



**Fidelity National Title**  
Company of Oregon

1433 SW Sixth Avenue  
(503)646-4444

**OWNERSHIP AND ENCUMBRANCES REPORT WITH GENERAL INDEX LIENS**  
Informational Report of Ownership and Monetary and Non-Monetary Encumbrances

**To ("Customer"):** Portland General Electric Company  
121 SW Salmon St.  
Portland, OR 97204

**Customer Ref.:** 12150 SW Tualatin Sherwood Road  
**Order No.:** 45141904212  
**Effective Date:** March 20, 2019 at 08:00 AM  
**Charge:** \$350.00

The information contained in this report is furnished by Fidelity National Title Company of Oregon (the "Company") as a real property information service based on the records and indices maintained by the Company for the county identified below. THIS IS NOT TITLE INSURANCE OR A PRELIMINARY TITLE REPORT FOR, OR COMMITMENT FOR, TITLE INSURANCE. No examination has been made of the title to the herein described property, other than as specifically set forth herein. Liability for any loss arising from errors and/or omissions is limited to the lesser of the charge or the actual loss, and the Company will have no greater liability by reason of this report. THIS REPORT IS SUBJECT TO THE LIMITATIONS OF LIABILITY STATED BELOW, WHICH LIMITATIONS OF LIABILITY ARE A PART OF THIS REPORT.

**THIS REPORT INCLUDES MONETARY AND NON-MONETARY ENCUMBRANCES.**

**Part One - Ownership and Property Description**

**Owner.** The apparent vested owner of property ("the Property") as of the Effective Date is:

Portland General Electric Company, an Oregon corporation

**Premises.** The Property is:

**(a) Street Address:**

12150 SW Tualatin Sherwood Road, Tualatin, OR 97062

**(b) Legal Description:**

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

**Part Two - Encumbrances**

**Encumbrances.** As of the Effective Date, the Property appears subject to the following monetary and non-monetary encumbrances of record, not necessarily listed in order of priority, including liens specific to the subject property and general index liens (liens that are not property specific but affect any real property of the named person in the same county):

**EXCEPTIONS**

1. As disclosed by the assessment and tax roll, the premises herein have been specially assessed for farm use. If the land becomes disqualified for this special assessment under the statutes, an additional tax, plus interest and penalty, will be levied for the number of years in which this special assessment was in effect for the land.

Tax Identification : R546822  
Affects: Parcel I and III

Tax Identification: R546840  
Affects: Parcel II

**THE FOLLOWING EXCEPTIONS AFFECT PARCEL I:**

2. Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document:

Entitled: Dedication Deed  
In favor of: Washington County  
Purpose: Permanent Drainage  
Recording Date: January 8, 1993  
Recording No: 93001500  
Affects: North line

3. Access Agreement including the terms and provisions thereof

Executed by: Washington County and Earl J. and Loris D. Itel  
Recording Date: January 8, 1993  
Recording No.: 93001502  
Affects: As described therein

**THE FOLLOWING EXCEPTIONS AFFECT PARCEL II:**

4. Easement(s) for the purpose(s) shown below and rights incidental thereto as reserved in a document;

Reserved by: Raymond A. Stevens and Celia A. Stevens  
Purpose: Maintain and service 8 inch tile line for drainage  
Recording Date: November 23, 1959  
Recording No: Book 424 Page 648  
Affects: Northeast portion exact location not stated however

5. Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document:

Entitled: Dedication Deed  
In favor of: Washington County  
Purpose: Permanent Drainage  
Recording Date: January 8, 1993

Recording No: 93001500  
Affects: North line

6. Access Agreement including the terms and provisions thereof

Executed by: Washington County and Earl J. and Loris D. Itel  
Recording Date: January 8, 1993  
Recording No.: 93001502  
Affects: As described therein

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: Washington County  
Purpose: Permanent slope and drainage  
Recording Date: August 14, 2015  
Recording No: 2015-069441  
Affects: West and Northwesterly portions as described therein

THE FOLLOWING EXCEPTIONS AFFECT ALL PARCELS:

8. Rights of the public to any portion of the Land lying within the area commonly known as streets, roads and highways.

9. Waiver of Rights and Remedies, including the terms and provisions thereof :

Purpose: Measure 37 & 49 Waiver of rights and Remedies  
Recording Date: December 19, 2018  
Recording No.: 2018-084997

10. Mortgage Notice, including the terms and provisions thereof

Recording Date: February 11, 2019  
Recording No: 2019-008401

Note: Property Taxes are paid for the fiscal year as follows:

Fiscal Year: 2018-2019  
Amount: \$3,352.26  
Levy Code: 088.13  
Account No.: R546822  
Map No.: 2S127C-00500  
Affects: Parcel I and III

Prior to close of escrow, please contact the Tax Collector's Office to confirm all amounts owing, including current fiscal year taxes, supplemental taxes, escaped assessments and any delinquencies.

Note: Property Taxes are paid for the fiscal year as follows:

Fiscal Year: 2018-2019  
Amount: \$126.06  
Levy Code: 088.13  
Account No.: R546840

Fidelity National Title Company of Oregon  
Order No. 45141904212

Map No.: 2S127C-00701  
Affects: Parcel II

Prior to close of escrow, please contact the Tax Collector's Office to confirm all amounts owing, including current fiscal year taxes, supplemental taxes, escaped assessments and any delinquencies.

**End of Reported Information**

There will be additional charges for additional information or copies. For questions or additional requests, contact:

Kim Alf  
503-469-4156  
Kim.Alf@TitleGroup.FNTG.com  
Fidelity National Title Company of Oregon  
1433 SW Sixth Avenue  
Portland, OR 97201

**EXHIBIT "A"**  
Legal Description

PARCEL I:

A tract of land Situated in the West one half of Section 27, Township 2 South, Range 1 West, Willamette Meridian, Washington County, Oregon, and being described as follows:

Beginning at a point 975.46 feet East of the West quarter section corner between Sections 27 and 28, Township 2 South, Range 1 West, Willamette Meridian, thence North 89° 47' East along the East-West center line of said Section 27, a distance of 326.99 feet to a point; thence North 0° 03' West 689.7 feet to a point, thence South 85° 20' West to a point directly North of the beginning point hereof; thence South 662.62 feet to the place of beginning;

ALSO: Beginning at a point 462 .3 feet East of the quarter section corner between Sections 2 and 28, Township 2 South, Range 1 West, Willamette Meridian, and running thence South 1315.38 feet; thence North 89° 47' East 513.16 feet; thence North 1978.0 feet to the center of the county road; thence South 85° 20' West 179.0 feet, thence South 82° 04' West, 341.6 feet; thence South 601.11 feet to the place of beginning.

PARCEL II:

A tract of land Situated in the West one half of Section 27, Township 2 South, Range 1 West, Willamette Meridian, Washington County, Oregon, and being described as follows:

Commencing at the quarter section corner between Sections 27 and 28, Township 2 South, Range 1 West of the Willamette Meridian, Washington County, Oregon; running thence South 1315.38 feet; thence North 89°47' East, 462.3 feet; thence North 1590.39 feet to an iron which bears South 89°59' East, 462.2 feet and North 275.0 feet from the West quarter corner of said Section 27; thence West, 150.75 feet to an iron; thence North parallel with the East line of the tract conveyed to R.A. Stevens and Celia A. Stevens, husband and wife, by deed recorded September 3, 1948 in Book 288, Page 561, 276.6 feet to an iron; thence continuing North 28.5 feet, more or less, to the North line of said Stevens tract; thence South 82°04' West, 313.3 feet to the Northwest corner of said Stevens tract; thence South, 537.25 feet to the place of beginning;

EXCEPTING THEREFROM that portion conveyed to Washington County for right of way purposes in Dedication Deed recorded August 14, 2015 as Recorder's No. 2015-069441, Washington County Deed Records.

PARCEL III:

A tract of land Situated in the West one half of Section 27, Township 2 South, Range 1 West, Willamette Meridian, Washington County, Oregon, and being described as follows:

Beginning at a point 975.46 feet East of the quarter section corner between Sections 27 and 28, Township 2 South, Range 1 West of the Willamette Meridian, Washington County, Oregon; thence South 1315.38 feet; thence North 89°47' East 1 rod; thence North to the County Road; thence Northwesterly along the County Road to a point due North of the beginning point; thence South 662.62 feet to the place of beginning;

EXCEPTING THEREFROM that portion described as follows:

Beginning at a point 975.46 feet East of the West quarter section corner between Sections 27 and 28, Township 2 South, Range 1 West, Willamette Meridian, thence North 89° 47' East along the East-West center line of said Section 27, a distance of 326.99 feet to a point; thence North 0° 03' West 689.7 feet to a point, thence South 85° 20' West to a point directly North of the beginning point hereof; thence South 662.62 feet to the place of beginning.

**LIMITATIONS OF LIABILITY**

"CUSTOMER" REFERS TO THE RECIPIENT OF THIS REPORT.

CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES THAT IT IS EXTREMELY DIFFICULT, IF NOT IMPOSSIBLE, TO DETERMINE THE EXTENT OF LOSS WHICH COULD ARISE FROM ERRORS OR OMISSIONS IN, OR THE COMPANY'S NEGLIGENCE IN PRODUCING, THE REQUESTED REPORT, HEREIN "THE REPORT." CUSTOMER RECOGNIZES THAT THE FEE CHARGED IS NOMINAL IN RELATION TO THE POTENTIAL LIABILITY WHICH COULD ARISE FROM SUCH ERRORS OR OMISSIONS OR NEGLIGENCE. THEREFORE, CUSTOMER UNDERSTANDS THAT THE COMPANY IS NOT WILLING TO PROCEED IN THE PREPARATION AND ISSUANCE OF THE REPORT UNLESS THE COMPANY'S LIABILITY IS STRICTLY LIMITED. CUSTOMER AGREES WITH THE PROPRIETY OF SUCH LIMITATION AND AGREES TO BE BOUND BY ITS TERMS

THE LIMITATIONS ARE AS FOLLOWS AND THE LIMITATIONS WILL SURVIVE THE CONTRACT:

ONLY MATTERS IDENTIFIED IN THIS REPORT AS THE SUBJECT OF THE REPORT ARE WITHIN ITS SCOPE. ALL OTHER MATTERS ARE OUTSIDE THE SCOPE OF THE REPORT.

CUSTOMER AGREES, AS PART OF THE CONSIDERATION FOR THE ISSUANCE OF THE REPORT AND TO THE FULLEST EXTENT PERMITTED BY LAW, TO LIMIT THE LIABILITY OF THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS FOR ANY AND ALL CLAIMS, LIABILITIES, CAUSES OF ACTION, LOSSES, COSTS, DAMAGES AND EXPENSES OF ANY NATURE WHATSOEVER, INCLUDING ATTORNEY'S FEES, HOWEVER ALLEGED OR ARISING, INCLUDING BUT NOT LIMITED TO THOSE ARISING FROM BREACH OF CONTRACT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF WARRANTY, EQUITY, THE COMMON LAW, STATUTE OR ANY OTHER THEORY OF RECOVERY, OR FROM ANY PERSON'S USE, MISUSE, OR INABILITY TO USE THE REPORT OR ANY OF THE MATERIALS CONTAINED THEREIN OR PRODUCED, **SO THAT THE TOTAL AGGREGATE LIABILITY OF THE COMPANY AND ITS AGENTS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS SHALL NOT IN ANY EVENT EXCEED THE COMPANY'S TOTAL FEE FOR THE REPORT.**

CUSTOMER AGREES THAT THE FOREGOING LIMITATION ON LIABILITY IS A TERM MATERIAL TO THE PRICE THE CUSTOMER IS PAYING, WHICH PRICE IS LOWER THAN WOULD OTHERWISE BE OFFERED TO THE CUSTOMER WITHOUT SAID TERM. CUSTOMER RECOGNIZES THAT THE COMPANY WOULD NOT ISSUE THE REPORT BUT FOR THIS CUSTOMER AGREEMENT, AS PART OF THE CONSIDERATION GIVEN FOR THE REPORT, TO THE FOREGOING LIMITATION OF LIABILITY AND THAT ANY SUCH LIABILITY IS CONDITIONED AND PREDICATED UPON THE FULL AND TIMELY PAYMENT OF THE COMPANY'S INVOICE FOR THE REPORT.

THE REPORT IS LIMITED IN SCOPE AND IS NOT AN ABSTRACT OF TITLE, TITLE OPINION, PRELIMINARY TITLE REPORT, TITLE REPORT, COMMITMENT TO ISSUE TITLE INSURANCE, OR A TITLE POLICY, AND SHOULD NOT BE RELIED UPON AS SUCH. THE REPORT DOES NOT PROVIDE OR OFFER ANY TITLE INSURANCE, LIABILITY COVERAGE OR ERRORS AND OMISSIONS COVERAGE. THE REPORT IS NOT TO BE RELIED UPON AS A REPRESENTATION OF THE STATUS OF TITLE TO THE PROPERTY. THE COMPANY MAKES NO REPRESENTATIONS AS TO THE REPORT'S ACCURACY, DISCLAIMS ANY WARRANTY AS TO THE REPORT, ASSUMES NO DUTIES TO CUSTOMER, DOES NOT INTEND FOR CUSTOMER TO RELY ON THE REPORT, AND ASSUMES NO LIABILITY FOR ANY LOSS OCCURRING BY REASON OF RELIANCE ON THE REPORT OR OTHERWISE.

IF CUSTOMER (A) HAS OR WILL HAVE AN INSURABLE INTEREST IN THE SUBJECT REAL PROPERTY, (B) DOES NOT WISH TO LIMIT LIABILITY AS STATED HEREIN AND (C) DESIRES THAT ADDITIONAL LIABILITY BE ASSUMED BY THE COMPANY, THEN CUSTOMER MAY REQUEST AND PURCHASE A POLICY OF TITLE INSURANCE, A BINDER, OR A COMMITMENT TO ISSUE A POLICY OF TITLE INSURANCE. NO ASSURANCE IS GIVEN AS TO THE INSURABILITY OF THE TITLE OR STATUS OF TITLE. CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES IT HAS AN INDEPENDENT DUTY TO ENSURE AND/OR RESEARCH THE ACCURACY OF ANY INFORMATION OBTAINED FROM THE COMPANY OR ANY PRODUCT OR SERVICE PURCHASED.

NO THIRD PARTY IS PERMITTED TO USE OR RELY UPON THE INFORMATION SET FORTH IN THE REPORT, AND NO LIABILITY TO ANY THIRD PARTY IS UNDERTAKEN BY THE COMPANY.

CUSTOMER AGREES THAT, TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT WILL THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS, AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES AND SUBCONTRACTORS BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE, EXEMPLARY, OR SPECIAL DAMAGES, OR LOSS OF PROFITS, REVENUE, INCOME, SAVINGS, DATA, BUSINESS, OPPORTUNITY, OR GOODWILL, PAIN AND SUFFERING, EMOTIONAL DISTRESS, NON-OPERATION OR INCREASED EXPENSE OF OPERATION, BUSINESS INTERRUPTION OR DELAY, COST OF CAPITAL, OR COST OF REPLACEMENT PRODUCTS OR SERVICES, REGARDLESS OF WHETHER SUCH LIABILITY IS BASED ON BREACH OF CONTRACT, TORT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTIES, FAILURE OF ESSENTIAL PURPOSE, OR OTHERWISE AND WHETHER CAUSED BY NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, BREACH OF WARRANTY, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE OR ANY OTHER CAUSE WHATSOEVER, AND EVEN IF THE COMPANY HAS BEEN ADVISED OF THE LIKELIHOOD OF SUCH DAMAGES OR KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY FOR SUCH DAMAGES.

END OF THE LIMITATIONS OF LIABILITY



March 4, 2019

**Re: Portland General Electric Proposed Integrated Operations Center and Communications Tower  
Neighborhood Meeting**

Dear Interested Party,

**You are invited to attend a neighborhood meeting on Wednesday, March 20, at 6:30 pm, at the Juanita Pohl Center located at 8513 SW Tualatin Road in Tualatin.**

The purpose of this meeting is to provide information about a new Portland General Electric Integrated Operations Center proposed at 12150 SW Tualatin Sherwood Road. The property spans Tax Map 2S1 27C, Tax Lots 500 and 701. Please view the attached conceptual site plans and vicinity map for reference.

Portland General Electric is a fully integrated energy company based in Portland, Oregon, serving approximately 885,000 customers in 51 cities. For 130 years, PGE has been delivering safe, affordable and reliable electricity to Oregonians. With approximately 2,900 employees across the state, PGE is helping its customers and the communities it serves build a clean energy future. For more information, visit [PortlandGeneral.com/CleanVision](http://PortlandGeneral.com/CleanVision).

As part of ongoing system investments to improve reliability and resiliency and to protect infrastructure against natural disasters or other hazards, PGE is evaluating plans for the construction of an Integrated Operations Center in Tualatin, which will be presented to the company's board of directors for approval in the summer of 2019. The center will co-locate technical staff conducting 24/7 functions relating to grid and power supply operations as well as physical and cyber security. The facility will also contain the company's Emergency Operations Center, which is activated when storms or other large-scale events disrupt PGE's normal operations. PGE's corporate headquarters and primary administrative offices in downtown Portland will not be affected.

Depending on the configuration of final, approved plans, the Integrated Operations Center will be a 90,000 to 130,000 square-foot office facility staffed with approximately 200 employees. The proposed construction will be located on a 43-acre site and includes a stand-alone communications tower. The facility will have secure access from SW 124<sup>th</sup> Avenue, with secondary secure access from 120<sup>th</sup> Avenue.

If you have any questions, please feel free to contact me at 503-827-4422:

A handwritten signature in black ink that reads "Ben Schonberger".

Ben Schonberger, AICP  
Senior Planner

**Enclosures: Conceptual Site Plan  
Vicinity Map**

Winterbrook Planning

610 SW Alder Street, Suite 810 Portland, Oregon 97205 503.827.4422 voice 503.827.4350 fax [www.winterbrookplanning.com](http://www.winterbrookplanning.com)

COMMUNITY ■ RESOURCE ■ PLANNING



# NEIGHBORHOOD/DEVELOPER MEETING AFFIDAVIT OF MAILING

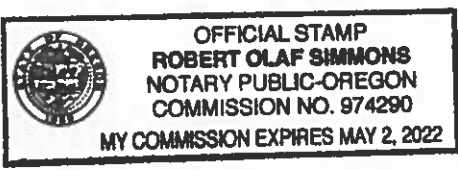
STATE OF OREGON                    )  
  ) SS  
COUNTY OF WASHINGTON        )

I, Benjamin Schonbager, being first duly sworn, depose and say:

That on the 3rd day of March, 2019, I served upon the persons shown on Exhibit "A," attached hereto and by this reference incorporated herein, a copy of the Notice of Neighborhood/Developer meeting marked Exhibit "B," attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original hereof. I further certify that the addresses shown on said Exhibit "A" are their regular addresses as determined from the books and records of the Washington County and/or Clackamas County Departments of Assessment and Taxation Tax Rolls, and that said envelopes were placed in the United States Mail with postage fully prepared thereon.

Benjamin Schonbager  
Signature

SUBSCRIBED AND SWORN to before me this 13<sup>th</sup> day of March, 2019.



Robert Olaf Simmons  
Notary Public for Oregon  
My commission expires: May 2, 2022

RE: \_\_\_\_\_

**NEIGHBORHOOD / DEVELOPER MEETING  
CERTIFICATION OF SIGN POSTING**



In addition to the requirements of TDC 31.064(2) quoted earlier in the packet, the 18" x 24" sign that the applicant provides must display the meeting date, time, and address and a contact phone number. The block around the word "NOTICE" must remain orange composed of the RGB color values Red 254, Green 127, and Blue 0. Additionally, the potential applicant must provide a flier (or flyer) box on or near the sign and fill the box with brochures reiterating the meeting info and summarizing info about the potential project, including mention of anticipated land use application(s). Staff has a Microsoft PowerPoint 2007 template of this sign design available through the Planning Division homepage at < [www.tualatinoregon.gov/planning/land-use-application-sign-templates](http://www.tualatinoregon.gov/planning/land-use-application-sign-templates) >.

As the applicant for the

Portland General Electric Integrated Operations Center project, I

hereby certify that on this day, March 6<sup>th</sup> sign(s) was/were posted on the subject property in accordance with the requirements of the Tualatin Development Code and the Community Development Department - Planning Division.

Applicant's Name: Jaime Crawford, Winterbrook planning  
(PLEASE PRINT)

Applicant's Signature: Jaime Crawford  
Date: 3/19/2019



## MEMORANDUM

To: File  
From: Jaime Crawford, Assistant Planner  
Date: March 21, 2019  
Re: **PGE Integrated Operations Center and Wireless Communications Tower – Neighborhood Meeting**

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This memorandum summarizes the neighborhood meeting process and results for the proposed development at 12150 SW Tualatin Sherwood Road, Tualatin OR 97062

### Process and Timeline

- On February 13<sup>th</sup>, 2019, a pre-application conference was held with the Tualatin Planning Department. A consolidated application process was outlined by staff. The proposed process includes a track for a Type III Architectural Review and a track for both a Conditional Use and two proposed Variances. Staff determined that one neighborhood meeting was enough to satisfy this application.
- On March 4<sup>th</sup>, 2019, a letter was sent to invite community stakeholders to a neighborhood meeting about the proposed development. Property owners within 1,000 feet were sent notice, and all Community Involvement Organization heads were also invited to attend. In total, 37 mailed invitations were sent (31 property owners; 6 CIO heads).
- On March 4<sup>th</sup>, 2019, an email invitation was sent to the City of Tualatin detailing the proposed project and information about the upcoming neighborhood meeting. All contacts from the most recent CIO list were included in this email.
- On March 6<sup>th</sup>, 2019, neighborhood meeting signs – using the city’s subscribed template – were posted on the site of the proposed Integrated Operations Center and Wireless Communications Tower.
- On March 20<sup>th</sup>, 2019, a neighborhood meeting was held in a community classroom of the Juanita Pohl Center located at 8513 SW Tualatin Road. The meeting was scheduled at 6:30 and lasted until around 7pm. Meeting details are included in the section below.

## **Portland General Electric Integrated Operations Center and Wireless Communications Tower – Neighborhood Meeting**

On March 20<sup>th</sup>, 2019, representatives from PGE, SERA Architects, and Winterbrook Planning met at the Juanita Pohl Center to provide information to the public on the proposal. Winterbrook introduced the proposal and detailed the land review process that led to the neighborhood meeting and the processes that would continue after. Site design and 3D renderings of the proposed Integrated Operations Center were presented by SERA Architects. PGE explained in more detail the purpose, objectives, and everyday function of the proposal. Below is the list of attendees and a summary transcript of the questions and comments made during the meeting.

### Neighbors and Interested Citizens

- Tiffany Ingram: 15836 SW Madrona Ln, Sherwood 97140
- Dayne Ingram: 15836 SW Madrona Ln, Sherwood 97140
- Garren Ingram: 15836 SW Madrona Ln, Sherwood 97140

### Applicant and Consultants

- Ray Payne – PGE
- Steve Carson – PGE
- Susan Hill – PGE
- Bill Poulos – SERA Architects
- Gauri Rajbaidya – SERA Architects
- Ben Schonberger – Winterbrook Planning
- Jaime Crawford – Winterbrook Planning

### Questions and Comments

- Dayne asked what PGE was planning to do with the frontage along SW Tualatin-Sherwood Rad.
  - Gauri responded that PGE intended to landscape the area, but generally it will remain undeveloped.
- Dayne asked where the communications tower would be located.
  - Gauri explained that it would be nestled in the grove of existing trees closer to the SW corner on site.
- Dayne asked some clarifying questions about the trees on-site and the location of parking for the facility.
  - Gauri explained that an objective of the design was to preserve the existing trees. Parking is to be located adjacent the tree grove.
- Dayne asked about the exact square footage of the proposal.
  - Gauri said the building would be 2 stories, with a total square footage between 108,000 and 110,000.
- Garren asked for some clarity on the building footprint size.
  - Ben stated that it would be between 50,000 and 55,000.
- Garren asked if traffic was a consideration in this proposal.

- The consultants clarified that traffic studies are a required analysis for this proposal
- Susan and Ray explained that PGE employee shifts are varied (early morning, 12-hour, swing, etc.), and that the commute times would most likely be staggered.
- Susan and Ray also added that some PGE employees use alternative forms of transportation like biking.
- Garren asked for more detail on the helistop.
  - Bill stated that it was emergency use, and the consultants generally stated that the stop would be used infrequently, and that no helicopter would be parked there in waiting.

### **Summary**

The meeting was attended by 3 interested community members that shared the same address on the sign-in sheet. Questions and comments were well received. All questions posed were given direct answers from the applicant and representatives. No major concerns or criticisms of the project arose during the meeting. Consultants concluded that additional notices will be mailed in correlation with the land use review process.

## Service Provider Letter

CWS File Number

19-000069

**This form and the attached conditions will serve as your Service Provider Letter in accordance with Clean Water Services Design and Construction Standards (R&O 17-5).**

<b>Jurisdiction:</b> <u>City of Tualatin</u>	<b>Review Type:</b> <u>No Impact</u>
<b>Site Address / Location:</b> <u>12150 SW Tualatin Sherwood</u> <u>Tualatin, OR 97062</u>	<b>SPL Issue Date:</b> <u>April 17, 2019</u> <b>SPL Expiration Date:</b> <u>April 17, 2021</u>

**Applicant Information:**

Name COLIN MACLAREN  
 Company PORTLAND GENERAL ELECTRIC  
 Address 121 SW SALMON ST  
PORTLAND, OR 97204  
 Phone/Fax (503) 464-8061  
 E-mail: colin.maclaren@pgn.com

**Owner Information:**

Name KENNETH E. ITEL  
 Company \_\_\_\_\_  
 Address 22883 SW COWLITS DR.  
TUALATIN, OR 97062  
 Phone/Fax (503) 730-0592  
 E-mail: ken.itel@gmail.com

**Tax lot ID**

**Development Activity**

2S127C000500 & 701

Tualatin PGE Facility

Service Building, Transformer Station, and Infrastructure

**Pre-Development Site Conditions:**

Sensitive Area Present:  On-Site  Off-Site  
 Vegetated Corridor Width: 25-50  
 Vegetated Corridor Condition: Degraded

**Post Development Site Conditions:**

Sensitive Area Present:  On-Site  Off-Site  
 Vegetated Corridor Width: 25-50

**Enhancement of Remaining Vegetated Corridor Required:**

**Square Footage to be enhanced:** 24,876

**Encroachments into Pre-Development Vegetated Corridor:**

Type and location of Encroachment:	Square Footage:
<u>No Encroachments Proposed</u>	<u>0</u>

**Mitigation Requirements:**

Type/Location	Sq. Ft./Ratio/Cost
<u>No Mitigation Required</u>	<u>0</u>

Conditions Attached  Development Figures Attached ( 5 )  Planting Plan Attached  Geotech Report Required

**This Service Provider Letter does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered on your property.**

**In order to comply with Clean Water Services water quality protection requirements the project must comply with the following conditions:**

1. No structures, development, construction activities, gardens, lawns, application of chemicals, uncontained areas of hazardous materials as defined by Oregon Department of Environmental Quality, pet wastes, dumping of materials of any kind, or other activities shall be permitted within the sensitive area or Vegetated Corridor which may negatively impact water quality, except those allowed in R&O 17-5, Chapter 3.
2. Prior to any site clearing, grading or construction the Vegetated Corridor and water quality sensitive areas shall be surveyed, staked, and temporarily fenced per approved plan. During construction the Vegetated Corridor shall remain fenced and undisturbed except as allowed by R&O 17-5, Section 3.06.1 and per approved plans.
3. Prior to any activity within the sensitive area, the applicant shall gain authorization for the project from the Oregon Department of State Lands (DSL) and US Army Corps of Engineers (USACE). The applicant shall provide Clean Water Services or its designee (appropriate city) with copies of all DSL and USACE project authorization permits. **No wetland or non-wetland impacts proposed for this project.**
4. An approved Oregon Department of Forestry Notification is required for one or more trees harvested for sale, trade, or barter, on any non-federal lands within the State of Oregon.
5. **Prior to ground disturbing activities, an erosion control permit is required. Appropriate Best Management Practices (BMP's) for Erosion Control, in accordance with Clean Water Services' Erosion Prevention and Sediment Control Planning and Design Manual, shall be used prior to, during, and following earth disturbing activities.**
6. Prior to construction, a Stormwater Connection Permit from Clean Water Services or its designee is required pursuant to Ordinance 27, Section 4.B.
7. Activities located within the 100-year floodplain shall comply with R&O 17-5, Section 5.10.
8. Removal of native, woody vegetation shall be limited to the greatest extent practicable.
9. The water quality swale and detention pond shall be planted with Clean Water Services approved native species, and designed to blend into the natural surroundings.
10. **Should final development plans differ significantly from those submitted for review by Clean Water Services, the applicant shall provide updated drawings, and if necessary, obtain a revised Service Provider Letter.**
11. The Vegetated Corridor width for sensitive areas within the project site shall be a minimum of 25 feet wide, as measured horizontally from the delineated boundary of the sensitive area.
12. **For Vegetated Corridors up to 50 feet wide, the applicant shall enhance the entire Vegetated Corridor to meet or exceed good corridor condition as defined in R&O 17-5, Section 3.14.2, Table 3-3.**
13. Prior to any site clearing, grading or construction, the applicant shall provide Clean Water Services with a Vegetated Corridor enhancement/restoration plan. Enhancement/restoration of the Vegetated Corridor shall be provided in accordance with R&O 17-5, Appendix A, and shall include planting specifications for all Vegetated Corridor, including any cleared areas larger than 25 square feet in Vegetated Corridor rated ""good.""
14. Prior to installation of plant materials, all invasive vegetation within the Vegetated Corridor shall be removed per methods described in Clean Water Services' Integrated Vegetation and Animal Management Guidance, 2003. During removal of invasive vegetation care shall be taken to minimize impacts to existing native tree and shrub species.
15. Clean Water Services shall be notified 72 hours prior to the start and completion of enhancement/restoration activities. Enhancement/restoration activities shall comply with the guidelines provided in Planting Requirements (R&O 17-5, Appendix A).
16. **Maintenance and monitoring requirements shall comply with R&O 17-5, Section 2.12.2. If at any time during the warranty period the landscaping falls below the 80% survival**

level, the owner shall reinstall all deficient planting at the next appropriate planting opportunity and the two year maintenance period shall begin again from the date of replanting.

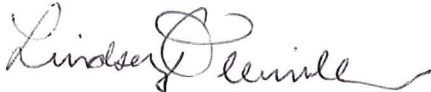
17. Performance assurances for the Vegetated Corridor shall comply with R&O 17-5, Section 2.07.2, Table 2-1 and Section 2.11, Table 2-2.
18. Clean Water Services will require an easement over the water quality sensitive area and Vegetated Corridor conveying storm and surface water management to Clean Water Services or the City that would prevent the owner of the Vegetated Corridor from activities and uses inconsistent with the purpose of the corridor and any easements therein.

#### FINAL PLANS

19. **Final construction plans shall include landscape plans.** In the details section of the plans, a description of the methods for removal and control of exotic species, location, distribution, condition and size of plantings, existing plants and trees to be preserved, and installation methods for plant materials is required. Plantings shall be tagged for dormant season identification and shall remain on plant material after planting for monitoring purposes.
20. **A Maintenance Plan shall be included on final plans** including methods, responsible party contact information, and dates (minimum two times per year, by June 1 and September 30).
21. **Final construction plans shall clearly depict the location and dimensions of the sensitive area and the Vegetated Corridor** (indicating good, marginal, or degraded condition). Sensitive area boundaries shall be marked in the field.
22. Protection of the Vegetated Corridors and associated sensitive areas shall be provided by the installation of permanent fencing and signage between the development and the outer limits of the Vegetated Corridors. **Fencing and signage details to be included on final construction plans.**

**This Service Provider Letter is not valid unless CWS-approved site plan is attached.**

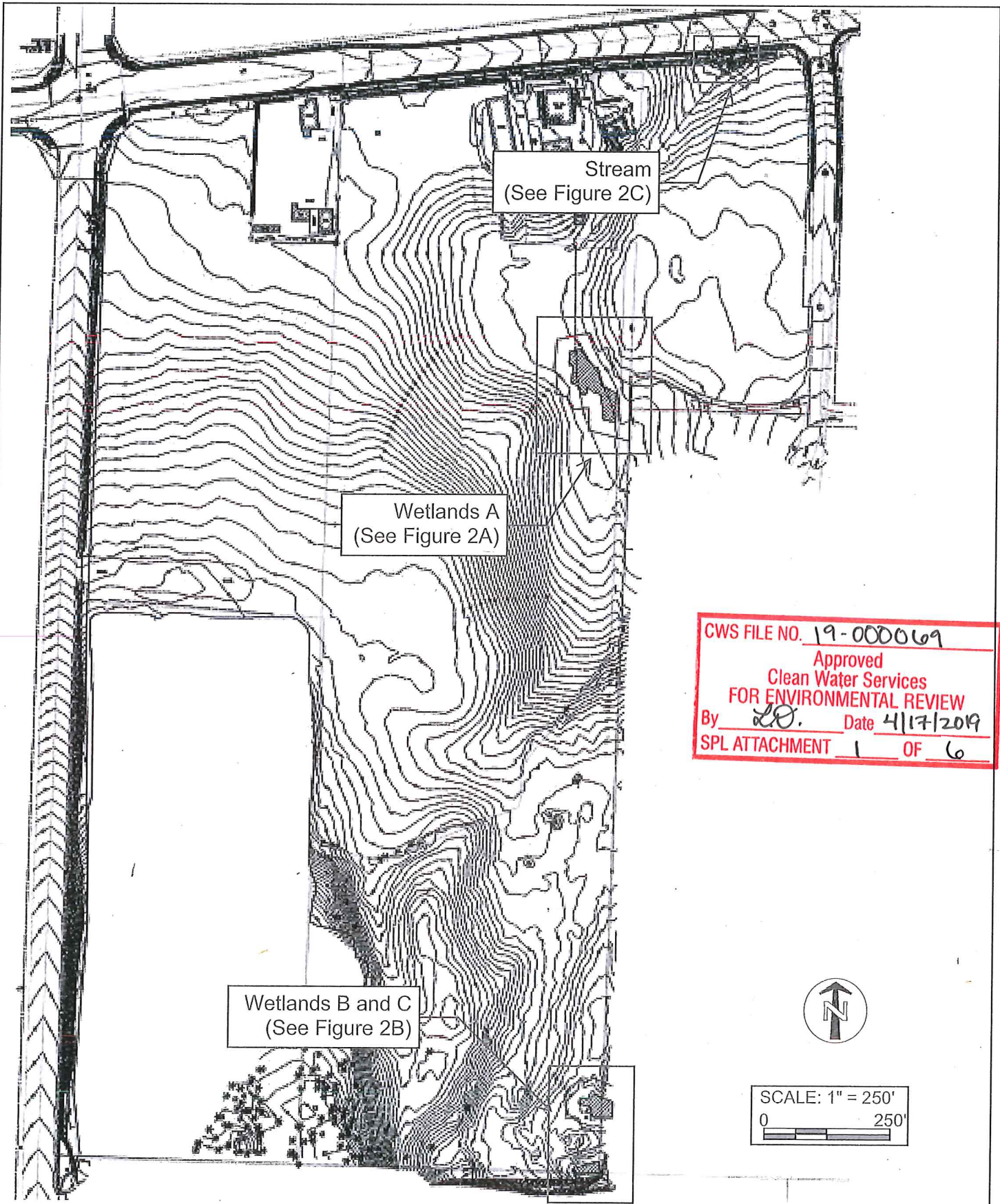
Please call (503) 681-3653 with any questions.



Lindsey Obermiller  
Environmental Plan Review

Attachments ( 6 )





kpff

#1800045

VEGETATED CORRIDOR KEY MAP

FIG-2

4/3/2019

Wetland A Vegetated Corridor:  
tall fescue (non-native)  
perennial ryegrass (non-native)  
hairy-cat's ears (non-native)

25' Vegetated Corridor  
Condition: Degraded

11,853 SF

Wetland A

COLOR COPY  
CWS FILE NO. 17-000069  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By JK Date 4/17/2019  
SPL ATTACHMENT 2 OF 6

Property Line



SCALE: 1" = 50'  
0 50'

ADJACENT SLOPES DO NOT  
EXCEED 25%



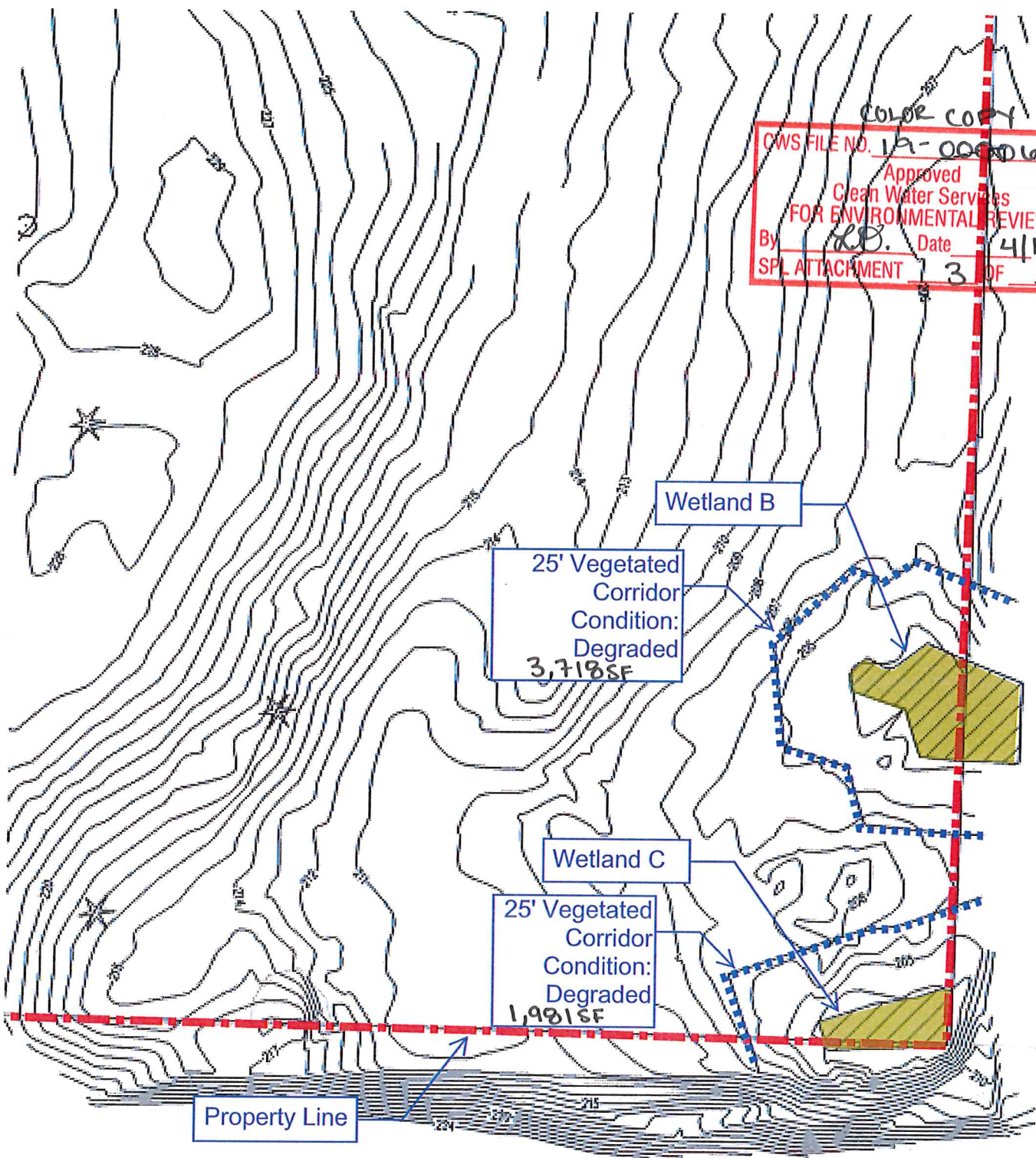
WETLAND A VEGETATED CORRIDOR  
12150 SW Tualatin Sherwood Rd.

FIG-2A

#1800045

2/1/2019

COLOR COPY  
 CWS FILE NO. 19-000069  
 Approved  
 Clean Water Services  
 FOR ENVIRONMENTAL REVIEW  
 By RP Date 4/17/2019  
 SPL ATTACHMENT 3 OF 6



Wetland B Vegetated Corridor:  
 redtop (non-native)  
 velvet grass (non-native)  
 Himalayan blackberry (non-native)

Wetland C Vegetated Corridor:  
 red clover (non-native)  
 velvet grass (non-native)  
 redtop (non-native)



SCALE: 1" = 50'  
 0 50'

ADJACENT SLOPES DO NOT  
 EXCEED 25%

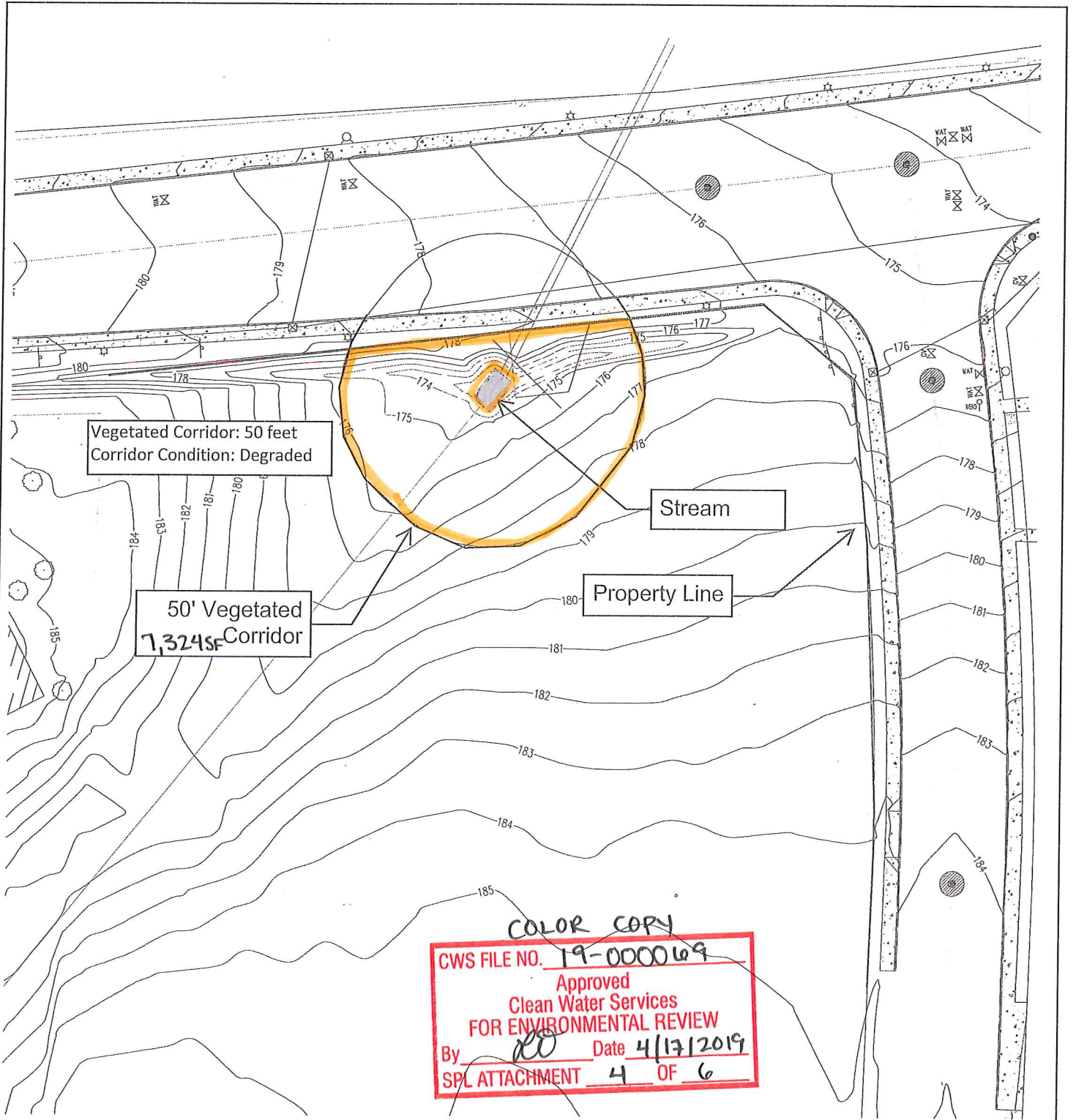
WETLAND B & C VEGETATED CORRIDOR  
 12150 SW Tualatin Sherwood Rd.

FIG-2B



#1800045

2/1/2019



SCALE: 1" = 50'  
 0 50'

ADJACENT SLOPES DO NOT EXCEED 25%

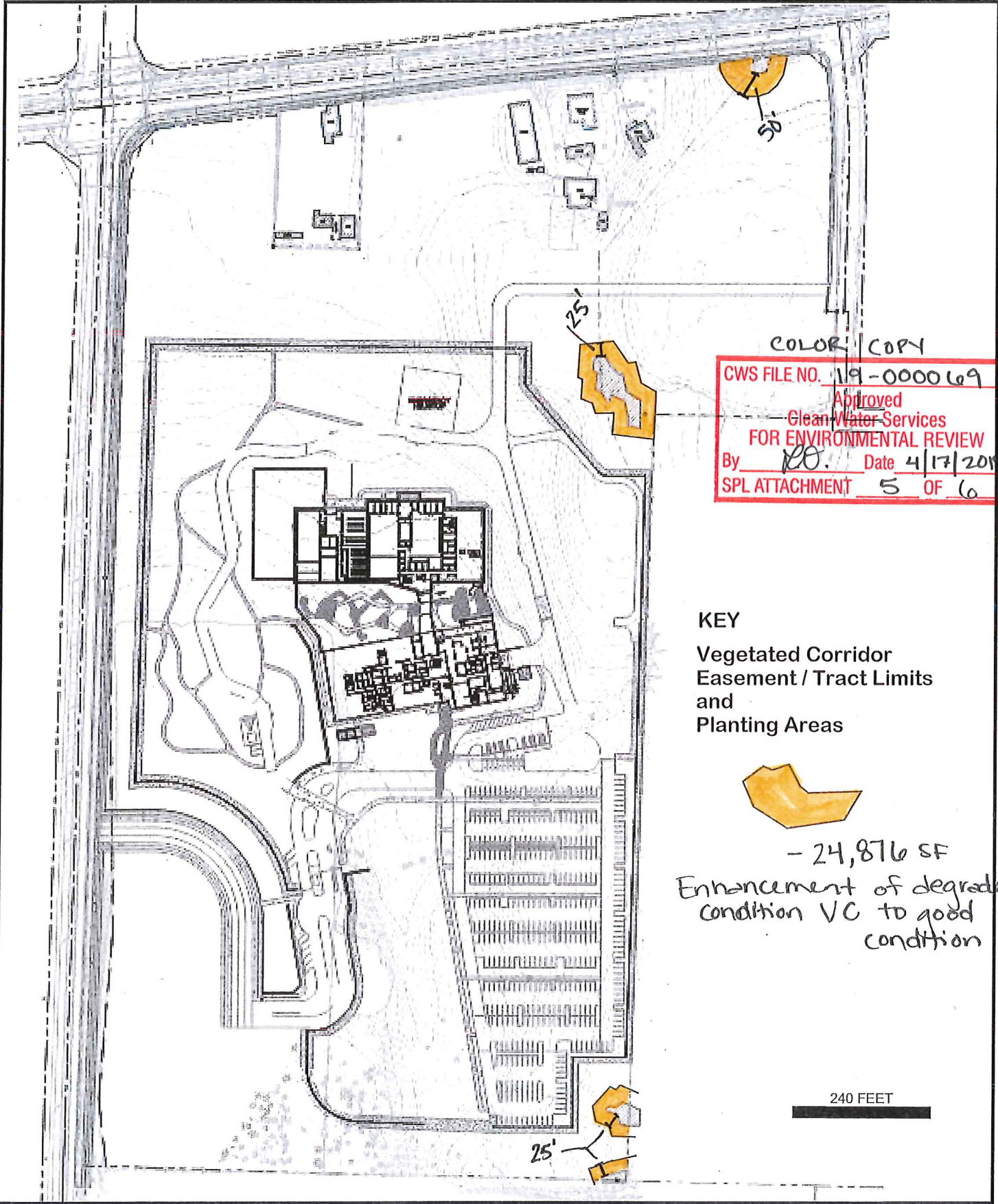
STREAM VEGETATED CORRIDOR

FIG-2C

kpff

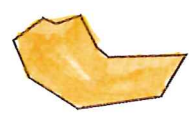
#1800045

4/3/2019



COLOR COPY  
 CWS FILE NO. 19-000069  
 Approved  
 Clean Water Services  
 FOR ENVIRONMENTAL REVIEW  
 By RO. Date 4/17/2019  
 SPL ATTACHMENT 5 OF 6

KEY  
 Vegetated Corridor  
 Easement / Tract Limits  
 and  
 Planting Areas



- 24,876 SF  
 Enhancement of degraded  
 condition VC to good  
 condition

240 FEET

CWS FILE NO. 19-000069  
 Approved  
 Clean Water Services  
 FOR ENVIRONMENTAL REVIEW  
 By YD Date 4/17/2019  
 SPL ATTACHMENT 6 OF 6

Table 02. Plant Details and Planting Locations for 24,876 SF of degraded VC

Type	Species	Form	Number			
			11,853SF Wetland A	3,718SF Wetland B	1,981SF Wetland C	7,324SF Stream
Tree	Oregon white oak	2 gal	15	15		
	Bigleaf maple	2gal	20			10
	Red alder	1 gal	10		10	15
	Douglas Fir	2 gal	20	5		15
	Cascara	2 gal	10	5		
	Pacific crabapple	1 gal	20	10	5	15
	Bitter cherry	2 gal	15	10	5	10
	Pacific dogwood	1 gal	15		5	15
	<u>275</u> Total		125	45	25	80
Shrub	Oceanspray	1 gal	30	20		30
	Snowberry	1 gal	75	30		20
	red-flowering currant	1 gal	30	10	15	40
	Oregon grape	1 gal	50	20		20
	Tall Oregon grape	1 gal	50	30		20
	Baldhip rose	1 gal	50		15	40
	Serviceberry	2 gal	75	30		
	Sword fern	2 gal	50	10		
	Indian plumb	2 gal	30	25		30
	Salmonberry	1 gal	50		30	50
	Black twinberry	1 gal	30		20	50
	Pearhip rose	1 gal	50		20	40
	Trailing blackberry	1 gal	30	25		30
		<u>1270</u> Total		600	200	100

*Irrigation and Maintenance*

The project site will be designated by PGE's internal landscape management group as a Type A Landscape. Inspection and maintenance of PGE Type A Landscapes occurs at a minimum of once per month. During the early part of the establishment period the inspection frequency will be a minimum of once per week. Irrigation frequency shall be a minimum rate of one inch per week from June 15 through October 15 as needed. Irrigation during the establishment period shall be performed using a watering truck or temporary irrigation system. Irrigation is not expected to be necessary following the 2-year plant establishment period but will be available if necessary.

END OF SPECIFICATIONS



4/05/2019

Matt Piccone  
Sera Design

Re: PGE Building  
Tualatin Sherwood/124<sup>th</sup> Ave.  
Tualatin, OR 97062

Dear Matt,

Thank you, for sending us the preliminary site plan for this proposed construction in Tualatin.

My Company: Republic Services of Clackamas and Washington Counties has the franchise agreement to service this area with the City of Tualatin. We will provide complete commercial waste removal and recycling services as needed on a weekly basis for this location.

The design plans & location of the trash and recycle enclosure positioned as proposed in your plan will allow adequate access, ample room for the containers occupying the enclosure and egress for the trucks servicing the location.

Thank you for your help and concerns for our services prior to this project being developed.

Sincerely,

Karl Bischoff  
Operations Supervisor  
Republic Services Inc.

SW TUALATIN-SHERWOOD RD

SW 120TH AVE

SW 124TH AVE

SW BLAKE ST

CAST IN PLACE  
CONCRETE TRASH  
ENCLOSURE. NO  
OVERHEAD CANOPY

ROLLING COMPOST BIN

INTERIOR WASTE  
STORAGE ROOM

40" WIDE PERSON  
DOOR FOR ACCESS

(2) 8-YARD WASTE  
BINS - LANDFILL +  
RECYCLING

SWINGING GATES WITH CANE  
BOLT HOLES. NO CENTER POST.  
18' CLEAR OPENING

CONCRETE PAD

TRUCK APPROACH

SECURED ENTRY  
WITH MANNED  
GUARD BOOTH

MAIN SITE ENTRY

0000  
0000

26'-0"

26'-0"

26'-0"

26'-0"

26'-0"

26'-0"

26'-0"

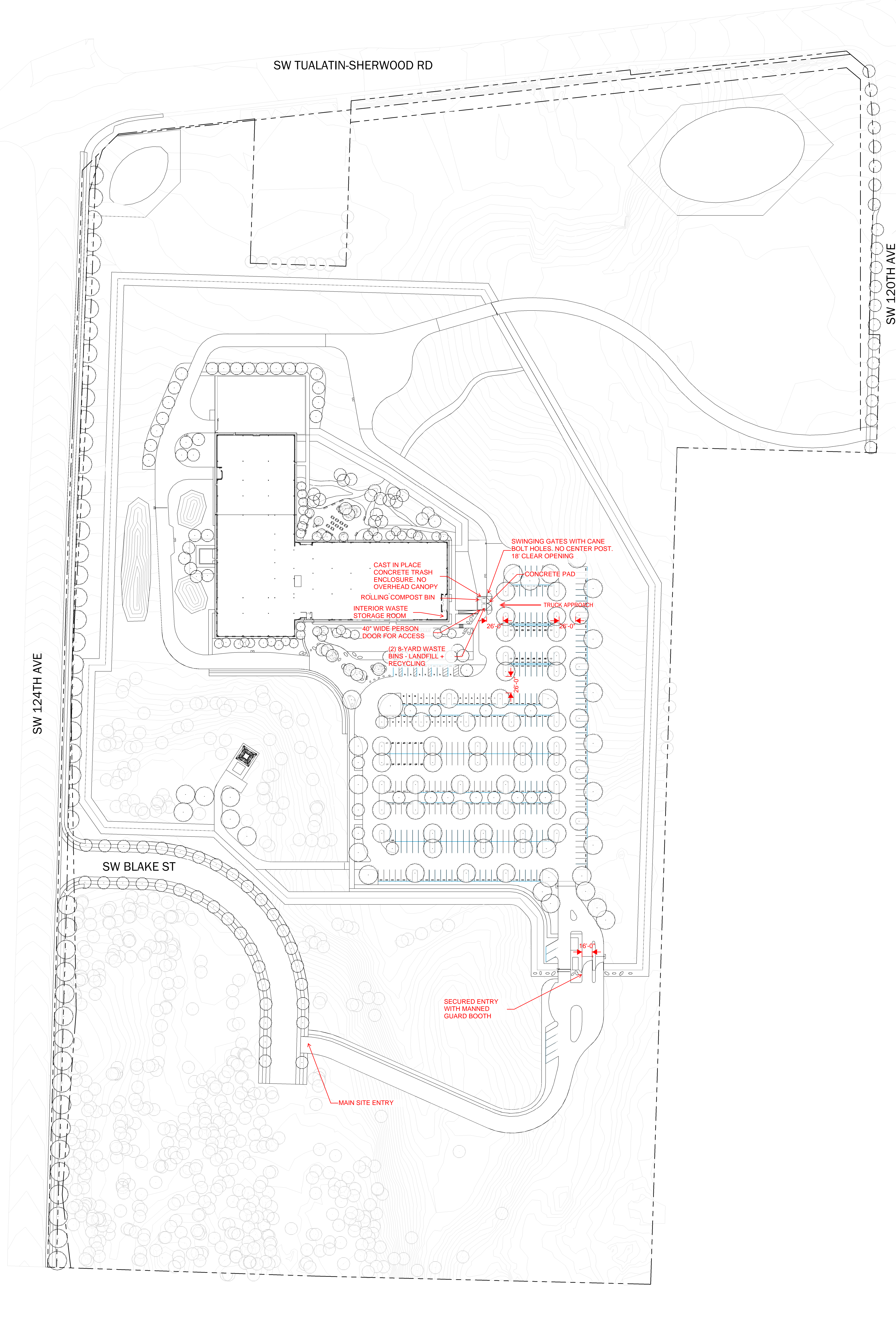
26'-0"

26'-0"

26'-0"

26'-0"

16'-0"







T H E P A C I F I C R E S O U R C E S G R O U P

March 28, 2019

Mr. Gus Fischer, AIA, Partner  
Dreyfuss + Blackford Architecture  
3540 Folsom Boulevard, Sacramento, CA 95816-6699

Subject: PGE Tualatin Phase 1 Tree Assessment

Dear Mr. Fischer,

As requested, I have completed my assessment of the Phase 1 portion of the PGE site. I assessed approximately 269 trees on the accompanying chart. The trees have all been tagged with metal tags, the numbers on the tags correspond to those on the survey and on the chart. My findings are as follows.

### **OBSERVATIONS**

The first phase of this project, shown in green on the conceptual site plan dated 2/21/19 contains slightly more than one third of the trees that have been surveyed. Data the City requires and my additional observations are included in the accompanying chart. The trees on the Phase 1 part of the site are located in the west central and south end of the site. Most of the site is open pasture or was recently graded during the construction of SW 124 street on the west border. Soil depth is shallow in the south quarter of the site. Rocks protrude over much of this area and indicate poor growing conditions for many trees. The best illustration of this can be seen in the road cut along SW 124<sup>th</sup> Street south of Tualatin Sherwood Road where the shallow soil over fractured rock is exposed. The shallow soil and perched water tables in some areas are also noted in some of the soil test pits and bore holes performed by GRI.

Shallow soil results in challenging growing conditions for trees due to limited space for root systems and limited soil moisture retention during hot and dry summers. These conditions explain why the trees on the site are close in size. Young trees tend to grow rapidly as long as available rooting space, soil moisture and nutrients is not limited. Once the limited rooting space is used up, the insufficient amount of moisture and nutrients cause growth to stagnate and tree health to decline. Trees that were growing rapidly slow down and nearly stop growing. This is the issue for many of the young trees under 12" in diameter that I assessed. Much of the area in the wooded portion of the southwest quarter of the site was rocky and the trees were in fair to poor health. Many had dead tops, which

was most likely due to Douglas Fir Bark Beetle infestation. This insect attacks trees in poor or declining health.

The rocky and drought stricken area in the southwest quarter is not conducive for Douglas Fir, Bigleaf Maple or other species that prefer deeper moisture retaining soils, but is conducive for Oregon White Oak, Hawthorn and Pacific Madrone that favor dryer soils. Shallow soil also means that most of the roots of trees and other woody plants are concentrated in the top few inches. The shallow dense roots are noted in the upper most soil profile in the soil test pits TP-5, 6, 7 & 8. Soil depth increases towards the north and east of the southwest quarter of the site.

## **CONCLUSIONS AND RECOMMENDATIONS**

Tree preservation is problematic in areas with shallow soils for several reasons. The existing conditions do not allow trees to achieve their expected sizes when their growth rate declines, stalls and they become highly vulnerable to insect attack and disease. In areas where trees are closely spaced, the competition for limited moisture and nutrients can accelerate declining health. Trees with shallow root systems are also highly vulnerable to damage from any disturbance during grading or excavation. Excavation related root loss can destabilize trees when such root loss is extensive and occurs less than 15' from the base of a tree. Destabilized trees can be hazards to pedestrians, vehicles or structures within their reach when they fall. Many trees in the southwest corner of the site are subject to inhospitable growing conditions and may have limited life spans.

Decisions on the retention or removal of such trees need to be made on a case by case basis. Any trees growing in shallow rocky soil that is in the area to be excavated or that will experience grading that disturbs the surface are likely to be candidates for removal. Those further to the north and east and in areas where soils are deeper and where the soil surface will be left undisturbed may be candidates for retention. Decisions on trees to be removed or retained that are outside buildings, paved and excavated areas will have to wait until more precise information becomes available as planning progresses.

Tree protection will be necessary for trees to remain. Once construction drawings are being prepared I can make more specific recommendations on the location of tree protection fencing. In areas outside construction limits that will remain undisturbed, erosion control fencing will provide adequate protection for trees. For trees planned to be retained within the construction limits and where construction activities will be underway, I recommend one of two fencing types. For any tree or group of trees that will remain undisturbed 15' or more from the tree for the duration of construction, chain link fencing provides the best protection. For any tree or groups of trees where some disturbance will occur near or within the drip line(s) I recommend 4' or taller orange plastic construction fencing on metal "T" stakes. If the fencing is required to be temporarily removed for access or construction activities, any work within the tree protection area should be observed by the Project Arborist and the fencing should be replaced at the end of the workday.

Once construction drawings are completed and trees to be retained have been identified, I can provide additional recommendations on tree protection and post construction tree care.

I hope I have addressed all the issues you asked about, but if I omitted any information or if you have any questions please do not hesitate to contact me. Thank you.

Sincerely yours,



Stephen F. Goetz, Principal  
American Society of Consulting Arborists Reg #260  
American Society of Landscape Architects, Oregon Lic. #80  
Society of American Foresters

SG:mac

**ARBORIST DISCLOSURE STATEMENT:** Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance their health and beauty and to attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist or to seek additional advice. Trees and other plant life are living, changing organisms affected by innumerable factors beyond our control. Trees fail in ways and because of conditions we do not fully understand. Arborists cannot detect or anticipate every condition or event that could possibly lead to the structural failure of a tree. Conditions are often hidden within the trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, for any specific period or when a tree or its parts may fail. Further, remedial treatments, as with any treatment or therapy, cannot be guaranteed. Treatment, pruning, bracing and removal of trees may involve considerations beyond the scope of the arborists skills and usual services such as the boundaries of properties, property ownership, site lines, neighbor disputes and agreements and other issues. Therefore, arborists cannot consider such issues unless complete and accurate information is disclosed in a timely fashion. Then, the arborist can be expected, reasonably, to rely upon the completeness and accuracy of the information provided. Trees can be managed but not controlled. To live near trees, regardless of their condition, is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

**HAZARD/HAZARD POTENTIAL:** For the purposes of this evaluation and/report, hazard/hazard potential refers to a tree or tree part that presents a threat to humans, livestock, vehicles, structures, landscape features or other entity of civilization from uprooting, falling, breaking or growth development (e.g., roots). While all large landscape trees in proximity to such targets present some degree of hazard regardless of their condition, such inherent hazard is not intended as within this definition and its usage in this evaluation and report.

**INSPECTION LIMITATIONS:** The inspection of these trees consisted solely of a visual inspection from the ground. While more thorough techniques are available for inspection and evaluation, they were neither requested nor considered necessary or appropriate at this time. As trees and other plant life are living, changing organisms effected by innumerable factors beyond our control, The Pacific Resources Group and it's personnel offer no guarantees, stated or implied, as to tree, plant or general landscape safety, health, condition or improvement, beyond that specifically stated in writing in accepted contracts.

**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
10094	2,2,2,2,1.5, 1.5,1,1	Douglas Hawthorn	5	5	5	Small shrubby tree	Good	Moderate & non-correctable defects
10095	2,2,1.5,1.5, 1,1,1,1,1,1	Douglas Hawthorn	5	3	5	Small shrubby tree	Good	Moderate & non-correctable defects
10096	14"	Pacific Madrone	5	3	5	Full asymetric crown	Excellent	Moderate & non-correctable defects
10098	9"	Pacific Dogwood	5	1	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
10099	14"	Pacific Madrone	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
10100	5"	Douglas Fir	5	5	5	Full crown'	Excellent	Sound – No obvious defects
10207	14"	Pacific Madrone	1	1	1		Dead Dying	Major defects or problems
10208	10",11"	Pacific Dogwood	5	5	5	2 stems at 2', full crown	Good	Moderate & non-correctable defects
10265	14" & 16"	Pacific Madrone	5	3	5	Fine to medium deadwood in crown	Good	Moderate & non-correctable defects
10322	5" & 7"	Douglas Fir	5	5	5		Good	Moderate & non-correctable defects
10342	12" & 17"	Pacific Madrone	5	3	5		Good	Moderate & non-correctable defects
10343	22"	Pacific Madrone	5	5	3		Good	Few & minor or correctable defects
10980	7"	English Holly	5	3	5		Good	Few & minor or correctable defects
10985	19"	Pacific Madrone	5	5	5		Good	Moderate & non-correctable defects
11007	2-6"	Douglas Fir	5	5	5	2 stems at ground form single full crown	Good	Moderate & non-correctable defects
11030	13"	Douglas Fir	5	5	5		Good	Moderate & non-correctable defects
12129	12"	English Holly	5	5	5	Full crown	Excellent	Sound – No obvious defects
12134	8"	Holly	5	5	5	Full crown	Excellent	Sound – No obvious defects
12147	22"	Hawthorn species	5	5	5	4 stems at 4.5', full crown	Good	Few & minor or correctable defects
12149	16"	Apple	1	3	3	Full crown, extensive internal decay & hollow trunk. Potential Hazard.	Fair	Major defects or problems

**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
12150	8", 6"	English Holly	5	3	5	Partial crown due to crowding by building	Good	Moderate & non-correctable defects
12151	6,4,4,3,3,2"	Western Red Cedar	5	5	5	Shrubby tree with full dense crown due to shearing	Good	Moderate & non-correctable defects
12182	14"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
14374	14"	Douglas Fir	5	3	5		Good	Few & minor or correctable defects
14376	17"	Douglas Fir	5	3	5		Good	Few & minor or correctable defects
14378	18"	Douglas Fir	5	3	1		Fair	Moderate & non-correctable defects
14379	11"	Douglas Fir	1	1	1		Poor	Major defects or problems
14380	20"	Pacific Madrone	5	5	5		Excellent	Few & minor or correctable defects
14382	9"	Douglas Fir	1	1	1	Dead	Dead Dying	Hazard Remove
14386	11"	Douglas Fir	1	1	1	Dead	Dead Dying	Hazard Remove
14389	6"	Douglas Fir	1	1	1		Dead Dying	Hazard Remove
14390	17"	Douglas Fir	5	5	5		Good	Moderate & non-correctable defects
14392	16"	Pacific Madrone	5	3	3		Good	Moderate & non-correctable defects
14393	6"	Douglas Fir	5	3	1		Poor	Major defects or problems
14394	12" & 13"	Pacific Madrone	5	1	5		Good	Moderate & non-correctable defects
14397	8"	English Holly	5	5	5		Good	Few & minor or correctable defects
14767	13"	Douglas Fir	5	5	5	Full crown	Good	Sound, no obvious defects
14777	14"	Bigleaf Maple	5	5	5	Full crown	Good	Few & minor or correctable defects
14778	11"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
14779	6"	Douglas Fir	5	3	3	Partial crown due to crowding	Fair	Moderate & non-correctable defects

**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
14780	12"	Douglas Fir	5	3	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
14781	8"	Douglas Fir	5	3	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
14783	12"	Douglas Fir	5	3	3	Partial crown due to crowding	Good	Moderate & non-correctable defects
14786	9"	Douglas Fir	5	3	3	Partial crown due to crowding	Good	Moderate & non-correctable defects
14787	11"	Douglas Fir	5	3	3	Partial crown due to crowding	Fair	Moderate & non-correctable defects
14788	9"	Douglas Fir	3	3	3	Partial crown due to crowding, cankers on trunk, Do Not Preserve	Fair	Major defects or problems
14789	12"	Douglas Fir	5	5	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
14791	15"	Douglas Fir	5	5	3	Nearly full crown	Good	Few & minor or correctable defects
14796	13"	Douglas Fir	5	3	3	Partial crown due to crowding	Good	Few & minor or correctable defects
14797	15"	Douglas Fir	5	1	3	Partial crown due to crowding Topped at 35' and regrown	Good	Major defects or problems
14798	7"	Douglas Fir	5	3	3	Partial crown due to crowding	Good	Moderate & non-correctable defects
14799	6"	Douglas Fir	5	3	3	Partial crown due to crowding	Good	Moderate & non-correctable defects
14807	11"	Douglas Fir	5	5	3	Full crown	Excellent	Sound, no obvious defects
14858	13"	Douglas Fir	5	3	3	Full crown	Good	Few & minor or correctable defects
14861	11"	Pacific Madrone	5	1	1	Partial crown due to crowding	Good	Moderate & non-correctable defects
14862	11"	Pacific Madrone	5	1	1	Partial crown due to crowding	Good	Moderate & non-correctable defects
14875	9"	Douglas Fir	5	5	3	Full crown	Good	Sound, no obvious defects
14876	7"	Douglas Fir	5	3	3	Partial crown due to crowding	Good	Moderate & non-correctable defects
14878	6"	Douglas Fir	3	1	1	Partial crown due to crowding Top broken out at 15'. Poor specimen will not recover. Do Not Preserve.	Fair	Major defects or problems
14879	13"	Pacific Madrone	5	3	5	Nearly full crown	Good	Moderate & non-correctable defects

**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
14880	21"	Douglas Fir	5	5	5	Full crown	Excellent	Few & minor or correctable defects
14884	8"	Oregon White Oak	5	5	5	Full crown	Good	Few & minor or correctable defects
14892	13"	Pacific Madrone	5	5	5		Excellent	Sound, no obvious defects
14898	8"	Bigleaf Maple	5	5	5		Excellent	Sound, no obvious defects
14901	8" & 10"	Hooker Willow	1	3	3	Moderate amount of fine to medium deadwood in crown. Hollow cavity in lower trunk.	Fair	Moderate & non-correctable defects
14906	6" & 14"	Douglas Fir	5	1	1	Top 40% of tree is dead. Poor specimen, Do Not Preserve	Fair	Major defects or problems
14907	13"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
14908	6" & 11"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
14924	17"	Hooker Willow	5	5	3	Full crown, some medium deadwood and structural	Good	Moderate & non-correctable defects
14927	15"	Douglas Fir	5	5	5	Full crown	Excellent	Sound, no obvious defects
14928	11"	Douglas Fir	5	3	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
14929	18"	Douglas Fir	5	3	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
14930	17"	Douglas Fir	5	5	5	Full crown	Excellent	Sound, no obvious defects
14932	16"	Douglas Fir	5	3	5	Partial crown due to crowding	Excellent	Few & minor or correctable defects
14933	24"	Douglas Fir	5	3	5	Partial crown due to crowding	Fair	Few & minor or correctable defects
15000	11"	Pacific Madrone	5	3	3		Good	Moderate & non-correctable defects
15001	21"	Oregon White Oak	5	5	5		Good	Few & minor or correctable defects
15002	6"	Douglas Fir	5	5	1	Dead top	Dead Dying	Major defects or problems
15003	6"	Douglas Fir	1	1	1	Dead	Dead Dying	Major defects or problems
15004	6"	Douglas Fir	5	3	3		Dead Dying	Major defects or problems

**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
15005	23"	Douglas Fir	5	3	1	Dying from top down and from branch tips in	Dead Dying	Major defects or problems
15006	10"	Douglas Fir	5	1	1	Dying from top down and from branch tips in	Dead Dying	Major defects or problems
15007	7" & 16"	Pacific Madrone	5	3	5		Excellent	Few & minor or correctable defects
15008	6" & 16"	Pacific Madrone	5	3	5		Excellent	Moderate & non-correctable defects
15009	8"	Pacific Madrone	Dead				Dead Dying	Hazard
15010	6"	Douglas Fir	5	1	1	Dying from top down and from branch tips in	Dead Dying	Major defects or problems
15011	6"	Douglas Fir	Dead				Dead Dying	Hazard
15012	6"	Douglas Fir	5	3	1	Dying from top down and from branch tips in	Dead Dying	Major defects or problems
15013	13"	Douglas Fir	5	3	1	Topped at 20' and regrown, in severe decline	Poor	Major defects or problems
15014	8"	Douglas Fir	Dead			Dead stump	Dead Dying	Dead Stump
15015	6" & 7"	Common Hawthorn	5	3	1		Poor	Moderate & non-correctable defects
15016	6" & 13"	Pacific Madrone	5	3	3		Fair	Few & minor or correctable defects
15017	22"	Pacific Madrone	5	5	5		Excellent	Few & minor or correctable defects
15018	12"	Pacific Madrone	5	3	5		Good	Moderate & non-correctable defects
15019	16"	Pacific Madrone	5	3	5		Good	Moderate & non-correctable defects
15020	13"	Pacific Madrone	5	3	5		Good	Moderate & non-correctable defects
15021	9"	Douglas Fir	5	5	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
15022	9"	Douglas Fir	5	5	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
15023	8"	Douglas Fir	5	1	1	Topped at 4' and regrown. Poor specimen, Do Not Preserve	Poor	Major defects or problems
15024	6"	Douglas Fir	5	1	1	Dead top	Fair	Major defects or problems



**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
15025	8"	Douglas Fir	5	3	3		Fair	Moderate & non-correctable defects
15026	9"	Douglas Fir	5	1	1	Dying from top down and from branch tips in	Dead Dying	Major defects or problems
15027	14"	Douglas Fir	5	3	1	No annual twig growth, dying	Dead Dying	Major defects or problems
15028	7"	Douglas Fir	1	3	1	Dead top	Dead Dying	Major defects or problems
15029	15"	Douglas Fir	5	5	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
15030	6"	Douglas Fir	5	3	1	Dying from top down and from branch tips in	Dead Dying	Major defects or problems
15031	12"	Douglas Fir	5	3	3	Topped at 12' and regrown. Poor specimen, Do Not Preserve	Fair	Major defects or problems
15032	7"	Douglas Fir	Dead				Dead Dying	Hazard
15033	16"	Pacific Madrone	5	5	5	Swoop in trunk, some decay at base	Fair	Moderate & non-correctable defects
15034	18"	Pacific Madrone	5	3	5	Full narrow crown with some fine deadwood	Good	Few & minor or correctable defects
15035	6"	Douglas Hawthorn	5	5	5	Full crown with good annual twig growth	Good	Few & minor or correctable defects
15036	7"	Douglas Fir	5	1	1		Fair	Major defects or problems
15037	16"	Pacific Madrone	5	3	1	Dead top, moderate amount of deadwood in crown. Blight on foliage in parts of crown.	Fair	Moderate & non-correctable defects
15038	11"	Pacific Madrone	5	1	1	Dead top, moderate amount of deadwood in crown. Blight on foliage in parts of crown.	Fair	Moderate & non-correctable defects
15039	8"	Douglas Fir	5	1	1	Top dead, will not recover. Poor specimen, Do Not Preserve	Poor	Major defects or problems
15040	7"	Douglas Fir	5	1	1	Top dead, will not recover. Poor specimen, Do Not Preserve	Dead Dying	Major defects or problems
15041	7"	Douglas Fir	5	1	1	Top dead, will not recover. Poor specimen, Do Not Preserve	Poor	Major defects or problems
15042	7"	Douglas Fir	5	1	1	Dying from top down and from branch tips in, yellowing foliage	Poor	Major defects or problems
15338	14"	Pacific Madrone	5	5	5	Full crown, with swoop in trunk from 0' to 7'	Excellent	Moderate & non-correctable defects

### PGE Tualatin Phase 1 269 Tree Assessment

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
15341	13"	Douglas Fir	5	5	5	Full crown	Excellent	Sound – No obvious defects
15342	13"	Douglas Fir	5	5	5	Full crown	Excellent	Sound – No obvious defects
15346	11"	Douglas Fir	5	1	5	Topped at 18', poor specimen. Do Not Preserve	Good	Major defects or problems
15347	14"	Douglas Fir	5	1	5	Partial crown due to crowding. Topped at 30'.	Good	Major defects or problems
15348	11"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
15352	10"	Douglas Fir	5	5	5	Full crown	Fair	Few & minor or correctable defects
16009	12"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16010	11"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16013	11"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16014	16"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16015	11"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16016	9" & 12"	Douglas Fir	3	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16017	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16018	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16019	10"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16021	16"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16022	11"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16023	10"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16024	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16026	11"	Douglas Fir	5	5	5	Full thin crown with below average annual twig growth	Poor	Few & minor or correctable defects

### PGE Tualatin Phase 1 269 Tree Assessment

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
16038	9"	Douglas Fir	5	5	5	Full crown	Good	Moderate & non-correctable defects
16051	10"	Douglas Fir	5	5	5	Full crown	Fair	Few & minor or correctable defects
16052	12"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16053	8"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16058	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16061	10"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16066	16"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
16067	16"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
16069	14"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16070	11"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16071	8"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16072	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16073	12"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16074	9"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16075	10"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16076	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16077	9"	Douglas Fir	5	3	5	Partial crown due to crowding. Codominant stems at 18', poor specimen. Do Not Preserve.	Fair	Moderate & non-correctable defects
16079	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects

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Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
16080	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16081	14"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16082	14"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16084	7"	Douglas Fir	5	3	5	Small thin partial crown due to crowding.	Fair	Moderate & non-correctable defects
16085	11"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16086	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16089	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16090	8"	Hooker Willow	5	3	3	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16093	12"	Douglas Fir	5	5	5	Full crown with below average annual twig growth. All roots on south side were severed by road cut 6' from base. Tree is not stable. Remove.	Poor	Hazard
16094	11"	Douglas Fir	5	3	5	Very thin partial crown due to crowding. Poor annual twig growth. All roots were severed on south side by road cut 5' from base. Tree is not stable. Remove.	Poor	Hazard
16095	13"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
16096	16"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16123	13"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
16136	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Excellent	Moderate & non-correctable defects
16137	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Excellent	Moderate & non-correctable defects
16138	13"	Douglas Fir	5	1	5	Partial crown due to crowding.	Excellent	Moderate & non-correctable defects
16140	7"	Douglas Fir	5	1	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects

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Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
16141	14"	Douglas Fir	5	1	5	Partial crown due to crowding.	Excellent	Moderate & non-correctable defects
16148	12"	Douglas Fir	5	5	5	Nearly full crown	Excellent	Few & minor or correctable defects
16149	6"	Pacific Madrone	5	1	5	Subdominant partial crown. Swoop in trunk.	Good	Major defects or problems
16150	10"	Pacific Madrone	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16151	11"	Douglas Fir	5	3	5	Nearly full crown	Good	Moderate & non-correctable defects
16152	12"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16154	14"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16156	12"	Douglas Fir	5	3	5	Partial crown due to crowding.	Excellent	Moderate & non-correctable defects
16159	7" & 7"	Pacific Madrone	5	5	5	Full crown, 2 stems at ground	Excellent	Few & minor or correctable defects
16164	9"	Douglas Fir	5	5	5	Full crown	Excellent	Sound – No obvious defects
16164 B	8,6,6	Pacific Madrone	5	3	5	Full asymmetric crown, 3 stems at 1'.	Good	Moderate & non-correctable defects
16178	8" & 8"	Pacific Madrone	5	3	5	Partial crown due to crowding.	Excellent	Moderate & non-correctable defects
16205	13"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
16207	14"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
16208	11"	Douglas Fir	5	5	5	Full crown	Fair	Few & minor or correctable defects
16209	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16213	12"	Douglas Fir	5	3	5	Very thin partial crown due to crowding.	Fair	Moderate & non-correctable defects
16215	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16216	13"	Douglas Fir	5	3	5	Very thin partial crown due to crowding.	Fair	Moderate & non-correctable defects

**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
16217	11"	Douglas Fir	5	3	5	Very thin partial crown due to crowding.	Fair	Moderate & non-correctable defects
16218	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16219	15"	Pacific Madrone	5	3	5	Partial asymmetric crown due to crowding.	Fair	Moderate & non-correctable defects
16242	13"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
16243	18"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16245	14"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Major defects or problems
16246	11" & 9"	Hooker Willow	1	3	1	Partial crown due to crowding. Hollow trunk and moderate amount of medium to large deadwood in the crown.	Fair	Major defects or problems
16248	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16249	14"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16250	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16251	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16255	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16256	10"	Douglas Fir	5	3	1	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16257	14"	Douglas Fir	5	3	5	Partial crown due to crowding. Poor annual twig growth. All roots on south side were severed 3' off the base. This tree is not stable. Remove.	Poor	Hazard
16258	12"	Douglas Fir	5	3	5	Dead lower crown, poor annual twig growth.	Poor	Moderate & non-correctable defects
16259	6"	Douglas Fir	5	1	1	Subdominant tree with crown less than 5% of normal. Poor specimen, Do Not Preserve.	Poor	Major defects or problems
16260	8"	Douglas Fir	5	1	1	Tiny partial crown due to crowding.	Poor	Major defects or problems
16261	13"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16263	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects

**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
16264	12"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16267	12"	Douglas Fir	5	3	5	Partial crown due to crowding.	Fair	Moderate & non-correctable defects
16268	14"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16271	13"	Douglas Fir	5	1	1	Lower crown is dead, very poor annual twig growth. Poor specimen, Do Not Preserve.	Poor	Major defects or problems
16272	11"	Douglas Fir	5	1	1	Lower crown is dead, very poor annual twig growth. Poor specimen, Do Not Preserve.	Poor	Major defects or problems
	14", 7", 3"	Bird Cherry	5	5	5	Full crown. 6' of trunk is on ground where tree toppled over and side branch grew vertical forming main trunk.	Good	Major defects or problems
16273	11"	Douglas Fir	5	1	1	Lower crown is dead, very poor annual twig growth. Poor specimen, Do Not Preserve.	Poor	Major defects or problems
16274	11"	Douglas Fir	5	1	1	Lower crown is dead, very poor annual twig growth. Poor specimen, Do Not Preserve.	Poor	Major defects or problems
16277	18"	Pacific Madrone	5	5	5	Full crown	Good	Few & minor or correctable defects
16285	13"	Bird Cherry	1	1	1	Top broken out at 9'. Significant decay in trunk. Poor specimen. Do Not Preserve.	Fair	Major defects or problems
16289	16"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16291	14"	Douglas Fir	5	5	5	Full crown	Fair	Few & minor or correctable defects
16293	19"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16298	15"	Douglas Fir	5	3	5	Partial crown due to crowding.	Good	Moderate & non-correctable defects
16302	18"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
16322	14"	Douglas Fir	5	3	5	Full crown. 2 codominant stems at 20'	Good	Moderate & non-correctable defects
16323	12"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
16324	13"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects

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Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
16335	8"	Bird Cherry	3	5	5	Full crown. Wound on lower trunk has mostly calloused over.	Good	Moderate & non-correctable defects
16336	6", 6", 8" & 9"	Pacific Madrone	5	5	5	Full crown	Good	Few & minor or correctable defects
16341	12"	Douglas Fir	5	5	5	Full crown	Good	Few & minor or correctable defects
16354	12"	Douglas Fir	5	3	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
16355	12"	Douglas Fir	5	1	5	Partial crown due to crowding. Topped at 20', poor specimen. Do Not Preserve.	Fair	Major defects or problems
16356	12"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
16357	8"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
16358	8"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
16359	13"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
16360	12"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
16361	15"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
20048	13"	Douglas Fir	5	1	1	Full crown, with dead top at 20'. Poor specimen. Do Not Preserve.	Good	Major defects or problems
20049	17"	Douglas Fir	5	5	5	Full crown	Excellent	Sound – No obvious defects
20051	14"	Douglas Fir	5	5	5	Full thin crown with below average annual twig growth.	Fair	Few & minor or correctable defects
20053	12"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Few & minor or correctable defects
20055	14"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Few & minor or correctable defects
20059	10"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
20060	11"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects
20061	10"	Douglas Fir	5	3	5	Partial crown due to crowding	Good	Moderate & non-correctable defects



**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition
20268	21"	Douglas Fir	5	5	5	Full crown	Excellent	Sound – No obvious defects
21188	14" (DEAD)	Douglas Fir	Dead				Dead Dying	Hazard
21189	31"	Douglas Fir	1	1	1	Dying, girdled by wire wrapped around trunk	Dead Dying	Major defects or problems
21193	43"	Douglas Fir	5	1	5	Partial (1/2) crown. Thin crown with very poor annual twig growth.	Poor	Moderate & non-correctable defects
21196	42"	Douglas Fir	5	1	5	Partial (1/2) crown. Thin crown with very poor annual twig growth.	Poor	Moderate & non-correctable defects
22146	44"	Douglas Fir	5	5	5	Full crown with codominant stems at 14'		
22183	23"	Evergreen Magnolia	5	5	5	Full crown. Nice specimen.	Excellent	Sound – No obvious defects
22184	21"	Apple	1	5	5	Full crown, hollow trunk with large cavity on west side. Potential Hazard	Good	Major defects or problems
22197	5, 5, 5, 3, 3, 3, 3, 2.5, 2.5, 2.5, 2, 2, 2, 2, 2"	Witch Hazel	5	5	5	Shrubby tree with many stems	Fair	Moderate & non-correctable defects
22201	10, 9, 8, 8, 8, 4"	Black Walnut	5	3	5	partial crow, 6 stems at ground	Fair	Moderate & non-correctable defects
22204	25", 24", 21"	Black Walnut	3	1	1	Full crown, 1 of 2 major stems is dead and a hazard.	Fair	Major defects or problems
22236	9", 11", 13", 17", 17", 18"	Silver Maple	3	1	1	Partial crown due to crowding. 6 stems at ground and one of the largest stems is dead.	Fair	Major defects or problems
22237	47"	Northern Red Oak	5	5	5	Full crown	Good	Few & minor or correctable defects
22238	26"	Silver Maple	5	1	3	Partial crown due to crowding	Fair	Moderate & non-correctable defects
22239	24"	Silver Maple	5	1	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
22240	37"	Willow species	5	1	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects
22241	24"	Silver Maple	1	1	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects

**PGE Tualatin Phase 1 269 Tree Assessment**

Tag No	Dia. Inches	Species	Trunk Condition	Crown Devlmp	Structure	Comments	Health	Condition	
22242	6", 8", 9" & 13"	Linden species	1	1	1	Partial crown due to crowding and most of crown is dead	Dead Dying	Major defects or problems	
22243	16"	European White Birch	5	1	5	Partial crown due to crowding	Fair	Moderate & non-correctable defects	
<b>DECIDUOUS TREES</b>									
<i>FACTOR</i>		<i>VARIATION OF CONDITION FACTOR</i>							
Trunk Condition	Sound and Solid (5), Sections of Bark Missing (3), Extensive Decay and Hollow (1)								
Crown	Full and Balanced (5), Full but Unbalanced (3) Unbalanced and Lacking a Fulll Crown (1)								
Structure	Sound (5) One Major or Several Minor Limbs Dead (3) Two or More Limbs Dead (1)								
<b>EVERGREEN/CONIFEROUS TREES</b>									
<i>FACTOR</i>		<i>VARIATION OF CONDITION FACTOR</i>							
Trunk Condition	Sound and Solid (5), Sections of Bark Missing (3), Extensive Decay and Hollow (1)								
Crown	Full and Balanced (5), Full but Unbalanced (3) Unbalanced and Lacking a Fulll Crown (1)								
HEALTH- E excellent G good F fair P poor D dead or dying									
CONDITION- A= sound B= few & correctable defects C= moderate & noncorrectable defects D= major defects or problems E= hazard, dead, dying									



**Portland General Electric  
IOC COMMUNICATIONS TOWER  
Radio Frequency Report, Purpose & Need**

March, 2019

Prepared By



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## IOC Tower – Radio Frequency Report, Purpose & Need

### Executive Summary:

Portland General Electric (PGE) has undertaken a project to construct an Integrated Operations Center (IOC) to replace their existing operations center in downtown Portland. The IOC will house a 24/7 system control center as well as a data center. The need for the new IOC is driven partly by facilities limitations at the existing operations center. An additional driving component is the increasing regulatory requirements for the protection, safety and reliability of the nation's electrical grid.

The IOC will require a robust system to communicate with the outside world as well as internally within the PGE network. In order to accomplish this, several forms and routes for communications will be implemented. This will diversify PGE's communications and act as a failsafe in the case of a communications failure. Public telephone, private mobile radio, private fiber optics and private microwave radio will be employed to accomplish this.

PGE currently operates a private microwave radio network throughout much of Oregon and into Washington. PGE commissioned a "Microwave Path Survey Report – IOC Paths" that would determine a practical location for a communications tower to service the IOC and the required height (attached for reference as Exhibit B). Given that, a tower that services the IOC site must be of sufficient height for at least two microwave paths to have clearance over any obstructions to properly function. The two functioning microwave paths will provide for a diverse route to other PGE communications sites. In addition to the path clearance requirements, the tower must be located within the IOC compound such that access to the tower can be monitored and controlled. The path survey report concluded that the minimum tower height required was 140' and that it could be located within the IOC compound.

The Tualatin Development Code (TDC) suggests that in order to construct a tower over a predetermined height and receive a variance, the proponent must demonstrate the following:

- "It is technically not practical to provide the needed capacity or coverage the tower is intended to provide at a height that meets the TDC requirements. The needed capacity or coverage must be documented with a Radio Frequency report; and
- The collocation report, required as part of the Architectural Review submittal, must document that existing WCFs, or a WCF for which an application has been filed and not denied, cannot be modified to provide the capacity or coverage the tower is intended to provide."

The microwave path survey report demonstrates that it is technically necessary to have a tower with a minimum height of 140' (see Figure 4.0 as an example). Additionally, and as depicted in Figure 3 - 1500' Radius Around IOC Tower, there are no existing WCFs within the 1500 foot search area. Further, any other tower not located within the fenced IOC compound would not provide the level of security required by regulatory agencies.

## **IOC Tower – Radio Frequency Report, Purpose & Need**

### IOC Background:

Portland General Electric (PGE) provides distribution and transmission services to approximately 40% of Oregon's population making it the state's largest power utility. As such, PGE is mandated to provide reliable and safe power to its customers. Part of that mission is accomplished by operating a 24/7 control center and data center, currently housed in a building in downtown Portland. This existing building has significant limitations that cannot be easily corrected. Coupled with increasing regulatory requirements placed on the operation of the nation's power grid and PGE is now driven to construct a new Integrated Operations Center (IOC).

Part of the function of the IOC will be the monitoring of the Western Interconnect (the western electrical grid) and coordination with other utilities. The coordination with other utilities involves not only verbal communications but various electronic forms as well. The various coordination actions and communications forms are, in part, dictated by the Western Electricity Coordination Council (WECC). WECC is given its authority to oversee the Western Interconnect by the Federal Energy Regulatory Commission (FERC). WECC is responsible for the regional enforcement and compliance monitoring of Reliability Standards for the operation and coordination activities within the Western Interconnect.

### IOC Communications:

As the IOC will function as a control center for PGE's electrical operations, several control and monitoring communications circuits (traffic) will be routed to and from the site. Much of these circuits are critical in nature. WECC provides rules for the reliability and routing of these critical circuits. In short, WECC guidelines state that these critical circuits must have diverse routing through multiple forms of communications. Strict rules are also in place to control the security of communications, both physically and electronically.

Due to the importance of the IOC function and the critical communications traffic, PGE will employ several communications formats. A private fiber optic network will be routed in and out of the IOC. For route diversification and backup, microwave radio will also be utilized. The microwave radio will necessitate the construction of a lattice tower to support the parabolic microwave antennas. The tower will also support antennas for PGE's private land mobile radio network (LMR). Their LMR network is not only crucial to communicating with field personnel for power switching functions on a day-to-day basis, but especially in times of outages or emergencies.

The height of the communication tower was determined by a field survey performed for three potential microwave paths in and out of the IOC (Microwave Path Survey Report – IOC Paths).

Path Survey Approach & Results:

The proposed tower location was selected after reviewing several alternatives, and it best meets the objectives: having a workable microwave path to other PGE communications sites, being located inside the secure fence and having the minimum possible height. PGE has existing communications sites to the west on Bald Peak in Yamhill County, to the north at Healy Heights near OHSU and to the northeast on Mount Scott in Happy Valley. Workable microwave paths to these referenced PGE sites will create a link for their own communications network. This, in turn, will establish internally network communications as well as interfaces with other utilities.

The purpose of the field survey was to verify whether there would be an unobstructed path to any of PGE’s existing communications sites. The unobstructed path is often referred to as line-of-sight. In general the field investigation found that mature evergreen trees located in close proximity (close-in trees) to the IOC project site will dictate the microwave antenna heights.

Although the required clearance over a potential obstruction is referred to as line-of-sight it is important to understand that just seeing the other end of a microwave path will not provide sufficient clearances for the path to operate correctly. A microwave path is influenced by atmospheric conditions, the earth’s curvature and the size of, in most cases, a full 1<sup>st</sup> Fresnel zone. In microwave propagation models, the Fresnel zone is a cylindrical eclipse between a transmitting antenna and a receiving antenna. The size of the Fresnel zone, or eclipse, is determined by the frequency and distance of the microwave path. The size of the first Fresnel zone can be expressed mathematically <sup>1</sup>:

$$F^1 = 72.1\sqrt{\frac{d_1d_2}{fD}}$$

Where:  $F_1$  = 1<sup>st</sup> Fresnel zone in feet

$d_1$  = Distance from one end of path to point of interest in miles

$D$  = Total length of path in miles

$d_2$  =  $D - d_1$

$f$  = Frequency in GHz

The size of the first Fresnel zone is important to the proper operation of a microwave path. Without sufficient clearances the path will suffer signal degradation due to obstruction loss. Another important path clearance consideration is tree growth. The field investigation found that close-in trees will define the microwave antenna mounting heights. Given that, it is prudent to add a tree growth factor to the clearances over the trees. In this case 20 feet of additional clearance has been added to determine the final antenna mounting heights presented in the path survey report.

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<sup>1</sup> GTE Lenkurt Incorporated, “Engineering Considerations for Microwave Communications Systems”, Forth Edition.

## **IOC Tower – Radio Frequency Report, Purpose & Need**

### IOC Tower Location & Height:

Figure 1.0, “IOC Tower Site” depicts the location of the proposed tower. The site was chosen, in part, due to the overall IOC site design. Another important consideration is the tower’s proximity to the IOC buildings. Critical electronics will be housed within the IOC buildings. Radio and other electronics will be housed in a pre-fabricated communications shelter near the base of the tower. A fiber optic cable will tie the IOC buildings and the communications shelter together.

The path survey found that the shortest required tower would 140 feet in height. This would provide clearances for the three potential microwave paths out of the IOC. Figure 2.0, “IOC Tower – Potential Microwave Paths” shows the paths emanating from this tower site.

Other factors taken into account for this tower location include the lack of any other tower facilities in the vicinity of the IOC site. Figure 3.0, “1500’ Radius Around IOC Tower” shows that the nearest WCF is outside the Tualatin city limits and is therefore not subject to the City’s development code. The nearest WCF inside city limits is even farther away to the northeast of the site. Both of these facilities are farther than 1500 feet from the proposed tower, and therefore inappropriate for co-location. This is further shown in the City of Tualatin’s document “Existing WCF’s with 1500’ Buffer Area”, which is incorporated in this report by reference.

A final consideration for the tower location is cyber and physical security. This proposed tower will be part of a communications network that will carry information and data vital to the operation of the nation’s electrical grid. PGE is mandated by federal regulators to take physical security measures to keep their cyber assets secure. The tower site needs to be located within the IOC secured area.

### Final Considerations:

PGE is required to have diverse communications routes in and out of this proposed facility. To meet this requirement PGE will employ various forms of electronic communications. One such form will be the use of microwave radio. The antennas for microwave communications must be supported on a structure, or tower, that will provide for adequate existing and future physical clearances over potential obstructions.

The proposed location for the tower was chosen as it will require the shortest possible tower (140’). The tower location will also allow for physical security that is critical to the IOC site.

The final structural design of the tower will provide for PGE’s present and future needs. Because of the heightened security requirements for this site, considerations for additional tower loading from third parties will only be given to police, fire and other emergency services.



**FIGURE 1.0**  
**IOC Tower Site**





**FIGURE 2.0**  
**IOC TOWER – Potential M/W Paths**  
45 21 59.5 N  
122 48 16.9 W



**Figure 3.0**  
**1500' RADIUS AROUND IOC TOWER**



**FIGURE 4.0**  
Tower Example