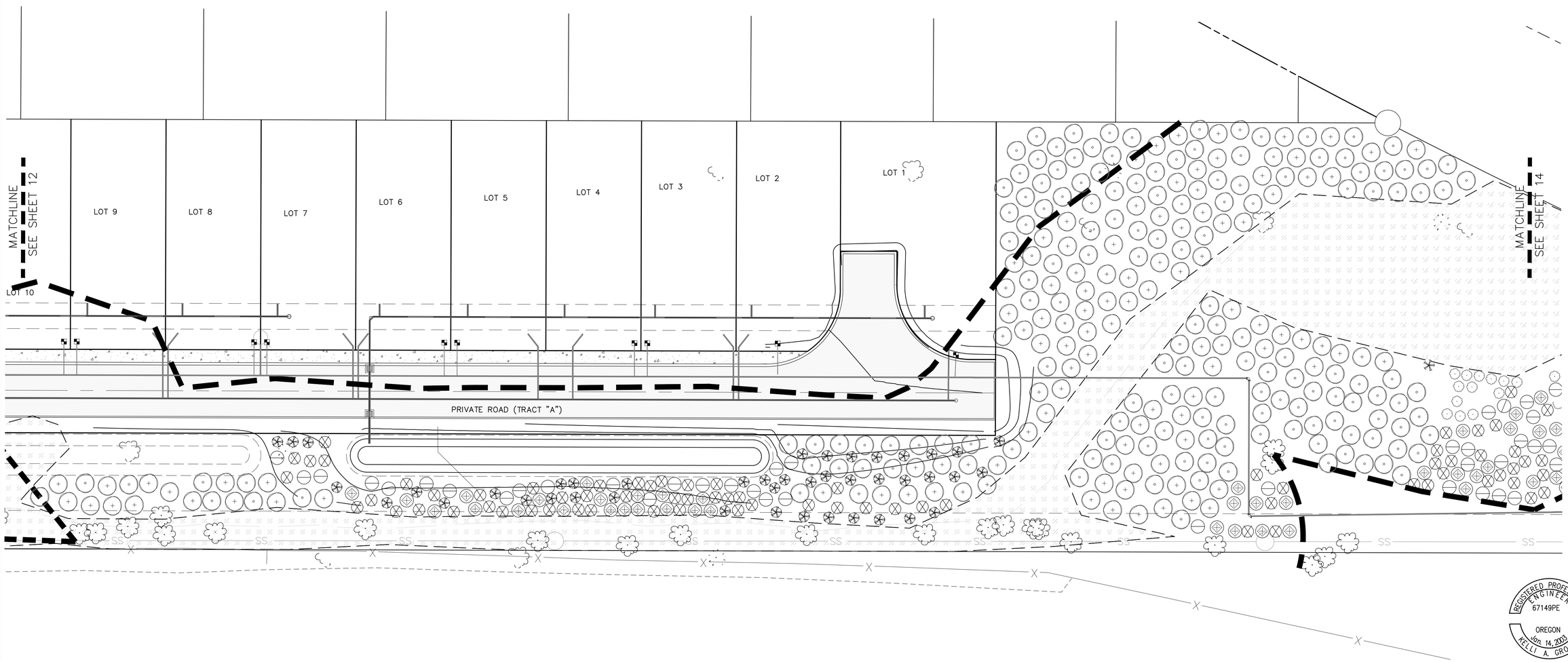

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HCA E19–006 MITIGATION PLAN.dwg 17:26 10/28/2019

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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

MITIGATION PLAN

13/17

PLANTING LEGEND

BOTANICAL NAME	COMMON NAME	TYPE	SIZE	SPACING	SPACING FORMAT	QUANTITY	SOIL CONDITION
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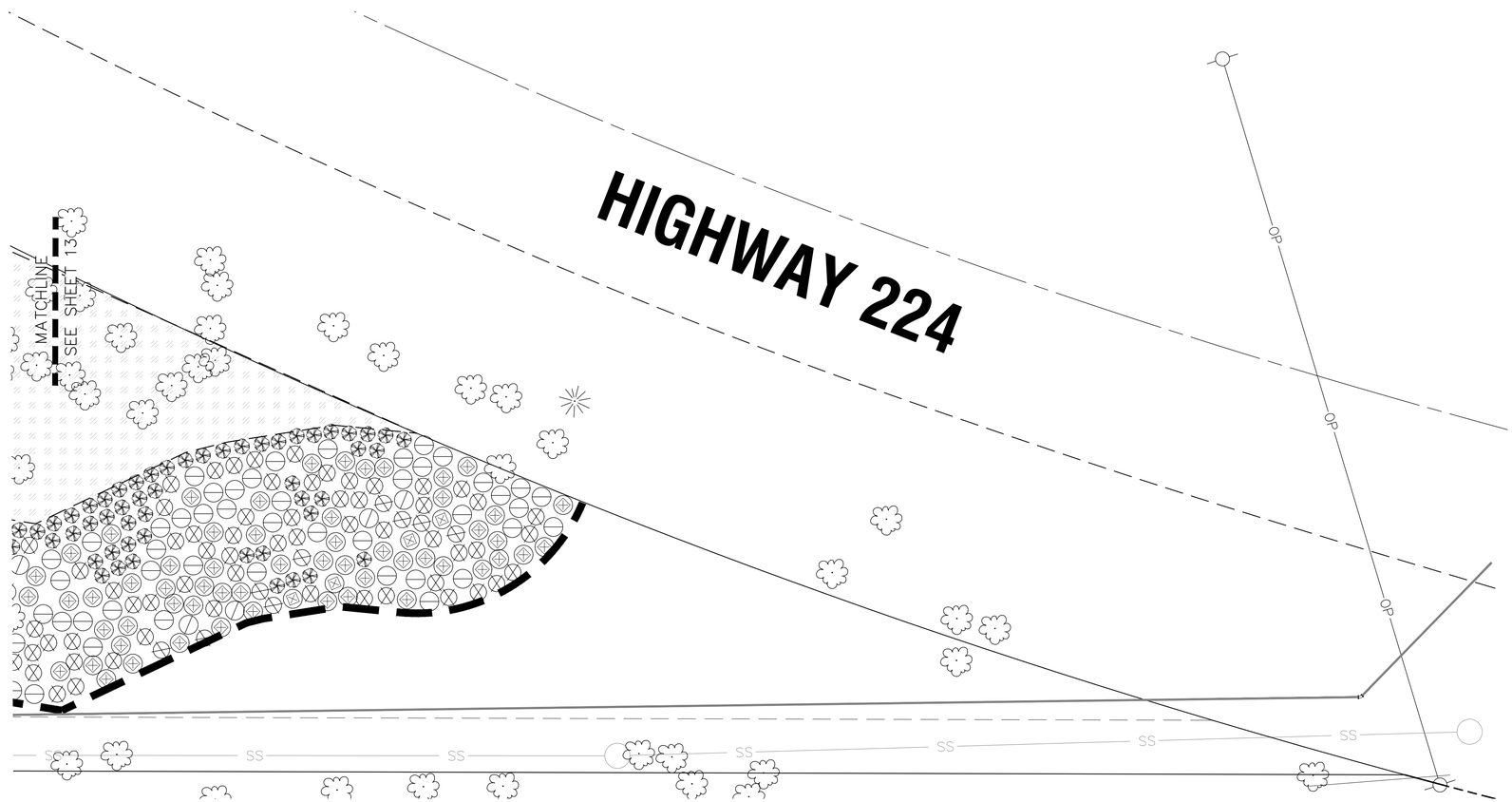

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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
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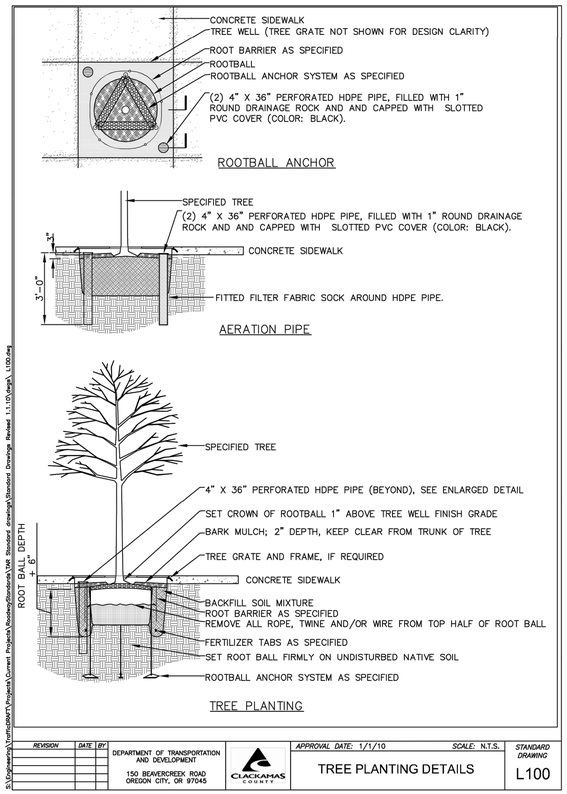
MITIGATION PLAN



NOTES:

SOIL CONDITION ASSESSMENT

1. EVERY EFFORT SHOULD BE MADE TO PRESERVE A SITE'S EXISTING SOILS. NATIVE SOIL IN AND AROUND SENSITIVE AREAS, INCLUDING HCA OVERLAYS AND VEGETATED BUFFERS SHALL BE RETAINED TO THE MAXIMUM EXTENT PRACTICABLE. DETERMINE THE ORGANIC CONTENT AND NONNATIVE, INVASIVE SEED BANK LIKELY IN THE SOIL.

2. FOR UPLAND SITES WITH AT LEAST ONE FOOT OF NATIVE TOPSOIL, BUT CONTAINING A NON–NATIVE, INVASIVE SEED BANK OR PLANTS, ADD NOTES TO THE PLAN TO REMOVE THE UNDESIRABLE PLANTS, ROOTS, AND SEEDS.

3. FOR UPLAND SITES WITH EITHER DISTURBED AND COMPACTED SOILS OR LESS THAN ONE FOOT OF TOPSOIL AND INVASIVE, NON–NATIVE SEED BANK OR PLANTS THAT HAVE BECOME ESTABLISHED, THE FOLLOWING NOTES SHALL BE ADDED TO THE PLAN.
   A. REMOVE THE UNDESIRABLE PLANTS, ROOTS, AND SEEDS PRIOR TO ADDING TOPSOIL.
   B. TILL THE SUB–GRADE IN THESE AREAS TO A DEPTH OF AT LEAST FOUR INCHES AND ADD AT LEAST 12 INCHES OF CLEAN COMPOST–AMENDED TOPSOIL. THE COMPOST–AMENDED TOPSOIL SHOULD HAVE THE FOLLOWING CHARACTERISTICS TO ENSURE A GOOD GROWING MEDIUM:
      1). TEXTURE: MATERIAL PASSES THROUGH 1–INCH SCREEN
      2). FERTILITY: 35% ORGANIC MATTER
   C. IN THE EVENT OF FLOODPLAIN GRADING, OVER–EXCAVATE THE SUB GRADE TO ENSURE 12 INCHES OF TOPSOIL CAN BE APPLIED WITHOUT IMPACTING SURFACE WATER ELEVATIONS.

4. FOR WET AREAS IN SENSITIVE AREAS, THE SOIL CONDITIONS SHOULD BE HYDRIC OR GRADED TO HOLD SUFFICIENT WATER TO PROMOTE HYDRIC SOIL FORMATION. THE ADDITION OF ORGANIC MUCK SOIL WILL IMPROVE PLANT ESTABLISHMENT FOR SOME BULBS AND TUBERS. E. OTHER AMENDMENTS, CONDITIONERS, AND BIO–AMENDMENTS MAY BE ADDED AS NEEDED TO SUPPORT THE PLANTS OR ADJUST THE SOIL PH. TRADITIONAL FERTILIZATION TECHNIQUES (APPLYING N–P–K) ARE NOT NECESSARY FOR NATIVE PLANTS.

PLANT INSTALLATION

1. TIMING: CONTAINERIZED STOCK SHOULD BE INSTALLED ONLY FROM FEBRUARY 1 THROUGH MAY 1 AND OCTOBER 1 THROUGH NOVEMBER 15. BARE ROOT STOCK SHOULD BE INSTALLED ONLY FROM DECEMBER 15 THROUGH APRIL 15. SEEDING SHOULD OCCUR ONLY FROM BETWEEN MARCH 15 TO OCTOBER 15. PLANTING OR SEEDING OUTSIDE THESE TIMES MAY REQUIRE ADDITIONAL MEASURES TO ENSURE SURVIVAL WHICH SHALL BE SPECIFIED ON THE PLANS AND REQUIRE DISTRICT APPROVAL.

2. MULCHING: AREAS SHOULD BE MULCHED A MINIMUM OF THREE INCHES IN DEPTH AND 24 INCHES IN DIAMETER, TO RETAIN MOISTURE AND DISCOURAGE WEED GROWTH AROUND NEWLY INSTALLED PLANT MATERIAL. APPROPRIATE MULCHES ARE MADE FROM COMPOSTED BARK OR LEAVES THAT HAVE NOT BEEN CHEMICALLY TREATED.

3. APPROPRIATE MEASURES SHOULD BE TAKEN TO LIMIT WILDLIFE–RELATED DAMAGE.

4. IRRIGATION: ADEQUATE SITE PREPARATION AND MAINTENANCE REDUCES THE NEED FOR IRRIGATION. HOWEVER, UNLESS SITE HYDROLOGY IS CURRENTLY ADEQUATE, AN IRRIGATION SYSTEM OR EQUIVALENT SHOULD BE USED DURING THE WARRANTY PERIOD. WATERING SHALL BE AT A RATE TO MAINTAIN ALL PLANTINGS IN A HEALTHY THRIVING CONDITION DURING ESTABLISHMENT. OTHER IRRIGATION TECHNIQUES, SUCH AS DEEP WATERING, MAY BE ALLOWED WITH PRIOR APPROVAL BY DISTRICT STAFF.

5. ACCESS: MAINTENANCE ACCESS FOR PLANT MAINTENANCE WILL BE PROVIDED FOR SENSITIVE AREAS AND VEGETATED CORRIDORS.

PLANT MONITORING AND MAINTENANCE

1. MONITORING: SITE VISITS ARE NECESSARY THROUGHOUT THE GROWING SEASON TO ASSESS THE STATUS OF THE PLANTINGS, IRRIGATION, MULCHING, ETC. AND ENSURE SUCCESSFUL PLANT ESTABLISHMENT.

2. WEED CONTROL: THE REMOVAL OF NON–NATIVE, INVASIVE WEEDS SHOULD BE NECESSARY THROUGHOUT THE MAINTENANCE PERIOD, OR UNTIL A HEALTHY STAND OF DESIRABLE VEGETATION IS ESTABLISHED.

3. PLANT REPLACEMENT AND PRESERVATION: AT THE END OF THE MAINTENANCE PERIOD, ALL PLANTS NOT IN A HEALTHY GROWING CONDITION, WILL BE NOTED AND AS SOON AS SEASONAL CONDITIONS PERMIT, SHOULD BE REMOVED FROM THE SITE AND REPLACED WITH PLANTS OF THE SAME SPECIES AND SIZE AS ORIGINALLY SPECIFIED. PRIOR TO REPLACEMENT, THE CAUSE OF LOSS (WILDLIFE DAMAGE, POOR PLANT STOCK, ETC.) SHOULD BE DOCUMENTED WITH A DESCRIPTION OF THE CORRECTIVE ACTIONS TAKEN.

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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

PLANTING NOTES AND DETAILS

EROSION AND SEDIMENTCONTROL NOTES

GENERAL :

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE CURRENT CLACKAMAS COUNTY ORDINANCES & REFERENCED DOCUMENTS & CITY OF PORTLAND EROSION CONTROL MANUAL.

2. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.

3. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENT FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR EXPECTED STORM EVENTS AND TO ENSURE THE SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.

4. NO VISIBLE AND MEASURABLE SEDIMENT OR POLLUTANT SHALL EXIT THE SITE, ENTER THE PUBLIC RIGHT-OF-WAY, OR BE DEPOSITED INTO ANY WATER BODY OR STORM DRAINAGE SYSTEM.

5. ANY SOIL THAT ENTERS THE PUBLIC RIGHT-OF-WAY SHALL BE REMOVED WITHIN 24 HOURS.

6. CONTRACTOR SHALL PROVIDE ANY ADDITIONAL EROSION CONTROL MEASURES AS MAY BE REQUIRED TO MEET DEQ AND CLACKAMAS COUNTY STANDARDS AS NECESSARY TO PREVENT SEDIMENT DISCHARGE FROM THE SITE.

7. ESC FACILITIES SHALL BE INSPECTED EVERY 24 HOURS DURING STORM OR RAIN EVENTS TO ENSURE THE MEASURES ARE FUNCTIONING PROPERLY.

8. PERMANENT OR TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED TO DENUDED DEVELOPMENT SITES IN CONFORMANCE WITH THE FOLLOWING SCHEDULE:

a. BETWEEN OCTOBER 1 AND APRIL 30, ALL DENUDED SITES SHALL IMMEDIATELY BE PROVIDED WITH EITHER TEMPORARY OR PERMANENT SOIL STABILIZATION.
b. BETWEEN MAY 1 AND SEPTEMBER 30, TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES TO REDUCE DUST AND SEDIMENT TRANSPORT SHALL BE APPLIED AS SOON AS PRACTICABLE, BUT IN NO CASE MORE THAN SEVEN DAYS AFTER GROUND DISTURBING ACTIVITY OCCURS.
c. GROUND COVER SHALL BE INSTALLED ON ANY PORTION OF A SITE THAT IS DENUDED FOR MORE THAN 6 MONTHS.
d. TEMPORARY MEASURES SHALL BE MAINTAINED UNTIL PERMANENT MEASURES ARE ESTABLISHED.
e. STOCKPILES SHALL BE SECURED OR PROTECTED THROUGHOUT THE PROJECT WITH TEMPORARY OR PERMANENT SOIL STABILIZATION MEASURES.
f. REPLACEMENT GROUND COVER VEGETABLE SHALL NOT INCLUDE PLANTS LISTED AS NUISANCE OR PROHIBITED PLANTS ON THE CITY OF PORTLAND PLANT LIST.
g. EROSION CONTROL MEASURES SHALL BE MAINTAINED DURING CONSTRUCTION AND FOR 1 YEAR AFTER DEVELOPMENT IS COMPLETED (MAY BE REDUCED BY THE BUILDING OFFICIAL UPON FINDING THAT SOILS ARE COMPLETELY STABILIZED).

9. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

10. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE EVERY TWO WEEKS, OR WITHIN 24 HOURS FOLLOWING A STORM EVENT. DAILY INSPECTIONS SHALL BE PERFORMED DURING PROLONGED RAINFALL. LOG OF INSPECTIONS TO BE KEPT AVAILABLE AT THE SITE.

SEDIMENT CONTROL FENCES :

1. AT NO TIME SHALL SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND A SEDIMENT FENCE MORE THAN ONE-THIRD OF THE FENCE HEIGHT ABOVE GROUND. SEDIMENT SHOULD BE REMOVED OR REGRADED ONTO SLOPES, AND THE SEDIMENT FENCES REPAIRED AND REESTABLISHED AS NEEDED.

2. FENCE SHALL BE REMOVED ONLY WHEN UPSLOPE AREAS ARE PERMANENTLY STABILIZED.

BIO-FILTER BAGS/INLET PROTECTION :

1. AT NO TIME SHALL MORE THAN 2 INCHES DEPTH OF SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND BIO-FILTER BAGS. SEDIMENT SHOULD BE REMOVED OR REGRADED ONTO SLOPE, OR NEW LINES OF BARRIERS INSTALLED UPHILL OF THE SEDIMENT-LADEN BARRIERS.

2. ONCE THE UPSLOPE AREA IS STABILIZED, BIOFILTER BAGS SHALL BE REMOVED OR REUSED ONSITE.

3. BIOFILTER BAGS ARE NOT ALLOWED FOR INLET PROTECTION USE FOR MORE THAN 3 MONTHS. IF BIOBAGS ARE TO BE USED FOR CATCH BASIN PROTECTION, THEY ARE TO BE REPLACED WITH CATCH BASIN INSERT BAGS WITHOUT OVERFLOW SLOTS AFTER THE FIRST LIFT OF ASPHALT.

4. INLET PROTECTION TO BE THE LAST BMP REMOVED FROM THE SITE AFTER CONSTRUCTION.

5. INLET INSERTS TO BE INSPECTED AFTER EVERY MAJOR RAINSTORM.

6. INSERTS TO BE MAINTAINED WHEN SEDIMENT CONSUMES 1/3 OR ACTUAL DEVISE STORAGE AREA OR DESIGN STORAGE CAPACITY.

RESEEDING/ESTABLISHMENT OF VEGETATIVE COVER :

1. RECOMMENDED EROSION CONTROL GRASS SEED MIXES ARE AS SPECIFIED AS BELOW. SIMILAR MIXES DESIGNED TO ACHIEVE EROSION CONTROL MAY BE SUBSTITUTED WITH APPROVAL.
IN GENERAL, USE OF QUICK GROWING, STERILE GRASSES AND GRAINS IN MIXTURE WITH PERMANENT VEGETATIVE COVER IS
RECOMMENDED TO ACHIEVE QUICK COVER OF EXPOSED SOILS.

a. DWARF GRASS MIX (LOW HEIGHT, LOW MAINTENANCE), 100 POUNDS PER ACRE SEED RATE
(MINIMUM):
1. DWARF PERENNIAL RYEGRASS, 80% BY SEED COUNT.
2. CREEPING RED FESCUE, 20% BY SEED COUNT.

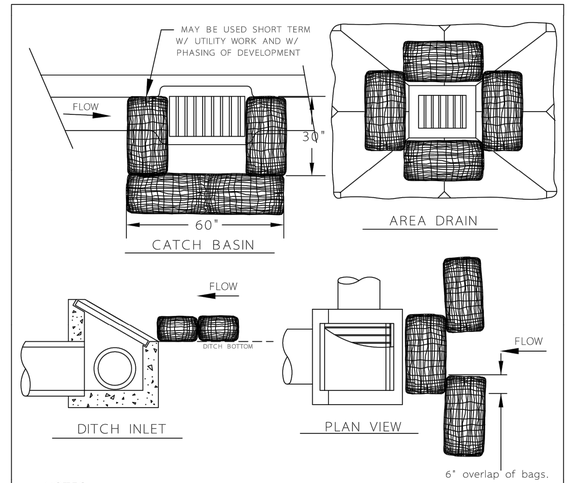
b. STANDARD HEIGHT GRASS MIX, 100 POUNDS PER ACRE SEED RATE, MINIMUM.
1. ANNUAL RYEGRASS, 40% BY SEED COUNT.
2. TURF-TYPE FESCUE, 60% BY SEED COUNT.

2. IT IS RECOMMENDED THAT TOP SOIL ON SLOPES BE PREPARED BY ROUGHENING THE SLOPES BEFORE SEEDING.

3. AREAS THAT FAIL TO ESTABLISH GRASS COVER ADEQUATE TO PREVENT EROSION SHALL BE RESEEDED AS SOON AS SUCH AREAS ARE IDENTIFIED, AND ALL APPROPRIATE MEASURES TAKEN TO ESTABLISH COVER.

4. EROSION CONTROL MEASURES SHALL BE MAINTAINED BY CONTRACTOR UNTIL GRASS COVER IS ESTABLISHED AND UP TO ONE YEAR AFTER COMPLETION OF CONSTRUCTION, WHICHEVER IS SOONER.

5. MULCH SHALL BE SPREAD UNIFORMLY IMMEDIATELY FOLLOWING SEEDING.



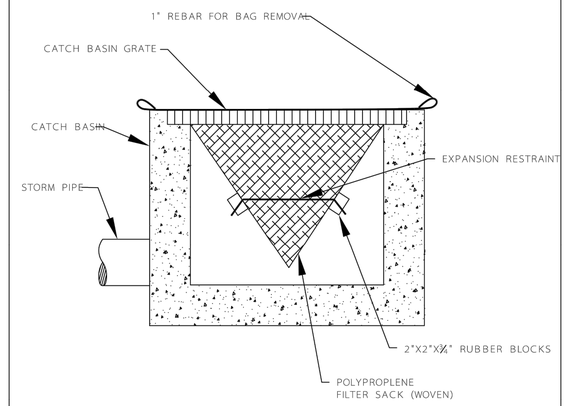
NOTES:
1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.

2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2"WOODEN STAKES OR APPROVED EQUAL PER BAG.

3. WHEN USING 30" BIO-BAGS TO PROTECT A CATCH BASIN YOU MUST HAVE 4 BAGS AND THEY SHALL BE OVERLAPPED BY 6".

INLET PROTECTION TYPE 4

DETAIL DRAWING 4-18 REVISED 01-09



WOVEN POLYPROPLENE SACK

NOTE:
1. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS. SIZE OF FILTER FABRIC INLET SACKS TO BE DETERMINED BY MANUFACTURER.

INLET PROTECTION TYPE 5

DETAIL DRAWING 4-19 REVISED 01-09

REGISTERED PROFESSIONAL ENGINEER 67149PE OREGON Jan. 14, 2003 KELLI A. GROVER

EXPIRES: 06/30/21
SIGNATURE DATE: _____

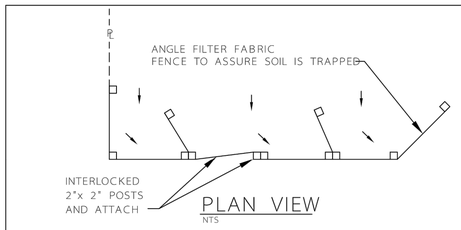
DATE:	NO.	REVISION

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: MARCH 2020	
PROJECT NO. E19-006		

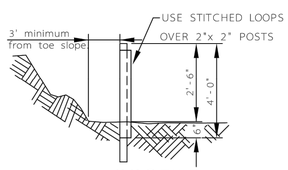
FDG
Firwood Design Group, LLC
SURVEYING ✦ ENGINEERING ✦ PLANNING
359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
BUS: (503) 668-3737 ✦ FAX: (503) 668-3788

RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

EROSION CONTROL NOTES AND DETAILS



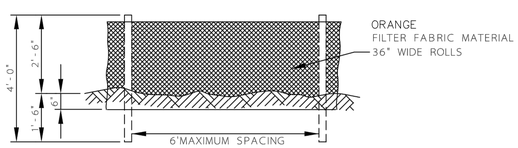
PLAN VIEW
NTS



PROFILE
NTS

NOTES:

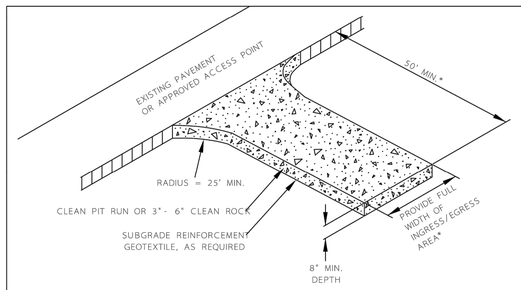
1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2"x 2" FIR, PINE OR STEEL FENCE POSTS.
3. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
5. PANELS MUST BE PLACED ACCORDING TO SPACING ON DETAIL NO.940



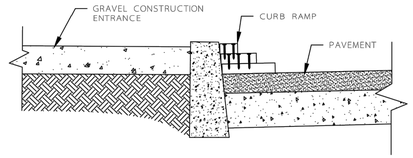
FRONT VIEW
NTS

SEDIMENT FENCE

DETAIL DRAWING 4-23 REVISED 01-09



*20' MIN. FOR SINGLE FAMILY AND DUPLEX RESIDENTIAL

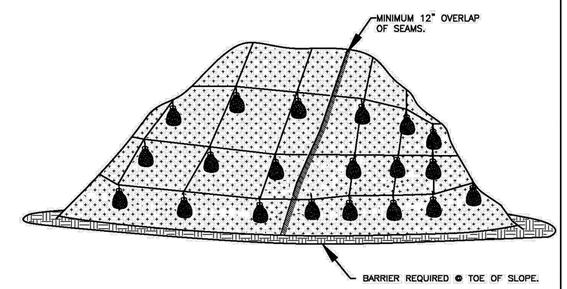


NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS
   SINGLE FAMILY
   20' LONG BY 20' WIDE 8" DEEP OF ¾" MINUS CLEAN ROCK.
   COMMERCIAL
   50' LONG BY 20' WIDE 3-6" CLEAN ROCK, GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

CONSTRUCTION ENTRANCE

DETAIL DRAWING 4-13 REVISED 01-09



PLASTIC SHEETING

NOTES:

1. MINIMUM 12" OVERLAP OF ALL SEAMS REQUIRED.
2. BARRIER REQUIRED @ TOE OF STOCK PILE.
3. COVERING MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.

PLASTIC SHEETING

DETAIL DRAWING 4-3 REVISED 01-09

REGISTERED PROFESSIONAL ENGINEER
67149PE
OREGON
Jan. 14, 2003
KELLI A. GROVER

EXPIRES: 06/30/21
SIGNATURE DATE: _____

DATE:	NO.	REVISION

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: MARCH 2020	
PROJECT NO. E19-006		

FDG
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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

EROSION CONTROL NOTES AND DETAILS

17/17

Oregon

Kate Brown, Governor

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

Jeanne P. Atkins
Secretary of State

Ted Wheeler
State Treasurer

December 14, 2015

Goodwood Homes Inc.
Attn: Edward Mansoor
13748 SE 128th Avenue
Clackamas, OR 97015

Re: WD #2015-0231 Wetland Delineation Report for a Proposed Residential Development, Clackamas County; T 2S R 2E S 5CB TL 600; North Clackamas County Local Wetlands Inventory, Alder Creek

Dear Mr. Mansoor:

The Department of State Lands has reviewed the wetland delineation report prepared by Environmental Technology Consultants for the site referenced above. Based upon the information presented in the report; site visits on August 14, November 6 and December 11, 2015; and additional information submitted upon request, we concur with the wetland/water boundaries as mapped in revised Figure 6A of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map.

Within the study area, two wetland/waters areas were identified, a western portion totaling approximately 0.24 acres and an eastern portion totaling approximately 0.53 acres. The two areas are separated by a 24 inch culvert identified as the outfall for Alder Creek. The creek's channel south of the study area was buried and piped when the original school was built in the 1950's.

The wetland/waters located west of the culvert are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high water line (OHWL) of a water (or the 2 year recurrence interval flood elevation if OHWL cannot be determined). The wetland/waters located east of the culvert are exempt per OAR 141-085-0515 (6); therefore, they are not subject to these state permit requirements.

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 review the report and make a determination of jurisdiction for purposes of the Clean Water Act at the time that a permit application is submitted. We recommend that you attach a copy of

this concurrence letter to both copies of any subsequent joint permit application to speed application review.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

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 503-986-5232 if you have any questions.

Sincerely,

Peter Ryan, PWS
Jurisdiction Coordinator

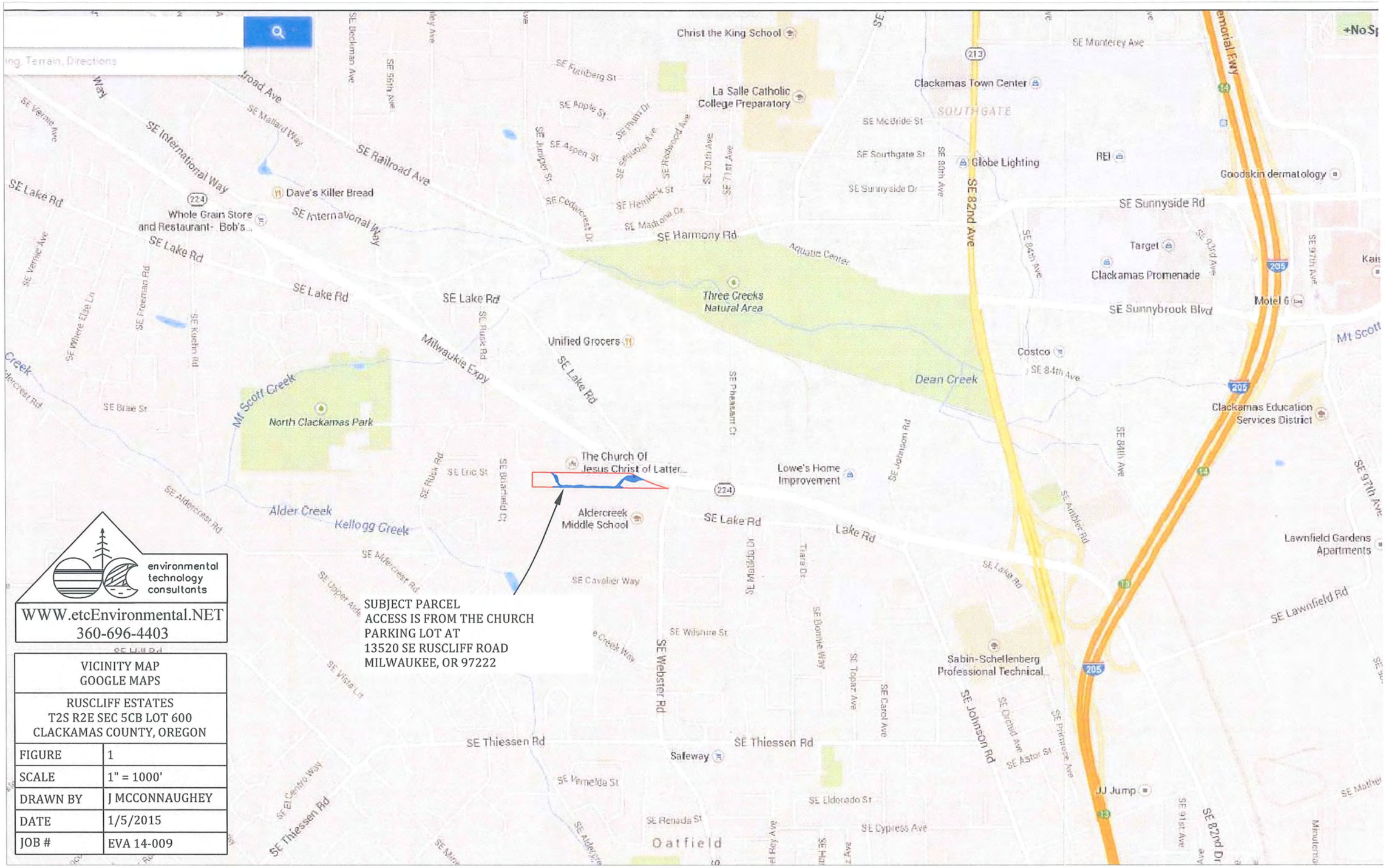
Approved by

Kathy Verble, CPSS
Aquatic Resource Specialist

Enclosures

ec: John McConnaughey, Environmental Technology Consultants
City of Milwaukie Planning Department
Clackamas County Water Environment Services
Dominic Yballe, Corps of Engineers
Melinda Butterfield, DSL

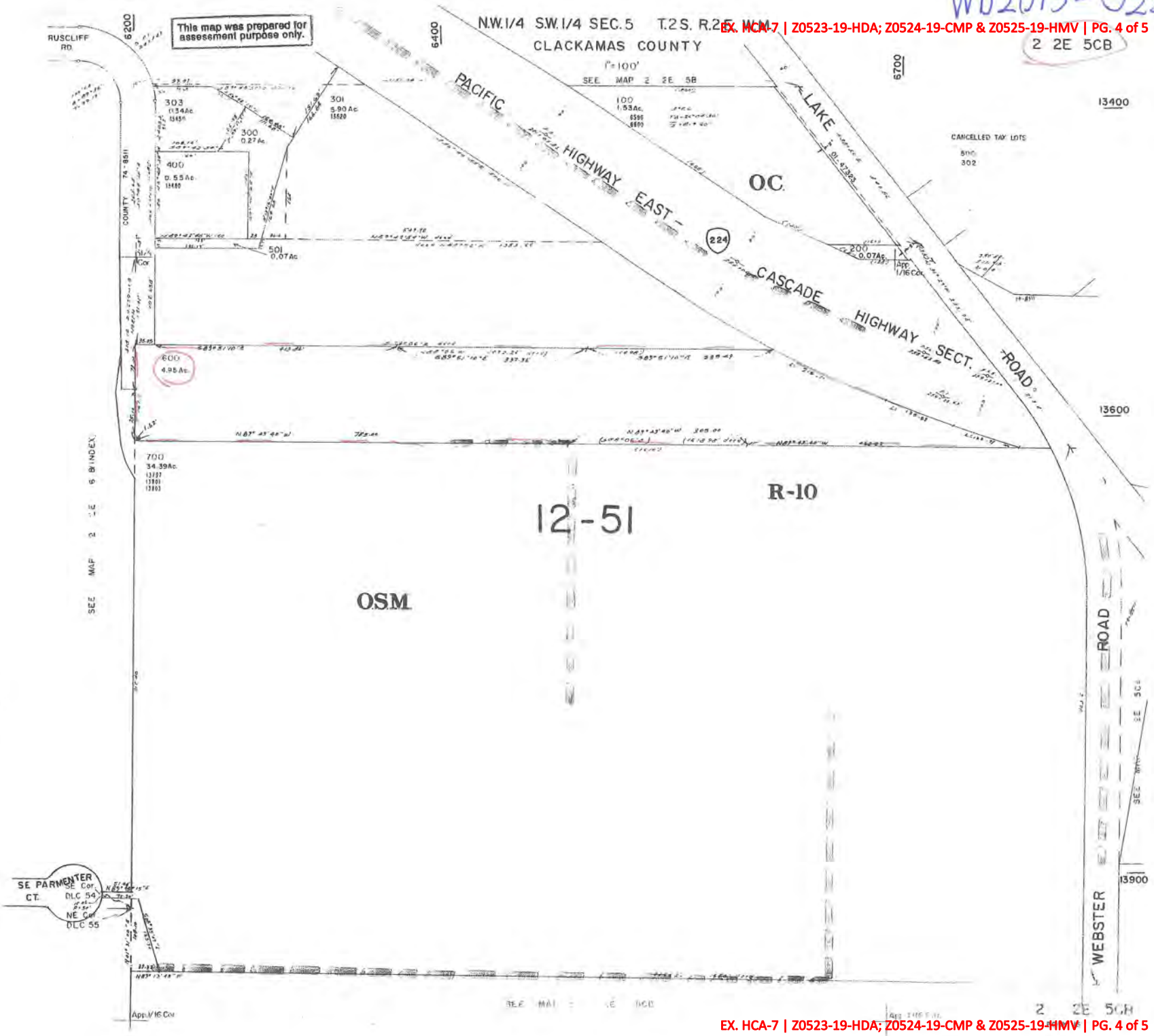
WD2015-0231

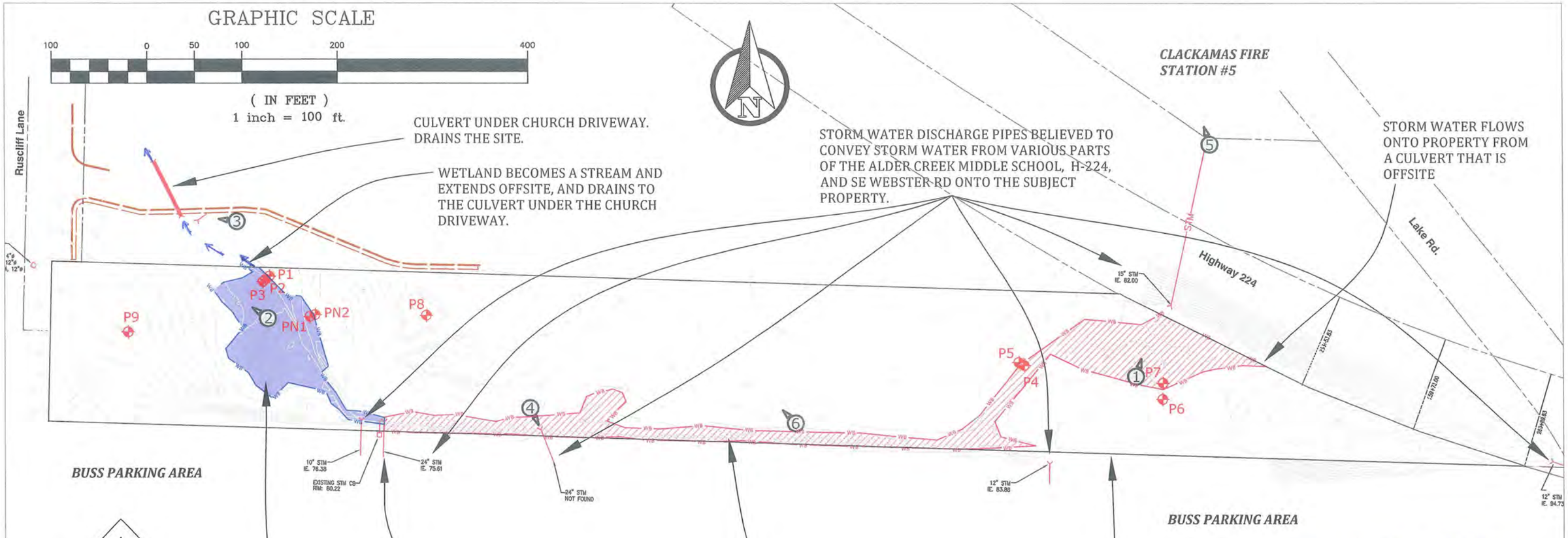


VICINITY MAP GOOGLE MAPS	
RUSCLIFF ESTATES T2S R2E SEC 5CB LOT 600 CLACKAMAS COUNTY, OREGON	
FIGURE	1
SCALE	1" = 1000'
DRAWN BY	J MCCONNAUGHEY
DATE	1/5/2015
JOB #	EVA 14-009

WD2015-0231

2 2E 5CB





environmental technology consultants

WWW.etcEnvironmental.NET
360-696-4403

WD2015-0231 (REISSUANCE OF WD2006-0371) JURISDICTIONAL AND NON-JURISDICTIONAL WATERS ON SUBJECT PROPERTY	
RUSCLIFF ESTATES T2S R2E SEC 5CB LOT 600 CLACKAMAS COUNTY, OREGON	
FIGURE	6A
SCALE	1" = 100'
DRAWN BY	J MCCONNAUGHEY
DATE	12/3/2015
JOB #	EVA 14-009

TRANSITION FROM JURISDICTIONAL TO NON-JUSISDICTIONAL AT THE 24" DIAMETER CONCRETE PIPE
Alder Creek Outfall

EASTERN
NON-JURISDICTIONAL WETLAND AREA, 23,005 SQFT = 0.528 ACRES

Neither ETC nor DSL have actually determined the sources draining to this outfall. In ETC's opinion it is speculation to say it is Alder Creek. -JM.

WESTERN
JURISDICTIONAL WETLAND AREA
10,407 SQFT = 0.239 ACRES

MAPPING METHOD:
Wetlands and data points were flagged in the field by ETC. A Topcon GSR-1 GPS was used to collect location data for the flags. A Topcon BR-1 beacon receiver was used to provide real time DGPS corrections. The system is rated as providing sub-meter accuracy. GPS transferred to a base map produced by Compass Engineering

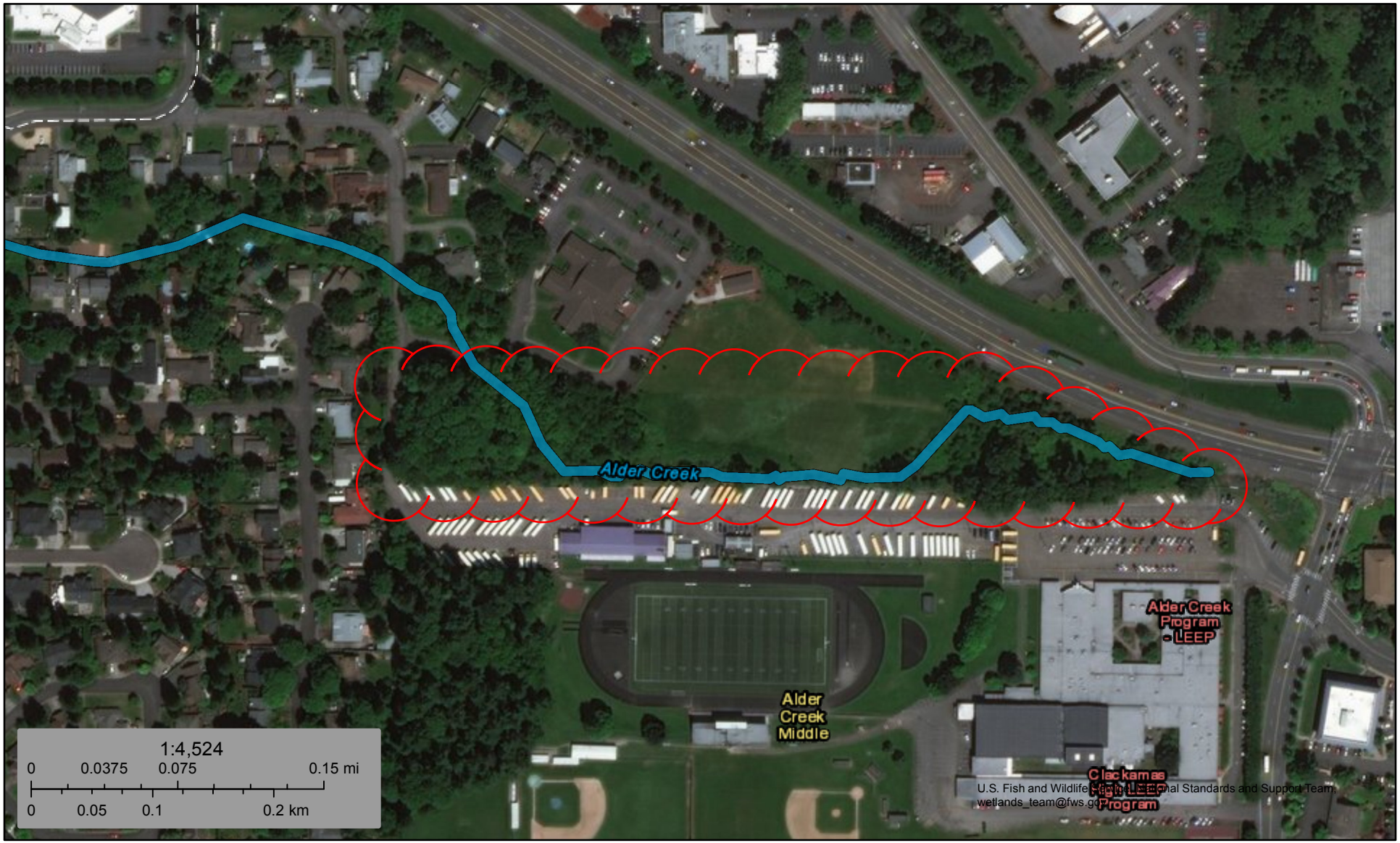
DSL WD # 2015-0231
Approval Issued 12/14/2015
Approval Expires 12/14/2020

RUSCLIFF ESTATES, 4.95 ACRES LOT 600, T2S R2E SEC5CB IN CLACKAMAS COUNTY. BORDERS THE ALDER CREEK MIDDLE SCHOOL ON THE SOUTH, AND THE CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS ON THE NORTH.

U.S. Fish and Wildlife Service

National Wetlands Inventory

NWI Ruscliff Estates



April 22, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

EX. HCA-8 | Z0523-19-HDA; Z0524-19-CMP & Z0525-19-HMV | PG. 1 of 1

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Wetland Land Use Notification

OREGON DEPARTMENT OF STATE LANDS
775 Summer Street NE, Suite 100, Salem, OR 97301-1279
Phone: (503) 986-5200

This form is to be completed by planning department staff for mapped wetlands and waterways.

Responsible Jurisdiction

*	Municipality*	Date*
○ City of ◉ County of	Clackamas	4/21/2020

Staff Contact

First Name* Steve

Last Name* Hanschka

Phone* 503-742-4512

Email* stevehan@clackamas.us

Applicant

First Name* Kelli

Last Name* Grover

Mailing Address*

Street Address
359 E Historic Columbia River Highway

Address Line 2

City
Troutdale

State
OR

Postal / Zip Code
97060

Country
USA

Phone
503-668-3737

Email (?)
kg@firwooddesign.com

Is the Property Owner name and address the same as the Applicant?*

◉ No ○ Yes

Property Owner

First Name* Brian

Last Name* Ambrosio

Mailing Address (If different than Applicant Address)

Street Address
8800 SE Sunnyside Rd.
Address Line 2
Suite 314-S
City
Clackamas
State
OR
Postal / Zip Code
97015
Country
USA

Phone
503-758-3866

Email (?)
brianambrosio1@gmail.com

Activity Location

Township * (?)
02S

Range * (?)
02E

Section * (?)
05

Quarter-quarter Section (?)
CB

Tax Lot(s) *
600
You can enter multiple tax lot numbers within this field. i.e. 100, 200, 300, etc.

To add additional tax map and lot information, please click the "add" button below.

Address
Street Address
None
Address Line 2
City
Miwaukie
State
OR
Postal / Zip Code
97222
Country
USA

County *
Clackamas

Adjacent Waterbody
Alder Creek

Proposed Activity

Local Case File # *
Z0523-19 & Z0001-20

Zoning
R-10

Proposed

- [ ] Building Permit (new structures)
- [ ] Grading Permit
- [ ] Site Plan Approval
- [x] Other (please describe)
  Habitat Conservation Area (HCA) & WES Buffer Review
- [ ] Conditional use Permit
- [x] Planned Unit Development
- [x] Subdivision

Project *
15-lot PUD Subdivision within Habitat Conservation Area District (HCAD). Property obtained 12-14-15 DSL Concurrence under File No. WD2015-0231.

Required attachments with site marked: Tax map and site plan(s). (?)

2. HCA-2 tax map.pdf	323.21KB
6. HCA-6 plan set.pdf	9.56MB

Additional Attachments

3. HCA-3 hca map.pdf	119.2KB
4. HCA-4 narrative.pdf	73.08KB
5. HCA-5 impact eval & alt analysis.pdf	163.61KB
7. HCA-7 WD2015-0231final.pdf	687.27KB
8. HCA-8 nwi.pdf	904.3KB

Date

4/21/2020

Wetland Land Use Notice Response

Response Page

Department of State Lands (DSL) WN#*

WN2020-0294

Responsible Jurisdiction

Staff Contact	Jurisdiction Type	Municipality
Steve Hanschka	County	Clackamas

Local case file #	County
Z0523-19 & Z0001-20	Clackamas

Activity Location

Township	Range	Section	QQ section	Tax Lot(s)
02S	02E	05	CB	600

Street Address

13520 SE Ruscliff Rd

Address Line 2

City	State / Province / Region
Miwaukie	OR
Postal / Zip Code	**Country**
97222	Clackamas

Latitude	Longitude
45.424578	-122.596916

Wetland/Waterway/Other Water Features

- [x] There are/may be wetlands, waterways or other water features on the property that are subject to the State Removal-Fill Law based upon a review of wetland maps, the county soil survey and other available information.
- [x] Local Wetlands Inventory shows wetland, waterway or other water features on the property
- [x] The county soil survey shows hydric (wet) soils on the property. Hydric soils indicate that there may be wetlands.

Your Activity

- [x] It appears that the proposed project **will** impact wetlands and **requires** a State Permit.

Applicable Oregon Removal-Fill Permit Requirement(s)

- [x] A state permit is required for 50 cubic yards or more of fill removal or other ground alteration in wetlands, below ordinary high water of waterways, within other waters of the state, or below highest measured tide.

Closing Information

Additional Comments

Based on a review of the submitted HCA plan set, this project will have wetland impacts. It appears that these impacts will exceed DSL's 50 cubic yard threshold for permitting and mitigation. Please submit a Joint Permit Application for review. For any questions regarding permitting, contact Aquatic Resource Coordinator Anita Huffman at (503) 480-5985.

Please note that WD2015-0231 expires in December of 2020 and can not be used for permitting after this period. This delineation can be renewed providing site conditions have not been altered from 2015 conditions.

This is a preliminary jurisdictional determination and is advisory only.

This report is for the State Removal-Fill law only. City or County permits may be required for the proposed activity.

- [x] A Federal permit may be required by The Army Corps of Engineers: (503)808-4373

Contact Information

- For information on permitting, use of a state-owned water, wetland determination or delineation report requirements please contact the respective DSL Aquatic Resource, Proprietary or Jurisdiction Coordinator for the site county. The current list is found at: http://www.oregon.gov/dsl/ww/pages/wwstaff.aspx
- The current Removal-Fill permit and/or Wetland Delineation report fee schedule is found at: https://www.oregon.gov/dsl/WW/Documents/Removal-FillFees.pdf

Response Date

4/24/2020

Response by:

Chris Stevenson

Response Phone:

503-986-5246

Hanschka, Steve

From: Hanschka, Steve
Sent: Thursday, May 16, 2019 6:00 PM
To: kelli grover
Cc: Carr, Erik; Nagy, John; McIntire, Rick
Subject: RE: ZPAC0049-19 | Ruscliff PUD | 22E05CB00600 | WES0401-15
Attachments: WD2015-0231final.pdf; phs app0039444.pdf; etc ruscliff cad.dwg; ruscliff 2019 preliminary.pdf

Hi Kelli, following up on our brief meeting on Wednesday, I believe that the first wetland delineation / natural resource assessment for the site was done by Pacific Habitat Services in 2007, and it appears that the site plan you gave me is buffering from that delineation. Subsequently, Environmental Technology Consultants (ETC) refined that delineation and got concurrence from DSL in 2015, which is the currently approved delineation for the site. In turn, I am attaching a CAD drawing that contains a layer for the DSL-concurred delineation produced by ETC, as well as the HCA layers. They are copied to a Group Filter called "ETC & HCA." Last, in conferring with WES staff and revisiting previous iterations of the site, we conclude that your site plan is acceptable for submittal of the WES Buffer Variance, with mitigation / enhancement in the tract, and with the requirement from WES to remove the stormwater pond from the WES buffer, recognizing that the buffer may be reduced in that area based on the updated delineation from ETC. Thanks.

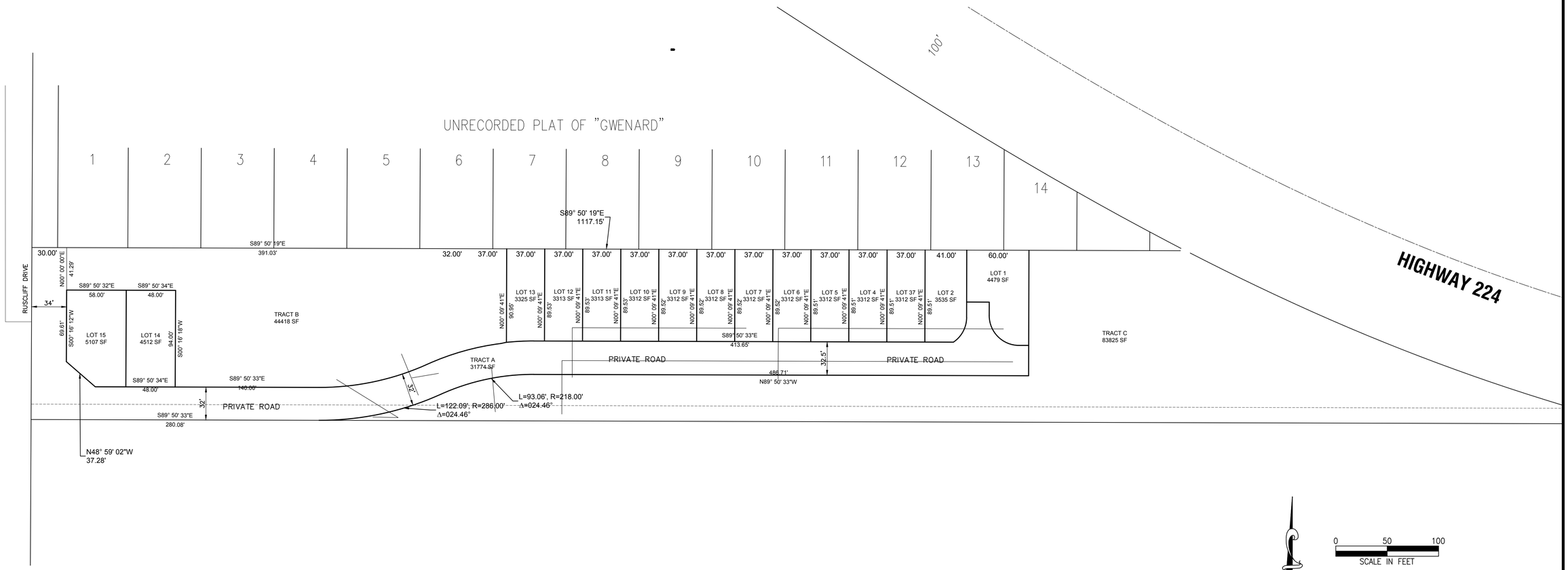
From: Hanschka, Steve
Sent: Tuesday, May 7, 2019 11:46 AM
To: McIntire, Rick <rickmci@clackamas.us>
Cc: Carr, Erik <ECarr@clackamas.us>; Nagy, John <JohnNagy@clackamas.us>; 'kelli grover' <kg@firwooddesign.com>
Subject: FW: ZPAC0049-19 | Ruscliff PUD | 22E05CB00600 | WES0401-15

Rick, similar comments as the previous iterations of Ruscliff Estates, per below. I had sent the applicant's consultant a CAD file with the HCA overlay, and now I'm including CAD file, which I recently located, with the wetland delineation and other information produced by the previous consultant. Thanks.

1. WES / CCSD No. 1 water quality buffers:
    a. DSL concurrence was obtained in December of 2015, and is still valid. Therefore, a natural resource assessment is not required, but please show the buffers to the resources.
    b. A Buffer Variance is required for encroachment into the buffers, and the applicant should check with the Department of State Lands about crossing / culverting the stream with the new road.
        i. A preliminary construction plan review by WES shall be required prior to any buffer variance approvals.
    c. One additional copy of only the WES / CCSD No. 1 materials should be submitted separately to Planning, along with the HCA applications discussed below. There are no fees for this review.
2. HCAD
    a. Requires full HCAD review / submittal of HCA Construction Management Plan, Map Verification and Development Permit, submitted separately from the subdivision application.
    b. All applications can be consolidated into one submittal, with fee of $1,685.
    c. Therefore, essential submittal materials can be reduced to detailed site plan that includes HCA overlay, Construction Management Plan features (706.07[A]), and WES buffers.
        i. I would encourage simply accepting the HCA Map, per Subsection 706.09(A)(1).
        ii. Address Subsection 706.10(A)(4). Although if this Subsection cannot be met (contain 90% of HCA in protected tract), then Subsection 706.10(B) will need to be addressed.

iii. Illustrate and calculate area of HCA disturbance. Mitigation will be required by condition for HCA disturbance, per Subsection 706.10(A)(6, 7 & 8). This mitigation can also be used to satisfy any mitigation requirements that might arise from the WES Buffer Variance.

EX. HCA-10 | Z0523-19-HDA; Z0524-19-CMP & Z0525-19-HMV | PG. 2 of 2



REGISTERED PROFESSIONAL ENGINEER
671
OREGON
Jan. 14, 2020
PRELIMINARY
ELI A. GROVER

EXPIRES: 06/30/21
SIGNATURE DATE: _____

E19-006 PRELIMINARY PLAT.dwg 14:20 02/06/2020

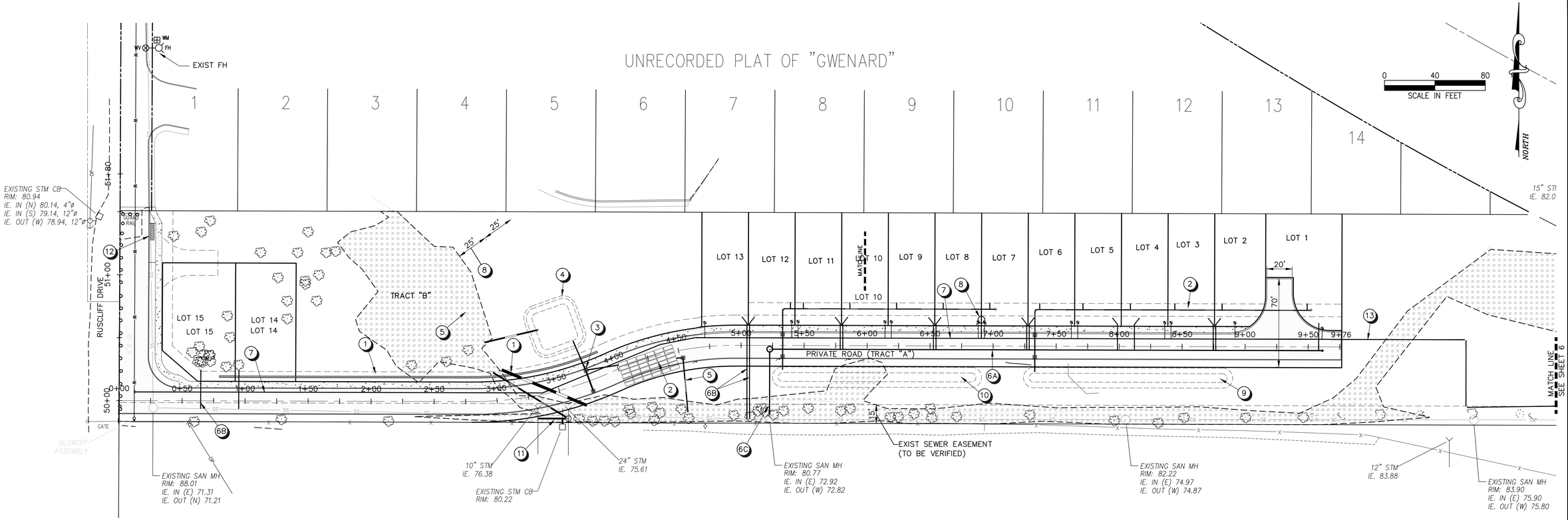
DATE:	NO.	REVISION

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: NOV 2019	
PROJECT NO. E19-006		

FDG
Firwood Design Group, LLC
SURVEYING ✦ ENGINEERING ✦ PLANNING
359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
BUS: (503) 668-3737 ✦ FAX: (503) 668-3788

RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

PRELIMINARY PLAT



KEY NOTES

1. 24" MAXIMUM HEIGHT CULVERT (S)
2. SC-310 CONTECH STORM CHAMBERS, SEE DETAIL ON SHEET 10
3. DIVERSION WIER DIRECTS 1" WQ STORM AND PORTION OF 25 YEAR DESIGN STORM INTO LOWER WQ BASIN; REMAINING PORTION OF 25 YEAR STORM IS DIRECTED INTO THE STORMTECH CHAMBERS FOR INFILTRATION, SEE CONCEPT DETAIL ON SHEET 10
4. LOWER WATER QUALITY BASIN WILL RECEIVE WATER QUALITY STORM AND PORTION OF 25 YEAR DESIGN STORM FROM LOWER BASIN, SEE POND DETAIL ON SHEET 10
5. STORM CHAMBER OVERFLOW INTO EXIST WETLAND

6A. 8" MAINLINE SEWERLINE TO BE PRIVATE

6B. 6" SEWER LATERALS (TYPICAL), PRIVATE TO EDGE OF EASEMENT AND THEN PUBLIC

6C. CONNECT INTO EXIST SEWER MANHOLE

7. 6" WATERLINE
8. FIRE HYDRANT
9. UPPER INFILTRATION WATER QUALITY BASIN WITH OVERFLOW INTO ROCK BASIN, 100 YEAR OVERFLOW DISCHARGES OVERLAND INTO EXIST WETLAND, FOR LOTS 1-6 AND RELATED ASPHALT, SIDEWALK, AND TURNAROUND AREAS ONLY, SEE OVERFLOW DETAIL ON SHEET 10
10. MIDDLE INFILTRATION WATER QUALITY BASIN WITH OVERFLOW INTO ROCK BASIN, 100 YEAR OVERFLOW DISCHARGES OVERLAND INTO EXIST WETLAND, FOR LOTS 7-12 AND RELATED ASPHALT AND SIDEWALK AREAS ONLY, SEE OVERFLOW DETAIL ON SHEET 10
11. RE-ROUTE EXIST STORM DISCHARGE PIPES INTO 12" CULVERT CROSSING UNDER PRIVATE STREET
12. UNLINED STREET PLANTER FOR RUSCLIFF DRIVE IMPROVEMENTS, SEE DETAIL ON SHEET 10.
13. EXTEND 6" WATERLINE TO CONNECT INTO EXIST 12" WATERLINE IN HIGHWAY 224, SEE SHEET 6 FOR CONTINUATION

IMPROVEMENTS LEGEND

- NEW PROPERTY LINE
- NEW CURB
- NEW EASEMENT
- NEW STORM SEWER LINE
- NEW SANITARY SEWER LINE
- NEW WATER LINE
- NEW SIDEWALK
- NEW FIRE HYDRANT

REGISTERED PROFESSIONAL ENGINEER 67111 OREGON Jan. 14, 2003 PRELIMINARY

EXPIRES: 06/30/21
SIGNATURE DATE: _____

E19-006 UTILITY PLAN.dwg 14:23 02/06/2020

DATE:	NO.	REVISION

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: NOV 2019	
PROJECT NO. E19-006		

FDG
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RUSCLIFF ESTATES 15 LOT PUD SUBDIVISION
CLACKAMAS, OREGON

UTILITY PLAN

5/10